

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 28, 2020

Max Knop

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: Woolley #2 Flowline Release

Work Order #2008203

Enclosed are the results of analyses for samples received by Summit Scientific on 08/21/20 11:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large, stylized initial 'M'.

Muri Premer For Paul Shrewsbury
President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#1 S/W	2008203-01	Soil	08/19/20 10:00	08/21/20 11:15
#2 S/E	2008203-02	Soil	08/19/20 10:00	08/21/20 11:15
#3 N/W	2008203-03	Soil	08/19/20 10:00	08/21/20 11:15
#4 N/E	2008203-04	Soil	08/19/20 10:00	08/21/20 11:15
#5 Bottom	2008203-05	Soil	08/19/20 10:00	08/21/20 11:15

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

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2008203

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: KP Kauffman
Address: 1675 Broadway, Suite 2800
City/State/Zip: Denver, CO 80202
Phone: 303-825-4822 Fax: 303-825-4825
Sampler Name: KPK Field Ops

Project Manager: Max Knop
E-Mail: mknop@kpk.com
Project Name: Woolley #2 Flowline Release
Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:							Special Instructions	
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	TPH-GRO	TPH-DRO	TPH-ORO	BTEX	SAR	EC	pH		
#1 S/W	8/19/2020	10:00	1					x					x	x	x	x	x	x	x	
#2 S/E	8/19/2020	10:00	1					x					x	x	x	x	x	x	x	
#3 N/W	8/19/2020	10:00	1					x					x	x	x	x	x	x	x	
#4 N/E	8/19/2020	10:00	1					x					x	x	x	x	x	x	x	
#5 Bottom	8/19/2020	10:00	1					x					x	x	x	x	x	x	x	

Relinquished by: <u>Stephanie Esters</u>	Date/Time: <u>8/21/2020 11:15</u>	Received by: <u>[Signature]</u>	Date/Time: <u>08-21-20 11:15</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>3.4</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2008203

Client: KP Kauffman Client Project ID: Woolley #2 Flowline Release

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

Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

Temp (°C)	3.4
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

MP
Custodian Printed Name or Initials


Signature of Custodian

8/21/20
Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#1 S/W
2008203-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	2008238	08/25/20	08/26/20	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		91.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	2008237	08/25/20	08/25/20	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

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

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	4860	10.4		mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	

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Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#1 S/W
2008203-01 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	1470	5.19	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	
Sodium	2130	5.19	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.87	0.100	units	1	2008305	08/28/20	08/28/20	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.4		%	1	2008271	08/27/20	08/27/20	Calculation	
pH	8.23		pH Units	"	2008273	08/27/20	08/27/20	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	12.4	0.0100	mmhos/cm	1	2008274	08/27/20	08/27/20	EPA 120.1	

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1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#2 S/E
2008203-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2008238	08/25/20	08/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		96.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2008237	08/25/20	08/26/20	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

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

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	4830	10.2	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	
Magnesium	971	5.11	"	"	"	"	"	"	

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Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#2 S/E
2008203-02 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	1140	5.11	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B
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Calculated Analysis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.91	0.100	units	1	2008305	08/28/20	08/28/20	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.8		%	1	2008271	08/27/20	08/27/20	Calculation	
pH	8.49		pH Units	"	2008273	08/27/20	08/27/20	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.74	0.0100	mmhos/cm	1	2008274	08/27/20	08/27/20	EPA 120.1	

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1675 Broadway
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Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#3 N/W
2008203-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2008238	08/25/20	08/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2008237	08/25/20	08/26/20	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.0 %	30-150		"	"	"	"	

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6030	10.3	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	
Magnesium	584	5.14	"	"	"	"	"	"	

