

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 13, 2022

Jennifer Galles

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Facility 4 AE 2

Work Order #2207039

Enclosed are the results of analyses for samples received by Summit Scientific on 07/06/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-3@10'	2207039-01	Soil	07/06/22 09:10	07/06/22 15:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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S₂

2207039

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: K.P. Kauffman

Project Manager: Jennifer Galles

Address: 1675 Broadway

E-Mail: /Jennifer Galles/M Hattel/primarycontractor@marcomllc.net

City/State/Zip: Denver, CO 80202

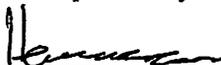
Phone: 303.825.4822

Project Name: Facility 4 AE2

Sampler Name: MH HC

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	FULL TABLE							
1	B4-3 @ 10'	7.6.22	10:10	3			X			X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 7.6.22 @ 1045	Received by: 	Date/Time: 7.6.22 1500	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: 59 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2207039

S2 Work Order# _____

Sample Receipt Checklist

Client: Kp Kauffman Client Project ID: Facility 4 AEZ

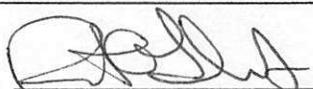
Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

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Matrix (Check all that apply) Air Soil/Solid Water Other Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact ⁽¹⁾ ?				
Was adequate sample volume provided ⁽¹⁾ ?				
If custody seals are present, are they intact ⁽¹⁾ ?				
Are samples due within 48 hours present?	-	HA		24 hrs
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
<u>Additional Comments (if any):</u>				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

7.6.22
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

BH-3@10'
2207039-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFG0098	07/06/22	07/07/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFG0099	"	07/07/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		%	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Manager: Jennifer Galles

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2207039-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFG0104	07/07/22	07/08/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00760	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00829	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	43.1 %	40-150			"	"	"	"	
Surrogate: Fluoranthene-d10	92.7 %	40-150			"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.410	0.0100	mg/L	1	BFG0100	07/07/22	07/09/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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2207039-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.41	0.254	mg/kg dry	1	BFG0125	07/07/22	07/09/22	EPA 6020B	
Barium	152	0.508	"	"	"	"	"	"	
Cadmium	ND	0.254	"	"	"	"	"	"	
Copper	13.7	0.508	"	"	"	"	"	"	
Lead	10.5	0.254	"	"	"	"	"	"	
Nickel	15.1	0.508	"	"	"	"	"	"	
Selenium	0.913	0.331	"	"	"	"	"	"	
Silver	0.0599	0.0254	"	"	"	"	"	"	
Zinc	49.1	0.508	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0152	07/08/22	07/11/22	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	151	0.0636	mg/L dry	1	BFG0114	07/07/22	07/12/22	EPA 6020B	
Magnesium	96.4	0.0636	"	"	"	"	"	"	
Sodium	336	0.0636	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.26	0.00100	units	1	BFG0203	07/12/22	07/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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2207039-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.7	%	1	BFG0107	07/07/22	07/07/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.59	0.0100	mmhos/cm	1	BFG0119	07/07/22	07/08/22	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **07/06/22 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BFG0118	07/07/22	07/08/22	EPA 9045D	

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Project Number: [none]
Project Manager: Jennifer Galles

Reported:
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFG0098 - EPA 5030 Soil MS

Blank (BFG0098-BLK1)

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0327		"	0.0400		81.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	50-150			

LCS (BFG0098-BS1)

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	0.115	0.0020	mg/kg	0.100		115	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.204	0.010	"	0.200		102	70-130			
o-Xylene	0.0943	0.0050	"	0.100		94.3	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100		106	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
Naphthalene	0.105	0.0038	"	0.100		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.1	50-150			
Surrogate: Toluene-d8	0.0334		"	0.0400		83.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

Matrix Spike (BFG0098-MS1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

Benzene	0.0909	0.0020	mg/kg	0.100	ND	90.9	70-130			
Toluene	0.0935	0.0050	"	0.100	ND	93.5	70-130			
Ethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130			
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.0934	0.0050	"	0.100	ND	93.4	70-130			
1,2,4-Trimethylbenzene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0346		"	0.0400		86.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

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Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFG0098 - EPA 5030 Soil MS

