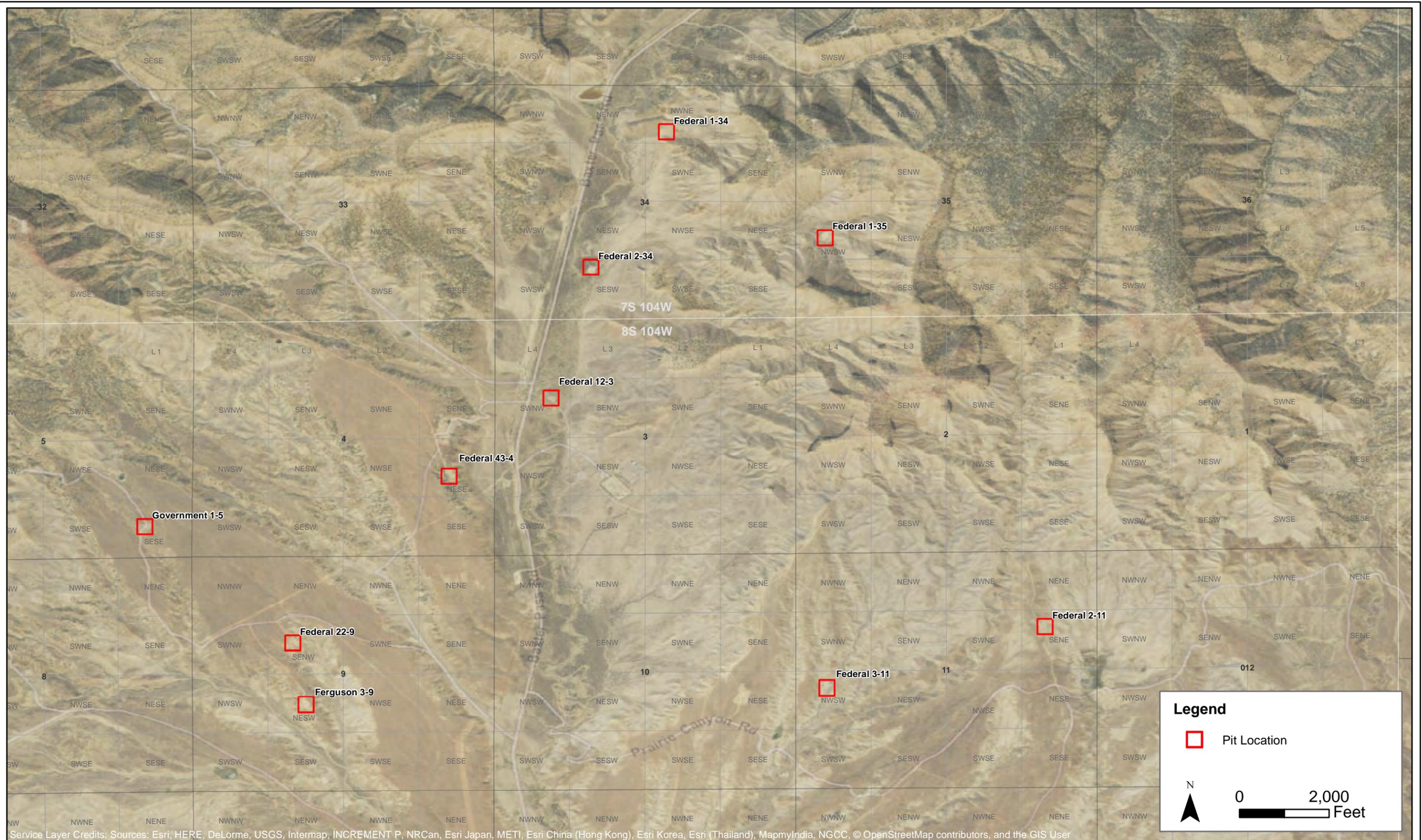


FIGURES



DATE:
September 2016

DESIGNED BY:
R. Cornez

DRAWN BY:
D. Arnold



Foundation Energy Management, LLC
Western Slope Pit Assessment
Garfield County, Colorado

Site Locations Overview
Map

Figure
1



DATE: September 22, 2017

DESIGNED BY: R. Cornez

DRAWN BY: K. Chritz



Foundation Energy Management, LLC
Ferguson 3-9
 NESW, Section 9, Township 8 South, Range 104 West
 Garfield County, Colorado

Excavation and Soil Sample Location
 Map

FIGURE
 2

ANALYTICAL TABLE

TABLE 1

**Former National Fuel Corporation Ferguson 3-9 Pit
Soil Sample Analytical Results
Foundation Energy Management**

Sample ID	Date Sampled	BTEX				TPH		pH	EC (mmhos/cm)	SAR
		Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)			
Table 910-1 Allowable Concentrations		0.17	85	100	175	500		6 - 9	< 4	< 12
Ferg 3-9:C@8'	12/03/2016	< 0.0020	24	10	570	1,700	1,800	7.87	4.35	0.120
Ferg 3-9:N@8'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	0.69	< 50	8.07	7.08	-
Ferg 3-9:E@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.15	6.70	-
Ferg 3-9:S@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.19	2.20	-
Ferg 3-9:W@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.00	5.93	-
Base01@15'	07/20/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	8.04	1.53	-
RE01@14'	07/20/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	8.63	0.794	-
RW01@14'	07/20/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	7.95	1.87	-
RS01@14'	07/20/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	7.95	1.41	-
RN01@14'	07/20/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	8.13	0.934	-
CS01	07/21/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	7.74	5.04	-
CS02	07/21/2017	< 0.10	< 10	< 10	< 10	< 50	< 50	7.81	4.08	-

Red Text = Constituent concentration exceeds COGCC Table 910-1 standard

Bold Text = Constituent concentration exceeds COGCC Table 910-1 inorganic standard; material backfilled below the designated root zone

< = Constituent concentration less than the listed laboratory reporting limit

- = Constituent not analyzed

mg/kg = Milligram per Kilogram

TPH = Total Petroleum Hydrocarbons

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

EC = Electrical Conductivity

mmhos/cm = millimhos per centimeter

SAR = Sodium Adsorption Ratio

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 13, 2016

Bob Cornez

Tasman Geosciences

6899 Pecos Street

Denver, CO 80221

RE: Western Slope Pit Assessment

Enclosed are the results of analyses for samples received by Summit Scientific on 12/05/16 12:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Ferg 3-9: C @ 8'	1612034-01	Soil	12/03/16 07:46	12/05/16 12:35
Ferg 3-9: N @ 8'	1612034-02	Soil	12/03/16 08:04	12/05/16 12:35
Ferg 3-9: E @ 10'	1612034-03	Soil	12/03/16 08:38	12/05/16 12:35
Ferg 3-9: S @ 10'	1612034-04	Soil	12/03/16 08:59	12/05/16 12:35
Ferg 3-9: W @ 10'	1612034-05	Soil	12/03/16 09:17	12/05/16 12:35

