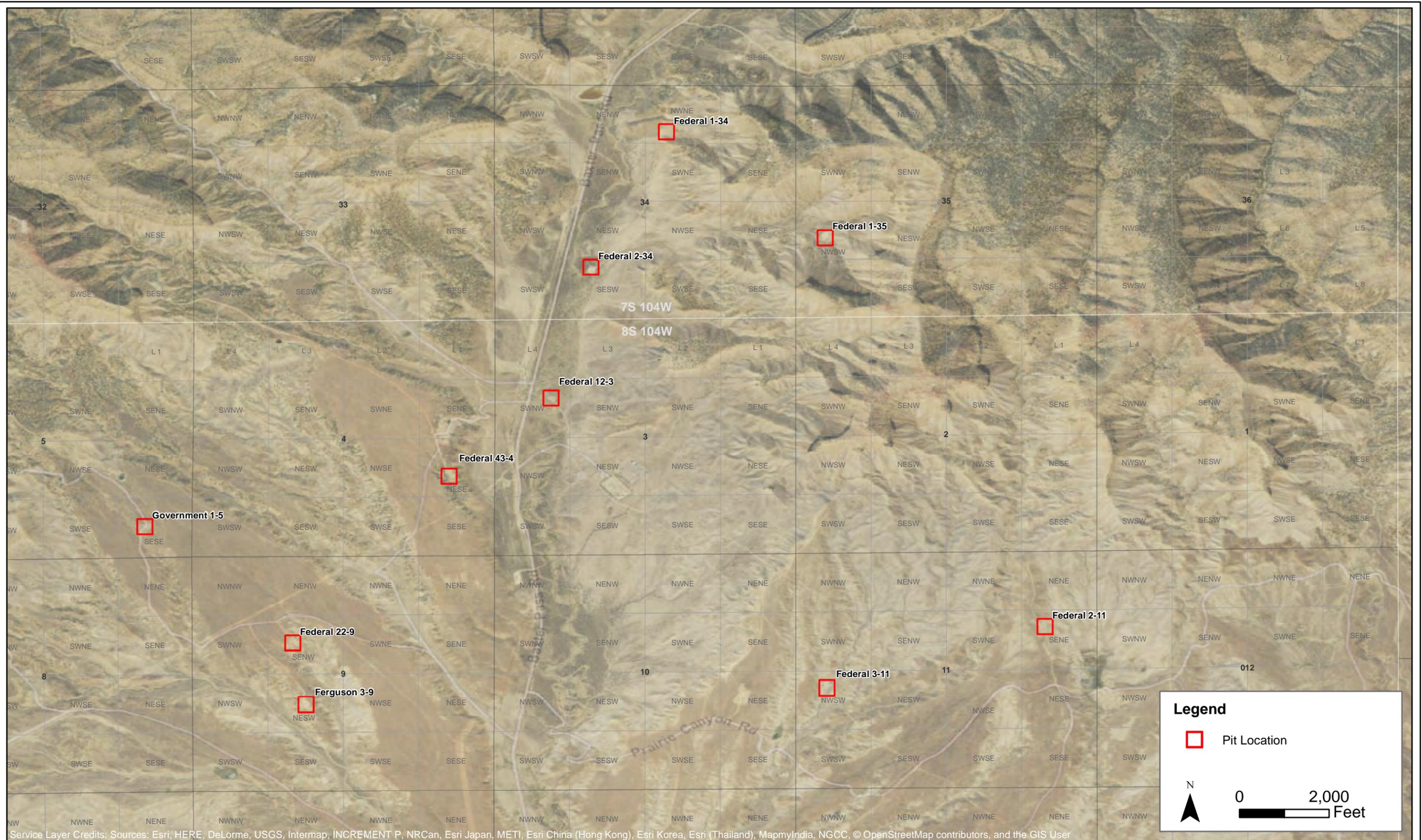


FIGURES



Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User

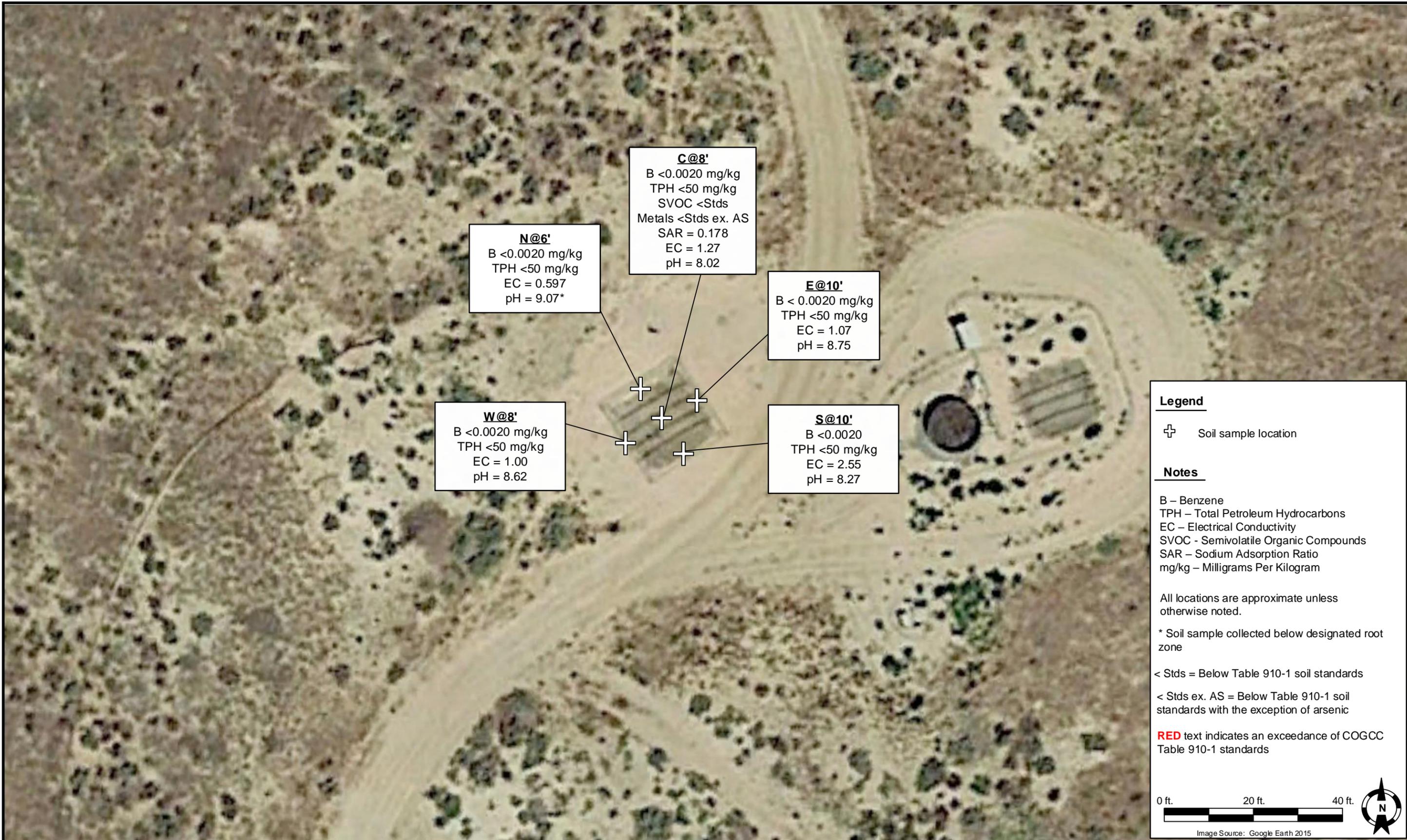
DATE:	September 2016
DESIGNED BY:	R. Cornez
DRAWN BY:	D. Arnold



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

Site Locations Overview
Map

Figure
1



Legend

⊕ Soil sample location

Notes

B – Benzene
 TPH – Total Petroleum Hydrocarbons
 EC – Electrical Conductivity
 SVOC - Semivolatle Organic Compounds
 SAR – Sodium Adsorption Ratio
 mg/kg – Milligrams Per Kilogram

All locations are approximate unless otherwise noted.

