

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 23, 2022

Levi Kirk

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Rodgers #1 Flowline

Work Order #2209288

Enclosed are the results of analyses for samples received by Summit Scientific on 09/15/22 12:55. 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:
09/23/22 10:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PreHP-1@12'	2209288-01	Soil	09/14/22 13:20	09/15/22 12:55
PreHP-2@12'	2209288-02	Soil	09/14/22 13:30	09/15/22 12:55
PostHP-1@12'	2209288-03	Soil	09/14/22 14:00	09/15/22 12:55
PostHP-2@12'	2209288-04	Soil	09/14/22 14:10	09/15/22 12:55

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Summit Scientific

2209288

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: K. P. KAUFFMAN COMPANY INC.

Project Manager: LEVI KIRK

Address: 1075 BROADWAY

E-Mail: PRIMARY CONTRACTOR AT MARCOM

City/State/Zip: DENVER, CO 80202



Phone: 303-825-4822

Project Name: RODGERS #1 FLOWLINE

Sampler Name: B. W.

Project Number: RODGERS #1 FLOWLINE

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	FULLTABLE 9/15						
1	PRE HP-1 @ 12'	9-14-22	1320	3			X			X				X					
2	PRE HP-2 @ 12'	I	1330	I			I			I				I					
3	POST HP-1 @ 12'	I	1400	I			I			I				I					
4	POST HP-2 @ 12'	I	1410	I			I			I				I					
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: 	Date/Time: <u>9-15-22/1255</u>	Received by: 	Date/Time: <u>9/15/22 1255</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/>
				24 hours <input type="checkbox"/>	Standard <input type="checkbox"/>
				48 hours <input checked="" type="checkbox"/>	
				Sample Integrity:	
				Temperature Upon Receipt: <u>17.9</u>	
				Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 220928P

Client: KPK Client Project ID: Rodgers #1 Flowline

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

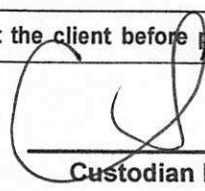
Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 17.9 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48 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 checked="" 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

9.15.22
Date/Time

19:10



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PreHP-1@12'
2209288-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0400	09/16/22	09/16/22	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: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0402	09/16/22	09/19/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		129 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PreHP-1@12'
2209288-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFI0395	09/16/22	09/17/22	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: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.470	0.0100	mg/L	1	BFI0480	09/20/22	09/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/22 13:20**

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:
09/23/22 10:05

PreHP-1@12'
2209288-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.81	0.228	mg/kg dry	1	BF10476	09/20/22	09/20/22	EPA 6020B	
Barium	55.6	0.456	"	"	"	"	"	"	
Cadmium	ND	0.228	"	"	"	"	"	"	
Copper	10.7	0.456	"	"	"	"	"	"	
Lead	11.5	0.228	"	"	"	"	"	"	
Nickel	11.5	0.456	"	"	"	"	"	"	
Selenium	0.844	0.296	"	"	"	"	"	"	
Silver	ND	0.0228	"	"	"	"	"	"	
Zinc	56.3	0.456	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10434	09/18/22	09/18/22	EPA 7196A	

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

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	468	0.0570	mg/L dry	1	BF10469	09/19/22	09/22/22	EPA 6020B	
Magnesium	230	0.0570	"	"	"	"	"	"	
Sodium	140	0.0570	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.32	0.00100	units	1	BF10593	09/22/22	09/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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PreHP-1@12'
2209288-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.7		%	1	BF10466	09/19/22	09/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.53	0.0100	mmhos/cm	1	BF10553	09/21/22	09/21/22	EPA 120.1	

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

Date Sampled: **09/14/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.56		pH Units	1	BF10554	09/21/22	09/22/22	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PreHP-2@12'
2209288-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0050	0.0020	mg/kg	1	BFI0400	09/16/22	09/17/22	EPA 8260B	
Toluene	0.086	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.061	0.0050	"	"	"	"	"	"	
Xylenes (total)	5.6	0.010	"	"	"	"	09/16/22	"	
1,2,4-Trimethylbenzene	0.71	0.0050	"	"	"	"	09/17/22	"	
1,3,5-Trimethylbenzene	0.42	0.0050	"	"	"	"	"	"	
Naphthalene	0.091	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	55	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		167 %	50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	6600	50	mg/kg	1	BFI0402	09/16/22	09/19/22	EPA 8015M	
C28-C36 (ORO)	920	50	"	"	"	"	"	"	

