

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 09, 2022

Levi Kirk

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Rocky Mountain Fuel Consolidation Line

Work Order #2210314

Enclosed are the results of analyses for samples received by Summit Scientific on 10/18/22 16:00. 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: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-17@9'	2210314-01	Soil	10/18/22 10:00	10/18/22 16:00
SW-18@9'	2210314-02	Soil	10/18/22 10:02	10/18/22 16:00
SW-19@9'	2210314-03	Soil	10/18/22 10:04	10/18/22 16:00
SW-20@9'	2210314-04	Soil	10/18/22 10:06	10/18/22 16:00
SW-21@9'	2210314-05	Soil	10/18/22 10:08	10/18/22 16:00
SW-22@9'	2210314-06	Soil	10/18/22 10:10	10/18/22 16:00
SW-23@9'	2210314-07	Soil	10/18/22 10:12	10/18/22 16:00
SW-24@9'	2210314-08	Soil	10/18/22 10:14	10/18/22 16:00
SW-25@9'	2210314-09	Soil	10/18/22 10:06	10/18/22 16:00
SW-26@9'	2210314-10	Soil	10/18/22 10:18	10/18/22 16:00
SW-27@9'	2210314-11	Soil	10/18/22 10:20	10/18/22 16:00
BH-9@14'	2210314-12	Soil	10/18/22 10:22	10/18/22 16:00
BH-10@14'	2210314-13	Soil	10/18/22 10:24	10/18/22 16:00
BH-11@14'	2210314-14	Soil	10/18/22 10:26	10/18/22 16:00
BH-12@14'	2210314-15	Soil	10/18/22 10:28	10/18/22 16:00
BH-13@14'	2210314-16	Soil	10/18/22 10:30	10/18/22 16:00

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S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Client: LeP. Kauffman/Macon Project Manager: Levi K. R. L.
 Address: 1675 Broadway E-Mail: Primary Contractor@maiconllc.net
 City/State/Zip: Denver, CO 80202
 Phone: 303.925.4822 Project Name: Rocky Mountain Fuels Consolidation Line
 Sampler Name: LP & SS Project Number: N/A

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 Test						
1	SW-17 @ 9'	10.18.22	1000	3			X			X			X						
2	SW-18 @ 9'		1002																
3	SW-19 @ 9'		1004																
4	SW-20 @ 9'		1006																
5	SW-21 @ 9'		1008																
6	SW-22 @ 9'		1010																
7	SW-23 @ 9'		1012																
8	SW-24 @ 9'		1014																
9	SW-25 @ 9'		1016																
10	SW-26 @ 9'		1018																

Relinquished by: <u>Chris P. ...</u> Date/Time: <u>10.18.22 1205</u>	Received by: <u>SZ</u> Date/Time: <u>10.18.22 1205</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>11.3</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: <u>SZ</u> Date/Time: <u>10.18.22 1000</u>	Received by: <u>[Signature]</u> Date/Time: <u>10.18.22 1000</u>		
Relinquished by:	Received by:		

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Client: Rep. Keith / Mar Com Project Manager: Levi Kirk
 Address: 1675 Broadway E-Mail: primarycontracts@marcomllc.com
 City/State/Zip: Denver, CO 80202
 Phone: 303.825.4822 Project Name: Rocky Mountain Falls Consolidation Line
 Sampler Name: CP & SS Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other					
1	SW-27 @ 9'	10.18.22	1020	3			X			X							
2	BH-9 @ 14'		1022														
3	BH-10 @ 14'		1024														
4	BH-11 @ 14'		1026														
5	BH-12 @ 14'		1028														
6	BH-13 @ 14'		1030														
7																	
8																	
9																	
10																	

Relinquished by: <u>Chris Piccolo</u>	Date/Time: <u>10.18.22 1205</u>	Received by: <u>SZ</u>	Date/Time: <u>10/18/22 1205</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>11.3</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: <u>SZ</u>	Date/Time: <u>10/18/22 1000</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/18/22 1000</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2/2