* Soil sample collected below designated root zone

< Stds = Below Table 910-1 soil standards

< Stds ex. AS = Below Table 910-1 soil standards with the exception of arsenic

RED text indicates an exceedance of COGCC Table 910-1 standards

0 ft. 20 ft. 40 ft.

Image Source: Google Earth 2015

DATE:	January 4, 2017
DESIGNED BY:	R. Cornez
DRAWN BY:	D. Arnold



Foundation Energy Management, LLC
Government 1-5
 SESE, Section 5, Township 8 South, Range 104 West
 Garfield County, Colorado

Soil Sample Location
 Map

FIGURE
 2

ANALYTICAL TABLE

TABLE 1
Government 1-5 Pit Soil Sample Analytical Results
Foundation Energy Management

Sample ID	Date Sampled	BTEX				TPH		pH	EC (mmhos/cm)	SAR	Metals										PAHs															
		Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)				Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium III (mg/kg)	Chromium VI (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(A)anthracene (mg/kg)	Benzo(B)fluoranthene (mg/kg)	Benzo(K)fluoranthene (mg/kg)	Benzo(A)pyrene (mg/kg)	Chrysene (mg/kg)	Dibenzo(A,H)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3,C,D) pyrene (mg/kg)	Naphthalene (mg/kg)	Pyrene (mg/kg)	
Table 910-1 Allowable Concentrations		0.17	85	100	175	500		6-9	<4	<12	0.39	15,000	70	120,000	23	3,100	400	23	1,600	390	390	23,000	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000	
Govt 1-5: C@8'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.02	1.27	0.178	6.45 ⁽²⁾	114	0.195	4.73	< 0.300	8.92	12.20	< 0.0503	11.4	0.619	< 0.113	50.5	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
Govt 1-5: W@8'	12/03/2016	< 0.0020	0.0064	< 0.0050	0.0095	< 0.50	< 50	8.62	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: E@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.75	1.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: N@6'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	0.0074	< 0.50	< 50	9.07 ⁽¹⁾	0.597	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: S@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	0.0094	< 0.50	< 50	8.27	2.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Comp	12/1/2016	-	-	-	-	-	-	-	-	-	9.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southeast Comp	12/1/2016	-	-	-	-	-	-	-	-	-	7.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southwest Comp	12/1/2016	-	-	-	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Red Text = Constituent concentration exceeds COGCC Table 910-1 standard
 < = Constituent concentration less than the listed laboratory reporting limit
 (1) = Sample collected below the designated root zone
 (2) = Analytical result below regional background concentration.
 - = Constituent not analyzed mg/kg = Milligram per Kilogram
 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 Absorption Ratio mmhos/cm - millimhos per centimeter

**ATTACHMENT A
LABORATORY
ANALYTICAL REPORTS**

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 08, 2017

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 12:48. 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:
12/08/17 11:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Gov't 1-5:C @ 8'	1612036-01	Soil	12/03/16 14:48	12/05/16 12:48
Gov't 1-5:W @ 8'	1612036-02	Soil	12/03/16 15:13	12/05/16 12:48
Gov't 1-5:E @ 10'	1612036-03	Soil	12/03/16 15:40	12/05/16 12:48
Gov't 1-5:N @ 6'	1612036-04	Soil	12/03/16 15:41	12/05/16 12:48
Gov't 1-5:S @ 10'	1612036-05	Soil	12/03/16 16:06	12/05/16 12:48

