



**Figure 1 - Topographic Map
REEVES 32-21
(Facility ID: 441605)**





Figure 2 - Excavation Site Map
REEVES 32-21
(Facility ID: 441605)





Laboratory Results Summary Table - Soil

COGCC Allowable Concentration (Soil) -->			Organics (mg/kg)				
			500	0.17	85	100	175
Location	Sample Date	Sample ID	TPH (total volatile and extractable petroleum hydrocarbons) (TPH-GRO + TPH-DRO)	Benzene	Toluene	Ethylbenzene	Xylenes - total
Reeves 32-21	11/14/19	DLB01@4	11900	0.16	0.082	15	110
Reeves 32-21	11/18/19	DLB02@9	5800	0.22	<0.0050	10	85
Reeves 32-21	11/18/19	DLS01@6	5100	0.097	<0.0050	4.8	38
Reeves 32-21	11/18/19	DLN01@6	14000	3.1	0.016	18	150
Reeves 32-21	11/18/19	DLE01@6	11700	8.5	0.0052	16	120
Reeves 32-21	11/18/19	DLW01@6	15200	0.33	<0.0050	18	140
Reeves 32-21	11/18/19	DLB03@7	1100	<0.0020	<0.0050	<0.0050	<0.010

Attachment A

Laboratory Analytical Report

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 15, 2019

Maggie Graham

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Reeves 32-21

Enclosed are the results of analyses for samples received by Summit Scientific on 11/14/19 15:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Reeves 32-21

Project Number: 1900057

Project Manager: Maggie Graham

Reported:
11/15/19 06:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DLB01@4	1911177-01	Soil	11/14/19 13:10	11/14/19 15:10

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.

191177

page 1 of 1

Page 1 of 2

Project Manager: Maggie Graham 720-501-5065

E-Mail: DenverRemediation@ApexCos.onmicrosoft.com

Project Name: Reaves 22-2

Project Number: 1900057

Sampler Name: AB

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 1911177

Client: Apex/XOG

Client Project ID: Reeves 32-21

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

Airbill #: _____

☒ ☐ ☐ ☐ ☐

Matrix (check all that apply):

☐ Air

☒ Soil/Solid

☐ Water

☐ Other:

(Describe)

Temp (°C)

3.2

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.	<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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same Day TAT
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<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.

MP

Custodian Printed Name or Initials

Muri Premier

Signature of Custodian

11/14/19

Date/Time



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

Project: Reeves 32-21
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/15/19 06:35

DLB01@4
191177-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/14/19 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.16	0.0020	mg/kg	1	1911165	11/14/19	11/14/19	EPA 8260B	
Toluene	0.082	0.0050	"	"	"	"	"	"	
Ethylbenzene	15	0.50	"	100	"	"	"	"	
Xylenes (total)	110	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2300	50	"	"	"	"	"	"	

Date Sampled: **11/14/19 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		134 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		21500 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/14/19 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	9600	50	mg/kg	1	1911167	11/14/19	11/14/19	EPA 8015M	

Date Sampled: **11/14/19 13:10**

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

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: Reeves 32-21

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/15/19 06:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1911165 - EPA 5030 Soil MS

Blank (1911165-BLK1)

Prepared & Analyzed: 11/14/19

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	0.0422		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	21-167			

LCS (1911165-BS1)

Prepared & Analyzed: 11/14/19

Benzene	0.0777	0.0020	mg/kg	0.100		77.7	70-130			
Toluene	0.0848	0.0050	"	0.100		84.8	70-130			
Ethylbenzene	0.0880	0.0050	"	0.100		88.0	70-130			
m,p-Xylene	0.175	0.010	"	0.200		87.4	70-130			
o-Xylene	0.0874	0.0050	"	0.100		87.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0430		"	0.0400		107	21-167			

Matrix Spike (1911165-MS1)

Source: 1911158-01

Prepared & Analyzed: 11/14/19

Benzene	0.0788	0.0020	mg/kg	0.100	ND	78.8	70-130			
Toluene	0.0848	0.0050	"	0.100	ND	84.8	70-130			
Ethylbenzene	0.0875	0.0050	"	0.100	ND	87.5	70-130			
m,p-Xylene	0.173	0.010	"	0.200	ND	86.4	70-130			
o-Xylene	0.0878	0.0050	"	0.100	ND	87.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0400		116	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400		106	21-167			

Summit Scientific

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

Project: Reeves 32-21

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/15/19 06:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1911165 - EPA 5030 Soil MS

Matrix Spike Dup (1911165-MSD1)		Source: 1911158-01			Prepared & Analyzed: 11/14/19					
Benzene	0.0786	0.0020	mg/kg	0.100	ND	78.6	70-130	0.152	30	
Toluene	0.0849	0.0050	"	0.100	ND	84.9	70-130	0.141	30	
Ethylbenzene	0.0898	0.0050	"	0.100	ND	89.8	70-130	2.57	30	
m,p-Xylene	0.178	0.010	"	0.200	ND	88.8	70-130	2.72	30	
o-Xylene	0.0893	0.0050	"	0.100	ND	89.3	70-130	1.69	30	
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0400		115	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0446		"	0.0400		112	21-167			

Summit Scientific

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

Project: Reeves 32-21

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/15/19 06:35

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1911167 - EPA 3550A

Blank (1911167-BLK1)

Prepared: 11/14/19 Analyzed: 11/15/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1911167-BS1)

Prepared: 11/14/19 Analyzed: 11/15/19

C10-C28 (DRO) 553 50 mg/kg 500 111 70-130

Matrix Spike (1911167-MS1)

Source: 1911158-01

Prepared: 11/14/19 Analyzed: 11/15/19

C10-C28 (DRO) 802 50 mg/kg 500 429 74.6 70-130

Matrix Spike Dup (1911167-MSD1)

Source: 1911158-01

Prepared: 11/14/19 Analyzed: 11/15/19

C10-C28 (DRO) 823 50 mg/kg 500 429 78.9 70-130 2.61 20

Summit Scientific

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

Project: Reeves 32-21

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/15/19 06:35

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 19, 2019

Maggie Graham

Extraction Oil&Gas

370 17th Street Suite 5300

Denver, CO 80202

RE: Reeves 32-21 DL

Enclosed are the results of analyses for samples received by Summit Scientific on 11/18/19 17:14. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

DRAFT REPORT

DATA SUBJECT TO CHANGE



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

Project: Reeves 32-21 DL

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DLB02@9	1911241-01	Soil	11/18/19 14:55	11/18/19 17:14
DLS01@6	1911241-02	Soil	11/18/19 14:58	11/18/19 17:14
DLN01@6	1911241-03	Soil	11/18/19 14:59	11/18/19 17:14
DLE01@6	1911241-04	Soil	11/18/19 15:02	11/18/19 17:14
DLW01@6	1911241-05	Soil	11/18/19 15:01	11/18/19 17:14
DLB03@7	1911241-06	Soil	11/18/19 15:10	11/18/19 17:14

DRAFT REPORT

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.

1911241

303-277-9310 ♦ 303-374-5933 Fax

1 of 1

Sampler Name: Sage Maker

Project Number: 1900057

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 1911241

Client: Apex/XOF Client Project ID: Reeves 32-21 OL

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

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

Temp (°C)	10-5°
-----------	-------

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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same Day
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<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.

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

11-18-19, 7:14
Date/Time



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

Project: Reeves 32-21 DL
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLB02@9
1911241-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 14:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.22	0.0020	mg/kg	1	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	10	0.50	"	100	"	"	"	"	
Xylenes (total)	85	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2700	50	"	"	"	"	"	"	

Date Sampled: **11/18/19 14:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		167 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		192 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 14:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	3100	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	

Date Sampled: **11/18/19 14:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		126 %	30-150		"	"	"	"	

DRAFT REPORT

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

Project: Reeves 32-21 DL
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLS01@6
1911241-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.097	0.0020	mg/kg	1	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	4.8	0.50	"	100	"	"	"	"	
Xylenes (total)	38	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2100	50	"	"	"	"	"	"	

Date Sampled: **11/18/19 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		127 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		158 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	3000	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	

Date Sampled: **11/18/19 14:58**

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

DRAFT REPORT

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

Project: Reeves 32-21 DL
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLN01@6
1911241-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 14:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	3.1	0.20	mg/kg	100	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	0.016	0.0050	"	1	"	"	"	"	
Ethylbenzene	18	0.50	"	100	"	"	"	"	
Xylenes (total)	150	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5400	50	"	"	"	"	"	"	

Date Sampled: **11/18/19 14:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		71.3 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		216 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 14:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	8600	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	

Date Sampled: **11/18/19 14:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>		179 %	30-150		"	"	"	"	S-02

DRAFT REPORT

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

Project: Reeves 32-21 DL
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLE01@6
1911241-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 15:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	8.5	0.20	mg/kg	100	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	0.0052	0.0050	"	1	"	"	"	"	
Ethylbenzene	16	0.50	"	100	"	"	"	"	
Xylenes (total)	120	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4600	50	"	"	"	"	"	"	

Date Sampled: **11/18/19 15:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		88.5 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		191 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 15:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	7100	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	

Date Sampled: **11/18/19 15:02**

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

DRAFT REPORT

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

Project: Reeves 32-21 DL
Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLW01@6
1911241-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.33	0.0020	mg/kg	1	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	18	0.50	"	100	"	"	"	"	
Xylenes (total)	140	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6000	50	"	"	"	"	"	"	

Date Sampled: **11/18/19 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		89.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		70.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		250 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	9200	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	

Date Sampled: **11/18/19 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		159 %	30-150		"	"	"	"	S-02

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

Project: Reeves 32-21 DL

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

DLB03@7
1911241-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/18/19 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1911208	11/18/19	11/18/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/18/19 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/18/19 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	1100	50	mg/kg	1	1911209	11/18/19	11/18/19	EPA 8015M	D-09

Date Sampled: **11/18/19 15:10**

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

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370 17th Street Suite 5300
Denver CO, 80202

Project: Reeves 32-21 DL

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1911208 - EPA 5030 Soil MS

Blank (1911208-BLK1)

Prepared & Analyzed: 11/18/19

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	0.0449		"	0.0400		112	23-173			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0435		"	0.0400		109	21-167			

LCS (1911208-BS1)

Prepared: 11/18/19 Analyzed: 11/19/19

Benzene	0.0770	0.0020	mg/kg	0.100		77.0	70-130			
Toluene	0.0856	0.0050	"	0.100		85.6	70-130			
Ethylbenzene	0.0868	0.0050	"	0.100		86.8	70-130			
m,p-Xylene	0.207	0.010	"	0.200		103	70-130			
o-Xylene	0.0819	0.0050	"	0.100		81.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.5	23-173			
Surrogate: Toluene-d8	0.0434		"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400		106	21-167			

Matrix Spike (1911208-MS1)

Source: 1911239-01

Prepared: 11/18/19 Analyzed: 11/19/19

Benzene	0.0703	0.0020	mg/kg	0.100	ND	70.3	70-130			
Toluene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
Ethylbenzene	0.0897	0.0050	"	0.100	ND	89.7	70-130			
m,p-Xylene	0.183	0.010	"	0.200	ND	91.5	70-130			
o-Xylene	0.0873	0.0050	"	0.100	ND	87.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0400		112	23-173			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

DRAFT REPORT

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

Project: Reeves 32-21 DL

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1911208 - EPA 5030 Soil MS

Matrix Spike Dup (1911208-MSD1)		Source: 1911239-01			Prepared: 11/18/19 Analyzed: 11/19/19					
Benzene	0.0704	0.0020	mg/kg	0.100	ND	70.4	70-130	0.0853	30	
Toluene	0.0932	0.0050	"	0.100	ND	93.2	70-130	2.18	30	
Ethylbenzene	0.0951	0.0050	"	0.100	ND	95.1	70-130	5.91	30	
m,p-Xylene	0.188	0.010	"	0.200	ND	93.9	70-130	2.52	30	
o-Xylene	0.0907	0.0050	"	0.100	ND	90.7	70-130	3.81	30	
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0436		"	0.0400		109	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

DRAFT REPORT

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

Project: Reeves 32-21 DL

Project Number: 1900057
Project Manager: Maggie Graham

Reported:
11/19/19 06:28

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
D-09	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
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

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