

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 22, 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 01/21/16 16:00. 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:
01/22/16 15:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
W01@6	1601176-01	Soil	01/21/16 09:35	01/21/16 16:00
B01@6	1601176-02	Soil	01/21/16 09:37	01/21/16 16:00
S02@6	1601176-03	Soil	01/21/16 11:22	01/21/16 16:00
E01@6	1601176-04	Soil	01/21/16 11:52	01/21/16 16:00
S03@6	1601176-05	Soil	01/21/16 13:45	01/21/16 16:00
W02@6	1601176-06	Soil	01/21/16 15:00	01/21/16 16:00

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

Summit Scientific

S₂

1601176

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

Page 1 of 1

Client: EXTRACTION TASHAN

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 - d10	GBTEX			
1	W0106	1/21	9:35	1													
2	B0106		9:37														
3	S0206		11:22														
4	E0106		11:52														
5	S0306		1:45														
6	W0206		3:00														
7																	
8																	
9																	
10																	

Relinquished by: <u>R.R.</u>	Date/Time: <u>1/21 4:00</u>	Received by: <u>Michelle</u>	Date/Time: <u>1/21/16 4:00</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours <u>—</u> 24 hours <u>—</u> Standard <u>—</u> 48 hours <u>—</u>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>3.6</u> Intact: <u>Yes</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

W01@6
1601176-01 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 01/21/16 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: 01/21/16 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 01/21/16 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.27	0.0020	mg/kg	1	1601214	01/21/16	01/21/16	EPA 8260B	
Toluene	0.043	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.10	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.88	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	39	0.50	"	"	"	"	"	"	

Date Sampled: 01/21/16 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		79.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		140 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

B01@6
1601176-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/21/16 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: **01/21/16 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/21/16 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.060	0.0020	mg/kg	1	1601214	01/21/16	01/21/16	EPA 8260B	
Toluene	0.50	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.22	0.0050	"	"	"	"	"	"	
Xylenes (total)	2.4	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	84	0.50	"	"	"	"	"	"	

Date Sampled: **01/21/16 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

S02@6
1601176-03 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 01/21/16 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: 01/21/16 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 01/21/16 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.020	0.0020	mg/kg	1	1601214	01/21/16	01/22/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.012	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.0	0.50	"	"	"	"	"	"	

Date Sampled: 01/21/16 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

E01@6
1601176-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/21/16 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: **01/21/16 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/21/16 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1601214	01/21/16	01/22/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.015	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.0	0.50	"	"	"	"	"	"	

Date Sampled: **01/21/16 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

S03@6
1601176-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 01/21/16 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: 01/21/16 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 01/21/16 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.044	0.0020	mg/kg	1	1601214	01/21/16	01/22/16	EPA 8260B	
Toluene	0.020	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.032	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.3	0.50	"	"	"	"	"	"	

Date Sampled: 01/21/16 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9
Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

W02@6
1601176-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/21/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601215	01/21/16	01/22/16	8015M	

Date Sampled: **01/21/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/21/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.059	0.0020	mg/kg	1	1601214	01/21/16	01/22/16	EPA 8260B	
Toluene	0.0079	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.94	0.50	"	"	"	"	"	"	

Date Sampled: **01/21/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

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 1601215 - EPA 3550A

Blank (1601215-BLK1)

Prepared: 01/21/16 Analyzed: 01/22/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 11.0 " 12.5 88.3 30-150

LCS (1601215-BS1)

Prepared: 01/21/16 Analyzed: 01/22/16

C10-C28 (DRO) 447 50 mg/kg 499 89.5 73-134

Surrogate: o-Terphenyl 11.4 " 12.5 91.4 30-150

Matrix Spike (1601215-MS1)

Source: 1601175-01

Prepared: 01/21/16 Analyzed: 01/22/16

C10-C28 (DRO) 430 50 mg/kg 474 18.1 86.8 50-148

Surrogate: o-Terphenyl 11.3 " 11.9 95.2 30-150

Matrix Spike Dup (1601215-MSD1)

Source: 1601175-01

Prepared: 01/21/16 Analyzed: 01/22/16

C10-C28 (DRO) 468 50 mg/kg 496 18.1 90.7 50-148 8.52 13

Surrogate: o-Terphenyl 12.3 " 12.4 99.3 30-150

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Extraction Oil & Gas
570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9
Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

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 1601214 - EPA 5030 Soil MS

Blank (1601214-BLK1)

Prepared & Analyzed: 01/21/16

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	0.0444		"	0.0400		111	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	21-167			

LCS (1601214-BS1)

Prepared & Analyzed: 01/21/16

Benzene	0.149	0.0020	mg/kg	0.150		99.5	58-130			
Toluene	0.145	0.0050	"	0.150		96.9	61-134			
Ethylbenzene	0.153	0.0050	"	0.150		102	74-139			
m,p-Xylene	0.299	0.010	"	0.300		99.8	73-137			
o-Xylene	0.151	0.0050	"	0.150		101	73-141			
Xylenes (total)	0.450	0.0050	"				30-150			
Gasoline Range Hydrocarbons	8.44	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	21-167			

Matrix Spike (1601214-MS1)

Source: 1601175-01

Prepared & Analyzed: 01/21/16

Benzene	0.126	0.0020	mg/kg	0.146	ND	86.7	30-131			
Toluene	0.120	0.0050	"	0.146	ND	82.1	30-134			
Ethylbenzene	0.119	0.0050	"	0.146	ND	82.0	22-153			
m,p-Xylene	0.231	0.010	"	0.291	ND	79.2	10-159			
o-Xylene	0.116	0.0050	"	0.146	ND	79.9	31-151			
Xylenes (total)	0.347	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	6.12	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0424		"	0.0388		109	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0388		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0388		99.3	21-167			

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Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

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 1601214 - EPA 5030 Soil MS

Matrix Spike Dup (1601214-MSD1)	Source: 1601175-01			Prepared & Analyzed: 01/21/16						
Benzene	0.117	0.0020	mg/kg	0.140	ND	83.5	30-131	7.61	34	
Toluene	0.109	0.0050	"	0.140	ND	77.7	30-134	9.31	30	
Ethylbenzene	0.107	0.0050	"	0.140	ND	76.2	22-153	11.1	24	
m,p-Xylene	0.208	0.010	"	0.280	ND	74.3	10-159	10.2	68	
o-Xylene	0.105	0.0050	"	0.140	ND	75.1	31-151	10.1	38	
Xylenes (total)	0.314	0.0050	"		ND		30-150	10.1	20	
Gasoline Range Hydrocarbons	5.46	0.50	"		ND		30-150	11.3	20	
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0374		107	23-173			
Surrogate: Toluene-d8	0.0379		"	0.0374		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0374		103	21-167			

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570 17th St. Suite 550
Denver CO, 80202

Project: FCR MD 1-9

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
01/22/16 15:03

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

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