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:
12/08/17 11:52

Summit Scientific

S₂

1612086.1

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

Page 1 of 2
of 8

Client: Foundation Energy/Tasman Project Manager: ZPC
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	GBLTX	TPH-DOO	EC	
1	Fer 3-9-10 10' 07' Dep	08/14	08:14	1					X			X	X	X	X		
2	Fer 3-9-10 10' 10'	08/17	09:17	1								X	X	X	X		
3	Fer 22-9-10 4'	10/20	10:20	2								X	X	X	X		
4	Fer 22-9-10 4'	10/22	10:52	1								X	X	X	X		
5	Fer 22-9-10 4' 7'	12/08	12:08	1								X	X	X	X		
6	Fer 22-9-10 8'	12/08	12:08	1								X	X	X	X		
7	Fer 22-9-10 4'	12/09	12:09	1								X	X	X	X		
8	Fer 22-9-10 5'	12/11	12:11	1								X	X	X	X		
9	Govt HS-C@3	11/13	11:13	2								X	X	X	X		
10	Southwest Comp	11/13	11:13	2								X	X	X	X		
Relinquished by: _____		Date/Time: 12/5/16 10:10	Received by: <u>E. J. R.</u>		Date/Time: 12-5-16 10:00	Turn Around Time (Check)		Notes:									
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Same Day _____ 72 hours _____		Standard <input checked="" type="checkbox"/>									
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	24 hours _____ 48 hours _____		Sample Integrity: _____									
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Temperature Upon Receipt: 1.6°C		Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									

www.s2scientific.com



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Summit Scientific

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

161208le.2

2 of 2

Page A of A

Client: Foundation Energy Services Project Manager: TCW
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	GC/MS	HAH-NEG	EC	pH		As-only		
1	Gov + L5:W@3'	03-Dec	1513	1						X				X	X	X	X	X		02	
2	Gov + L5:EG@10'		1540	1										X	X	X	X	X		03	
3	Gov + L5:W@3'		1541	1										X	X	X	X	X		04	
4	Gov + L5:S@10'		1626	1										X	X	X	X	X		05	
5																					
6																					
7																					
8																					
9																					
10																					
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		Turn Around Time (Check)		Same Day _____ 72 hours _____		24 hours _____ Standard <input checked="" type="checkbox"/>		48 hours _____		Sample integrity:		Temperature Upon Receipt: <u>1.6°C</u>		Notes:	
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		Sample integrity:		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.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Sample Receipt Checklist

S2 Work Order: 1612036
Client: Foundation/Tasman Client Project ID: Western Slope Pit Assessment (Gold 1-5)
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)	1.6				

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⁾ ?	✓			
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⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are short holding time analytes or samples with HTs due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			✓	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			✓	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

12/5/16 1245
Date/Time



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Gov't 1-5:C @ 8'
1612036-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612038	12/05/16	12/06/16	8015M	

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 14:48**

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 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **12/03/16 14:48**

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

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:
12/08/17 11:52

Gov't 1-5:C @ 8'
1612036-01 (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	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Naphthalene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.9 %	30-150		"	"	"	"	
Surrogate: Fluoranthene-d10		98.4 %	30-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.45	0.225	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	
Barium	114	0.451	"	"	"	"	"	"	
Cadmium	0.195	0.113	"	"	"	"	"	"	
Chromium	4.73	0.564	"	"	"	"	"	"	
Copper	8.92	0.564	"	"	"	"	"	"	
Lead	12.2	0.225	"	"	"	"	"	"	
Nickel	11.4	0.113	"	"	"	"	"	"	
Selenium	0.619	0.451	"	"	"	"	"	"	
Silver	ND	0.113	"	"	"	"	"	"	
Zinc	50.5	11.3	"	"	"	"	"	"	