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		182 %	30-150		"	"	"	"	S-02

PAH by EPA Method 8270D SIM

R-01

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Project: Rodgers #1 Flowline

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PreHP-2@12'
2209288-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.348	0.0500	mg/kg	10	BF10395	09/16/22	09/17/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	0.256	0.0500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0762	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.138	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0444	0.00500	"	1	"	"	"	"	
Chrysene	0.288	0.0500	"	10	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	0.652	0.0500	"	"	"	"	"	"	
Fluorene	0.972	0.0500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	"	"	"	"	"	
Pyrene	0.705	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	0.691	0.0500	"	"	"	"	09/19/22	"	
2-Methylnaphthalene	0.834	0.0500	"	"	"	"	"	"	

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		%	40-150		"	"	09/17/22	"	S-01
Surrogate: Fluoranthene-d10		%	40-150		"	"	"	"	S-01

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.392	0.0100	mg/L	1	BF10480	09/20/22	09/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.21	0.219	mg/kg dry	1	BF10476	09/20/22	09/20/22	EPA 6020B	

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Project: Rodgers #1 Flowline

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09/23/22 10:05

PreHP-2@12'
2209288-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	68.9	0.438	mg/kg dry	1	BF10476	09/20/22	09/20/22	EPA 6020B	
Cadmium	ND	0.219	"	"	"	"	"	"	
Copper	5.85	0.438	"	"	"	"	"	"	
Lead	7.44	0.219	"	"	"	"	"	"	
Nickel	9.08	0.438	"	"	"	"	"	"	
Selenium	0.636	0.285	"	"	"	"	"	"	
Silver	ND	0.0219	"	"	"	"	"	"	
Zinc	43.2	0.438	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10434	09/18/22	09/18/22	EPA 7196A	

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

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	71.8	0.0548	mg/L dry	1	BF10469	09/19/22	09/22/22	EPA 6020B	
Magnesium	47.7	0.0548	"	"	"	"	"	"	
Sodium	131	0.0548	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.94	0.00100	units	1	BF10593	09/22/22	09/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/22 13:30**

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:
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PreHP-2@12'
2209288-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.2	%	1	BFI0466	09/19/22	09/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.54	0.0100	mmhos/cm	1	BFI0553	09/21/22	09/21/22	EPA 120.1	

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

Date Sampled: **09/14/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90		pH Units	1	BFI0554	09/21/22	09/22/22	EPA 9045D	

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K.P. Kauffman
1675 Broadway
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Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PostHP-1@12'
2209288-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0071	0.0020	mg/kg	1	BFI0400	09/16/22	09/16/22	EPA 8260B	
Toluene	0.15	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.039	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.39	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.22	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.077	0.0050	"	"	"	"	"	"	
Naphthalene	0.16	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	11	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1400	50	mg/kg	1	BFI0402	09/16/22	09/19/22	EPA 8015M	
C28-C36 (ORO)	280	50	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.2 %	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:
09/23/22 10:05

