

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 15, 2022

Levi Kirk

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Rodgers #1 Flowline

Work Order #2209050

Enclosed are the results of analyses for samples received by Summit Scientific on 09/02/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1@8'	2209050-01	Soil	09/02/22 13:10	09/02/22 15:00
BH-2@8'	2209050-02	Soil	09/02/22 13:12	09/02/22 15:00
SW-1@6'	2209050-03	Soil	09/02/22 13:14	09/02/22 15:00
SW-2@6'	2209050-04	Soil	09/02/22 13:16	09/02/22 15:00
SW-3@6'	2209050-05	Soil	09/02/22 13:18	09/02/22 15:00
SW-4@6'	2209050-06	Soil	09/02/22 13:20	09/02/22 15:00

Summit Scientific

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Summit Scientific

S₂

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

2209050

Client: K.P. Kauffman Company, Inc

Project Manager: Levi Kirk

Address: 1675 Broadway

E-Mail: Primary Contractor @ Marcom

City/State/Zip: Denver, CO 80202

Phone: 303-825-4822

Project Name: Rodgers Flowline #1

Sampler Name: HC

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other							
1	BH-1 @ 8'	9-2-22	1310	3			X			X									
2	BH-2 @ 8'		1312				X			X									
3	SW-1 @ 6'		1314				X			X									
4	SW-2 @ 6'		1316				X			X									
5	SW-3 @ 6'		1318				X			X									
6	SW-4 @ 6'		1320				X			X									
7																			
8																			
9																			
10																			

Relinquished by: <u>Lawrence</u>	Date/Time: <u>9-2-22 1900</u>	Received by: <u>[Signature]</u>	Date/Time: <u>9-2-22 1500</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Temperature Upon Receipt: <u>8.9</u>	Corrected Temperature: <u>0</u>	HNO3 lot #			
IR gun correction: <u>0</u>	IR gun #: <u>1</u>			Sample Integrity: Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2209050

Client: KPK Client Project ID: Rodgers Flawline #1

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24 hrs
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<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.

Custodian Printed Name

9-2-22

17:15

Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

BH-1@8'
2209050-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	2.7	0.20	mg/kg	100	BF10061	09/02/22	09/03/22	EPA 8260B	
Toluene	28	0.50	"	"	"	"	"	"	
Ethylbenzene	20	0.50	"	"	"	"	"	"	
Xylenes (total)	170	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	85	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	31	0.50	"	"	"	"	"	"	
Naphthalene	18	0.38	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7900	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		142 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		76.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	7200	50	mg/kg	1	BF10062	09/02/22	09/03/22	EPA 8015M	
C28-C36 (ORO)	1000	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		183 %	30-150		"	"	"	"	S-02

PAH by EPA Method 8270D SIM

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Project: Rodgers #1 Flowline

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Project Manager: Levi Kirk

Reported:
09/15/22 16:28

BH-1@8'
2209050-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	1.00	mg/kg	200	BF10085	09/06/22	09/08/22	EPA 8270D SIM	
Anthracene	ND	1.00	"	"	"	"	"	"	
Benzo (a) anthracene	0.112	0.00500	"	1	"	"	09/07/22	"	
Benzo (a) pyrene	0.0412	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0479	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.118	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.157	0.00500	"	"	"	"	"	"	
Fluorene	0.838	0.250	"	50	"	"	09/07/22	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	09/07/22	"	
Pyrene	0.137	0.0250	"	5	"	"	09/07/22	"	
1-Methylnaphthalene	5.63	0.250	"	50	"	"	"	"	
2-Methylnaphthalene	17.4	1.00	"	200	"	"	09/08/22	"	

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	78.1 %	40-150	"	"	"	"	09/07/22	"	
Surrogate: Fluoranthene-d10	75.5 %	40-150	"	"	"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.604	0.0100	mg/L	1	BF10113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:10**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