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:
12/08/17 11:52

**Gov't 1-5:C @ 8'
1612036-01 (Soil)**

Summit Scientific

Total Mercury by EPA Method 7471

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0503	mg/kg dry	1	1612034	12/05/16	12/06/16	EPA 7471	

Hexavalent Chromium by EPA 7196

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trivalent Chromium	ND	0.338	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 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1140	11.3	mg/kg dry	1	1612063	12/07/16	12/08/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	136	5.64	"	"	"	"	"	"	
Sodium	23.9	5.64	"	"	"	"	"	"	
Sodium Adsorption Ratio	0.178		units	"	1612082	12/08/16	12/08/16	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02	0.100	pH Units	1	1612096	12/09/16	12/09/16	EPA 9045	
% Solids	88.7		%	"	1612069	12/07/16	12/07/16	% calculation	

Specific Conductance by EPA120.1

Date Sampled: **12/03/16 14:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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:
 12/08/17 11:52

Gov't 1-5:C @ 8'
1612036-01 (Soil)

Summit Scientific

Specific Conductance by EPA120.1

Specific Conductance (EC)	1.27	0.0100 mmhos/cm	1	1612098	12/09/16	12/09/16	EPA 120.1
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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:
12/08/17 11:52

Gov't 1-5:W @ 8'
1612036-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 15:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612038	12/05/16	12/06/16	8015M	

Date Sampled: **12/03/16 15:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 15:13**

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	0.0064	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.0095	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 15:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 15:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.62	0.100	pH Units	1	1612096	12/09/16	12/09/16	EPA 9045	

Summit Scientific

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 6899 Pecos Street
 Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 12/08/17 11:52

Gov't 1-5:W @ 8'
1612036-02 (Soil)

Summit Scientific

Specific Conductance by EPA120.1

Date Sampled: **12/03/16 15:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.00	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	EPA 120.1	

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6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Gov't 1-5:E @ 10'
1612036-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612038	12/05/16	12/06/16	8015M	

Date Sampled: **12/03/16 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 15:40**

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 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.75	0.100	pH Units	1	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:
 12/08/17 11:52

Gov't 1-5:E @ 10'
1612036-03 (Soil)

Summit Scientific

Specific Conductance by EPA120.1

Date Sampled: **12/03/16 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.07	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	EPA 120.1	

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Gov't 1-5:N @ 6'
1612036-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 15:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612038	12/05/16	12/06/16	8015M	

Date Sampled: **12/03/16 15:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		95.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 15:41**

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)	0.0074	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 15:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 15:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.07	0.100	pH Units	1	1612096	12/09/16	12/09/16	EPA 9045	

Summit Scientific

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Project: Western Slope Pit Assessment

Project Number: [none]
 Project Manager: Bob Cornez

Reported:
 12/08/17 11:52

Gov't 1-5:N @ 6'
1612036-04 (Soil)

Summit Scientific

Specific Conductance by EPA120.1

Date Sampled: **12/03/16 15:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.597	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	EPA 120.1	

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

Gov't 1-5:S @ 10'
1612036-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/16 16:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1612038	12/05/16	12/06/16	8015M	

Date Sampled: **12/03/16 16:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		95.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/16 16:06**

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)	0.0094	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/16 16:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	21-167		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/16 16:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27	0.100	pH Units	1	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:
 12/08/17 11:52

Gov't 1-5:S @ 10'
1612036-05 (Soil)

Summit Scientific

Specific Conductance by EPA120.1

Date Sampled: **12/03/16 16:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.55	0.0100	mmhos/cm	1	1612098	12/09/16	12/09/16	EPA 120.1	

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

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 1612038 - EPA 3550A

Blank (1612038-BLK1)

Prepared & Analyzed: 12/05/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.0		"	12.5		95.7	30-150				

LCS (1612038-BS1)