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1675 Broadway
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Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#3 N/W
2008203-03 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	89.9	5.14	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B
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Calculated Analysis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.296	0.100	units	1	2008305	08/28/20	08/28/20	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.2		%	1	2008271	08/27/20	08/27/20	Calculation	
pH	8.37		pH Units	"	2008273	08/27/20	08/27/20	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.741	0.0100	mmhos/cm	1	2008274	08/27/20	08/27/20	EPA 120.1	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#4 N/E
2008203-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2008238	08/25/20	08/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		90.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2008237	08/25/20	08/26/20	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

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

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	5100	10.3	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	
Magnesium	624	5.14	"	"	"	"	"	"	

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1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#4 N/E
2008203-04 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	79.6	5.14	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B
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Calculated Analysis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.280	0.100	units	1	2008305	08/28/20	08/28/20	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.3		%	1	2008271	08/27/20	08/27/20	Calculation	
pH	8.69		pH Units	"	2008273	08/27/20	08/27/20	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.482	0.0100	mmhos/cm	1	2008274	08/27/20	08/27/20	EPA 120.1	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#5 Bottom
2008203-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2008238	08/25/20	08/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		90.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2008237	08/25/20	08/26/20	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		117 %	30-150		"	"	"	"	

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	4040	10.5	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B	
Magnesium	999	5.26	"	"	"	"	"	"	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

#5 Bottom
2008203-05 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis

Sodium	1170	5.26	mg/kg dry	1	2008286	08/27/20	08/27/20	EPA 6020B
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Calculated Analysis

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.27	0.100	units	1	2008305	08/28/20	08/28/20	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.1		%	1	2008271	08/27/20	08/27/20	Calculation	
pH	8.15		pH Units	"	2008273	08/27/20	08/27/20	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **08/19/20 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.60	0.0100	mmhos/cm	1	2008274	08/27/20	08/27/20	EPA 120.1	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

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 2008238 - EPA 5030 Soil MS

Blank (2008238-BLK1)

Prepared & Analyzed: 08/25/20

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0352		"	0.0400		88.1			23-173	
<i>Surrogate: Toluene-d8</i>	0.0391		"	0.0400		97.7			20-170	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0355		"	0.0400		88.7			21-167	

LCS (2008238-BS1)

Prepared & Analyzed: 08/25/20

Benzene	0.0630	0.0020	mg/kg	0.0750		84.0			70-130	
Toluene	0.0823	0.0050	"	0.0750		110			70-130	
Ethylbenzene	0.0964	0.0050	"	0.0750		128			70-130	
m,p-Xylene	0.192	0.010	"	0.150		128			70-130	
o-Xylene	0.0942	0.0050	"	0.0750		126			70-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0348		"	0.0400		86.9			23-173	
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		98.0			20-170	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0355		"	0.0400		88.8			21-167	

Matrix Spike (2008238-MS1)

Source: 2008219-05

Prepared & Analyzed: 08/25/20

Benzene	0.0634	0.0020	mg/kg	0.0750	ND	84.6			70-130	
Toluene	0.0829	0.0050	"	0.0750	ND	111			70-130	
Ethylbenzene	0.0952	0.0050	"	0.0750	0.0340	81.5			70-130	
m,p-Xylene	0.189	0.010	"	0.150	0.0568	87.9			70-130	
o-Xylene	0.0939	0.0050	"	0.0750	ND	125			70-130	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0358		"	0.0400		89.5			23-173	
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.2			20-170	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0368		"	0.0400		92.0			21-167	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2008238 - EPA 5030 Soil MS

Matrix Spike Dup (2008238-MSD1)	Source: 2008219-05			Prepared & Analyzed: 08/25/20						
Benzene	0.0621	0.0020	mg/kg	0.0750	ND	82.8	70-130	2.20	30	
Toluene	0.0825	0.0050	"	0.0750	ND	110	70-130	0.508	30	
Ethylbenzene	0.0962	0.0050	"	0.0750	0.0340	82.8	70-130	1.00	30	
m,p-Xylene	0.190	0.010	"	0.150	0.0568	88.7	70-130	0.682	30	
o-Xylene	0.0946	0.0050	"	0.0750	ND	126	70-130	0.764	30	
Surrogate: 1,2-Dichloroethane-d4	0.0359		"	0.0400		89.8	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0400		91.4	21-167			