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Summit Scientific

1612034.1

S₂

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

1 of 2

Page 4 of 6

Client: Foundation Energy / Tasman Project Manager: RUC
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Western Slope Pit Assessment
Sampler Name: _____ Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested					Special Instructions				
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	Fall Table #10-1	GBTEX	TPH-DRO	EC		PH	HS-Only		
1	Fed 2-11: E @ 6'	02-Dec	1343	1						X				X	X	X	X				
2	Fed 2-11: E @ 2'		1469	2										X	X	X	X				
3	Southeast Camp		1530	1																	
4	Fed 2-11: W @ 6'		1527	1										X	X	X	X				
5	Fed 2-11: S @ 2'		1637	1										X	X	X	X				
6	Fed 2-11: N @ 8'		1638	1										X	X	X	X				
7	Fed 2-11: E @ 2'		1657	1										X	X	X	X				
8	Ferg 3-9: C @ 8'	03-Dec	0746	2										X	X	X	X		0		
9	Ferg 3-9: N @ 8'		0804	1										X	X	X	X		02		
10	Ferg 3-9: E @ 10'		0838	1										X	X	X	X		03		
Relinquished by:		Date/Time: 12/5/16 10:00	Received by:		Date/Time: 12-5-16 16:00	Turn Around Time (Check)		Same Day _____ 72 hours		24 hours _____ Standard <input checked="" type="checkbox"/>		48 hours _____		Sample Integrity: 1.6°C		Temperature Upon Receipt: 1.6°C		Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Notes:	

www.s2scientific.com



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

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303-277-9310 • 303-374-5933

1612034.2

2 of 2

Page 5 of 5

Client: Foundation Energy/Tasman Project Manager: ZVC
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Western Slope Pit Assessment
Sampler Name: _____ Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	Full Table	G-BTEX	TPH-DOO	EC	PH	
1	Feris 3-9:5@10'	07-16	0859	1					X				X	X	X	X		04
2	Feris 3-9:W@10'		0917	1									X	X	X	X		05
3	Fed 22-9:C@4'		1020	2									X	X	X	X		
4	Fed 22-9:S@4'		1052	1									X	X	X	X		
5	Fed 22-9:SO@4'		1208	1									X	X	X	X		
6	Fed 22-9:W@8'		1326	1									X	X	X	X		
7	Fed 22-9:V@4'		1309	1									X	X	X	X		
8	Fed 22-9:SO@8'		1511	1									X	X	X	X		
9	SW 10:10:10		1143	2									X	X	X	X		
10	Southwest Comp		1442	2					X									

(Handwritten signature/initials)

Relinquished by: _____ Date/Time: 12/15/16 10:10 Received by: [Signature] Date/Time: 12-15-16 10:00
Turn Around Time (Check):
Same Day _____ 72 hours _____
24 hours _____ Standard
48 hours _____
Sample Integrity:
Temperature Upon Receipt: 1.6°C
Intact: Yes No

www.s2scientific.com

(Handwritten signature)



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Sample Receipt Checklist

S2 Work Order: 1612034
Client: Foundation/Tasman Client Project ID: Western Slope Pit Assessment (F03 3-9)
Shipped Via: Hand (UPS, FedEx, Hand Delivered, Pick-up, etc.) Airbill #: _____
Matrix (check all that apply): Air Soil/Solid Water Other: _____ (Describe)

Cooler ID					
Temp (°C)	<u>1.6</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For Volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Nakita
Custodian Printed Name

MA
Signature or Initials of Custodian

12/13/16 1235
Date/Time



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: C @ 8'
1612034-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1800	50	mg/kg	1	1612117	12/12/16	12/13/16	8015M	

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1612089	12/08/16	12/09/16	EPA 8260B	
Toluene	24	0.50	"	100	"	"	"	"	
Ethylbenzene	10	0.50	"	"	"	"	"	"	
Xylenes (total)	570	5.0	"	1000	"	"	"	"	
Gasoline Range Hydrocarbons	1700	50	"	100	"	"	"	"	

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		128 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		205 %	21-167		"	"	"	"	S-02

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	1612049	12/06/16	12/08/16	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: C @ 8'
1612034-01 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzo (a) anthracene	ND	0.00500	mg/kg	1	1612049	12/06/16	12/08/16	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.00719	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Naphthalene	1.19	0.0500	"	10	"	"	"	"	
Pyrene	ND	0.00500	"	1	"	"	"	"	

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		14.4 %	30-150		"	"	"	"	S-02
Surrogate: Fluoranthene-d10		94.2 %	30-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.71	0.231	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	
Barium	137	0.461	"	"	"	"	"	"	
Arsenic	5.71	0.231	"	"	"	"	"	"	
Boron	3.51	1.15	"	"	"	"	"	"	
Barium	137	0.461	"	"	"	"	"	"	
Cadmium	0.140	0.115	"	"	"	"	"	"	
Chromium	6.08	0.577	"	"	"	"	"	"	
Cadmium	0.140	0.115	"	"	"	"	"	"	
Copper	8.72	0.577	"	"	"	"	"	"	
Lead	9.57	0.231	"	"	"	"	"	"	
Chromium	6.08	0.577	"	"	"	"	"	"	
Nickel	9.84	0.115	"	"	"	"	"	"	
Selenium	0.591	0.461	"	"	"	"	"	"	
Copper	8.72	0.577	"	"	"	"	"	"	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: C @ 8'
1612034-01 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Silver	ND	0.115	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	
Zinc	36.8	11.5	"	"	"	"	"	"	
Lead	9.57	0.231	"	"	"	"	"	"	
Nickel	9.84	0.115	"	"	"	"	"	"	
Selenium	0.591	0.461	"	"	"	"	"	"	
Silver	ND	0.115	"	"	"	"	"	"	
Zinc	36.8	11.5	"	"	"	"	"	"	

Total Mercury by EPA Method 7471

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0489	mg/kg dry	1	1612034	12/05/16	12/06/16	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trivalent Chromium	6.08	0.923	mg/kg dry	1	[CALC]	12/07/16	12/08/16	EPA 7196/3060A	
Chromium, Hexavalent	ND	0.300	"	"	1612064	"	"	EPA 7196	