Prepared & Analyzed: 12/05/16

C10-C28 (DRO)	452	50	mg/kg	499		90.6	73-134				
<i>Surrogate: o-Terphenyl</i>	14.9		"	12.5		119	30-150				

Matrix Spike (1612038-MS1)

Source: 1612009-01

Prepared & Analyzed: 12/05/16

C10-C28 (DRO)	465	50	mg/kg	499	14.3	90.3	50-148				
<i>Surrogate: o-Terphenyl</i>	15.3		"	12.5		122	30-150				

Matrix Spike Dup (1612038-MSD1)

Source: 1612009-01

Prepared & Analyzed: 12/05/16

C10-C28 (DRO)	500	50	mg/kg	499	14.3	97.4	50-148	7.28	20		
<i>Surrogate: o-Terphenyl</i>	15.1		"	12.5		121	30-150				

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Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

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:
12/08/17 11:52

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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6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0227</i>		<i>"</i>	<i>0.0333</i>		<i>68.0</i>	<i>30-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0341</i>		<i>"</i>	<i>0.0333</i>		<i>102</i>	<i>30-150</i>			

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				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.6</i>	<i>50-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0396</i>		<i>"</i>	<i>0.0333</i>		<i>119</i>	<i>50-150</i>			

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Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: [none]
Project Manager: Bob Cornez

Reported:
12/08/17 11:52

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>			

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:
12/08/17 11:52

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

Blank (1612062-BLK1)

Prepared & Analyzed: 12/07/16

Arsenic	ND	0.200	mg/kg wet						
Barium	ND	0.400	"						
Cadmium	ND	0.100	"						
Chromium	ND	0.500	"						
Copper	ND	0.500	"						
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
Cadmium	118	0.250	"	122	96.7	80.3-120
Chromium	56.4	1.25	"	63.2	89.3	74.7-125
Copper	195	1.25	"	212	91.9	85.4-115
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
Cadmium	0.131	0.104	"	0.0802	48.4	20	QR-03
Chromium	2.31	0.518	"	1.76	26.8	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
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

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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:
12/08/17 11:52

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						
Cadmium	2.17	0.104	"	1.95	0.0802	107	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						
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				
Cadmium	2.21	0.104	"	2.02	0.0802	105	75-125	1.66	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				
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

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:
12/08/17 11:52

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:
12/08/17 11:52

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:
12/08/17 11:52

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:
12/08/17 11:52

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	

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:
 12/08/17 11:52

Specific Conductance by EPA120.1 - Quality Control
Summit Scientific

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

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

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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:
12/08/17 11:52

Notes and Definitions

- 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 ♦ 303.277.9531 - fax

December 09, 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 11:31. 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: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North Comp	1612027-01	Soil	12/01/16 15:18	12/05/16 11:31
Southeast Comp	1612027-02	Soil	12/01/16 15:30	12/05/16 11:31
Southwest Comp	1612027-03	Soil	12/01/16 14:42	12/05/16 11:31

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornezz

Reported:
12/09/16 10:47

Summit Scientific

S₂

1612027.1

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303-277-9310 • 303-374-5933

Page 1 of 3

Client: Foundation Energy / Tasman Project Manager: ZMC
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Western Slope Pit Assessment
Sampler Name: Bob Cornezz 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 910-1	GBTEX	TPH - DRC		EC	PH
1	Feet 1-34: EEB'	12/15/16	08:28	1						X			X	X	X	X		
2	Feet 1-24: N@E'	12/15/16	08:58	1									X	X	X	X		
3	Feet 1-24: S@E'	12/15/16	09:21	1									X	X	X	X		
4	Feet 1-24: C@S'	12/15/16	09:08	2									X	X	X	X		
5	Feet 1-24: N@E'	12/15/16	09:53	1									X	X	X	X		
6	North Camp	12/15/16	15:18	1									X	X	X	X		
7	Feet 1-35: N@S'	12/15/16	11:13	1									X	X	X	X		
8	Feet 1-35: W@E'	12/15/16	11:21	1									X	X	X	X		
9	Feet 1-35: S@S'	12/15/16	11:39	1									X	X	X	X		
10	Feet 1-35: E@E'	12/15/16	11:46	1									X	X	X	X		
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Turn Around Time (Check)		Notes:										
_____		12/15/16 10:10	_____		12-5-16 10:10	Same Day _____ 72 hours _____												
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	24 hours _____ Standard <input checked="" type="checkbox"/>												
_____		_____	_____		_____	48 hours _____												
Relinquished by: _____		Date/Time: _____	Received by: _____		Date/Time: _____	Sample Integrity:												
_____		_____	_____		_____	Temperature Upon Receipt: 1.6°C												
_____		_____	_____		_____	Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No												