BH-1@8'
2209050-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.37	0.225	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	75.2	0.449	"	"	"	"	"	"	
Cadmium	ND	0.225	"	"	"	"	"	"	
Copper	7.88	0.449	"	"	"	"	"	"	
Lead	6.44	0.225	"	"	"	"	"	"	
Nickel	9.31	0.449	"	"	"	"	"	"	
Selenium	0.718	0.292	"	"	"	"	"	"	
Silver	0.0303	0.0225	"	"	"	"	"	"	
Zinc	37.3	0.449	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	398	0.0561	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	260	0.0561	"	"	"	"	"	"	
Sodium	583	0.0561	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.58	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

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BH-1@8'
2209050-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.1	%	1	BFI0156	09/07/22	09/08/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.62	0.0100	mmhos/cm	1	BFI0231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.41		pH Units	1	BFI0230	09/09/22	09/09/22	EPA 9045D	

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Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

BH-2@8'
2209050-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.5	0.20	mg/kg	100	BFI0061	09/02/22	09/03/22	EPA 8260B	
Toluene	12	0.50	"	"	"	"	"	"	
Ethylbenzene	9.4	0.50	"	"	"	"	"	"	
Xylenes (total)	87	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	42	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	16	0.50	"	"	"	"	"	"	
Naphthalene	9.3	0.38	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5100	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	98.5 %	50-150			"	"	"	"	
Surrogate: Toluene-d8	84.1 %	50-150			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	93.4 %	50-150			"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	4100	50	mg/kg	1	BFI0062	09/02/22	09/04/22	EPA 8015M	
C28-C36 (ORO)	680	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	164 %	30-150			"	"	"	"	S-02

PAH by EPA Method 8270D SIM

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Project: Rodgers #1 Flowline

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Reported:
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BH-2@8'
2209050-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFI0085	09/06/22	09/07/22	EPA 8270D SIM	
Anthracene	2.18	0.250	"	50	"	"	09/07/22	"	
Benzo (a) anthracene	0.282	0.250	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	1	"	"	09/07/22	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.150	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	1.07	0.250	"	50	"	"	09/07/22	"	
Fluorene	ND	0.00500	"	1	"	"	09/07/22	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.671	0.250	"	50	"	"	09/07/22	"	
1-Methylnaphthalene	4.13	0.500	"	100	"	"	09/08/22	"	
2-Methylnaphthalene	14.3	0.500	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		%	40-150		"	"	09/07/22	"	S-02
Surrogate: Fluoranthene-d10		94.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.396	0.0100	mg/L	1	BFI0113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

BH-2@8'
2209050-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.81	0.221	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	49.5	0.442	"	"	"	"	"	"	
Cadmium	ND	0.221	"	"	"	"	"	"	
Copper	6.76	0.442	"	"	"	"	"	"	
Lead	6.02	0.221	"	"	"	"	"	"	
Nickel	8.64	0.442	"	"	"	"	"	"	
Selenium	0.659	0.287	"	"	"	"	"	"	
Silver	ND	0.0221	"	"	"	"	"	"	
Zinc	37.4	0.442	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	557	0.0552	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	464	0.0552	"	"	"	"	"	"	
Sodium	1130	0.0552	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.56	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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1675 Broadway
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Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
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BH-2@8'
2209050-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	90.6			%	1	BF10156	09/07/22	09/08/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.39	0.0100		mmhos/cm	1	BF10231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.34			pH Units	1	BF10230	09/09/22	09/09/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-1@6'
2209050-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0061	09/02/22	09/03/22	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: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		137 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		84.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0062	09/02/22	09/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-1@6'
2209050-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFI0085	09/06/22	09/07/22	EPA 8270D SIM	
Anthracene	0.00891	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	0.00567	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: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	63.2 %	40-150			"	"	"	"	
Surrogate: Fluoranthene-d10	73.9 %	40-150			"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.809	0.0100	mg/L	1	BFI0113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:14**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-1@6'
2209050-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.74	0.233	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	49.7	0.467	"	"	"	"	"	"	
Cadmium	ND	0.233	"	"	"	"	"	"	
Copper	13.0	0.467	"	"	"	"	"	"	
Lead	9.56	0.233	"	"	"	"	"	"	
Nickel	12.6	0.467	"	"	"	"	"	"	
Selenium	0.894	0.303	"	"	"	"	"	"	
Silver	0.0360	0.0233	"	"	"	"	"	"	
Zinc	52.1	0.467	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.6	0.0583	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	21.7	0.0583	"	"	"	"	"	"	
Sodium	116	0.0583	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.33	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:14**

