

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 13, 2018

Blake Ford

Extraction Oil&Gas

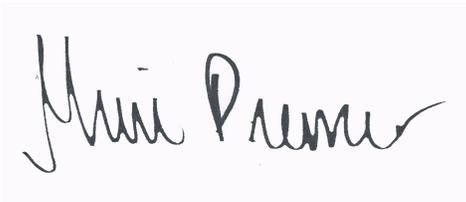
370 17th Street Suite 5300

Denver, CO 80202

RE: Rinn Valley Pipeline-KPK

Enclosed are the results of analyses for samples received by Summit Scientific on 12/07/18 15:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature reads "Muri Premer" in a cursive script.

Muri Premer For Ben Shrewsbury

Laboratory Manager



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W01@3.5'	1812100-01	Soil	12/05/18 13:15	12/07/18 15:50
W02@3.5'	1812100-02	Soil	12/05/18 13:50	12/07/18 15:50
W03@3.5'	1812100-03	Soil	12/05/18 14:00	12/07/18 15:50
N01@3'	1812100-04	Soil	12/05/18 14:13	12/07/18 15:50
E01@3'	1812100-05	Soil	12/05/18 14:22	12/07/18 15:50
E02@3.5'	1812100-06	Soil	12/07/18 11:30	12/07/18 15:50
E03@3.5'	1812100-07	Soil	12/07/18 12:30	12/07/18 15:50
S01@3.5'	1812100-08	Soil	12/07/18 12:45	12/07/18 15:50

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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.

1812100

Summit Scientific

S₂

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

Client: <u>Extraction Oil & Gas</u>	Project Manager: <u>Blake Ford</u>
Address: <u>2234 117th Ave, Ste 106</u>	E-Mail: <u>bford@extractionog.com ; bgibson@extractionog.com</u>
City/State/Zip: <u>Greeley, CO 80634</u>	Project Name: <u>Rinn Valley Pipeline - KPK</u>
Phone: <u>970-576-3446</u>	Project Number: _____
Sampler Name: <u>Brian Gibson</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	TPH (GRO/PRO)					
1	W01@3.5'	12/5/18	1315	1			X			X				X	X				
2	W02@3.5'	↓	1350	↓															
3	W03@3.5'	↓	1400	↓															
4	N01@3'	↓	1413	↓															
5	E01@3'	↓	1422	↓															
6	E02@3.5'	12/7/18	1130	↓															
7	E03@3.5'	↓	1230	↓															
8	S01@3.5'	↓	1245	↓															
9																			
10																			

Relinquished by:	Date/Time: <u>12/7/18 1550</u>	Received by:	Date/Time: <u>12.7.18 1550</u>	Turn Around Time (Check)	Notes:
				Same Day _____ 72 hours	
				24 hours _____ Standard <input checked="" type="checkbox"/>	
				48 hours _____	
				Sample Integrity:	
				Temperature Upon Receipt: <u>9.2</u>	
				Samples Intact: Yes No	

Sample Receipt Checklist

S2 Work Order: 1812100

Client: XOG Client Project ID: Rinn Valley Pipeline - KPK

Shipped Via: HP. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Temp (°C)	9.2
-----------	-----

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.

UP
Custodian Printed Name or Initials

[Signature]
Signature or Initials of Custodian

12.7.18 1650
Date/Time



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

W01@3.5'
1812100-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/05/18 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6.8	0.50	"	"	"	"	"	"	

Date Sampled: **12/05/18 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		89.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		206 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/05/18 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/05/18 13:15**

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

Summit Scientific

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

W02@3.5'
1812100-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/05/18 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0034	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	3.2	0.50	"	100	"	"	"	"	
Xylenes (total)	16	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	770	50	"	"	"	"	"	"	

Date Sampled: **12/05/18 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		147 %	21-167	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/05/18 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/05/18 13:50**

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

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

W03@3.5'
1812100-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/05/18 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.7	0.50		"	"	"	"	"	"	

Date Sampled: **12/05/18 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		88.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		157 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/05/18 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/05/18 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		116 %		30-150		"	"	"	"	

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

N01@3'
1812100-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/05/18 14:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.31	0.050	"	10	"	"	"	"	
Xylenes (total)	1.2	0.10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1100	50	"	100	"	"	"	"	

Date Sampled: **12/05/18 14:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		198 %	21-167	"	"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/05/18 14:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	290	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/05/18 14:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		119 %	30-150	"	"	"	"	"	

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370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

E01@3'
1812100-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/05/18 14:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0098	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.022	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	13	0.50	"	"	"	"	"	"	

Date Sampled: **12/05/18 14:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		193 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/05/18 14:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/05/18 14:22**

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

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

E02@3.5'
1812100-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.12	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.16	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	33	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173	"	"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		403 %	21-167	"	"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		120 %	30-150	"	"	"	"	"	

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

E03@3.5'
1812100-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/07/18 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.2	0.50		"	"	"	"	"	"	

Date Sampled: **12/07/18 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		87.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		130 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/07/18 12:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/07/18 12:30**

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

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

S01@3.5'
1812100-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/07/18 12:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1812124	12/10/18	12/11/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/07/18 12:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		89.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/07/18 12:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1812122	12/10/18	12/11/18	EPA 8015M	

Date Sampled: **12/07/18 12:45**

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

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1812124 - EPA 5030 Soil MS

Blank (1812124-BLK1)

Prepared & Analyzed: 12/10/18

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	"								
Surrogate: 1,2-Dichloroethane-d4	0.0352		"	0.0396		89.0	23-173				
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	21-167				

LCS (1812124-BS1)

Prepared: 12/10/18 Analyzed: 12/12/18

Benzene	0.122	0.0020	mg/kg	0.100		122	70-130				
Toluene	0.120	0.0050	"	0.100		120	70-130				
Ethylbenzene	0.124	0.0050	"	0.100		124	70-130				
m,p-Xylene	0.242	0.010	"	0.200		121	70-130				
o-Xylene	0.121	0.0050	"	0.100		121	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0344		"	0.0396		86.8	23-173				
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170				
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	21-167				

Matrix Spike (1812124-MS1)

Source: 1812069-01

Prepared: 12/10/18 Analyzed: 12/12/18

Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130				
Toluene	0.111	0.0050	"	0.100	ND	111	70-130				
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130				
m,p-Xylene	0.226	0.010	"	0.200	ND	113	70-130				
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0336		"	0.0396		84.9	23-173				
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170				
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167				

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Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

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 1812124 - EPA 5030 Soil MS

Matrix Spike Dup (1812124-MSD1)	Source: 1812069-01			Prepared: 12/10/18 Analyzed: 12/12/18					
Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130	0.451	30
Toluene	0.113	0.0050	"	0.100	ND	113	70-130	2.04	30
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	0.365	30
m,p-Xylene	0.225	0.010	"	0.200	ND	113	70-130	0.531	30
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130	0.316	30
Surrogate: 1,2-Dichloroethane-d4	0.0334		"	0.0396		84.5	23-173		
Surrogate: Toluene-d8	0.0415		"	0.0400		104	20-170		
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	21-167		

Summit Scientific

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



Extraction Oil&Gas
370 17th Street Suite 5300
Denver CO, 80202

Project: Rinn Valley Pipeline-KPK

Project Number: [none]
Project Manager: Blake Ford

Reported:
12/13/18 10:37

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1812122 - EPA 3550A

Blank (1812122-BLK1)

Prepared: 12/10/18 Analyzed: 12/11/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1812122-BS1)

Prepared: 12/10/18 Analyzed: 12/11/18

C10-C28 (DRO) 577 50 mg/kg 500 115 70-130

Matrix Spike (1812122-MS1)

Source: 1812086-05

Prepared: 12/10/18 Analyzed: 12/11/18

C10-C28 (DRO) 601 50 mg/kg 500 78.2 105 70-130

Matrix Spike Dup (1812122-MSD1)

Source: 1812086-05

Prepared: 12/10/18 Analyzed: 12/11/18

C10-C28 (DRO) 566 50 mg/kg 500 78.2 97.6 70-130 5.91 20

Summit Scientific

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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.
- 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