PostHP-1@12'
2209288-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.250	mg/kg	50	BFI0395	09/16/22	09/19/22	EPA 8270D SIM	
Anthracene	0.112	0.00500	"	1	"	"	09/17/22	"	
Benzo (a) anthracene	0.161	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0499	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0936	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0311	0.00500	"	"	"	"	"	"	
Chrysene	0.131	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.553	0.250	"	50	"	"	09/19/22	"	
Fluorene	0.645	0.250	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	09/17/22	"	
Pyrene	0.501	0.250	"	50	"	"	09/19/22	"	
1-Methylnaphthalene	2.91	0.250	"	"	"	"	"	"	
2-Methylnaphthalene	3.57	0.250	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	67.8 %		40-150		"	"	09/17/22	"	
Surrogate: Fluoranthene-d10	75.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.519	0.0100	mg/L	1	BFI0480	09/20/22	09/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.25	0.235	mg/kg dry	1	BFI0476	09/20/22	09/20/22	EPA 6020B	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PostHP-1@12'
2209288-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	32.1	0.469	mg/kg dry	1	BF10476	09/20/22	09/20/22	EPA 6020B	
Cadmium	ND	0.235	"	"	"	"	"	"	
Copper	6.10	0.469	"	"	"	"	"	"	
Lead	7.25	0.235	"	"	"	"	"	"	
Nickel	9.77	0.469	"	"	"	"	"	"	
Selenium	0.730	0.305	"	"	"	"	"	"	
Silver	ND	0.0235	"	"	"	"	"	"	
Zinc	49.9	0.469	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10434	09/18/22	09/18/22	EPA 7196A	

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

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	147	0.0587	mg/L dry	1	BF10469	09/19/22	09/22/22	EPA 6020B	
Magnesium	113	0.0587	"	"	"	"	"	"	
Sodium	292	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.40	0.00100	units	1	BF10593	09/22/22	09/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/22 14:00**

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:
 09/23/22 10:05

PostHP-1@12'
2209288-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.2	%	1	BFI0466	09/19/22	09/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.88	0.0100	mmhos/cm	1	BFI0553	09/21/22	09/21/22	EPA 120.1	

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

Date Sampled: **09/14/22 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BFI0554	09/21/22	09/22/22	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:
09/23/22 10:05

PostHP-2@12'
2209288-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.037	0.0020	mg/kg	1	BF10400	09/16/22	09/16/22	EPA 8260B	
Toluene	0.58	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.14	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.43	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.68	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.25	0.0050	"	"	"	"	"	"	
Naphthalene	0.35	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	34	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		139 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		135 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	880	50	mg/kg	1	BF10402	09/16/22	09/19/22	EPA 8015M	
C28-C36 (ORO)	170	50	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		70.1 %	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:
09/23/22 10:05

PostHP-2@12'
2209288-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.250	mg/kg	50	BFI0395	09/16/22	09/19/22	EPA 8270D SIM	
Anthracene	0.0729	0.00500	"	1	"	"	09/17/22	"	
Benzo (a) anthracene	0.145	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0455	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0780	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0254	0.00500	"	"	"	"	"	"	
Chrysene	0.117	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.250	"	50	"	"	09/19/22	"	
Fluoranthene	0.487	0.250	"	"	"	"	"	"	
Fluorene	0.573	0.250	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00958	0.00500	"	1	"	"	09/17/22	"	
Pyrene	0.423	0.250	"	50	"	"	09/19/22	"	
1-Methylnaphthalene	2.86	0.250	"	"	"	"	"	"	
2-Methylnaphthalene	3.87	0.250	"	"	"	"	"	"	

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	88.7 %		40-150		"	"	09/17/22	"	
Surrogate: Fluoranthene-d10	62.2 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.508	0.0100	mg/L	1	BFI0480	09/20/22	09/21/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.56	0.241	mg/kg dry	1	BFI0476	09/20/22	09/20/22	EPA 6020B	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PostHP-2@12'
2209288-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	34.3	0.482	mg/kg dry	1	BF10476	09/20/22	09/20/22	EPA 6020B	
Cadmium	ND	0.241	"	"	"	"	"	"	
Copper	6.45	0.482	"	"	"	"	"	"	
Lead	7.97	0.241	"	"	"	"	"	"	
Nickel	10.5	0.482	"	"	"	"	"	"	
Selenium	0.800	0.313	"	"	"	"	"	"	
Silver	ND	0.0241	"	"	"	"	"	"	
Zinc	51.4	0.482	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10434	09/18/22	09/18/22	EPA 7196A	

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

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	160	0.0602	mg/L dry	1	BF10469	09/19/22	09/22/22	EPA 6020B	
Magnesium	122	0.0602	"	"	"	"	"	"	
Sodium	310	0.0602	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.49	0.00100	units	1	BF10593	09/22/22	09/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/22 14:10**

