

# 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,

A handwritten signature in black ink on a light blue background. The signature is written in a cursive style and appears to read "Muri Premier".

Muri Premier 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

*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.*

# Summit Scientific

19/2083

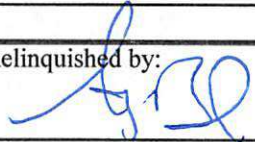
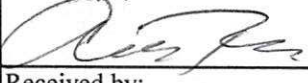
741 Corporate Circle Suite I ♦ Golden, Colorado 80401

303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

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 <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	DRO	GBTEX	EC	pH	SAR				
ESD1 241	12/31/19	1300	1			x			x				x	x	x	x	x			
Relinquished by: 	Date/Time: 12/4/19 1700	Received by: 		Date/Time: 12-4-19 706		Turn Around Time (Check)						Notes:								
Relinquished by:	Date/Time:	Received by:		Date/Time:		Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>														
						24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>														
						48 Hours <input type="checkbox"/>														
Relinquished by:	Date/Time:	Received in Lab by:		Date/Time:		Sample Integrity:														
						Temperature Upon Receipt: 2.6°														
						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

X

Soil/Solid

Water

Other:

(Describe)

Temp (°C)

2.6°

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?				
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 <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
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 <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			✓	
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 <sup>(1)</sup> ?			✓	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials

AT

Signature of Custodian

*Chen Re*

Date/Time

12-4-19, 17:00



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

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  
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**

**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
--------	-----	------	-----------	---	---------	----------	----------	-----------

**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	

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
12/11/19 18:20

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch 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			

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
12/11/19 18:20

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 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			

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
12/11/19 18:20

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**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

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

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

#### 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

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: Blach 1-24

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**

12/11/19 18:20

### Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

#### Summit Scientific

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

#### 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	
----	------	--	----------	--	------	--	--	-------	----	--

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### 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

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  
1801 Broadway, Suite 1500  
Denver CO, 80202

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