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

Summit Scientific

1612027.2

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Page 2 of 3

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)	Full Table 110-1	GISTEX	TPH-DRO	EC		PH	AS-Only
1	Fed 3-11: E06'	02-Dec	1343	1					X				X	X	X	X	X		<u>completing</u>
2	Fed 2-11: C02'		1459	1									X					X	<u>OZ</u>
3	South East Comp		1530	1									X	X	X	X	X		
4	Fed 2-11: W06'		1527	1									X	X	X	X	X		
5	Fed 2-11: S02'		1857	1									X	X	X	X	X		
6	Fed 2-11: N08'		1638	1									X	X	X	X	X		
7	Fed 2-11: E02'		1657	1									X	X	X	X	X		
8	Fed 3-4: C08'	03-Dec	0746	2									X	X	X	X	X		
9	Fed 2-9: N08'		0804	1									X	X	X	X	X		
10	Fed 2-9: E010'		0838	1									X	X	X	X	X		
Relinquished by: <u>[Signature]</u>		Date/Time: <u>12/5/16 10:00</u>	Received by: <u>[Signature]</u>		Date/Time: <u>12-5-16 10:10</u>	Turn Around Time (Check)												Notes:	
		Date/Time:			Date/Time:	Same Day _____ 72 hours													
		Date/Time:			Date/Time:	24 hours _____ Standard <input checked="" type="checkbox"/>													
		Date/Time:			Date/Time:	48 hours _____													
		Date/Time:			Date/Time:	Sample Integrity: <u>1.6%</u>													
		Date/Time:			Date/Time:	Temperature Upon Receipt: <u>1.6°C</u>													
		Date/Time:			Date/Time:	Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

Summit Scientific

1612027.3

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3 3
Page 5 of 8

Client: Foundation Energy / Tasman Project Manager: ZMC
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	GBL	TPH-DRO	EC	pH		AS-Caly
1	Ferg 3-9-10 10' 07' 0859		0859	1										X	X	X	X		
2	Ferg 3-9-10 16' 0917		0917	1										X	X	X	X		
3	Fed 22-9-10 41' 1020		1020	2										X	X	X	X		
4	Fed 22-9-10 41' 1052		1052	1										X	X	X	X		
5	Fed 22-9-10 46' 1208		1208	1										X	X	X	X		
6	Fed 22-9-10 48' 1226		1226	1										X	X	X	X		
7	Fed 22-9-10 48' 1309		1309	1										X	X	X	X		
8	Fed 22-9-10 48' 1347		1347	1										X	X	X	X		
9	SW 1-10-10 3' 1443		1443	2										X	X	X	X		
10	Southwest Camp		1443	2										X	X	X	X		

Notes: OTD3

Relinquished by: [Signature] Date/Time: 12/5/16 10:00 Received by: [Signature] Date/Time: 12-5-16 10:00
Turn Around Time (Check):
Same Day 72 hours
24 hours Standard
48 hours
Sample Integrity: 1.60C
Temperature Upon Receipt: 1.60C
Intact: Yes No

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

Sample Receipt Checklist

S2 Work Order: 1612027
 Client: Foundation/Tasman Client Project ID: Western Slope Pit Assessment (Comp)
 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)	1.6			

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				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
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.