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

Project: Rodgers #1 Flowline

Project Number: [none]
Project Manager: Levi Kirk

Reported:
09/23/22 10:05

PostHP-2@12'
2209288-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.0	%	1	BFI0466	09/19/22	09/20/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.96	0.0100	mmhos/cm	1	BFI0553	09/21/22	09/21/22	EPA 120.1	

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

Date Sampled: **09/14/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		pH Units	1	BFI0554	09/21/22	09/22/22	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:
09/23/22 10:05

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 BF10400 - EPA 5030 Soil MS

Blank (BF10400-BLK1)

Prepared & Analyzed: 09/16/22

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>0.0440</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0370</i>		<i>"</i>	<i>0.0400</i>		<i>92.4</i>	<i>50-150</i>			

LCS (BF10400-BS1)

Prepared & Analyzed: 09/16/22

Benzene	0.0575	0.0020	mg/kg	0.0750		76.7	70-130			
Toluene	0.0585	0.0050	"	0.0750		78.0	70-130			
Ethylbenzene	0.0541	0.0050	"	0.0750		72.1	70-130			
m,p-Xylene	0.109	0.010	"	0.150		72.5	70-130			
o-Xylene	0.0566	0.0050	"	0.0750		75.4	70-130			
1,2,4-Trimethylbenzene	0.0534	0.0050	"	0.0750		71.2	70-130			
1,3,5-Trimethylbenzene	0.0529	0.0050	"	0.0750		70.5	70-130			
Naphthalene	0.0541	0.0038	"	0.0750		72.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>95.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			

Matrix Spike (BF10400-MS1)

Source: 2209288-01

Prepared & Analyzed: 09/16/22

Benzene	0.0577	0.0020	mg/kg	0.0750	ND	76.9	70-130			
Toluene	0.0609	0.0050	"	0.0750	ND	81.2	70-130			
Ethylbenzene	0.0606	0.0050	"	0.0750	ND	80.8	70-130			
m,p-Xylene	0.121	0.010	"	0.150	ND	80.7	70-130			
o-Xylene	0.0626	0.0050	"	0.0750	ND	83.4	70-130			
1,2,4-Trimethylbenzene	0.0581	0.0050	"	0.0750	ND	77.4	70-130			
1,3,5-Trimethylbenzene	0.0587	0.0050	"	0.0750	ND	78.3	70-130			
Naphthalene	0.0600	0.0038	"	0.0750	ND	80.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0354</i>		<i>"</i>	<i>0.0400</i>		<i>88.6</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>95.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0363</i>		<i>"</i>	<i>0.0400</i>		<i>90.8</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:
09/23/22 10:05

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 BFI0400 - EPA 5030 Soil MS

Matrix Spike Dup (BFI0400-MSD1)	Source: 2209288-01			Prepared & Analyzed: 09/16/22						
Benzene	0.0585	0.0020	mg/kg	0.0750	ND	78.0	70-130	1.45	30	
Toluene	0.0616	0.0050	"	0.0750	ND	82.1	70-130	1.08	30	
Ethylbenzene	0.0567	0.0050	"	0.0750	ND	75.6	70-130	6.65	30	
m,p-Xylene	0.111	0.010	"	0.150	ND	74.1	70-130	8.45	30	
o-Xylene	0.0593	0.0050	"	0.0750	ND	79.0	70-130	5.42	30	
1,2,4-Trimethylbenzene	0.0555	0.0050	"	0.0750	ND	74.0	70-130	4.49	30	
1,3,5-Trimethylbenzene	0.0556	0.0050	"	0.0750	ND	74.1	70-130	5.46	30	
Naphthalene	0.0639	0.0038	"	0.0750	ND	85.2	70-130	6.39	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.6</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.0</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0373</i>		<i>"</i>	<i>0.0400</i>		<i>93.2</i>	<i>50-150</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:
09/23/22 10:05

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 BFI0402 - EPA 3550A

Blank (BFI0402-BLK1)

Prepared & Analyzed: 09/16/22

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

LCS (BFI0402-BS1)