S2 Work Order# 2210314

Sample Receipt Checklist

Client: KPK Client Project ID: Rocky Mountain Fuel Consolidation Line

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

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 11.3 Thermometer # 1

	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

[Signature]
Custodian Printed Name

10-18-22
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-17@9'
2210314-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		126 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		111 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-17@9'
2210314-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/21/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		113 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.642	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-17@9'
2210314-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.947	0.233	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	40.8	0.467	"	"	"	"	"	"	
Cadmium	0.427	0.233	"	"	"	"	"	"	
Copper	12.5	0.467	"	"	"	"	"	"	
Lead	29.5	0.233	"	"	"	"	"	"	
Nickel	6.40	0.467	"	"	"	"	"	"	
Selenium	ND	0.303	"	"	"	"	"	"	
Silver	0.0584	0.0233	"	"	"	"	11/06/22	"	
Zinc	29.0	0.467	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.2	0.0584	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	11.9	0.0584	"	"	"	"	"	"	
Sodium	562	0.0584	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	24.8	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
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 Denver CO, 80202

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SW-17@9'
2210314-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.7	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.81	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-18@9'
2210314-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		82.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
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Project Number: [none]
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SW-18@9'
2210314-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/21/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		107 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.611	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-18@9'
2210314-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.85	0.232	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	48.2	0.465	"	"	"	"	"	"	
Cadmium	1.10	0.232	"	"	"	"	"	"	
Copper	29.1	0.465	"	"	"	"	"	"	
Lead	46.5	0.232	"	"	"	"	"	"	
Nickel	14.9	0.465	"	"	"	"	"	"	
Selenium	0.430	0.302	"	"	"	"	"	"	
Silver	0.0423	0.0232	"	"	"	"	11/06/22	"	
Zinc	96.7	0.465	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	432	0.0581	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	231	0.0581	"	"	"	"	"	"	
Sodium	2380	0.0581	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.0	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-18@9'
2210314-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.0	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.10	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-19@9'
2210314-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		85.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-19@9'
2210314-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/21/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		88.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.485	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-19@9'
2210314-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.71	0.252	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	277	0.504	"	"	"	"	"	"	
Cadmium	0.605	0.252	"	"	"	"	"	"	
Copper	11.1	0.504	"	"	"	"	"	"	
Lead	17.9	0.252	"	"	"	"	"	"	
Nickel	11.9	0.504	"	"	"	"	"	"	
Selenium	ND	0.328	"	"	"	"	"	"	
Silver	0.0393	0.0252	"	"	"	"	11/06/22	"	
Zinc	42.5	0.504	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.6	0.0630	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	32.3	0.0630	"	"	"	"	"	"	
Sodium	1090	0.0630	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	30.0	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

SW-19@9'
2210314-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.57	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-20@9'
2210314-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-20@9'
2210314-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/21/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		87.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.917	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-20@9'
2210314-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.88	0.248	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	224	0.496	"	"	"	"	"	"	
Cadmium	0.656	0.248	"	"	"	"	"	"	
Copper	12.0	0.496	"	"	"	"	"	"	
Lead	20.0	0.248	"	"	"	"	"	"	
Nickel	12.0	0.496	"	"	"	"	"	"	
Selenium	0.342	0.323	"	"	"	"	"	"	
Silver	0.0422	0.0248	"	"	"	"	11/06/22	"	
Zinc	41.2	0.496	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	492	0.0621	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	204	0.0621	"	"	"	"	"	"	
Sodium	2120	0.0621	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	20.3	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

SW-20@9'
2210314-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.6	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.96	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-21@9'
2210314-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		131 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-21@9'
2210314-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/21/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		106 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.904	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-21@9'
2210314-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.74	0.241	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	268	0.483	"	"	"	"	"	"	
Cadmium	0.641	0.241	"	"	"	"	"	"	
Copper	11.7	0.483	"	"	"	"	"	"	
Lead	18.7	0.241	"	"	"	"	"	"	
Nickel	11.7	0.483	"	"	"	"	"	"	
Selenium	0.537	0.314	"	"	"	"	"	"	
Silver	0.0492	0.0241	"	"	"	"	11/06/22	"	
Zinc	39.7	0.483	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	434	0.0603	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	278	0.0603	"	"	"	"	"	"	
Sodium	2900	0.0603	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	26.7	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

