

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 11, 2019

Alyssa Beard
Foundation Energy
1801 Broadway, Suite 1500
Denver, CO 80202

RE: Blach 1-24

Work Order # 1912083

Enclosed are the results of analyses for samples received by Summit Scientific on 12/04/19 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President



Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
12/11/19 18:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@4'	1912083-01	Soil	12/03/19 13:00	12/04/19 17:00

Summit Scientific

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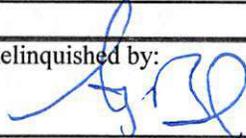
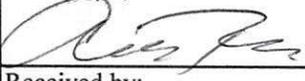
19/2083

Summit Scientific

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

Client: Foundation Energy
Address: 1775 Sherman Street, Suite 1800
City/State/Zip: Denver, CO 80203
Phone: 303 244-8114 Fax: _____
Sampler Name: A. Beard

Project Manager: Alyssa Beard
E-Mail: abeard@foundationenergy.com; aiiams@foundationenergy.com
Project Name: BLACH 1-24
Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:					Special Instructions			
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	DRO	GBTEX	EC	pH		SAR		
ESD 241	12/3/19	1300	1		x			x					x	x	x	x	x		
Relinquished by: 	Date/Time: <u>12/4/19</u> <u>1700</u>	Received by: 	Date/Time: <u>12-4-19</u> <u>c 706</u>	Turn Around Time (Check)					Notes:										
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	<input type="checkbox"/>	72 Hours	<input type="checkbox"/>												
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 Hours	<input type="checkbox"/>	Standard	<input checked="" type="checkbox"/>												
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	48 Hours	<input type="checkbox"/>	Sample Integrity:													
				Temperature Upon Receipt: <u>2.6°</u>		Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													

Sample Receipt Checklist

S2 Work Order 1912083

Client: Foundation Energy Client Project ID: Blach 1-24

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

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

Temp (°C)	2.6°
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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.	✓			on ice
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample 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.

AT
Custodian Printed Name or Initials

Chun Re
Signature of Custodian

12-4-19 17:00
Date/Time



Foundation Energy
1801 Broadway, Suite 1500
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
12/11/19 18:20

SS01@4'
1912083-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1912081	12/06/19	12/07/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1912080	12/06/19	12/07/19	EPA 8015M	

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		96.1 %	30-150		"	"	"	"	

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

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	8250	13.2	mg/kg dry	1	1912062	12/05/19	12/05/19	EPA 6020B	
Magnesium	1130	6.61	"	"	"	"	"	"	

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Project: Blach 1-24

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Project Manager: Alyssa Beard

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SS01@4'
1912083-01 (Soil)

Summit Scientific

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

Sodium	934	6.61	mg/kg dry	1	1912062	12/05/19	12/05/19	EPA 6020B
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Calculated Analysis

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.56	0.100	units	1	1912071	12/06/19	12/06/19	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.7		%	1	1912051	12/05/19	12/05/19	Calculation	
pH	8.60		pH Units	"	1912052	12/05/19	12/05/19	EPA 9045D	

Specific Conductance by EPA Method 120.1

Date Sampled: **12/03/19 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.26	0.0100	mmhos/cm	1	1912053	12/05/19	12/05/19	EPA 120.1	

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Project Manager: Alyssa Beard

Reported:
12/11/19 18:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1912081 - EPA 5030 Soil MS

Blank (1912081-BLK1)

Prepared & Analyzed: 12/06/19

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0364		"	0.0400		91.1		23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100		20-170			
Surrogate: 4-Bromofluorobenzene	0.0445		"	0.0400		111		21-167			

LCS (1912081-BS1)

Prepared & Analyzed: 12/06/19

Benzene	0.0753	0.0020	mg/kg	0.100		75.3		70-130			
Toluene	0.0970	0.0050	"	0.100		97.0		70-130			
Ethylbenzene	0.0865	0.0050	"	0.100		86.5		70-130			
m,p-Xylene	0.166	0.010	"	0.200		82.8		70-130			
o-Xylene	0.0836	0.0050	"	0.100		83.6		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0306		"	0.0400		76.6		23-173			
Surrogate: Toluene-d8	0.0497		"	0.0400		124		20-170			
Surrogate: 4-Bromofluorobenzene	0.0439		"	0.0400		110		21-167			

Matrix Spike (1912081-MS1)

Source: 1912032-01

Prepared & Analyzed: 12/06/19

Benzene	0.0778	0.0020	mg/kg	0.100	ND	77.8		70-130			
Toluene	0.0911	0.0050	"	0.100	ND	91.1		70-130			
Ethylbenzene	0.0894	0.0050	"	0.100	ND	89.4		70-130			
m,p-Xylene	0.168	0.010	"	0.200	ND	83.9		70-130			
o-Xylene	0.0840	0.0050	"	0.100	ND	84.0		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.2		23-173			
Surrogate: Toluene-d8	0.0454		"	0.0400		114		20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107		21-167			