Matrix Spike Dup (BFG0098-MSD1)	Source: 2207032-01			Prepared: 07/06/22 Analyzed: 07/07/22						
Benzene	0.0897	0.0020	mg/kg	0.100	ND	89.7	70-130	1.30	30	
Toluene	0.0939	0.0050	"	0.100	ND	93.9	70-130	0.448	30	
Ethylbenzene	0.0977	0.0050	"	0.100	ND	97.7	70-130	2.46	30	
m,p-Xylene	0.209	0.010	"	0.200	ND	104	70-130	0.616	30	
o-Xylene	0.0923	0.0050	"	0.100	ND	92.3	70-130	1.10	30	
1,2,4-Trimethylbenzene	0.0958	0.0050	"	0.100	ND	95.8	70-130	1.92	30	
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100	ND	94.4	70-130	6.49	30	
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130	0.876	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0347</i>		<i>"</i>	<i>0.0400</i>		<i>86.8</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0331</i>		<i>"</i>	<i>0.0400</i>		<i>82.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>50-150</i>			

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K.P. Kauffman
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Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFG0099 - EPA 3550A

Blank (BFG0099-BLK1)

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							

LCS (BFG0099-BS1)

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	539	50	mg/kg	500	108	70-130				
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Matrix Spike (BFG0099-MS1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	487	50	mg/kg	500	16.1	94.2	70-130			
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Matrix Spike Dup (BFG0099-MSD1)

Source: 2207032-01

Prepared: 07/06/22 Analyzed: 07/07/22

C10-C28 (DRO)	501	50	mg/kg	500	16.1	97.0	70-130	2.84	20	
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Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
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PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFG0104 - EPA 5030 Soil MS

Blank (BFG0104-BLK1)

Prepared & Analyzed: 07/07/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0247</i>		"	<i>0.0333</i>		<i>74.0</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0392</i>		"	<i>0.0333</i>		<i>118</i>		<i>40-150</i>		

LCS (BFG0104-BS1)

Prepared & Analyzed: 07/07/22

Acenaphthene	0.0306	0.00500	mg/kg	0.0333		91.7		31-137		
Anthracene	0.0349	0.00500	"	0.0333		105		30-120		
Benzo (a) anthracene	0.0334	0.00500	"	0.0333		100		30-120		
Benzo (a) pyrene	0.0333	0.00500	"	0.0333		99.8		30-120		
Benzo (b) fluoranthene	0.0335	0.00500	"	0.0333		100		30-120		
Benzo (k) fluoranthene	0.0340	0.00500	"	0.0333		102		30-120		
Chrysene	0.0330	0.00500	"	0.0333		99.1		30-120		
Dibenz (a,h) anthracene	0.0312	0.00500	"	0.0333		93.7		30-120		
Fluoranthene	0.0324	0.00500	"	0.0333		97.4		30-120		
Fluorene	0.0314	0.00500	"	0.0333		94.2		30-120		
Indeno (1,2,3-cd) pyrene	0.0286	0.00500	"	0.0333		85.8		30-120		
Pyrene	0.0321	0.00500	"	0.0333		96.3		35-142		
1-Methylnaphthalene	0.0239	0.00500	"	0.0333		71.8		35-142		
2-Methylnaphthalene	0.0320	0.00500	"	0.0333		96.0		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0227</i>		"	<i>0.0333</i>		<i>68.0</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0341</i>		"	<i>0.0333</i>		<i>102</i>		<i>40-150</i>		

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BFG0104 - EPA 5030 Soil MS

Matrix Spike (BFG0104-MS1)	Source: 2207026-01			Prepared & Analyzed: 07/07/22							
Acenaphthene	0.0218	0.00500	mg/kg	0.0333	ND	65.3	31-137				
Anthracene	0.0269	0.00500	"	0.0333	ND	80.8	30-120				
Benzo (a) anthracene	0.0283	0.00500	"	0.0333	ND	84.9	30-120				
Benzo (a) pyrene	0.0257	0.00500	"	0.0333	ND	77.0	30-120				
Benzo (b) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.1	30-120				
Benzo (k) fluoranthene	0.0267	0.00500	"	0.0333	ND	80.2	30-120				
Chrysene	0.0257	0.00500	"	0.0333	ND	77.1	30-120				
Dibenz (a,h) anthracene	0.0152	0.00500	"	0.0333	ND	45.5	30-120				
Fluoranthene	0.0252	0.00500	"	0.0333	ND	75.7	30-120				
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0219	0.00500	"	0.0333	ND	65.6	30-120				
Pyrene	0.0262	0.00500	"	0.0333	ND	78.6	35-142				
1-Methylnaphthalene	0.0137	0.00500	"	0.0333	ND	41.2	15-130				
2-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	57.8	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0154</i>		"	<i>0.0333</i>		<i>46.3</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0272</i>		"	<i>0.0333</i>		<i>81.5</i>	<i>40-150</i>				