SW-21@9'
2210314-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.9	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.18	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.99		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-22@9'
2210314-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		118 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		120 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-22@9'
2210314-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		90.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.460	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-22@9'
2210314-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.43	0.236	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B
Barium	116	0.472	"	"	"	"	"	"
Cadmium	0.639	0.236	"	"	"	"	"	"
Copper	11.0	0.472	"	"	"	"	"	"
Lead	18.8	0.236	"	"	"	"	"	"
Nickel	11.5	0.472	"	"	"	"	"	"
Selenium	0.311	0.307	"	"	"	"	"	"
Silver	0.0410	0.0236	"	"	"	"	11/06/22	"
Zinc	38.6	0.472	"	"	"	"	10/22/22	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	221	0.0590	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	148	0.0590	"	"	"	"	"	"	
Sodium	2040	0.0590	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	26.1	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-22@9'
2210314-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.8	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	9.88	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-23@9'
2210314-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		106 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-23@9'
2210314-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		114 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.674	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-23@9'
2210314-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.17	0.231	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B
Barium	58.3	0.461	"	"	"	"	"	"
Cadmium	0.389	0.231	"	"	"	"	"	"
Copper	9.33	0.461	"	"	"	"	"	"
Lead	23.8	0.231	"	"	"	"	"	"
Nickel	6.59	0.461	"	"	"	"	"	"
Selenium	ND	0.300	"	"	"	"	"	"
Silver	0.0392	0.0231	"	"	"	"	11/06/22	"
Zinc	25.0	0.461	"	"	"	"	10/22/22	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	464	0.0577	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	176	0.0577	"	"	"	"	"	"	
Sodium	1600	0.0577	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.0	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-23@9'
2210314-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.7	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	8.77	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-24@9'
2210314-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		120 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-24@9'
2210314-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		110 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.444	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-24@9'
2210314-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.53	0.230	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	58.4	0.460	"	"	"	"	"	"	
Cadmium	0.700	0.230	"	"	"	"	"	"	
Copper	17.4	0.460	"	"	"	"	"	"	
Lead	31.1	0.230	"	"	"	"	"	"	
Nickel	15.7	0.460	"	"	"	"	"	"	
Selenium	0.385	0.299	"	"	"	"	"	"	
Silver	0.0331	0.0230	"	"	"	"	11/06/22	"	
Zinc	66.8	0.460	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	270	0.0574	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	109	0.0574	"	"	"	"	"	"	
Sodium	1230	0.0574	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.0	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

SW-24@9'
2210314-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.0	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.78	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-25@9'
2210314-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-25@9'
2210314-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		99.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.355	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-25@9'
2210314-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.558	0.226	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	22.5	0.452	"	"	"	"	"	"	
Cadmium	0.576	0.226	"	"	"	"	"	"	
Copper	17.4	0.452	"	"	"	"	"	"	
Lead	20.8	0.226	"	"	"	"	"	"	
Nickel	3.99	0.452	"	"	"	"	"	"	
Selenium	ND	0.294	"	"	"	"	"	"	
Silver	0.0407	0.0226	"	"	"	"	11/08/22	"	
Zinc	17.0	0.452	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	187	0.0565	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	80.2	0.0565	"	"	"	"	"	"	
Sodium	1120	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	17.3	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-25@9'
2210314-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.5	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.44	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-26@9'
2210314-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-26@9'
2210314-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		114 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.298	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-26@9'
2210314-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.72	0.224	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B
Barium	176	0.448	"	"	"	"	"	"
Cadmium	0.525	0.224	"	"	"	"	"	"
Copper	11.0	0.448	"	"	"	"	"	"
Lead	24.4	0.224	"	"	"	"	"	"
Nickel	11.4	0.448	"	"	"	"	"	"
Selenium	ND	0.291	"	"	"	"	"	"
Silver	0.0331	0.0224	"	"	"	"	11/08/22	"
Zinc	42.2	0.448	"	"	"	"	10/22/22	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	179	0.0559	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	72.8	0.0559	"	"	"	"	"	"	
Sodium	1160	0.0559	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	18.5	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