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

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

SW-1@6'
2209050-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.7	%	1	BFI0156	09/07/22	09/08/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.854	0.0100	mmhos/cm	1	BFI0231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BFI0230	09/09/22	09/09/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-2@6'
2209050-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0061	09/02/22	09/03/22	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: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		139 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		85.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0062	09/02/22	09/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-2@6'
2209050-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10085	09/06/22	09/07/22	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: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.09	0.0100	mg/L	1	BF10113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:16**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-2@6'
2209050-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.88	0.213	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	67.8	0.427	"	"	"	"	"	"	
Cadmium	ND	0.213	"	"	"	"	"	"	
Copper	10.9	0.427	"	"	"	"	"	"	
Lead	8.19	0.213	"	"	"	"	"	"	
Nickel	9.97	0.427	"	"	"	"	"	"	
Selenium	0.941	0.277	"	"	"	"	"	"	
Silver	0.0362	0.0213	"	"	"	"	"	"	
Zinc	42.1	0.427	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.4	0.0533	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	21.9	0.0533	"	"	"	"	"	"	
Sodium	137	0.0533	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.26	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:16**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-2@6'
2209050-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	93.7	%	1	BFI0156	09/07/22	09/08/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.08	0.0100	mmhos/cm	1	BFI0231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BFI0230	09/09/22	09/09/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-3@6'
2209050-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0061	09/02/22	09/03/22	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: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		136 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		87.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0062	09/02/22	09/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-3@6'
2209050-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10085	09/06/22	09/07/22	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: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.22	0.0100	mg/L	1	BF10113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:18**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-3@6'
2209050-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.21	0.218	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	61.8	0.436	"	"	"	"	"	"	
Cadmium	ND	0.218	"	"	"	"	"	"	
Copper	7.98	0.436	"	"	"	"	"	"	
Lead	7.77	0.218	"	"	"	"	"	"	
Nickel	9.48	0.436	"	"	"	"	"	"	
Selenium	0.710	0.284	"	"	"	"	"	"	
Silver	0.0303	0.0218	"	"	"	"	"	"	
Zinc	41.0	0.436	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	66.2	0.0545	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	86.4	0.0545	"	"	"	"	"	"	
Sodium	386	0.0545	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.36	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:18**

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

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

SW-3@6'
2209050-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.7	%	1	BFI0156	09/07/22	09/08/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.80	0.0100	mmhos/cm	1	BFI0231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BFI0230	09/09/22	09/09/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-4@6'
2209050-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10061	09/02/22	09/03/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.022	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.036	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		87.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10062	09/02/22	09/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		77.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-4@6'
2209050-06 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10085	09/06/22	09/07/22	EPA 8270D SIM	
Anthracene	0.00524	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	0.0178	0.00500	"	"	"	"	"	"	"
Fluorene	0.00954	0.00500	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	"
Pyrene	0.0143	0.00500	"	"	"	"	"	"	"
1-Methylnaphthalene	0.0311	0.00500	"	"	"	"	"	"	"
2-Methylnaphthalene	0.0543	0.00500	"	"	"	"	"	"	"

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.212	0.0100	mg/L	1	BF10113	09/06/22	09/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 13:20**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

SW-4@6'
2209050-06 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.09	0.212	mg/kg dry	1	BF10089	09/06/22	09/07/22	EPA 6020B	
Barium	81.2	0.425	"	"	"	"	"	"	
Cadmium	ND	0.212	"	"	"	"	"	"	
Copper	6.69	0.425	"	"	"	"	"	"	
Lead	5.03	0.212	"	"	"	"	"	"	
Nickel	6.69	0.425	"	"	"	"	"	"	
Selenium	0.452	0.276	"	"	"	"	"	"	
Silver	0.0351	0.0212	"	"	"	"	"	"	
Zinc	24.4	0.425	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10087	09/06/22	09/07/22	EPA 7196A	