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

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7710	11.5	mg/kg dry	1	1612063	12/07/16	12/07/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	309	5.77	"	"	"	"	"	"	
Sodium	39.6	5.77	"	"	"	"	"	"	
Sodium Adsorption Ratio	0.120		units	"	1612082	12/08/16	12/08/16	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
 6899 Pecos Street
 Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 12/13/16 14:29

Ferg 3-9: C @ 8'
1612034-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 07:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.35	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	SM 2510B	
pH	7.87	0.100	pH Units	"	1612096	12/09/16	12/09/16	EPA 9045	
% Solids	86.7		%	"	1612069	12/07/16	12/07/16	% calculation	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: N @ 8'
1612034-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 08:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612117	12/12/16	12/13/16	8015M	

Date Sampled: **12/03/16 08:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		101 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 08:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1612089	12/08/16	12/09/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.69	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 08:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		127 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 08:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07	0.100	pH Units	1	1612096	12/09/16	12/09/16	EPA 9045	
Specific Conductance (EC)	7.08	0.0100	mmhos/cm	"	1612098	12/09/16	12/09/16	SM 2510B	

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: E @ 10'
1612034-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612117	12/12/16	12/13/16	8015M	

Date Sampled: **12/03/16 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		98.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1612089	12/08/16	12/09/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.70	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	SM 2510B	
pH	8.15	0.100	pH Units	"	1612096	12/09/16	12/09/16	EPA 9045	

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: S @ 10'
1612034-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 08:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612117	12/12/16	12/13/16	8015M	

Date Sampled: **12/03/16 08:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		98.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 08:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1612089	12/08/16	12/09/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 08:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 08:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19	0.100	pH Units	1	1612096	12/09/16	12/09/16	EPA 9045	
Specific Conductance (EC)	2.20	0.0100	mmhos/cm	"	1612098	12/09/16	12/09/16	SM 2510B	

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6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Ferg 3-9: W @ 10'
1612034-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612117	12/12/16	12/13/16	8015M	

Date Sampled: **12/03/16 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1612089	12/08/16	12/09/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.93	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	SM 2510B	
pH	8.00	0.100	pH Units	"	1612096	12/09/16	12/09/16	EPA 9045	

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1612117 - EPA 3550A

Blank (1612117-BLK1)

Prepared & Analyzed: 12/12/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.9		"	12.5		103	30-150				

LCS (1612117-BS1)

Prepared & Analyzed: 12/12/16

C10-C28 (DRO)	429	50	mg/kg	499		86.0	73-134				
<i>Surrogate: o-Terphenyl</i>	13.0		"	12.5		104	30-150				

Matrix Spike (1612117-MS1)

Source: 1612072-01

Prepared: 12/12/16 Analyzed: 12/13/16

C10-C28 (DRO)	460	50	mg/kg	499	53.6	81.5	50-148				
<i>Surrogate: o-Terphenyl</i>	13.0		"	12.5		104	30-150				

Matrix Spike Dup (1612117-MSD1)

Source: 1612072-01

Prepared: 12/12/16 Analyzed: 12/13/16

C10-C28 (DRO)	464	50	mg/kg	499	53.6	82.3	50-148	0.890	20		
<i>Surrogate: o-Terphenyl</i>	13.1		"	12.5		105	30-150				

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6899 Pecos Street
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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

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 1612089 - EPA 5030 Soil MS

Blank (1612089-BLK1)

Prepared & Analyzed: 12/08/16

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0481</i>		<i>"</i>	<i>0.0400</i>		<i>120</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

LCS (1612089-BS1)

Prepared & Analyzed: 12/08/16

Benzene	0.0861	0.0020	mg/kg	0.100		86.1	58-130			
Toluene	0.0954	0.0050	"	0.100		95.4	61-134			
Ethylbenzene	0.120	0.0050	"	0.0992		121	74-139			
m,p-Xylene	0.217	0.010	"	0.200		109	73-137			
o-Xylene	0.112	0.0050	"	0.0980		115	73-141			
Xylenes (total)	0.330	0.0050	"				30-150			
Gasoline Range Hydrocarbons	3.07	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0499</i>		<i>"</i>	<i>0.0400</i>		<i>125</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0415</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>21-167</i>			

Matrix Spike (1612089-MS1)

Source: 1612033-01

Prepared: 12/08/16 Analyzed: 12/09/16

Benzene	0.0834	0.0020	mg/kg	0.100	ND	83.4	30-131			
Toluene	0.0954	0.0050	"	0.100	ND	95.4	30-134			
Ethylbenzene	0.119	0.0050	"	0.0992	ND	120	22-153			
m,p-Xylene	0.218	0.010	"	0.200	ND	109	10-159			
o-Xylene	0.112	0.0050	"	0.0980	ND	114	31-151			
Xylenes (total)	0.330	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	3.10	0.50	"		ND		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0507</i>		<i>"</i>	<i>0.0400</i>		<i>127</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.0</i>	<i>21-167</i>			

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Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

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 1612089 - EPA 5030 Soil MS

Matrix Spike Dup (1612089-MSD1)	Source: 1612033-01			Prepared: 12/08/16		Analyzed: 12/09/16				
Benzene	0.0839	0.0020	mg/kg	0.100	ND	83.9	30-131	0.609	34	
Toluene	0.0951	0.0050	"	0.100	ND	95.1	30-134	0.346	30	
Ethylbenzene	0.120	0.0050	"	0.0992	ND	121	22-153	1.21	24	
m,p-Xylene	0.219	0.010	"	0.200	ND	110	10-159	0.741	68	
o-Xylene	0.112	0.0050	"	0.0980	ND	114	31-151	0.00	38	
Xylenes (total)	0.331	0.0050	"		ND		30-150	0.490	20	
Gasoline Range Hydrocarbons	3.12	0.50	"		ND		30-150	0.787	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0501</i>		<i>"</i>	<i>0.0400</i>		<i>125</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0416</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>21-167</i>			

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 1612049 - EPA 5030 Soil MS

Blank (1612049-BLK1)

Prepared: 12/06/16 Analyzed: 12/08/16

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Naphthalene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0227		"	0.0333		68.0	30-150			
Surrogate: Fluoranthene-d10	0.0341		"	0.0333		102	30-150			

LCS (1612049-BS1)