SW-26@9'
2210314-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.4	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.44	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-27@9'
2210314-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-27@9'
2210314-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		111 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.392	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-27@9'
2210314-11 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.05	0.227	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	127	0.455	"	"	"	"	"	"	
Cadmium	0.252	0.227	"	"	"	"	"	"	
Copper	7.30	0.455	"	"	"	"	"	"	
Lead	13.3	0.227	"	"	"	"	"	"	
Nickel	10.3	0.455	"	"	"	"	"	"	
Selenium	ND	0.295	"	"	"	"	"	"	
Silver	ND	0.0227	"	"	"	"	11/08/22	"	
Zinc	40.4	0.455	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.0	0.0568	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	29.6	0.0568	"	"	"	"	"	"	
Sodium	963	0.0568	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	27.2	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

SW-27@9'
2210314-11 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.0		%	1	BFJ0542	10/20/22	10/21/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.86	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-9@14'
2210314-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/21/22	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: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		129 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-9@14'
2210314-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		97.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.438	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-9@14'
2210314-12 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.03	0.243	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	80.6	0.486	"	"	"	"	"	"	
Cadmium	0.755	0.243	"	"	"	"	"	"	
Copper	14.4	0.486	"	"	"	"	"	"	
Lead	30.0	0.243	"	"	"	"	"	"	
Nickel	14.2	0.486	"	"	"	"	"	"	
Selenium	0.526	0.316	"	"	"	"	"	"	
Silver	0.0467	0.0243	"	"	"	"	11/08/22	"	
Zinc	91.1	0.486	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	56.0	0.0608	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	30.6	0.0608	"	"	"	"	"	"	
Sodium	835	0.0608	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	22.3	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
 1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

BH-9@14'
2210314-12 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.3	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.11	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-10@14'
2210314-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/22/22	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: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		124 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-10@14'
2210314-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	0.0103	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		102 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.292	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-10@14'
2210314-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.522	0.231	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	94.1	0.463	"	"	"	"	"	"	
Cadmium	1.46	0.231	"	"	"	"	"	"	
Copper	13.1	0.463	"	"	"	"	"	"	
Lead	24.9	0.231	"	"	"	"	"	"	
Nickel	18.8	0.463	"	"	"	"	"	"	
Selenium	0.915	0.301	"	"	"	"	"	"	
Silver	0.0305	0.0231	"	"	"	"	11/08/22	"	
Zinc	74.9	0.463	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	282	0.0578	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	108	0.0578	"	"	"	"	"	"	
Sodium	557	0.0578	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.15	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-10@14'
2210314-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.5	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.04	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-11@14'
2210314-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/22/22	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: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-11@14'
2210314-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		104 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.459	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-11@14'
2210314-14 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.53	0.246	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B
Barium	177	0.492	"	"	"	"	"	"
Cadmium	0.708	0.246	"	"	"	"	"	"
Copper	12.2	0.492	"	"	"	"	"	"
Lead	17.0	0.246	"	"	"	"	"	"
Nickel	12.0	0.492	"	"	"	"	"	"
Selenium	0.332	0.320	"	"	"	"	"	"
Silver	0.0655	0.0246	"	"	"	"	11/08/22	"
Zinc	43.4	0.492	"	"	"	"	10/22/22	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	178	0.0615	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	103	0.0615	"	"	"	"	"	"	
Sodium	1600	0.0615	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.6	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-11@14'
2210314-14 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.3	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.36	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.96		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-12@14'
2210314-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/22/22	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: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-12@14'
2210314-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		108 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.276	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-12@14'
2210314-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	28.7	0.235	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	313	0.470	"	"	"	"	"	"	
Cadmium	1.03	0.235	"	"	"	"	"	"	
Copper	17.7	0.470	"	"	"	"	"	"	
Lead	37.9	0.235	"	"	"	"	"	"	
Nickel	18.0	0.470	"	"	"	"	"	"	
Selenium	0.684	0.306	"	"	"	"	"	"	
Silver	0.0480	0.0235	"	"	"	"	11/08/22	"	
Zinc	78.3	0.470	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.5	0.0588	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	15.0	0.0588	"	"	"	"	"	"	
Sodium	591	0.0588	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	24.5	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

BH-12@14'
2210314-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.0	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.14	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-13@14'
2210314-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0584	10/21/22	10/22/22	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: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		113 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0587	10/21/22	10/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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1675 Broadway
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Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-13@14'
2210314-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFJ0565	10/21/22	10/22/22	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	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	"	"	"	"	"	"	