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Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2008237 - EPA 3550A

Blank (2008237-BLK1)

Prepared & Analyzed: 08/25/20

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

LCS (2008237-BS1)

Prepared & Analyzed: 08/25/20

C10-C28 (DRO)	513	50	mg/kg	500	103	70-130				
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Matrix Spike (2008237-MS1)

Source: 2008127-06

Prepared & Analyzed: 08/25/20

C10-C28 (DRO)	546	50	mg/kg	500	60.6	97.1	70-130			
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Matrix Spike Dup (2008237-MSD1)

Source: 2008127-06

Prepared & Analyzed: 08/25/20

C10-C28 (DRO)	523	50	mg/kg	500	60.6	92.4	70-130	4.37	20	
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis - Quality Control

Summit Scientific

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

Batch 2008286 - General Preparation

Blank (2008286-BLK1)

Prepared & Analyzed: 08/27/20

Calcium	ND	10.0	mg/kg wet							
Magnesium	ND	5.00	"							
Sodium	ND	5.00	"							

LCS (2008286-BS1)

Prepared & Analyzed: 08/27/20

Calcium	561	10.0	mg/kg wet	500		112	70-130			
Magnesium	651	5.00	"	500		130	70-130			
Sodium	563	5.00	"	500		113	70-130			

Duplicate (2008286-DUP1)

Source: 2008203-01

Prepared & Analyzed: 08/27/20

Calcium	4410	10.4	mg/kg dry		4860			9.69	20	
Magnesium	1360	5.19	"		1470			8.10	20	
Sodium	1970	5.19	"		2130			7.60	20	

Matrix Spike (2008286-MS1)

Source: 2008203-01

Prepared & Analyzed: 08/27/20

Calcium	5310	10.4	mg/kg dry	519	4860	88.2	70-130			
Magnesium	1970	5.19	"	519	1470	95.7	70-130			
Sodium	2550	5.19	"	519	2130	81.2	70-130			

Matrix Spike Dup (2008286-MSD1)

Source: 2008203-01

Prepared & Analyzed: 08/27/20

Calcium	5320	10.4	mg/kg dry	519	4860	89.8	70-130	0.157	25	
Magnesium	1980	5.19	"	519	1470	97.8	70-130	0.560	25	
Sodium	2580	5.19	"	519	2130	87.2	70-130	1.21	25	

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/28/20 11:05

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 2008271 - General Preparation

Duplicate (2008271-DUP1)		Source: 2008203-01			Prepared & Analyzed: 08/27/20						
% Solids	96.5		%		96.4				0.113	20	

Batch 2008273 - General Preparation

LCS (2008273-BS1)		Prepared & Analyzed: 08/27/20									
pH	9.15		pH Units		9.18		99.7		95-105		
Duplicate (2008273-DUP1)		Source: 2008203-01			Prepared & Analyzed: 08/27/20						
pH	8.25		pH Units		8.23				0.243	20	

Summit Scientific

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K.P. Kauffman
 1675 Broadway
 Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
 Project Manager: Max Knop

Reported:
 08/28/20 11:05

Specific Conductance by EPA Method 120.1 - Quality Control

Summit Scientific

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

Batch 2008274 - General Preparation

Blank (2008274-BLK1)

Prepared & Analyzed: 08/27/20

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (2008274-BS1)

Prepared & Analyzed: 08/27/20

Specific Conductance (EC) 0.724 0.0100 mmhos/cm 0.750 96.5 90-110

Duplicate (2008274-DUP1)

Source: 2008203-01

Prepared & Analyzed: 08/27/20

Specific Conductance (EC) 12.4 0.0100 mmhos/cm 12.4 0.444 20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: Woolley #2 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
08/28/20 11:05

Notes and Definitions

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