Prepared: 12/06/16 Analyzed: 12/08/16

Acenaphthene	0.0338	0.00500	mg/kg	0.0333		101	48-131			
Anthracene	0.0382	0.00500	"				48-135			
Benzo (a) anthracene	0.0376	0.00500	"				37-142			
Benzo (b) fluoranthene	0.0386	0.00500	"				35-139			
Benzo (k) fluoranthene	0.0337	0.00500	"				30-139			
Benzo (a) pyrene	0.0370	0.00500	"				41-132			
Chrysene	0.0324	0.00500	"				30-136			
Dibenz (a,h) anthracene	0.0345	0.00500	"				24-127			
Fluoranthene	0.0346	0.00500	"				50-139			
Fluorene	0.0358	0.00500	"				50-130			
Indeno (1,2,3-cd) pyrene	0.0304	0.00500	"				26-139			
Naphthalene	0.0321	0.00500	"				40-135			
Pyrene	0.0342	0.00500	"	0.0333		103	39-141			
Surrogate: 2-Methylnaphthalene-d10	0.0272		"	0.0333		81.6	50-150			
Surrogate: Fluoranthene-d10	0.0396		"	0.0333		119	50-150			

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Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 1612049 - EPA 5030 Soil MS

Matrix Spike (1612049-MS1)	Source: 1612026-04			Prepared: 12/06/16		Analyzed: 12/08/16				
Acenaphthene	0.0600	0.00500	mg/kg	0.0333	ND	180	27-140			QM-07
Anthracene	0.0389	0.00500	"		ND		23-144			
Benzo (a) anthracene	0.0364	0.00500	"		ND		12-168			
Benzo (b) fluoranthene	0.0438	0.00500	"		ND		10-170			
Benzo (k) fluoranthene	0.0355	0.00500	"		ND		11-150			
Benzo (a) pyrene	0.0379	0.00500	"		ND		11-162			
Chrysene	0.0393	0.00500	"		0.00974		10-167			
Dibenz (a,h) anthracene	0.0291	0.00500	"		ND		10-128			
Fluoranthene	0.0391	0.00500	"		ND		18-157			
Fluorene	0.0692	0.00500	"		0.0432		37-133			
Indeno (1,2,3-cd) pyrene	0.0255	0.00500	"		ND		10-161			
Naphthalene	ND	0.00500	"		ND		10-157			
Pyrene	0.0366	0.00500	"	0.0333	0.00168	105	10-166			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0276</i>		"	<i>0.0333</i>		<i>82.9</i>	<i>50-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0373</i>		"	<i>0.0333</i>		<i>112</i>	<i>50-150</i>			

Matrix Spike Dup (1612049-MSD1)	Source: 1612026-04			Prepared: 12/06/16		Analyzed: 12/08/16				
Acenaphthene	0.0611	0.00500	mg/kg	0.0333	ND	183	27-140	1.76	15	QM-07
Anthracene	0.0396	0.00500	"		ND		23-144	1.68	29	
Benzo (a) anthracene	0.0384	0.00500	"		ND		12-168	5.33	65	
Benzo (b) fluoranthene	0.0462	0.00500	"		ND		10-170	5.25	18	
Benzo (k) fluoranthene	0.0370	0.00500	"		ND		11-150	4.33	32	
Benzo (a) pyrene	0.0400	0.00500	"		ND		11-162	5.49	27	
Chrysene	0.0389	0.00500	"		0.00974		10-167	1.08	88	
Dibenz (a,h) anthracene	0.0298	0.00500	"		ND		10-128	2.36	20	
Fluoranthene	0.0393	0.00500	"		ND		18-157	0.502	31	
Fluorene	0.0750	0.00500	"		0.0432		37-133	8.05	16	
Indeno (1,2,3-cd) pyrene	0.0274	0.00500	"		ND		10-161	6.97	22	
Naphthalene	ND	0.00500	"		ND		10-157		24	
Pyrene	0.0373	0.00500	"	0.0333	0.00168	107	10-166	1.84	57	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0322</i>		"	<i>0.0333</i>		<i>96.5</i>	<i>50-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0365</i>		"	<i>0.0333</i>		<i>110</i>	<i>50-150</i>			

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6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 1612062 - EPA 3050B

Blank (1612062-BLK1)

Prepared & Analyzed: 12/07/16

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Boron	ND	1.00	"							
Arsenic	ND	0.200	"							
Cadmium	ND	0.100	"							
Barium	ND	0.400	"							
Chromium	ND	0.500	"							
Cadmium	ND	0.100	"							
Copper	ND	0.500	"							
Lead	ND	0.200	"							
Chromium	ND	0.500	"							
Nickel	ND	0.100	"							
Selenium	ND	0.400	"							
Copper	ND	0.500	"							
Silver	ND	0.100	"							
Zinc	ND	10.0	"							
Lead	ND	0.200	"							
Nickel	ND	0.100	"							
Selenium	ND	0.400	"							
Silver	ND	0.100	"							
Zinc	ND	10.0	"							

LCS (1612062-BS1)

Prepared & Analyzed: 12/07/16

Arsenic	127	0.500	mg/kg wet	132	96.5	82.6-117
Barium	183	1.00	"	228	80.3	72.8-127
Boron	94.4	2.50	"	120	78.7	77.1-123
Arsenic	127	0.500	"	132	96.5	82.6-117
Cadmium	118	0.250	"	122	96.7	80.3-120
Barium	183	1.00	"	228	80.3	72.8-127
Chromium	56.4	1.25	"	63.2	89.3	74.7-125
Cadmium	118	0.250	"	122	96.7	80.3-120
Copper	195	1.25	"	212	91.9	85.4-115
Lead	94.7	0.500	"	108	87.7	81.1-119
Chromium	56.4	1.25	"	63.2	89.3	74.7-125
Nickel	264	0.250	"	284	92.8	88-112
Selenium	72.0	1.00	"	80.5	89.4	73.7-127
Copper	195	1.25	"	212	91.9	85.4-115
Silver	55.6	0.250	"	73.5	75.6	69.8-130

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Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 1612062 - EPA 3050B

LCS (1612062-BS1)

Prepared & Analyzed: 12/07/16

Zinc	195	25.0	mg/kg wet	203		96.1	77.8-122		
Lead	94.7	0.500	"	108		87.7	81.1-119		
Nickel	264	0.250	"	284		92.8	88-112		
Selenium	72.0	1.00	"	80.5		89.4	73.7-127		
Silver	55.6	0.250	"	73.5		75.6	69.8-130		
Zinc	195	25.0	"	203		96.1	77.8-122		

Duplicate (1612062-DUP1)