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		51.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		97.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.392	0.0100	mg/L	1	BFJ0561	10/21/22	10/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-13@14'
2210314-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.09	0.237	mg/kg dry	1	BFJ0569	10/21/22	10/22/22	EPA 6020B	
Barium	35.4	0.475	"	"	"	"	"	"	
Cadmium	0.648	0.237	"	"	"	"	"	"	
Copper	13.7	0.475	"	"	"	"	"	"	
Lead	23.6	0.237	"	"	"	"	"	"	
Nickel	10.2	0.475	"	"	"	"	"	"	
Selenium	0.486	0.308	"	"	"	"	"	"	
Silver	0.0285	0.0237	"	"	"	"	11/08/22	"	
Zinc	48.8	0.475	"	"	"	"	10/22/22	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0680	10/25/22	10/26/22	EPA 7196A	

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

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	376	0.0593	mg/L dry	1	BFJ0650	10/24/22	10/26/22	EPA 6020B	
Magnesium	125	0.0593	"	"	"	"	"	"	
Sodium	1140	0.0593	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	13.0	0.00100	units	1	BFJ0743	10/26/22	10/26/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

BH-13@14'
2210314-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.3	%	1	BFJ0542	10/20/22	10/21/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.60	0.0100	mmhos/cm	1	BFJ0692	10/25/22	10/26/22	EPA 120.1	

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

Date Sampled: **10/18/22 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BFJ0691	10/25/22	10/26/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0584 - EPA 5030 Soil MS

Blank (BFJ0584-BLK1)

Prepared & Analyzed: 10/21/22

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0392		"	0.0400		98.0	50-150				
<i>Surrogate: Toluene-d8</i>	0.0453		"	0.0400		113	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0473		"	0.0400		118	50-150				

LCS (BFJ0584-BS1)

Prepared & Analyzed: 10/21/22

Benzene	0.161	0.0020	mg/kg	0.125		129	70-130				
Toluene	0.162	0.0050	"	0.125		130	70-130				
Ethylbenzene	0.131	0.0050	"	0.125		105	70-130				
m,p-Xylene	0.255	0.010	"	0.250		102	70-130				
o-Xylene	0.114	0.0050	"	0.125		91.2	70-130				
1,2,4-Trimethylbenzene	0.123	0.0050	"	0.125		98.0	70-130				
1,3,5-Trimethylbenzene	0.126	0.0050	"	0.125		101	70-130				
Naphthalene	0.144	0.0038	"	0.125		115	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0403		"	0.0400		101	50-150				
<i>Surrogate: Toluene-d8</i>	0.0454		"	0.0400		113	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0462		"	0.0400		115	50-150				

Matrix Spike (BFJ0584-MS1)

Source: 2210314-01

Prepared & Analyzed: 10/21/22

Benzene	0.134	0.0020	mg/kg	0.125	ND	107	70-130				
Toluene	0.136	0.0050	"	0.125	ND	109	70-130				
Ethylbenzene	0.131	0.0050	"	0.125	ND	105	70-130				
m,p-Xylene	0.260	0.010	"	0.250	ND	104	70-130				
o-Xylene	0.116	0.0050	"	0.125	ND	93.1	70-130				
1,2,4-Trimethylbenzene	0.126	0.0050	"	0.125	ND	101	70-130				
1,3,5-Trimethylbenzene	0.129	0.0050	"	0.125	ND	103	70-130				
Naphthalene	0.0960	0.0038	"	0.125	ND	76.8	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0431		"	0.0400		108	50-150				
<i>Surrogate: Toluene-d8</i>	0.0454		"	0.0400		114	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0477		"	0.0400		119	50-150				

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0584 - EPA 5030 Soil MS

Matrix Spike Dup (BFJ0584-MSD1)	Source: 2210314-01			Prepared & Analyzed: 10/21/22						
Benzene	0.138	0.0020	mg/kg	0.125	ND	110	70-130	3.07	30	
Toluene	0.134	0.0050	"	0.125	ND	107	70-130	1.58	30	
Ethylbenzene	0.133	0.0050	"	0.125	ND	106	70-130	1.00	30	
m,p-Xylene	0.257	0.010	"	0.250	ND	103	70-130	1.25	30	
o-Xylene	0.115	0.0050	"	0.125	ND	92.1	70-130	1.09	30	
1,2,4-Trimethylbenzene	0.121	0.0050	"	0.125	ND	97.2	70-130	3.73	30	
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.125	ND	102	70-130	1.38	30	
Naphthalene	0.0954	0.0038	"	0.125	ND	76.3	70-130	0.658	30	
Surrogate: 1,2-Dichloroethane-d4	0.0379		"	0.0400		94.7	50-150			
Surrogate: Toluene-d8	0.0450		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0456		"	0.0400		114	50-150			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0587 - EPA 3550A