Prepared & Analyzed: 09/16/22

C10-C28 (DRO)	648	50	mg/kg	500	130	70-130				
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Matrix Spike (BFI0402-MS1)

Source: 2209288-01

Prepared & Analyzed: 09/16/22

C10-C28 (DRO)	608	50	mg/kg	500	13.4	119	70-130			
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Matrix Spike Dup (BFI0402-MSD1)

Source: 2209288-01

Prepared & Analyzed: 09/16/22

C10-C28 (DRO)	532	50	mg/kg	500	13.4	104	70-130	13.4	20	
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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:
09/23/22 10:05

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFI0395 - EPA 5030 Soil MS

Blank (BFI0395-BLK1)

Prepared & Analyzed: 09/16/22

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>0.0241</i>		"	<i>0.0333</i>		<i>72.2</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0321</i>		"	<i>0.0333</i>		<i>96.4</i>		<i>40-150</i>		

LCS (BFI0395-BS1)

Prepared & Analyzed: 09/16/22

Acenaphthene	0.0321	0.00500	mg/kg	0.0333	96.2	31-137
Anthracene	0.0328	0.00500	"	0.0333	98.3	30-120
Benzo (a) anthracene	0.0278	0.00500	"	0.0333	83.4	30-120
Benzo (a) pyrene	0.0269	0.00500	"	0.0333	80.6	30-120
Benzo (b) fluoranthene	0.0296	0.00500	"	0.0333	88.9	30-120
Benzo (k) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120
Chrysene	0.0395	0.00500	"	0.0333	119	30-120
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333	73.9	30-120
Fluoranthene	0.0315	0.00500	"	0.0333	94.6	30-120
Fluorene	0.0313	0.00500	"	0.0333	93.8	30-120
Indeno (1,2,3-cd) pyrene	0.0140	0.00500	"	0.0333	42.0	30-120
Pyrene	0.0369	0.00500	"	0.0333	111	35-142
1-Methylnaphthalene	0.0211	0.00500	"	0.0333	63.2	35-142
2-Methylnaphthalene	0.0301	0.00500	"	0.0333	90.4	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0294</i>		"	<i>0.0333</i>	<i>88.1</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0331</i>		"	<i>0.0333</i>	<i>99.2</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:
09/23/22 10:05

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 BFI0395 - EPA 5030 Soil MS

Matrix Spike (BFI0395-MS1)		Source: 2209260-01			Prepared & Analyzed: 09/16/22						
Acenaphthene	0.0205	0.00500	mg/kg	0.0333	ND	61.4	31-137				
Anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120				
Benzo (a) anthracene	0.0320	0.00500	"	0.0333	0.00436	83.0	30-120				
Benzo (a) pyrene	0.0223	0.00500	"	0.0333	ND	66.8	30-120				
Benzo (b) fluoranthene	0.0228	0.00500	"	0.0333	0.00335	58.2	30-120				
Benzo (k) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.8	30-120				
Chrysene	0.0244	0.00500	"	0.0333	0.00229	66.3	30-120				
Dibenz (a,h) anthracene	0.0165	0.00500	"	0.0333	ND	49.4	30-120				
Fluoranthene	0.0304	0.00500	"	0.0333	0.00651	71.7	30-120				
Fluorene	0.0203	0.00500	"	0.0333	ND	61.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.4	30-120				
Pyrene	0.0330	0.00500	"	0.0333	0.00557	82.4	35-142				
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.2	15-130				
2-Methylnaphthalene	0.0275	0.00500	"	0.0333	ND	82.5	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0199</i>		<i>"</i>	<i>0.0333</i>		<i>59.7</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0252</i>		<i>"</i>	<i>0.0333</i>		<i>75.6</i>	<i>40-150</i>				