Source: 1612006-04

Prepared & Analyzed: 12/07/16

Arsenic	1.02	0.207	mg/kg dry		0.898			12.6	20	
Barium	26.7	0.415	"		21.8			20.1	20	QR-03
Boron	1.00	1.04	"		1.15			13.9	20	
Arsenic	1.02	0.207	"		0.898			12.6	20	
Cadmium	0.131	0.104	"		0.0802			48.4	20	QR-03
Barium	26.7	0.415	"		21.8			20.1	20	QR-03
Chromium	2.31	0.518	"		1.76			26.8	20	QR-03
Cadmium	0.131	0.104	"		0.0802			48.4	20	QR-03
Copper	2.83	0.518	"		2.29			21.0	20	QR-03
Lead	12.0	0.207	"		9.99			18.5	20	
Nickel	2.48	0.104	"		2.01			21.1	20	QR-03
Chromium	2.31	0.518	"		1.76			26.8	20	QR-03
Selenium	0.313	0.415	"		0.302			3.61	20	
Silver	0.0280	0.104	"		0.0250			11.2	20	
Copper	2.83	0.518	"		2.29			21.0	20	QR-03
Zinc	15.1	10.4	"		9.58			44.9	20	QR-03
Lead	12.0	0.207	"		9.99			18.5	20	
Nickel	2.48	0.104	"		2.01			21.1	20	QR-03
Selenium	0.313	0.415	"		0.302			3.61	20	
Silver	0.0280	0.104	"		0.0250			11.2	20	
Zinc	15.1	10.4	"		9.58			44.9	20	QR-03

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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 1612062 - EPA 3050B

Matrix Spike (1612062-MS1)	Source: 1612006-04			Prepared & Analyzed: 12/07/16							
Arsenic	39.2	0.207	mg/kg dry	39.0	0.898	98.3	75-125				
Barium	58.7	0.415	"	39.0	21.8	94.6	75-125				
Boron	33.7	1.04	"	39.0	1.15	83.6	75-125				
Arsenic	39.2	0.207	"	39.0	0.898	98.3	75-125				
Cadmium	2.17	0.104	"	1.95	0.0802	107	75-125				
Barium	58.7	0.415	"	39.0	21.8	94.6	75-125				
Chromium	38.5	0.518	"	39.0	1.76	94.4	75-125				
Copper	38.9	0.518	"	39.0	2.29	94.0	75-125				
Cadmium	2.17	0.104	"	1.95	0.0802	107	75-125				
Lead	31.8	0.207	"	19.5	9.99	112	75-125				
Nickel	37.7	0.104	"	39.0	2.01	91.6	75-125				
Chromium	38.5	0.518	"	39.0	1.76	94.4	75-125				
Selenium	3.95	0.415	"	3.90	0.302	93.5	75-125				
Silver	1.83	0.104	"	1.95	0.0250	92.5	75-125				
Copper	38.9	0.518	"	39.0	2.29	94.0	75-125				
Zinc	83.4	10.4	"	39.0	9.58	189	75-125				QM-07
Lead	31.8	0.207	"	19.5	9.99	112	75-125				
Nickel	37.7	0.104	"	39.0	2.01	91.6	75-125				
Selenium	3.95	0.415	"	3.90	0.302	93.5	75-125				
Silver	1.83	0.104	"	1.95	0.0250	92.5	75-125				
Zinc	83.4	10.4	"	39.0	9.58	189	75-125				QM-07

Matrix Spike Dup (1612062-MSD1)	Source: 1612006-04			Prepared & Analyzed: 12/07/16							
Arsenic	42.6	0.207	mg/kg dry	40.5	0.898	103	75-125	8.37	25		
Barium	64.2	0.415	"	40.5	21.8	105	75-125	8.98	25		
Boron	35.8	1.04	"	40.5	1.15	85.6	75-125	6.00	25		
Arsenic	42.6	0.207	"	40.5	0.898	103	75-125	8.37	25		
Cadmium	2.21	0.104	"	2.02	0.0802	105	75-125	1.66	25		
Barium	64.2	0.415	"	40.5	21.8	105	75-125	8.98	25		
Chromium	42.3	0.518	"	40.5	1.76	100	75-125	9.44	25		
Copper	41.5	0.518	"	40.5	2.29	96.8	75-125	6.39	25		
Cadmium	2.21	0.104	"	2.02	0.0802	105	75-125	1.66	25		
Lead	33.4	0.207	"	20.2	9.99	116	75-125	4.91	25		
Nickel	41.4	0.104	"	40.5	2.01	97.3	75-125	9.36	25		
Chromium	42.3	0.518	"	40.5	1.76	100	75-125	9.44	25		
Selenium	4.29	0.415	"	4.05	0.302	98.6	75-125	8.46	25		
Silver	1.97	0.104	"	2.02	0.0250	96.2	75-125	7.66	25		
Copper	41.5	0.518	"	40.5	2.29	96.8	75-125	6.39	25		

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 1612062 - EPA 3050B

Matrix Spike Dup (1612062-MSD1)	Source: 1612006-04			Prepared & Analyzed: 12/07/16							
Zinc	59.7	10.4	mg/kg dry	40.5	9.58	124	75-125	33.0	25		QM-07
Lead	33.4	0.207	"	20.2	9.99	116	75-125	4.91	25		
Nickel	41.4	0.104	"	40.5	2.01	97.3	75-125	9.36	25		
Selenium	4.29	0.415	"	4.05	0.302	98.6	75-125	8.46	25		
Silver	1.97	0.104	"	2.02	0.0250	96.2	75-125	7.66	25		
Zinc	59.7	10.4	"	40.5	9.58	124	75-125	33.0	25		QM-07

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Total Mercury by EPA Method 7471 - Quality Control
Summit Scientific

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

Batch 1612034 - EPA 7471A

Blank (1612034-BLK1)

Prepared: 12/05/16 Analyzed: 12/06/16

Mercury ND 0.0500 mg/kg wet

LCS (1612034-BS1)

Prepared: 12/05/16 Analyzed: 12/06/16

Mercury 0.525 0.0500 mg/kg wet 0.500 105 80-120

Duplicate (1612034-DUP1)

Source: 1612006-01

Prepared: 12/05/16 Analyzed: 12/06/16

Mercury 0.00401 0.0460 mg/kg dry 0.00399 0.564 20

Matrix Spike (1612034-MS1)

Source: 1612006-01

Prepared: 12/05/16 Analyzed: 12/06/16

Mercury 0.474 0.0460 mg/kg dry 0.460 0.00399 102 80-120

Matrix Spike Dup (1612034-MSD1)

Source: 1612006-01

Prepared: 12/05/16 Analyzed: 12/06/16

Mercury 0.455 0.0444 mg/kg dry 0.444 0.00399 102 80-120 4.00 20

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Hexavalent Chromium by EPA 7196 - Quality Control
Summit Scientific