Blank (BFJ0587-BLK1)

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.6		"	12.5		109	30-150				

LCS (BFJ0587-BS1)

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	486	50	mg/kg	500		97.3	70-130				
Surrogate: <i>o</i> -Terphenyl	13.0		"	12.5		104	30-150				

Matrix Spike (BFJ0587-MS1)

Source: 2210314-01

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	448	50	mg/kg	500	ND	89.7	70-130				
Surrogate: <i>o</i> -Terphenyl	12.2		"	12.5		97.4	30-150				

Matrix Spike Dup (BFJ0587-MSD1)

Source: 2210314-01

Prepared: 10/21/22 Analyzed: 10/22/22

C10-C28 (DRO)	445	50	mg/kg	500	ND	89.0	70-130	0.759	20		
Surrogate: <i>o</i> -Terphenyl	12.5		"	12.5		100	30-150				

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1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0565 - EPA 5030 Soil MS

Blank (BFJ0565-BLK1)

Prepared & Analyzed: 10/21/22

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>0.0249</i>		"	<i>0.0333</i>		<i>74.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0373</i>		"	<i>0.0333</i>		<i>112</i>	<i>40-150</i>			

LCS (BFJ0565-BS1)

Prepared & Analyzed: 10/21/22

Acenaphthene	0.0358	0.00500	mg/kg	0.0333		107	31-137			
Anthracene	0.0338	0.00500	"	0.0333		101	30-120			
Benzo (a) anthracene	0.0358	0.00500	"	0.0333		107	30-120			
Benzo (a) pyrene	0.0206	0.00500	"	0.0333		61.7	30-120			
Benzo (b) fluoranthene	0.0153	0.00500	"	0.0333		45.9	30-120			
Benzo (k) fluoranthene	0.0149	0.00500	"	0.0333		44.8	30-120			
Chrysene	0.0346	0.00500	"	0.0333		104	30-120			
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333		49.0	30-120			
Fluoranthene	0.0359	0.00500	"	0.0333		108	30-120			
Fluorene	0.0372	0.00500	"	0.0333		112	30-120			
Indeno (1,2,3-cd) pyrene	0.0246	0.00500	"	0.0333		73.9	30-120			
Pyrene	0.0335	0.00500	"	0.0333		101	35-142			
1-Methylnaphthalene	0.0301	0.00500	"	0.0333		90.4	35-142			
2-Methylnaphthalene	0.0228	0.00500	"	0.0333		68.5	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0330</i>		"	<i>0.0333</i>		<i>98.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0269</i>		"	<i>0.0333</i>		<i>80.6</i>	<i>40-150</i>			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0565 - EPA 5030 Soil MS

Matrix Spike (BFJ0565-MS1)	Source: 2210314-03			Prepared & Analyzed: 10/21/22						
Acenaphthene	0.0231	0.00500	mg/kg	0.0333	ND	69.2	31-137			
Anthracene	0.0168	0.00500	"	0.0333	ND	50.4	30-120			
Benzo (a) anthracene	0.0184	0.00500	"	0.0333	ND	55.3	30-120			
Benzo (a) pyrene	0.0142	0.00500	"	0.0333	ND	42.7	30-120			
Benzo (b) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.1	30-120			
Benzo (k) fluoranthene	0.0134	0.00500	"	0.0333	ND	40.3	30-120			
Chrysene	0.0148	0.00500	"	0.0333	ND	44.5	30-120			
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	47.9	30-120			
Fluoranthene	0.0228	0.00500	"	0.0333	ND	68.5	30-120			
Fluorene	0.0178	0.00500	"	0.0333	ND	53.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.7	30-120			
Pyrene	0.0153	0.00500	"	0.0333	ND	46.0	35-142			
1-Methylnaphthalene	0.0148	0.00500	"	0.0333	ND	44.3	15-130			
2-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	51.8	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0145		"	0.0333		43.5	40-150			
Surrogate: Fluoranthene-d10	0.0242		"	0.0333		72.5	40-150			