Matrix Spike Dup (BFI0395-MSD1)		Source: 2209260-01			Prepared & Analyzed: 09/16/22						
Acenaphthene	0.0193	0.00500	mg/kg	0.0333	ND	58.0	31-137	5.63	30		
Anthracene	0.0250	0.00500	"	0.0333	ND	75.0	30-120	6.29	30		
Benzo (a) anthracene	0.0366	0.00500	"	0.0333	0.00436	96.7	30-120	13.3	30		
Benzo (a) pyrene	0.0223	0.00500	"	0.0333	ND	66.9	30-120	0.218	30		
Benzo (b) fluoranthene	0.0243	0.00500	"	0.0333	0.00335	62.9	30-120	6.57	30		
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.5	30-120	9.01	30		
Chrysene	0.0271	0.00500	"	0.0333	0.00229	74.5	30-120	10.6	30		
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	7.65	30		
Fluoranthene	0.0357	0.00500	"	0.0333	0.00651	87.5	30-120	15.9	30		
Fluorene	0.0201	0.00500	"	0.0333	ND	60.2	30-120	1.36	30		
Indeno (1,2,3-cd) pyrene	0.0197	0.00500	"	0.0333	ND	59.1	30-120	2.08	30		
Pyrene	0.0333	0.00500	"	0.0333	0.00557	83.3	35-142	0.917	30		
1-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	57.1	15-130	3.59	50		
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.5	15-130	22.9	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0178</i>		<i>"</i>	<i>0.0333</i>		<i>53.4</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0223</i>		<i>"</i>	<i>0.0333</i>		<i>66.9</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:
09/23/22 10:05

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 BFI0480 - EPA 3050B

Blank (BFI0480-BLK1)

Prepared: 09/20/22 Analyzed: 09/21/22

Boron ND 0.0100 mg/L

LCS (BFI0480-BS1)

Prepared: 09/20/22 Analyzed: 09/21/22

Boron 5.59 0.0100 mg/L 5.00 112 80-120

Duplicate (BFI0480-DUP1)

Source: 2208358-17

Prepared: 09/20/22 Analyzed: 09/21/22

Boron 0.138 0.0100 mg/L 0.137 0.936 20

Matrix Spike (BFI0480-MS1)

Source: 2208358-17

Prepared: 09/20/22 Analyzed: 09/21/22

Boron 6.02 0.0100 mg/L 5.00 0.137 118 75-125

Matrix Spike Dup (BFI0480-MSD1)

Source: 2208358-17

Prepared: 09/20/22 Analyzed: 09/21/22

Boron 5.31 0.0100 mg/L 5.00 0.137 103 75-125 12.6 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:
09/23/22 10:05

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 BFI0476 - EPA 3050B

Blank (BFI0476-BLK1)

Prepared & Analyzed: 09/20/22

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 (BFI0476-BS1)

Prepared & Analyzed: 09/20/22

Arsenic	43.6	0.200	mg/kg wet	40.0	109	80-120
Barium	43.5	0.400	"	40.0	109	80-120
Cadmium	2.24	0.200	"	2.00	112	80-120
Copper	42.0	0.400	"	40.0	105	80-120
Lead	22.5	0.200	"	20.0	112	80-120
Nickel	41.7	0.400	"	40.0	104	80-120
Selenium	4.10	0.260	"	4.00	102	80-120
Silver	2.18	0.0200	"	2.00	109	80-120
Zinc	44.5	0.400	"	40.0	111	80-120

Duplicate (BFI0476-DUP1)

Source: 2209288-01

Prepared & Analyzed: 09/20/22

Arsenic	8.66	0.228	mg/kg dry	7.81	104	20
Barium	60.7	0.456	"	55.6	8.80	20
Cadmium	0.0890	0.228	"	0.0800	10.6	20
Copper	11.8	0.456	"	10.7	9.58	20
Lead	12.2	0.228	"	11.5	6.41	20
Nickel	12.8	0.456	"	11.5	10.7	20
Selenium	1.03	0.296	"	0.844	19.6	20
Silver	0.0279	0.0228	"	0.0223	22.2	20
Zinc	61.4	0.456	"	56.3	8.71	20

QR-01

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:
09/23/22 10:05

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 BFI0476 - EPA 3050B

Matrix Spike (BFI0476-MS1)