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Project: Blach 1-24

Project Number: [none]
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1912081 - EPA 5030 Soil MS

Matrix Spike Dup (1912081-MSD1)

Source: 1912032-01

Prepared & Analyzed: 12/06/19

Benzene	0.0773	0.0020	mg/kg	0.100	ND	77.3	70-130	0.696	30	
Toluene	0.0968	0.0050	"	0.100	ND	96.8	70-130	5.97	30	
Ethylbenzene	0.0912	0.0050	"	0.100	ND	91.2	70-130	1.99	30	
m,p-Xylene	0.171	0.010	"	0.200	ND	85.4	70-130	1.77	30	
o-Xylene	0.0864	0.0050	"	0.100	ND	86.4	70-130	2.78	30	
Surrogate: 1,2-Dichloroethane-d4	0.0330		"	0.0400		82.5	23-173			
Surrogate: Toluene-d8	0.0465		"	0.0400		116	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

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Project Number: [none]
Project Manager: Alyssa Beard

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12/11/19 18:20

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1912080 - EPA 3550A

Blank (1912080-BLK1)

Prepared: 12/06/19 Analyzed: 12/07/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1912080-BS1)

Prepared: 12/06/19 Analyzed: 12/07/19

C10-C28 (DRO) 582 50 mg/kg 500 116 70-130

Matrix Spike (1912080-MS1)

Source: 1912032-01

Prepared: 12/06/19 Analyzed: 12/07/19

C10-C28 (DRO) 530 50 mg/kg 500 34.5 99.1 70-130

Matrix Spike Dup (1912080-MSD1)

Source: 1912032-01

Prepared: 12/06/19 Analyzed: 12/07/19

C10-C28 (DRO) 533 50 mg/kg 500 34.5 99.6 70-130 0.559 20

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Project: Blach 1-24

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
12/11/19 18:20

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

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

Batch 1912062 - General Preparation

Blank (1912062-BLK1)

Prepared & Analyzed: 12/05/19

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

LCS (1912062-BS1)

Prepared & Analyzed: 12/05/19

Calcium	563	10.0	mg/kg wet	500	113	70-130			
Magnesium	602	5.00	"	500	120	70-130			
Sodium	556	5.00	"	500	111	70-130			

Duplicate (1912062-DUP1)

Source: 1912047-08

Prepared & Analyzed: 12/05/19

Calcium	5390	12.0	mg/kg dry	5820			7.67	20	
Magnesium	577	6.00	"	564			2.27	20	
Sodium	275	6.00	"	268			2.63	20	

Matrix Spike (1912062-MS1)

Source: 1912047-08

Prepared & Analyzed: 12/05/19

Calcium	6420	12.0	mg/kg dry	600	5820	99.4	70-130		
Magnesium	1230	6.00	"	600	564	110	70-130		
Sodium	880	6.00	"	600	268	102	70-130		

Matrix Spike Dup (1912062-MSD1)

Source: 1912047-08

Prepared & Analyzed: 12/05/19

Calcium	6340	12.0	mg/kg dry	600	5820	87.2	70-130	1.14	25
Magnesium	1230	6.00	"	600	564	111	70-130	0.143	25
Sodium	932	6.00	"	600	268	111	70-130	5.76	25

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Project Number: [none]
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 12/11/19 18:20

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

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

Batch 1912051 - General Preparation

Duplicate (1912051-DUP1)		Source: 1912047-08			Prepared & Analyzed: 12/05/19						
% Solids	83.0		%		83.3				0.376	20	

Batch 1912052 - General Preparation

LCS (1912052-BS1)		Prepared & Analyzed: 12/05/19									
pH	9.19		pH Units		9.18		100		95-105		
Duplicate (1912052-DUP1)		Source: 1912082-01			Prepared & Analyzed: 12/05/19						
pH	8.77		pH Units		8.76				0.114	20	

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Project: Blach 1-24

Project Number: [none]
 Project Manager: Alyssa Beard

Reported:
 12/11/19 18:20

Specific Conductance by EPA Method 120.1 - Quality Control
Summit Scientific

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

Batch 1912053 - General Preparation

Blank (1912053-BLK1)

Prepared & Analyzed: 12/05/19

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (1912053-BS1)

Prepared & Analyzed: 12/05/19

Specific Conductance (EC) 0.708 0.0100 mmhos/cm 0.750 94.4 90-110

Duplicate (1912053-DUP1)

Source: 1912082-01

Prepared & Analyzed: 12/05/19

Specific Conductance (EC) 0.580 0.0100 mmhos/cm 0.584 0.859 20

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Project: Blach 1-24

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
12/11/19 18:20

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