Makita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

12/5/16
Date/Time

[Signature]



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

North Comp
1612027-01 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **12/01/16 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	9.58	0.222	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/16 15:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1		%	1	1612069	12/07/16	12/07/16	% calculation	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

**Southeast Comp
1612027-02 (Soil)**

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **12/01/16 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.54	0.224	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/16 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.1		%	1	1612069	12/07/16	12/07/16	% calculation	

Summit Scientific

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Tasman Geosciences
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Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

**Southwest Comp
1612027-03 (Soil)**

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **12/01/16 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.60	0.222	mg/kg dry	1	1612062	12/07/16	12/07/16	EPA 6020A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/16 14:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	1612069	12/07/16	12/07/16	% calculation	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

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

LCS (1612062-BS1)

Prepared & Analyzed: 12/07/16

Arsenic 127 0.500 mg/kg wet 132 96.5 82.6-117

Duplicate (1612062-DUP1)

Source: 1612006-04

Prepared & Analyzed: 12/07/16

Arsenic 1.02 0.207 mg/kg dry 0.898 12.6 20

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

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

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Western Slope Pit Assessment

Project Number: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

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
Duplicate (1612069-DUP2)		Source: 1612014-01		Prepared & Analyzed: 12/07/16	
% Solids	92.3	%		93.0	0.756 20

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: Comp
Project Manager: Bob Cornez

Reported:
12/09/16 10:47

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

TABLE 1
Government 1-5 Pit Soil Sample Analytical Results
Foundation Energy Management

Sample ID	Date Sampled	BTEX				TPH		pH	EC (mmhos/cm)	SAR	Metals										PAHs														
		Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	GRO (mg/kg)	DRO (mg/kg)				Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium III (mg/kg)	Chromium VI (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(A)anthracene (mg/kg)	Benzo(B)fluoranthene (mg/kg)	Benzo(K)fluoranthene (mg/kg)	Benzo(A)pyrene (mg/kg)	Chrysene (mg/kg)	Dibenzo(A,H)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3,C,D) pyrene (mg/kg)	Naphthalene (mg/kg)	Pyrene (mg/kg)
Table 910-1 Allowable Concentrations		0.17	85	100	175	500		6-9	<4	<12	0.39	15,000	70	120,000	23	3,100	400	23	1,600	390	390	23,000	1000	1000	0.22	0.22	2.2	0.022	22	0.022	1000	1000	0.22	23	1000
Govt 1-5: C@8'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.02	1.27	0.178	6.45 ⁽²⁾	114	0.195	4.73	< 0.300	8.92	12.20	< 0.0503	11.4	0.619	< 0.113	50.5	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
Govt 1-5: W@8'	12/03/2016	< 0.0020	0.0064	< 0.0050	0.0095	< 0.50	< 50	8.62	1.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: E@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	< 0.0050	< 0.50	< 50	8.75	1.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: N@6'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	0.0074	< 0.50	< 50	9.07 ⁽¹⁾	0.597	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Govt 1-5: S@10'	12/03/2016	< 0.0020	< 0.0050	< 0.0050	0.0094	< 0.50	< 50	8.27	2.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Comp	12/1/2016	-	-	-	-	-	-	-	-	-	9.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southeast Comp	12/1/2016	-	-	-	-	-	-	-	-	-	7.54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southwest Comp	12/1/2016	-	-	-	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Red Text = Constituent concentration exceeds COGCC Table 910-1 standard
 < = Constituent concentration less than the listed laboratory reporting limit
 (1) = Sample collected below the designated root zone
 (2) = Analytical result below regional background concentration.
 - = Constituent not analyzed mg/kg = Milligram per Kilogram
 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 Absorption Ratio mmhos/cm - millimhos per centimeter