Source: 2209288-01

Prepared & Analyzed: 09/20/22

Arsenic	47.1	0.228	mg/kg dry	45.6	7.81	86.3	75-125			
Barium	90.7	0.456	"	45.6	55.6	77.0	75-125			
Cadmium	2.21	0.228	"	2.28	0.0800	93.7	75-125			
Copper	51.3	0.456	"	45.6	10.7	89.0	75-125			
Lead	29.8	0.228	"	22.8	11.5	80.3	75-125			
Nickel	53.4	0.456	"	45.6	11.5	91.8	75-125			
Selenium	4.53	0.296	"	4.56	0.844	80.9	75-125			
Silver	2.05	0.0228	"	2.28	0.0223	89.1	75-125			
Zinc	97.9	0.456	"	45.6	56.3	91.2	75-125			

Matrix Spike Dup (BFI0476-MSD1)

Source: 2209288-01

Prepared & Analyzed: 09/20/22

Arsenic	47.5	0.228	mg/kg dry	45.6	7.81	87.2	75-125	0.867	25
Barium	91.1	0.456	"	45.6	55.6	77.8	75-125	0.409	25
Cadmium	2.27	0.228	"	2.28	0.0800	96.2	75-125	2.54	25
Copper	51.5	0.456	"	45.6	10.7	89.6	75-125	0.468	25
Lead	29.8	0.228	"	22.8	11.5	80.6	75-125	0.246	25
Nickel	53.6	0.456	"	45.6	11.5	92.3	75-125	0.431	25
Selenium	4.22	0.296	"	4.56	0.844	74.0	75-125	7.17	25
Silver	2.13	0.0228	"	2.28	0.0223	92.3	75-125	3.48	25
Zinc	98.1	0.456	"	45.6	56.3	91.7	75-125	0.263	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:
09/23/22 10:05

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 BFI0434 - 3060A Mod

Blank (BFI0434-BLK1)

Prepared & Analyzed: 09/18/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFI0434-BS1)

Prepared & Analyzed: 09/18/22

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.2 80-120

Duplicate (BFI0434-DUP1)

Source: 2209226-01

Prepared & Analyzed: 09/18/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFI0434-MS1)

Source: 2209226-01

Prepared & Analyzed: 09/18/22

Chromium, Hexavalent 33.5 0.30 mg/kg dry 28.8 ND 116 75-125

Matrix Spike Dup (BFI0434-MSD1)

Source: 2209226-01

Prepared & Analyzed: 09/18/22

Chromium, Hexavalent 33.6 0.30 mg/kg dry 28.8 ND 117 75-125 0.343 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:
 09/23/22 10:05

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

Summit Scientific

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

Batch BFI0469 - General Preparation

Blank (BFI0469-BLK1)

Prepared: 09/19/22 Analyzed: 09/22/22

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

LCS (BFI0469-BS1)

Prepared: 09/19/22 Analyzed: 09/22/22

Calcium	6.10	0.0500	mg/L wet	5.00		122	70-130			
Magnesium	5.91	0.0500	"	5.00		118	70-130			
Sodium	5.67	0.0500	"	5.00		113	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:
 09/23/22 10:05

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

Summit Scientific

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

Batch BFI0466 - General Preparation

Duplicate (BFI0466-DUP1)	Source: 2209217-03		Prepared: 09/19/22 Analyzed: 09/20/22		
% Solids	57.2	%	50.2	13.0	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:
 09/23/22 10:05

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 BFI0553 - General Preparation

Blank (BFI0553-BLK1)

Prepared & Analyzed: 09/21/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFI0553-BS1)

Prepared & Analyzed: 09/21/22

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BFI0553-DUP1)

Source: 2209241-01

Prepared & Analyzed: 09/21/22

Specific Conductance (EC) 0.559 0.0100 mmhos/cm 0.559 0.00 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:
 09/23/22 10:05

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 BFI0554 - General Preparation

LCS (BFI0554-BS1)

Prepared: 09/21/22 Analyzed: 09/22/22

pH	9.03	pH Units	9.18	98.4	95-105
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Duplicate (BFI0554-DUP1)

Source: 2209241-01

Prepared: 09/21/22 Analyzed: 09/22/22

pH	8.40	pH Units	8.46	0.712	20
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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:
09/23/22 10:05

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.
- S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- 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