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

Batch 1612064 - 3060A Mod

Blank (1612064-BLK1)			Prepared: 12/07/16 Analyzed: 12/08/16								
Chromium, Hexavalent	ND	0.300	mg/kg wet								
LCS (1612064-BS1)			Prepared: 12/07/16 Analyzed: 12/08/16								
Chromium, Hexavalent	18.7	0.300	mg/kg wet	19.9		93.7	85-115				
Duplicate (1612064-DUP1)			Source: 1612026-04			Prepared: 12/07/16 Analyzed: 12/08/16					
Chromium, Hexavalent	ND	0.300	mg/kg dry		ND					20	
Matrix Spike (1612064-MS1)			Source: 1612026-04			Prepared: 12/07/16 Analyzed: 12/08/16					
Chromium, Hexavalent	ND	0.300	mg/kg dry	23.9	ND		85-115				
Matrix Spike (1612064-MS2)			Source: 1612036-01			Prepared: 12/07/16 Analyzed: 12/08/16					
Chromium, Hexavalent	3.25	0.300	mg/kg dry	22.5	ND	14.4	85-115				
Post Spike (1612064-PS1)			Source: 1612026-04			Prepared: 12/07/16 Analyzed: 12/08/16					
Chromium, Hexavalent	0.00400		mg/kg	0.498	0.00	0.802	85-115				

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

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

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

Batch 1612063 - General Preparation

Blank (1612063-BLK1)

Prepared & Analyzed: 12/07/16

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

LCS (1612063-BS1)

Prepared & Analyzed: 12/07/16

Calcium	590	10.0	mg/kg wet	500	118	82.9-118				
Magnesium	610	5.00	"	500	122	77.1-123				
Sodium	588	5.00	"	500	118	71-129				

Duplicate (1612063-DUP1)

Source: 1612026-04

Prepared & Analyzed: 12/07/16

Calcium	1440	12.0	mg/kg dry	1370			4.57	200		
Magnesium	192	6.00	"	190			0.644	200		
Sodium	59.9	6.00	"	47.8			22.5	200		

Matrix Spike (1612063-MS1)

Source: 1612026-04

Prepared & Analyzed: 12/07/16

Calcium	2060	12.0	mg/kg dry	600	1370	115	75-125			
Magnesium	902	6.00	"	600	190	119	75-125			
Sodium	688	6.00	"	600	47.8	107	75-125			

Matrix Spike Dup (1612063-MSD1)

Source: 1612026-04

Prepared & Analyzed: 12/07/16

Calcium	2040	12.0	mg/kg dry	600	1370	112	75-125	0.803	25	
Magnesium	921	6.00	"	600	190	122	75-125	2.12	25	
Sodium	705	6.00	"	600	47.8	110	75-125	2.31	25	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1612069 - General Preparation

Duplicate (1612069-DUP1)	Source: 1612014-01			Prepared & Analyzed: 12/07/16						
% Solids	92.3		%		93.0			0.756	20	

Batch 1612096 - General Preparation

LCS (1612096-BS1)				Prepared & Analyzed: 12/09/16						
pH	8.02	0.100	pH Units	8.00		100	95-105			
Duplicate (1612096-DUP1)	Source: 1612034-01			Prepared & Analyzed: 12/09/16						
pH	7.82	0.100	pH Units		7.87			0.637	20	

Batch 1612098 - General Preparation

Blank (1612098-BLK1)				Prepared & Analyzed: 12/09/16						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (1612098-BS1)				Prepared & Analyzed: 12/09/16						
Specific Conductance (EC)	0.744	0.0100	mmhos/cm	0.750		99.2	90-110			
Duplicate (1612098-DUP1)	Source: 1612034-01			Prepared & Analyzed: 12/09/16						
Specific Conductance (EC)	4.04	0.0100	mmhos/cm		4.35			7.40	20	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/13/16 14:29

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.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.374.5933 - fax

July 21, 2017

Bob Cornez
Foundation Energy, LLC
15 E 15th St
Tulsa, OK 74103
RE: Ferguson 3-9

Enclosed are the results of analyses for samples received by Summit Scientific on 07/20/17 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Base01@15'	1707149-01	Soil	07/20/17 09:00	07/20/17 16:30
RE01@14'	1707149-02	Soil	07/20/17 09:15	07/20/17 16:30
RW01@14'	1707149-03	Soil	07/20/17 10:00	07/20/17 16:30
RS01@14'	1707149-04	Soil	07/20/17 10:15	07/20/17 16:30
RN01@14'	1707149-05	Soil	07/20/17 10:30	07/20/17 16:30

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

Summit Scientific 1707149

S₂

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

Page 1 of 1

Client: Foundation Energy Project Manager: Bob Cornez
 Address: _____ E-Mail: rcornez@tashua-geo.com
 City/State/Zip: _____
 Phone: _____ Fax: _____ Project Name: Ferguson 3-9
 Sampler Name: Paul Downey Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BIGX	TPH-DRO	TPH-GRO	EC	PH		
1	Base 01 @ 15'	7-20-17	09:00	1			X			X			X	X	X	X	X		4
2	RE 01 @ 14'	7-20-17	09:15	1			X			X			X	X	X	X	X		
3	RW 01 @ 14'	7-20-17	10:00	1			X			X			X	X	X	X	X		
4	RS 01 @ 14'	7-20-17	10:15	1			X			X			X	X	X	X	X		
5	RW 01 @ 14'	7-20-17	10:30	1			X			X			X	X	X	X	X		
6																			
7																			
8																			
9																			
10																			

Relinquished by: Paul Downey Date/Time: 7/20/17 16:30 Received by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____ Received by: [Signature] Date/Time: 7-20-17 16:30

Turn Around Time (Check)
 Same Day 72 hours
 24 hours Standard
 48 hours
 Sample Integrity:
 Temperature Upon Receipt: 16.0
 Intact: Yes No

Notes: only

www.s2scientific.com



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

Sample Receipt Checklist

S2 Work Order: 1707149
 Client: Foundation Client Project ID: Fabral 3-9
 Shipped Via: _____ Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

Cooler ID					
Temp (°C)	16.0				

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"/>			off ice
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? if yes, contact client and note in narrative.			<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 checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Logan S.
 Custodian Printed Name

[Signature]
 Signature or Initials of Custodian

7.20.17 16:30
 Date/Time



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

Base01@15'
1707149-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/20/17 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707185	07/20/17	07/20/17	8015M	

Date Sampled: 07/20/17 09:00

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/20/17 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707182	07/20/17	07/20/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 07/20/17 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 07/20/17 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.53	0.0100	mmhos/cm	1	1707189	07/20/17	07/20/17	SM 2510B	

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.



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

Base01@15'
1707149-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 09:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.04	0.100	pH Units	1	1707187	07/20/17	07/20/17	EPA 9045	

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.



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

RE01@14'
1707149-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707185	07/20/17	07/20/17	8015M	

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		109 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707182	07/20/17	07/20/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.794	0.0100	mmhos/cm	1	1707189	07/20/17	07/20/17	SM 2510B	

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.



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

RE01@14'
1707149-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 09:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.63	0.100	pH Units	1	1707187	07/20/17	07/20/17	EPA 9045	

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

RW01@14'
1707149-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707185	07/20/17	07/20/17	8015M	

Date Sampled: **07/20/17 10:00**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707182	07/20/17	07/20/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.87	0.0100	mmhos/cm	1	1707189	07/20/17	07/20/17	SM 2510B	

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

RW01@14'
1707149-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.95	0.100	pH Units	1	1707187	07/20/17	07/20/17	EPA 9045	

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.



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

RS01@14'
1707149-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707185	07/20/17	07/20/17	8015M	

Date Sampled: **07/20/17 10:15**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707182	07/20/17	07/20/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.41	0.0100	mmhos/cm	1	1707189	07/20/17	07/20/17	SM 2510B	

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.



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

RS01@14'
1707149-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.95	0.100	pH Units	1	1707187	07/20/17	07/20/17	EPA 9045	

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.



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

RN01@14'
1707149-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707185	07/20/17	07/20/17	8015M	

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		108 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707182	07/20/17	07/20/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.934	0.0100	mmhos/cm	1	1707189	07/20/17	07/20/17	SM 2510B	

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

RN01@14'
1707149-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/20/17 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.13	0.100	pH Units	1	1707187	07/20/17	07/20/17	EPA 9045	

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1707185 - EPA 3550A

Blank (1707185-BLK1)

Prepared & Analyzed: 07/20/17

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	13.9		"	12.5		111	30-150				

LCS (1707185-BS1)

Prepared & Analyzed: 07/20/17

C10-C28 (DRO)	627	50	mg/kg	499		126	73-134				
<i>Surrogate: o-Terphenyl</i>	15.0		"	12.5		120	30-150				

Matrix Spike (1707185-MS1)

Source: 1707153-01

Prepared & Analyzed: 07/20/17

C10-C28 (DRO)	530	50	mg/kg	499	36.9	98.9	50-148				
<i>Surrogate: o-Terphenyl</i>	14.1		"	12.5		113	30-150				

Matrix Spike Dup (1707185-MSD1)

Source: 1707153-01

Prepared & Analyzed: 07/20/17

C10-C28 (DRO)	522	50	mg/kg	499	36.9	97.2	50-148	1.60	20		
<i>Surrogate: o-Terphenyl</i>	13.8		"	12.5		110	30-150				

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

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 1707182 - EPA 5030 Soil MS

Blank (1707182-BLK1)

Prepared & Analyzed: 07/20/17

Benzene	ND	0.10	mg/kg							
Toluene	ND	10	"							
Ethylbenzene	ND	10	"							
Xylenes (total)	ND	10	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0389		"	0.0400		97.3	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	21-167			

LCS (1707182-BS1)

Prepared & Analyzed: 07/20/17

Benzene	0.0857	0.10	mg/kg	0.100		85.7	58-130			
Toluene	0.0986	10	"	0.100		98.6	61-134			
Ethylbenzene	0.115	10	"	0.0992		116	74-139			
m,p-Xylene	0.219	10	"	0.200		110	73-137			
o-Xylene	0.108	10	"	0.0980		110	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.2	21-167			

Matrix Spike (1707182-MS1)

Source: 1707153-01

Prepared & Analyzed: 07/20/17

Benzene	0.0862	0.10	mg/kg	0.100	ND	86.2	30-131			
Toluene	0.102	10	"	0.100	ND	102	30-134			
Ethylbenzene	0.111	10	"	0.0992	ND	112	22-153			
m,p-Xylene	0.214	10	"	0.200	ND	107	10-159			
o-Xylene	0.105	10	"	0.0980	ND	107	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0472		"	0.0400		118	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

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 1707182 - EPA 5030 Soil MS

Matrix Spike Dup (1707182-MSD1)	Source: 1707153-01			Prepared & Analyzed: 07/20/17						
Benzene	0.0876	0.10	mg/kg	0.100	ND	87.6	30-131	1.66	34	
Toluene	0.103	10	"	0.100	ND	103	30-134	0.909	30	
Ethylbenzene	0.114	10	"	0.0992	ND	115	22-153	2.13	24	
m,p-Xylene	0.217	10	"	0.200	ND	109	10-159	1.42	68	
o-Xylene	0.107	10	"	0.0980	ND	109	31-151	1.78	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0495</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.7</i>	<i>21-167</i>			

Summit Scientific

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Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/21/17 06:41

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1707187 - General Preparation

LCS (1707187-BS1)				Prepared & Analyzed: 07/20/17							
pH	6.15	0.100	pH Units	6.00		102	95-105				
Duplicate (1707187-DUP1)				Source: 1707146-01		Prepared & Analyzed: 07/20/17					
pH	8.57	0.100	pH Units		8.36				2.48	20	

Batch 1707189 - General Preparation

Blank (1707189-BLK1)				Prepared & Analyzed: 07/20/17							
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
LCS (1707189-BS1)				Prepared & Analyzed: 07/20/17							
Specific Conductance (EC)	0.487	0.0100	mmhos/cm	0.500		97.4	90-110				
Duplicate (1707189-DUP1)				Source: 1707146-01		Prepared & Analyzed: 07/20/17					
Specific Conductance (EC)	4.96	0.0100	mmhos/cm		4.84				2.43	20	

Summit Scientific

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Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/21/17 06:41

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 25, 2017

Bob Cornez
Foundation Energy, LLC
15 E 15th St
Tulsa, OK 74103
RE: Ferguson 3-9

Enclosed are the results of analyses for samples received by Summit Scientific on 07/21/17 21:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ben Shrewsbury', with a long, sweeping horizontal stroke extending to the right.

Ben Shrewsbury
Laboratory Manager



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/25/17 17:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CS01	1707165-01	Soil	07/21/17 09:00	07/21/17 21:00
CS02	1707165-02	Soil	07/21/17 09:05	07/21/17 21:00

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.



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/25/17 17:00

Summit Scientific 1707165

S₂

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

Page 1 of 1

Client: Foundation Energy Project Manager: Bob Cornez
 Address: _____ E-Mail: rcornez@tasman-geo.com
 City/State/Zip: _____
 Phone: _____ Fax: _____ Project Name: Ferguson 3-9
 Sampler Name: Pavi Downey Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	TPH-GRO	TPH-DRO	PH	EC		
1	CS01	6/21/17	9:00	1			X			X				X	X	X	X	X	
2	CS02	6/21/17	9:05	1			X			X				X	X	X	X	X	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: <u>Pavi Downey</u> Date/Time: <u>7/21/17 21:00</u>	Received by: <u>Bob Cornez</u> Date/Time: <u>7.21.17 21:00</u>	Turn Around Time (Check)	Notes:
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	Same Day _____ 72 hours <input checked="" type="checkbox"/>	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	24 hours _____ Standard _____ 48 hours _____	
Sample Integrity:		Temperature Upon Receipt: <u>1.1</u>	
		Intact: <input checked="" type="checkbox"/> Yes No	

www.s2scientific.com

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.



Foundation Energy, LLC
 15 E 15th St
 Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 07/25/17 17:00

Sample Receipt Checklist

S2 Work Order: 1707165

Client: Foundation Client Project ID: Ferguson 3-9

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

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

Cooler ID					
Temp (°C)	1.1				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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⁾ ?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
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.

Logan S
 Custodian Printed Name

[Signature]
 Signature or Initials of Custodian

7-21-17 21:00
 Date/Time

[Signature]



Foundation Energy, LLC
15 E 15th St
Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/25/17 17:00

CS01
1707165-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/21/17 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707207	07/21/17	07/22/17	8015M	

Date Sampled: **07/21/17 09:00**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/21/17 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707206	07/21/17	07/22/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/21/17 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/21/17 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74	0.100	pH Units	1	1707217	07/25/17	07/25/17	EPA 9045	
Specific Conductance (EC)	5.04	0.0100	mmhos/cm	"	1707218	07/25/17	07/25/17	SM 2510B	

Summit Scientific

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Tulsa OK, 74103

Project: Ferguson 3-9

Project Number: [none]
Project Manager: Bob Cornez

Reported:
07/25/17 17:00

CS02
1707165-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/21/17 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1707207	07/21/17	07/22/17	8015M	

Date Sampled: **07/21/17 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		118 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/21/17 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.10	mg/kg	1	1707206	07/21/17	07/22/17	EPA 8260B	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/21/17 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/21/17 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.81	0.100	pH Units	1	1707217	07/25/17	07/25/17	EPA 9045	
Specific Conductance (EC)	4.08	0.0100	mmhos/cm	"	1707218	07/25/17	07/25/17	SM 2510B	

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Project: Ferguson 3-9

Project Number: [none]
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Reported:
 07/25/17 17:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1707207 - EPA 3550A

Blank (1707207-BLK1)				Prepared & Analyzed: 07/21/17						
C10-C28 (DRO)	ND	50	mg/kg							
<i>Surrogate: o-Terphenyl</i>	14.6		"	12.5		117	30-150			
LCS (1707207-BS1)				Prepared & Analyzed: 07/21/17						
C10-C28 (DRO)	598	50	mg/kg	499		120	73-134			
<i>Surrogate: o-Terphenyl</i>	15.7		"	12.5		126	30-150			
Matrix Spike (1707207-MS1)				Source: 1707164-01		Prepared & Analyzed: 07/21/17				
C10-C28 (DRO)	560	50	mg/kg	499	40.0	104	50-148			
<i>Surrogate: o-Terphenyl</i>	14.2		"	12.5		113	30-150			
Matrix Spike Dup (1707207-MSD1)				Source: 1707164-01		Prepared & Analyzed: 07/21/17				
C10-C28 (DRO)	567	50	mg/kg	499	40.0	106	50-148	1.28	20	
<i>Surrogate: o-Terphenyl</i>	14.2		"	12.5		114	30-150			

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Project Number: [none]
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Reported:
07/25/17 17:00

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 1707206 - EPA 5030 Soil MS

Blank (1707206-BLK1)

Prepared: 07/21/17 Analyzed: 07/22/17

Benzene	ND	0.10	mg/kg							
Toluene	ND	10	"							
Ethylbenzene	ND	10	"							
Xylenes (total)	ND	10	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.5	21-167			

LCS (1707206-BS1)

Prepared: 07/21/17 Analyzed: 07/22/17

Benzene	0.0842	0.10	mg/kg	0.100		84.2	58-130			
Toluene	0.0987	10	"	0.100		98.7	61-134			
Ethylbenzene	0.113	10	"	0.0992		114	74-139			
m,p-Xylene	0.219	10	"	0.200		110	73-137			
o-Xylene	0.106	10	"	0.0980		108	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		95.9	21-167			

Matrix Spike (1707206-MS1)

Source: 1707164-01

Prepared: 07/21/17 Analyzed: 07/22/17

Benzene	0.0856	0.10	mg/kg	0.100	ND	85.6	30-131			
Toluene	0.0987	10	"	0.100	ND	98.7	30-134			
Ethylbenzene	0.132	10	"	0.0992	0.0217	112	22-153			
m,p-Xylene	0.356	10	"	0.200	0.206	74.7	10-159			
o-Xylene	0.121	10	"	0.0980	0.0217	102	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	21-167			

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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 1707206 - EPA 5030 Soil MS

Matrix Spike Dup (1707206-MSD1)	Source: 1707164-01			Prepared: 07/21/17		Analyzed: 07/22/17				
Benzene	0.0854	0.10	mg/kg	0.100	ND	85.4	30-131	0.316	34	
Toluene	0.0998	10	"	0.100	ND	99.8	30-134	1.09	30	
Ethylbenzene	0.136	10	"	0.0992	0.0217	115	22-153	2.66	24	
m,p-Xylene	0.407	10	"	0.200	0.206	100	10-159	13.4	68	
o-Xylene	0.126	10	"	0.0980	0.0217	106	31-151	3.52	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0418</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0391</i>		<i>"</i>	<i>0.0400</i>		<i>97.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0424</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>21-167</i>			

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Reported:
 07/25/17 17:00

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1707217 - General Preparation

LCS (1707217-BS1)					Prepared & Analyzed: 07/25/17					
pH	8.04	0.100	pH Units	8.00	100	95-105				
Duplicate (1707217-DUP1)					Source: 1707164-01		Prepared & Analyzed: 07/25/17			
pH	7.47	0.100	pH Units	7.40	0.941	20				

Batch 1707218 - General Preparation

Blank (1707218-BLK1)					Prepared & Analyzed: 07/25/17					
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (1707218-BS1)					Prepared & Analyzed: 07/25/17					
Specific Conductance (EC)	0.754	0.0100	mmhos/cm	0.750	100	90-110				
Duplicate (1707218-DUP1)					Source: 1707164-01		Prepared & Analyzed: 07/25/17			
Specific Conductance (EC)	10.5	0.0100	mmhos/cm	10.6	1.52	20				

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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