Matrix Spike Dup (BFJ0565-MSD1)	Source: 2210314-03			Prepared & Analyzed: 10/21/22						
Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	61.0	31-137	12.6	30	
Anthracene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	9.01	30	
Benzo (a) anthracene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	8.36	30	
Benzo (a) pyrene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	29.6	30	
Benzo (b) fluoranthene	0.0137	0.00500	"	0.0333	ND	41.2	30-120	17.6	30	
Benzo (k) fluoranthene	0.0134	0.00500	"	0.0333	ND	40.2	30-120	0.127	30	
Chrysene	0.0137	0.00500	"	0.0333	ND	41.2	30-120	7.77	30	
Dibenz (a,h) anthracene	0.0135	0.00500	"	0.0333	ND	40.5	30-120	16.9	30	
Fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	13.3	30	
Fluorene	0.0165	0.00500	"	0.0333	ND	49.5	30-120	7.45	30	
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	2.64	30	
Pyrene	0.0143	0.00500	"	0.0333	ND	43.0	35-142	6.85	30	
1-Methylnaphthalene	0.0134	0.00500	"	0.0333	ND	40.3	15-130	9.30	50	
2-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.3	15-130	1.01	50	
Surrogate: 2-Methylnaphthalene-d10	0.0134		"	0.0333		40.2	40-150			
Surrogate: Fluoranthene-d10	0.0221		"	0.0333		66.3	40-150			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0561 - EPA 3050B

Blank (BFJ0561-BLK1)

Prepared & Analyzed: 10/21/22

Boron ND 0.0100 mg/L

LCS (BFJ0561-BS1)

Prepared & Analyzed: 10/21/22

Boron 5.58 0.0100 mg/L 5.00 112 80-120

Duplicate (BFJ0561-DUP1)

Source: 2210314-01

Prepared & Analyzed: 10/21/22

Boron 0.661 0.0100 mg/L 0.642 2.94 20

Matrix Spike (BFJ0561-MS1)

Source: 2210314-01

Prepared & Analyzed: 10/21/22

Boron 6.03 0.0100 mg/L 5.00 0.642 108 75-125

Matrix Spike Dup (BFJ0561-MSD1)

Source: 2210314-01

Prepared & Analyzed: 10/21/22

Boron 6.07 0.0100 mg/L 5.00 0.642 108 75-125 0.548 25

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0569 - EPA 3050B

Blank (BFJ0569-BLK1)

Prepared: 10/21/22 Analyzed: 10/22/22

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 (BFJ0569-BS1)

Prepared: 10/21/22 Analyzed: 10/22/22

Arsenic	45.1	0.200	mg/kg wet	40.0		113	80-120			
Barium	40.5	0.400	"	40.0		101	80-120			
Cadmium	2.03	0.200	"	2.00		101	80-120			
Copper	44.1	0.400	"	40.0		110	80-120			
Lead	21.2	0.200	"	20.0		106	80-120			
Nickel	43.0	0.400	"	40.0		108	80-120			
Selenium	4.14	0.260	"	4.00		103	80-120			
Silver	1.96	0.0200	"	2.00		98.0	80-120			
Zinc	42.7	0.400	"	40.0		107	80-120			

Duplicate (BFJ0569-DUP1)

Source: 2210314-01

Prepared: 10/21/22 Analyzed: 10/22/22

Arsenic	0.934	0.233	mg/kg dry	0.947				1.34	20	
Barium	40.7	0.467	"	40.8				0.469	20	
Cadmium	0.449	0.233	"	0.427				5.12	20	
Copper	12.7	0.467	"	12.5				1.00	20	
Lead	29.5	0.233	"	29.5				0.0158	20	
Nickel	6.45	0.467	"	6.40				0.741	20	
Selenium	ND	0.303	"	ND					20	
Silver	0.0587	0.0233	"	0.0584				0.579	20	
Zinc	29.2	0.467	"	29.0				0.822	20	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0569 - EPA 3050B