Matrix Spike Dup (BFG0104-MSD1)	Source: 2207026-01			Prepared & Analyzed: 07/07/22							
Acenaphthene	0.0154	0.00500	mg/kg	0.0333	ND	46.3	31-137	34.1	30		QR-02
Anthracene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	27.8	30		
Benzo (a) anthracene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	28.7	30		
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	29.3	30		
Benzo (b) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	30.3	30		QR-02
Benzo (k) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	31.1	30		QR-02
Chrysene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	27.5	30		
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	5.06	30		
Fluoranthene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	26.2	30		
Fluorene	0.0161	0.00500	"	0.0333	ND	48.3	30-120	31.9	30		QR-02
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	8.12	30		
Pyrene	0.0193	0.00500	"	0.0333	ND	57.8	35-142	30.6	30		QR-02
1-Methylnaphthalene	0.0122	0.00500	"	0.0333	ND	36.6	15-130	11.7	50		
2-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.3	15-130	14.0	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0159</i>		"	<i>0.0333</i>		<i>47.7</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0210</i>		"	<i>0.0333</i>		<i>62.9</i>	<i>40-150</i>				

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFG0100 - EPA 3050B

Blank (BFG0100-BLK1)

Prepared: 07/07/22 Analyzed: 07/09/22

Boron ND 0.0100 mg/L

LCS (BFG0100-BS1)

Prepared: 07/07/22 Analyzed: 07/09/22

Boron 5.15 0.0100 mg/L 5.00 103 80-120

Duplicate (BFG0100-DUP1)

Source: 2207033-02

Prepared: 07/07/22 Analyzed: 07/09/22

Boron 0.448 0.0100 mg/L 0.454 1.33 20

Matrix Spike (BFG0100-MS1)

Source: 2207033-02

Prepared: 07/07/22 Analyzed: 07/09/22

Boron 6.01 0.0100 mg/L 5.00 0.454 111 75-125

Matrix Spike Dup (BFG0100-MSD1)

Source: 2207033-02

Prepared: 07/07/22 Analyzed: 07/09/22

Boron 5.73 0.0100 mg/L 5.00 0.454 106 75-125 4.70 25

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

Batch BFG0125 - EPA 3050B

Blank (BFG0125-BLK1)

Prepared: 07/07/22 Analyzed: 07/09/22

Arsenic	ND	0.200	mg/kg wet						
Barium	ND	0.400	"						
Cadmium	ND	0.200	"						
Copper	ND	0.400	"						
Lead	ND	0.200	"						
Nickel	ND	0.400	"						
Selenium	ND	0.260	"						
Silver	ND	0.0200	"						
Zinc	ND	0.400	"						

LCS (BFG0125-BS1)

Prepared: 07/07/22 Analyzed: 07/09/22

Arsenic	43.0	0.200	mg/kg wet	40.0	108	80-120
Barium	41.2	0.400	"	40.0	103	80-120
Cadmium	2.11	0.200	"	2.00	106	80-120
Copper	41.0	0.400	"	40.0	102	80-120
Lead	20.0	0.200	"	20.0	100	80-120
Nickel	41.1	0.400	"	40.0	103	80-120
Selenium	4.18	0.260	"	4.00	104	80-120
Silver	2.14	0.0200	"	2.00	107	80-120
Zinc	43.7	0.400	"	40.0	109	80-120

Duplicate (BFG0125-DUP1)

Source: 2207027-01

Prepared: 07/07/22 Analyzed: 07/09/22

Arsenic	3.45	0.246	mg/kg dry	3.04	12.6	20
Barium	86.5	0.491	"	74.4	15.1	20
Cadmium	0.236	0.246	"	0.203	15.2	20
Copper	10.1	0.491	"	9.17	9.88	20
Lead	8.99	0.246	"	9.01	0.289	20
Nickel	12.6	0.491	"	11.1	12.3	20
Selenium	0.995	0.319	"	0.965	2.97	20
Silver	0.0447	0.0246	"	0.0458	2.58	20
Zinc	48.9	0.491	"	42.6	13.9	20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

Batch BFG0125 - EPA 3050B

Matrix Spike (BFG0125-MS1)

