

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 13, 2018

Alyssa Beard  
Foundation Energy  
1801 Broadway, Suite 1500  
Denver, CO 80202  
RE: SOS 4-4

Enclosed are the results of analyses for samples received by Summit Scientific on 08/08/18 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Foundation Energy  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4

Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North@2'	1808117-01	Soil	08/07/18 11:00	08/08/18 09:00
South@2'	1808117-02	Soil	08/07/18 11:10	08/08/18 09:00
East@2'	1808117-03	Soil	08/07/18 11:20	08/08/18 09:00
West@2'	1808117-04	Soil	08/07/18 11:30	08/08/18 09:00

Summit Scientific

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# Summit Scientific

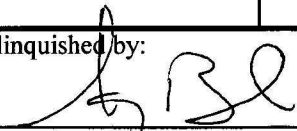

1808117

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

Page 1 of 1

Client: Foundation Energy  
Address: 1801 Broadway Suite 2200  
City/State/Zip: Denver, CO 80202  
Phone: 3038442114 Fax:  
Sampler Name: Alyssa Beard

Project Manager: Alyssa Beard  
E-Mail: abeard@foundationenergy.com  
Project Name: SOS 4-4  
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)	SAR															
North@2'	8/7/2018	1100	1			1			1					x													
South@2'	8/7/2018	1110	1			1			1					x													
East@2'	8/7/2018	1120	1			1			1					x													
West@2'	8/7/2018	1130	1			1			1					x													
Relinquished by: 	Date/Time: 8/8/18 9:00	Received by: 	Date/Time: 8-8-18 9:00	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: ,4																							
				Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>																							

# Sample Receipt Checklist

1808117

S2 Work Order \_\_\_\_\_

Client: FOUNDATION ENERGY Client Project ID: SOS 4-4

Shipped Via: P.U. Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix (check all that apply):      Air   X   Soil/Solid      Water      Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>.4</u>
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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 <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.	X			
Were all samples received intact <sup>(1)</sup> ?	X			
Was adequate sample volume provided <sup>(1)</sup> ?	X			
If custody seals are present, are they intact <sup>(1)</sup> ?			X	
Are samples with holding times due within 48 hours sample due within 48 hours present?			X	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	X			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	X			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	X			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			X	
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			X	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			X	
Record the pH in Comments.			X	
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				

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

Nuri  
Custodian Printed Name or Initials

MB 8-8-18  
Signature of Custodian

12:15  
Date/Time



Foundation Energy  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

**North@2'**  
**1808117-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/07/18 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	3540	13.5	mg/kg dry	1	1808113	08/09/18	08/10/18	EPA 6020B	
Magnesium	471	6.75	"	"	"	"	"	"	
Sodium	734	6.75	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/07/18 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	3.08	0.100	units	1	1808129	08/10/18	08/10/18	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/07/18 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	74.1		%	1	1808109	08/09/18	08/10/18	Calculation	

Summit Scientific

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Foundation Energy  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

**South@2'**  
**1808117-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/07/18 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	2950	15.0	mg/kg dry	1	1808113	08/09/18	08/10/18	EPA 6020B	
Magnesium	442	7.51	"	"	"	"	"	"	
Sodium	604	7.51	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/07/18 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.74	0.100	units	1	1808129	08/10/18	08/10/18	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/07/18 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	66.6		%	1	1808109	08/09/18	08/10/18	Calculation	

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Foundation Energy  
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Denver CO, 80202

Project: SOS 4-4  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

**East@2'**  
**1808117-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/07/18 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	2730	13.8	mg/kg dry	1	1808113	08/09/18	08/10/18	EPA 6020B	
Magnesium	441	6.90	"	"	"	"	"	"	
Sodium	211	6.90	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/07/18 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.988	0.100	units	1	1808129	08/10/18	08/10/18	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/07/18 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	72.5		%	1	1808109	08/09/18	08/10/18	Calculation	

Summit Scientific

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Foundation Energy  
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Denver CO, 80202

Project: SOS 4-4  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

**West@2'**  
**1808117-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/07/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>1660</b>	12.0	mg/kg dry	1	1808113	08/09/18	08/10/18	EPA 6020B	
<b>Magnesium</b>	<b>236</b>	5.98	"	"	"	"	"	"	
<b>Sodium</b>	<b>701</b>	5.98	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/07/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>4.26</b>	0.100	units	1	1808129	08/10/18	08/10/18	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/07/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>83.6</b>		%	1	1808109	08/09/18	08/10/18	Calculation	

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Foundation Energy  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

## 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 1808113 - General Preparation

##### Blank (1808113-BLK1)

Prepared & Analyzed: 08/09/18

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

##### LCS (1808113-BS1)

Prepared & Analyzed: 08/09/18

Calcium	446	10.0	mg/kg wet	500	89.2	70-130
Magnesium	492	5.00	"	500	98.4	70-130
Sodium	496	5.00	"	500	99.2	70-130

##### Duplicate (1808113-DUP1)

Source: 1808060-03

Prepared & Analyzed: 08/09/18

Calcium	328	11.6	mg/kg dry	320	2.44	20
Magnesium	172	5.81	"	189	9.67	20
Sodium	19.0	5.81	"	21.2	10.9	20

##### Matrix Spike (1808113-MS1)

Source: 1808060-03

Prepared & Analyzed: 08/09/18

Calcium	855	11.6	mg/kg dry	581	320	92.0	70-130
Magnesium	676	5.81	"	581	189	83.8	70-130
Sodium	473	5.81	"	581	21.2	77.8	70-130

##### Matrix Spike Dup (1808113-MSD1)

Source: 1808060-03

Prepared & Analyzed: 08/09/18

Calcium	816	11.6	mg/kg dry	581	320	85.3	70-130	4.71	25
Magnesium	768	5.81	"	581	189	99.5	70-130	12.7	25
Sodium	441	5.81	"	581	21.2	72.2	70-130	7.12	25

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1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4

Project Number: [none]

Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

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

#### Summit Scientific

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

#### Batch 1808109 - General Preparation

##### Duplicate (1808109-DUP1)

Source: 1808102-01

Prepared: 08/09/18 Analyzed: 08/10/18

% Solids	96.8	%	97.1	0.242	20
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Foundation Energy  
1801 Broadway, Suite 1500  
Denver CO, 80202

Project: SOS 4-4

Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
08/13/18 07:35

### 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