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

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	93.5	0.0531	mg/L dry	1	BF10182	09/08/22	09/10/22	EPA 6020B	
Magnesium	71.3	0.0531	"	"	"	"	"	"	
Sodium	129	0.0531	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.45	0.00100	units	1	BF10261	09/12/22	09/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 13:20**

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

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

SW-4@6'
2209050-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	94.2	%	1	BFI0156	09/07/22	09/08/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.92	0.0100	mmhos/cm	1	BFI0231	09/09/22	09/09/22	EPA 120.1	

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

Date Sampled: **09/02/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BFI0230	09/09/22	09/09/22	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0061 - EPA 5030 Soil MS

Blank (BFI0061-BLK1)

Prepared & Analyzed: 09/02/22

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>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.7</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>98.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

LCS (BFI0061-BS1)

Prepared & Analyzed: 09/02/22

Benzene	0.161	0.0020	mg/kg	0.150		108	70-130			
Toluene	0.161	0.0050	"	0.150		107	70-130			
Ethylbenzene	0.157	0.0050	"	0.150		104	70-130			
m,p-Xylene	0.314	0.010	"	0.300		105	70-130			
o-Xylene	0.157	0.0050	"	0.150		105	70-130			
1,2,4-Trimethylbenzene	0.159	0.0050	"	0.150		106	70-130			
1,3,5-Trimethylbenzene	0.160	0.0050	"	0.150		106	70-130			
Naphthalene	0.156	0.0038	"	0.150		104	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

Matrix Spike (BFI0061-MS1)

Source: 2209045-01

Prepared & Analyzed: 09/02/22

Benzene	0.155	0.0020	mg/kg	0.150	ND	103	70-130			
Toluene	0.155	0.0050	"	0.150	ND	104	70-130			
Ethylbenzene	0.150	0.0050	"	0.150	ND	99.8	70-130			
m,p-Xylene	0.298	0.010	"	0.300	ND	99.4	70-130			
o-Xylene	0.149	0.0050	"	0.150	ND	99.0	70-130			
1,2,4-Trimethylbenzene	0.150	0.0050	"	0.150	ND	100	70-130			
1,3,5-Trimethylbenzene	0.153	0.0050	"	0.150	ND	102	70-130			
Naphthalene	0.144	0.0038	"	0.150	ND	95.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>	<i>50-150</i>			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0061 - EPA 5030 Soil MS

Matrix Spike Dup (BFI0061-MSD1)	Source: 2209045-01			Prepared & Analyzed: 09/02/22						
Benzene	0.158	0.0020	mg/kg	0.150	ND	105	70-130	1.78	30	
Toluene	0.158	0.0050	"	0.150	ND	105	70-130	1.46	30	
Ethylbenzene	0.151	0.0050	"	0.150	ND	100	70-130	0.639	30	
m,p-Xylene	0.300	0.010	"	0.300	ND	100	70-130	0.712	30	
o-Xylene	0.150	0.0050	"	0.150	ND	100	70-130	1.28	30	
1,2,4-Trimethylbenzene	0.151	0.0050	"	0.150	ND	101	70-130	0.338	30	
1,3,5-Trimethylbenzene	0.154	0.0050	"	0.150	ND	103	70-130	0.332	30	
Naphthalene	0.147	0.0038	"	0.150	ND	98.3	70-130	2.54	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>98.9</i>	<i>50-150</i>			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0062 - EPA 3550A

Blank (BFI0062-BLK1)

Prepared: 09/02/22 Analyzed: 09/03/22

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

LCS (BFI0062-BS1)

Prepared: 09/02/22 Analyzed: 09/03/22

C10-C28 (DRO)	617	50	mg/kg	500		123	70-130				
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Matrix Spike (BFI0062-MS1)

Source: 2209047-11

Prepared: 09/02/22 Analyzed: 09/03/22

C10-C28 (DRO)	531	50	mg/kg	500	ND	106	70-130				
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Matrix Spike Dup (BFI0062-MSD1)

Source: 2209047-11

Prepared: 09/02/22 Analyzed: 09/03/22

C10-C28 (DRO)	538	50	mg/kg	500	ND	108	70-130	1.30	20		
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1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0085 - EPA 5030 Soil MS

Blank (BFI0085-BLK1)

Prepared & Analyzed: 09/06/22

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>0.0286</i>		"	<i>0.0333</i>		<i>85.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0316</i>		"	<i>0.0333</i>		<i>94.9</i>	<i>40-150</i>			

LCS (BFI0085-BS1)

Prepared & Analyzed: 09/06/22

Acenaphthene	0.0241	0.00500	mg/kg	0.0333		72.3	31-137			
Anthracene	0.0287	0.00500	"	0.0333		86.2	30-120			
Benzo (a) anthracene	0.0259	0.00500	"	0.0333		77.7	30-120			
Benzo (a) pyrene	0.0320	0.00500	"	0.0333		96.0	30-120			
Benzo (b) fluoranthene	0.0360	0.00500	"	0.0333		108	30-120			
Benzo (k) fluoranthene	0.0376	0.00500	"	0.0333		113	30-120			
Chrysene	0.0309	0.00500	"	0.0333		92.6	30-120			
Dibenz (a,h) anthracene	0.0350	0.00500	"	0.0333		105	30-120			
Fluoranthene	0.0303	0.00500	"	0.0333		91.0	30-120			
Fluorene	0.0245	0.00500	"	0.0333		73.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0338	0.00500	"	0.0333		101	30-120			
Pyrene	0.0342	0.00500	"	0.0333		103	35-142			
1-Methylnaphthalene	0.0219	0.00500	"	0.0333		65.6	35-142			
2-Methylnaphthalene	0.0385	0.00500	"	0.0333		115	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0240</i>		"	<i>0.0333</i>		<i>72.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0281</i>		"	<i>0.0333</i>		<i>84.3</i>	<i>40-150</i>			

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0085 - EPA 5030 Soil MS

Matrix Spike (BFI0085-MS1)	Source: 2208426-02			Prepared & Analyzed: 09/06/22						
Acenaphthene	0.0157	0.00500	mg/kg	0.0333	ND	47.1	31-137			
Anthracene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Benzo (a) anthracene	0.0198	0.00500	"	0.0333	ND	59.4	30-120			
Benzo (a) pyrene	0.0223	0.00500	"	0.0333	ND	66.9	30-120			
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333	ND	86.5	30-120			
Benzo (k) fluoranthene	0.0311	0.00500	"	0.0333	ND	93.4	30-120			
Chrysene	0.0177	0.00500	"	0.0333	ND	53.1	30-120			
Dibenz (a,h) anthracene	0.0261	0.00500	"	0.0333	ND	78.4	30-120			
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120			
Fluorene	0.0174	0.00500	"	0.0333	ND	52.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0248	0.00500	"	0.0333	ND	74.4	30-120			
Pyrene	0.0159	0.00500	"	0.0333	ND	47.6	35-142			
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.6	15-130			
2-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0240</i>		<i>"</i>	<i>0.0333</i>		<i>71.9</i>	<i>40-150</i>			

Matrix Spike Dup (BFI0085-MSD1)	Source: 2208426-02			Prepared & Analyzed: 09/06/22						
Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.3	31-137	2.50	30	
Anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	6.35	30	
Benzo (a) anthracene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	1.57	30	
Benzo (a) pyrene	0.0210	0.00500	"	0.0333	ND	62.9	30-120	6.12	30	
Benzo (b) fluoranthene	0.0274	0.00500	"	0.0333	ND	82.1	30-120	5.15	30	
Benzo (k) fluoranthene	0.0295	0.00500	"	0.0333	ND	88.5	30-120	5.35	30	
Chrysene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	1.65	30	
Dibenz (a,h) anthracene	0.0261	0.00500	"	0.0333	ND	78.2	30-120	0.275	30	
Fluoranthene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	5.56	30	
Fluorene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	1.62	30	
Indeno (1,2,3-cd) pyrene	0.0255	0.00500	"	0.0333	ND	76.4	30-120	2.60	30	
Pyrene	0.0163	0.00500	"	0.0333	ND	48.9	35-142	2.74	30	
1-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.6	15-130	1.76	50	
2-Methylnaphthalene	0.0254	0.00500	"	0.0333	ND	76.2	15-130	7.22	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0184</i>		<i>"</i>	<i>0.0333</i>		<i>55.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0222</i>		<i>"</i>	<i>0.0333</i>		<i>66.7</i>	<i>40-150</i>			

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

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 BFI0113 - EPA 3050B

Blank (BFI0113-BLK1)

Prepared: 09/06/22 Analyzed: 09/07/22

Boron ND 0.0100 mg/L

LCS (BFI0113-BS1)

Prepared: 09/06/22 Analyzed: 09/07/22

Boron 5.35 0.0100 mg/L 5.00 107 80-120

Duplicate (BFI0113-DUP1)

Source: 2208347-01

Prepared: 09/06/22 Analyzed: 09/07/22

Boron 0.00764 0.0100 mg/L 0.00719 5.96 20

Matrix Spike (BFI0113-MS1)

Source: 2208347-01

Prepared: 09/06/22 Analyzed: 09/07/22

Boron 5.27 0.0100 mg/L 5.00 0.00719 105 75-125

Matrix Spike Dup (BFI0113-MSD1)

Source: 2208347-01

Prepared: 09/06/22 Analyzed: 09/07/22

Boron 5.27 0.0100 mg/L 5.00 0.00719 105 75-125 0.0959 25

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0089 - EPA 3050B

Blank (BFI0089-BLK1)

Prepared & Analyzed: 09/06/22

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 (BFI0089-BS1)

Prepared & Analyzed: 09/06/22

Arsenic	41.6	0.200	mg/kg wet	40.0	104	80-120
Barium	39.4	0.400	"	40.0	98.6	80-120
Cadmium	1.99	0.200	"	2.00	99.4	80-120
Copper	40.1	0.400	"	40.0	100	80-120
Lead	17.9	0.200	"	20.0	89.5	80-120
Nickel	39.7	0.400	"	40.0	99.3	80-120
Selenium	4.08	0.260	"	4.00	102	80-120
Silver	1.92	0.0200	"	2.00	96.2	80-120
Zinc	42.4	0.400	"	40.0	106	80-120

Duplicate (BFI0089-DUP1)

Source: 2208437-01

Prepared & Analyzed: 09/06/22

Arsenic	2.59	0.213	mg/kg dry	2.37	8.99	20
Barium	49.7	0.426	"	46.8	6.01	20
Cadmium	0.0782	0.213	"	0.0731	6.72	20
Copper	2.74	0.426	"	2.50	8.90	20
Lead	3.56	0.213	"	3.33	6.85	20
Nickel	2.62	0.426	"	2.41	8.42	20
Selenium	0.417	0.277	"	0.364	13.6	20
Silver	0.00826	0.0213	"	0.00778	5.93	20
Zinc	10.0	0.426	"	9.57	4.79	20

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0089 - EPA 3050B

Matrix Spike (BFI0089-MS1)		Source: 2208437-01			Prepared & Analyzed: 09/06/22							
Arsenic	39.7	0.213	mg/kg dry	42.6	2.37	87.8	75-125					
Barium	83.9	0.426	"	42.6	46.8	87.1	75-125					
Cadmium	1.90	0.213	"	2.13	0.0731	85.7	75-125					
Copper	38.6	0.426	"	42.6	2.50	84.8	75-125					
Lead	18.8	0.213	"	21.3	3.33	72.4	75-125					QM-05
Nickel	38.9	0.426	"	42.6	2.41	85.6	75-125					
Selenium	3.60	0.277	"	4.26	0.364	76.0	75-125					
Silver	1.75	0.0213	"	2.13	0.00778	81.7	75-125					
Zinc	47.1	0.426	"	42.6	9.57	88.1	75-125					