Source: 2207027-01

Prepared: 07/07/22 Analyzed: 07/09/22

Arsenic	53.2	0.246	mg/kg dry	49.1	3.04	102	75-125		
Barium	122	0.491	"	49.1	74.4	98.0	75-125		
Cadmium	2.78	0.246	"	2.46	0.203	105	75-125		
Copper	59.1	0.491	"	49.1	9.17	102	75-125		
Lead	30.8	0.246	"	24.6	9.01	88.6	75-125		
Nickel	63.9	0.491	"	49.1	11.1	108	75-125		
Selenium	5.04	0.319	"	4.91	0.965	83.0	75-125		
Silver	2.50	0.0246	"	2.46	0.0458	100	75-125		
Zinc	103	0.491	"	49.1	42.6	124	75-125		

Matrix Spike Dup (BFG0125-MSD1)

Source: 2207027-01

Prepared: 07/07/22 Analyzed: 07/09/22

Arsenic	53.5	0.246	mg/kg dry	49.1	3.04	103	75-125	0.568	25
Barium	123	0.491	"	49.1	74.4	99.8	75-125	0.719	25
Cadmium	2.80	0.246	"	2.46	0.203	106	75-125	0.477	25
Copper	59.7	0.491	"	49.1	9.17	103	75-125	1.04	25
Lead	30.8	0.246	"	24.6	9.01	88.7	75-125	0.101	25
Nickel	64.3	0.491	"	49.1	11.1	108	75-125	0.574	25
Selenium	5.14	0.319	"	4.91	0.965	85.1	75-125	1.95	25
Silver	2.55	0.0246	"	2.46	0.0458	102	75-125	1.75	25
Zinc	104	0.491	"	49.1	42.6	125	75-125	0.423	25

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFG0152 - 3060A Mod

Blank (BFG0152-BLK1)

Prepared: 07/08/22 Analyzed: 07/11/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFG0152-BS1)

Prepared: 07/08/22 Analyzed: 07/11/22

Chromium, Hexavalent 24.8 0.30 mg/kg wet 25.0 99.2 80-120

Duplicate (BFG0152-DUP1)

Source: 2206531-16

Prepared: 07/08/22 Analyzed: 07/11/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFG0152-MS1)

Source: 2206531-16

Prepared: 07/08/22 Analyzed: 07/11/22

Chromium, Hexavalent 26.4 0.30 mg/kg dry 25.7 ND 103 75-125

Matrix Spike Dup (BFG0152-MSD1)

Source: 2206531-16

Prepared: 07/08/22 Analyzed: 07/11/22

Chromium, Hexavalent 25.0 0.30 mg/kg dry 25.7 ND 97.4 75-125 5.39 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
 Project Manager: Jennifer Galles

Reported:
 07/13/22 13:16

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFG0114 - General Preparation

Blank (BFG0114-BLK1)

Prepared: 07/07/22 Analyzed: 07/12/22

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BFG0114-BS1)

Prepared: 07/07/22 Analyzed: 07/12/22

Calcium	5.21	0.0500	mg/L wet	5.00	104	70-130				
Magnesium	5.32	0.0500	"	5.00	106	70-130				
Sodium	5.15	0.0500	"	5.00	103	70-130				

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
 Project Manager: Jennifer Galles

Reported:
 07/13/22 13:16

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFG0107 - General Preparation

Duplicate (BFG0107-DUP1)

Source: 2207033-02

Prepared & Analyzed: 07/07/22

% Solids	91.3		%		91.9			0.589		20	
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
 Project Manager: Jennifer Galles

Reported:
 07/13/22 13:16

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BFG0119 - General Preparation

Blank (BFG0119-BLK1)

Prepared: 07/07/22 Analyzed: 07/08/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFG0119-BS1)

Prepared: 07/07/22 Analyzed: 07/08/22

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BFG0119-DUP1)

Source: 2206443-01

Prepared: 07/07/22 Analyzed: 07/08/22

Specific Conductance (EC) 0.329 0.0100 mmhos/cm 0.336 2.10 20

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFG0118 - General Preparation

LCS (BFG0118-BS1)

Prepared: 07/07/22 Analyzed: 07/08/22

pH	9.20	pH Units	9.18	100	95-105
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Duplicate (BFG0118-DUP1)

Source: 2206443-01

Prepared: 07/07/22 Analyzed: 07/08/22

pH	4.13	pH Units	4.14	0.242	20
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Facility 4 AE 2

Project Number: [none]
Project Manager: Jennifer Galles

Reported:
07/13/22 13:16

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference