

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 24, 2016

Ryan Bruner
Extraction Oil & Gas
570 17th St. Suite 550
Denver, CO 80202
RE: FCR MD 1-9

Enclosed are the results of analyses for samples received by Summit Scientific on 01/22/16 12:00. 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
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/24/16 17:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W03@6	1601185-01	Soil	01/22/16 10:00	01/22/16 12:00
N01@6	1601185-02	Soil	01/22/16 11:00	01/22/16 12:00

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A handwritten signature in black ink, appearing to be 'MSM'.

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Extraction Oil & Gas
570 17th St. Suite 550
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Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

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01/24/16 17:20

Summit Scientific

S₂

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

1601185

Page 1 of 1

Client: EXTRACTION / TADMAN

Project Manager: RYAN BRUNER

Address:

E-Mail:

City/State/Zip:

Phone:

Fax:

Project Name: FCR MD 1-9

Sampler Name: RYAN BRUNER

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	TPH	DO	BTEX		
1	W0506	1-22	10:00	1													
2	W0106	1	11:00	1													
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
<u>Ryan Bruner</u>	<u>1/22 12:00</u>			Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
		<u>[Signature]</u>	<u>1/22/16 12:00</u>	Temperature Upon Receipt: <u>11.4°C</u>	
				Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

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Project: FCR MD 1-9

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01/24/16 17:20

W03@6
1601185-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 01/22/16 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601222	01/22/16	01/22/16	8015M	

Date Sampled: 01/22/16 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 01/22/16 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1601223	01/22/16	01/22/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 01/22/16 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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570 17th St. Suite 550
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Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/24/16 17:20

N01@6
1601185-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 01/22/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601222	01/22/16	01/22/16	8015M	

Date Sampled: 01/22/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 01/22/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.025	0.0020	mg/kg	1	1601223	01/22/16	01/22/16	EPA 8260B	
Toluene	0.21	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.076	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.89	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	60	0.50	"	"	"	"	"	"	

Date Sampled: 01/22/16 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	21-167		"	"	"	"	

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Project Number: [none]
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Reported:
01/24/16 17:20

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1601222 - EPA 3550A

Blank (1601222-BLK1)

Prepared & Analyzed: 01/22/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 11.9 " 12.5 95.1 30-150

LCS (1601222-BS1)

Prepared & Analyzed: 01/22/16

C10-C28 (DRO) 542 50 mg/kg 499 109 73-134

Surrogate: o-Terphenyl 11.9 " 12.5 95.1 30-150

Matrix Spike (1601222-MS1)

Source: 1601181-01

Prepared & Analyzed: 01/22/16

C10-C28 (DRO) 511 50 mg/kg 464 ND 110 50-148

Surrogate: o-Terphenyl 11.1 " 11.6 95.5 30-150

Matrix Spike Dup (1601222-MSD1)

Source: 1601181-01

Prepared & Analyzed: 01/22/16

C10-C28 (DRO) 551 50 mg/kg 498 ND 111 50-148 7.62 13

Surrogate: o-Terphenyl 12.3 " 12.5 98.8 30-150

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Project: FCR MD 1-9
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Project Manager: Ryan Bruner

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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 1601223 - EPA 5030 Soil MS

Blank (1601223-BLK1)

Prepared & Analyzed: 01/22/16

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	21-167			

LCS (1601223-BS1)

Prepared & Analyzed: 01/22/16

Benzene	0.150	0.0020	mg/kg	0.150		99.7	58-130			
Toluene	0.146	0.0050	"	0.150		97.6	61-134			
Ethylbenzene	0.156	0.0050	"	0.150		104	74-139			
m,p-Xylene	0.305	0.010	"	0.300		102	73-137			
o-Xylene	0.152	0.0050	"	0.150		102	73-141			
Xylenes (total)	0.458	0.0050	"				30-150			
Gasoline Range Hydrocarbons	8.60	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

Matrix Spike (1601223-MS1)

Source: 1601181-01

Prepared & Analyzed: 01/22/16

Benzene	0.139	0.0020	mg/kg	0.139	ND	100	30-131			
Toluene	0.136	0.0050	"	0.139	ND	98.2	30-134			
Ethylbenzene	0.145	0.0050	"	0.139	ND	104	22-153			
m,p-Xylene	0.282	0.010	"	0.277	ND	102	10-159			
o-Xylene	0.142	0.0050	"	0.139	ND	102	31-151			
Xylenes (total)	0.424	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	7.79	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0370		106	23-173			
Surrogate: Toluene-d8	0.0372		"	0.0370		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0370		104	21-167			

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Volatile Organic Compounds by EPA Method 8260B - Quality Control
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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1601223 - EPA 5030 Soil MS

Matrix Spike Dup (1601223-MSD1)		Source: 1601181-01			Prepared & Analyzed: 01/22/16					
Benzene	0.144	0.0020	mg/kg	0.147	ND	98.4	30-131	4.17	34	
Toluene	0.141	0.0050	"	0.147	ND	96.2	30-134	3.63	30	
Ethylbenzene	0.146	0.0050	"	0.147	ND	99.3	22-153	0.756	24	
m,p-Xylene	0.285	0.010	"	0.294	ND	97.1	10-159	0.990	68	
o-Xylene	0.144	0.0050	"	0.147	ND	97.8	31-151	1.31	38	
Xylenes (total)	0.429	0.0050	"		ND		30-150	1.10	20	
Gasoline Range Hydrocarbons	7.97	0.50	"		ND		30-150	2.29	20	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0391		106	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0391		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0391		102	21-167			

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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

A handwritten signature in black ink, appearing to be 'MSM'.