Matrix Spike Dup (BFI0089-MSD1)		Source: 2208437-01			Prepared & Analyzed: 09/06/22							
Arsenic	39.4	0.213	mg/kg dry	42.6	2.37	87.0	75-125	0.851	25			
Barium	83.5	0.426	"	42.6	46.8	86.0	75-125	0.519	25			
Cadmium	1.89	0.213	"	2.13	0.0731	85.3	75-125	0.381	25			
Copper	38.2	0.426	"	42.6	2.50	83.7	75-125	1.18	25			
Lead	18.8	0.213	"	21.3	3.33	72.8	75-125	0.367	25			QM-05
Nickel	38.3	0.426	"	42.6	2.41	84.2	75-125	1.58	25			
Selenium	3.59	0.277	"	4.26	0.364	75.7	75-125	0.340	25			
Silver	1.74	0.0213	"	2.13	0.00778	81.2	75-125	0.633	25			
Zinc	46.2	0.426	"	42.6	9.57	86.0	75-125	1.93	25			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0087 - 3060A Mod

Blank (BFI0087-BLK1)

Prepared: 09/06/22 Analyzed: 09/07/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFI0087-BS1)

Prepared: 09/06/22 Analyzed: 09/07/22

Chromium, Hexavalent 25.6 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BFI0087-DUP1)

Source: 2209030-02

Prepared: 09/06/22 Analyzed: 09/07/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFI0087-MS1)

Source: 2209030-02

Prepared: 09/06/22 Analyzed: 09/07/22

Chromium, Hexavalent 27.1 0.30 mg/kg dry 26.4 ND 103 75-125

Matrix Spike Dup (BFI0087-MSD1)

Source: 2209030-02

Prepared: 09/06/22 Analyzed: 09/07/22

Chromium, Hexavalent 25.9 0.30 mg/kg dry 26.4 ND 98.2 75-125 4.58 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

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

Summit Scientific

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

Batch BFI0182 - General Preparation

Blank (BFI0182-BLK1)

Prepared: 09/08/22 Analyzed: 09/10/22

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

LCS (BFI0182-BS1)

Prepared: 09/08/22 Analyzed: 09/10/22

Calcium	5.46	0.0500	mg/L wet	5.00		109	70-130		
Magnesium	5.24	0.0500	"	5.00		105	70-130		
Sodium	5.08	0.0500	"	5.00		102	70-130		

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

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 BFI0156 - General Preparation

Duplicate (BFI0156-DUP1)

Source: 2209046-01

Prepared: 09/07/22 Analyzed: 09/08/22

% Solids	91.2		%		89.4			1.98	20	
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

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 BFI0231 - General Preparation

Blank (BFI0231-BLK1)

Prepared & Analyzed: 09/09/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFI0231-BS1)

Prepared & Analyzed: 09/09/22

Specific Conductance (EC) 0.145 0.0100 mmhos/cm 0.150 96.7 95-105

Duplicate (BFI0231-DUP1)

Source: 2209050-01

Prepared & Analyzed: 09/09/22

Specific Conductance (EC) 5.63 0.0100 mmhos/cm 5.62 0.249 20

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
 Project Manager: Levi Kirk

Reported:
 09/15/22 16:28

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 BFI0230 - General Preparation

LCS (BFI0230-BS1)

Prepared & Analyzed: 09/09/22

pH	9.13	pH Units	9.18	99.5	95-105
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Duplicate (BFI0230-DUP1)

Source: 2209050-01

Prepared & Analyzed: 09/09/22

pH	7.51	pH Units	7.41	1.34	20
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/15/22 16:28

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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