Matrix Spike (BFJ0569-MS1)	Source: 2210314-01			Prepared: 10/21/22 Analyzed: 10/22/22								
Arsenic	13.0	0.233	mg/kg dry	46.7	0.947	25.9	75-125					QM-05
Barium	98.2	0.467	"	46.7	40.8	123	75-125					
Cadmium	2.65	0.233	"	2.33	0.427	95.1	75-125					
Copper	49.8	0.467	"	46.7	12.5	79.8	75-125					
Lead	48.3	0.233	"	23.3	29.5	80.3	75-125					
Nickel	42.6	0.467	"	46.7	6.40	77.6	75-125					
Selenium	5.01	0.303	"	4.67	ND	107	75-125					
Silver	2.67	0.0233	"	2.33	0.0584	112	75-125					
Zinc	69.3	0.467	"	46.7	29.0	86.3	75-125					

Matrix Spike Dup (BFJ0569-MSD1)	Source: 2210314-01			Prepared: 10/21/22 Analyzed: 10/22/22								
Arsenic	13.1	0.233	mg/kg dry	46.7	0.947	26.0	75-125	0.265	25			QM-05
Barium	96.5	0.467	"	46.7	40.8	119	75-125	1.81	25			
Cadmium	2.81	0.233	"	2.33	0.427	102	75-125	5.95	25			
Copper	50.1	0.467	"	46.7	12.5	80.5	75-125	0.640	25			
Lead	54.7	0.233	"	23.3	29.5	108	75-125	12.5	25			
Nickel	42.9	0.467	"	46.7	6.40	78.1	75-125	0.572	25			
Selenium	5.60	0.303	"	4.67	ND	120	75-125	11.1	25			
Silver	2.43	0.0233	"	2.33	0.0584	102	75-125	9.45	25			
Zinc	69.4	0.467	"	46.7	29.0	86.6	75-125	0.206	25			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFJ0680 - 3060A Mod

Blank (BFJ0680-BLK1)

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFJ0680-BS1)

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 21.9 0.30 mg/kg wet 25.0 87.6 80-120

Duplicate (BFJ0680-DUP1)

Source: 2210314-05

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFJ0680-MS1)

Source: 2210314-05

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 26.8 0.30 mg/kg dry 30.2 ND 88.8 75-125

Matrix Spike Dup (BFJ0680-MSD1)

Source: 2210314-05

Prepared: 10/25/22 Analyzed: 10/26/22

Chromium, Hexavalent 26.2 0.30 mg/kg dry 30.2 ND 86.8 75-125 2.28 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

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

Summit Scientific

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

Batch BFJ0650 - General Preparation

Blank (BFJ0650-BLK1)

Prepared: 10/24/22 Analyzed: 10/26/22

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

LCS (BFJ0650-BS1)

Prepared: 10/24/22 Analyzed: 10/26/22

Calcium	5.31	0.0500	mg/L wet	5.00	106	70-130				
Magnesium	5.30	0.0500	"	5.00	106	70-130				
Sodium	5.14	0.0500	"	5.00	103	70-130				

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

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 BFJ0542 - General Preparation

Duplicate (BFJ0542-DUP1)

Source: 2210314-01

Prepared: 10/20/22 Analyzed: 10/21/22

% Solids	85.9		%		85.7			0.226	20	
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

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 BFJ0692 - General Preparation

Blank (BFJ0692-BLK1)

Prepared: 10/25/22 Analyzed: 10/26/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFJ0692-BS1)

Prepared: 10/25/22 Analyzed: 10/26/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFJ0692-DUP1)

Source: 2210285-01

Prepared: 10/25/22 Analyzed: 10/26/22

Specific Conductance (EC) 0.921 0.0100 mmhos/cm 0.940 1.98 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 11/09/22 14:09

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

Summit Scientific

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

Batch BFJ0691 - General Preparation

LCS (BFJ0691-BS1)

Prepared: 10/25/22 Analyzed: 10/26/22

pH	9.20	pH Units	9.18	100	95-105
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Duplicate (BFJ0691-DUP1)

Source: 2210285-01

Prepared: 10/25/22 Analyzed: 10/26/22

pH	9.07	pH Units	8.17	10.4	20
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rocky Mountain Fuel Consolidation Line

Project Number: [none]
Project Manager: Levi Kirk

Reported:
11/09/22 14:09

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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