

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 08, 2017

Alyssa Beard  
Foundation Energy, LLC  
15 E 15th St  
Tulsa, OK 74103  
RE: Andrew 9-7

Enclosed are the results of analyses for samples received by Summit Scientific on 08/31/17 11:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



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

Project: Andrew 9-7

Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East@6'	1708297-01	Soil	08/31/17 14:30	08/31/17 11:00
South@6'	1708297-02	Soil	08/31/17 14:35	08/31/17 11:00
West@6'	1708297-03	Soil	08/31/17 14:40	08/31/17 11:00
North@6'	1708297-04	Soil	08/31/17 14:45	08/31/17 11:00
Base@7'	1708297-05	Soil	08/31/17 14:50	08/31/17 11:00

Summit Scientific

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# Summit Scientific

1708297

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

Page 1 of 1

Client: Foundation Energy  
Address: 15 East 5th Street Suite 1200  
City/State/Zip: Tulsa, OK 74103  
Phone: 3032448114 Fax: \_\_\_\_\_  
Sampler Name: Alyssa Beard

Project Manager: Alyssa Beard  
E-Mail: abeard@foundationenergy.com  
Project Name: Andrew 9-7  
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)	GBTEX	DRO	pH	EC	SAR							
East @ 6'	8/31/2017	1430	1			x		X					x	x	x	x	x						
South @ 6'	8/31/2017	1435	1			x		X					x	x	x	x	x						
West @ 6'	8/31/2017	1440	1			x		X					x	x	x	x	x						
North @ 6'	8/31/2017	1445	1			x		X					x	x	x	x	x						
Base @ 7'	8/31/2017	1450	1			x		X					x	x	x	x	x						
Relinquished by: <u>LIBE</u>				Date/Time: <u>8/31/17 11:00</u>				Received by: <u>[Signature]</u>				Date/Time: <u>8/31/17 11:00</u>				Turn Around Time (Check)				Notes:  <u>on ice</u>			
												Same Day <input type="checkbox"/>				72 Hours <input type="checkbox"/>							
												24 Hours <input type="checkbox"/>				Standard <input checked="" type="checkbox"/>							
Relinquished by:				Date/Time:				Received by:				Date/Time:				48 Hours <input type="checkbox"/>							
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Sample Integrity:							
																Temperature Upon Receipt: <u>9.3°C</u>							
																Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							

**Sample Receipt Checklist**

1708297

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

Client: Foundation Energy Client Project ID: Andrew 9-7

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

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

Cooler ID					
Temp (°C)	9.3				

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.	✓			
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 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 <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? <b>If yes, contact client and note in narrative.</b>			✓	
Are samples preserved that require preservation <b>(excluding cooling)</b> <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):				
<b><sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.</b>				

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

8/31/17 1200  
Date/Time



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

Project: Andrew 9-7  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

**East@6'**  
**1708297-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1709008	09/01/17	09/02/17	8015M	

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1709007	09/01/17	09/02/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.8</b>	0.50	"	"	"	"	"	"	

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.0 %	21-167		"	"	"	"	

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

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>2790</b>	13.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>343</b>	6.75	"	"	"	"	"	"	

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

Project: Andrew 9-7  
 Project Number: [none]  
 Project Manager: Alyssa Beard

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 09/08/17 09:18

**East@6'**  
**1708297-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	160	6.75	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.761		units	"	1709040	09/07/17	09/07/17	"	

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

Date Sampled: **08/31/17 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	1.15	0.0100	mmhos/cm	1	1709039	09/06/17	09/07/17	SM 2510B	
% Solids	74.1		%	"	1709018	09/05/17	09/06/17	% calculation	
pH	8.27	0.100	pH Units	"	1709038	09/06/17	09/06/17	EPA 9045	

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

Project: Andrew 9-7  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

**South@6'**  
**1708297-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1709008	09/01/17	09/02/17	8015M	

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		113 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1709007	09/01/17	09/02/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

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

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>4640</b>	12.8	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>572</b>	6.39	"	"	"	"	"	"	

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Foundation Energy, LLC  
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 Tulsa OK, 74103

Project: Andrew 9-7

Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**South@6'**  
**1708297-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	189	6.39	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.697		units	"	1709040	09/07/17	09/07/17	"	

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

Date Sampled: **08/31/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.55	0.100	pH Units	1	1709038	09/06/17	09/06/17	EPA 9045	
% Solids	78.2		%	"	1709018	09/05/17	09/06/17	% calculation	
Specific Conductance (EC)	0.676	0.0100	mmhos/cm	"	1709039	09/06/17	09/07/17	SM 2510B	

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

Project: Andrew 9-7  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

**West@6'**  
**1708297-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1709008	09/01/17	09/02/17	8015M	

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		114 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1709007	09/01/17	09/02/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	21-167		"	"	"	"	

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

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>3950</b>	12.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>574</b>	6.24	"	"	"	"	"	"	

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Foundation Energy, LLC  
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 Tulsa OK, 74103

Project: Andrew 9-7

Project Number: [none]  
 Project Manager: Alyssa Beard

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 09/08/17 09:18

**West@6'**  
**1708297-03 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	615	6.24	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	2.42		units	"	1709040	09/07/17	09/07/17	"	

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

Date Sampled: **08/31/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.63	0.0100	mmhos/cm	1	1709039	09/06/17	09/07/17	SM 2510B	
% Solids	80.1		%	"	1709018	09/05/17	09/06/17	% calculation	
pH	8.54	0.100	pH Units	"	1709038	09/06/17	09/06/17	EPA 9045	

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

Project: Andrew 9-7  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

**North@6'**  
**1708297-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1709008	09/01/17	09/02/17	8015M	

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		116 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1709007	09/01/17	09/02/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	21-167		"	"	"	"	

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

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>2890</b>	13.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>599</b>	6.75	"	"	"	"	"	"	

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 15 E 15th St  
 Tulsa OK, 74103

Project: Andrew 9-7

Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**North@6'**  
**1708297-04 (Soil)**

**Summit Scientific**

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Sodium	521	6.75	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.30		units	"	1709040	09/07/17	09/07/17	"

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

Date Sampled: **08/31/17 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01	0.100	pH Units	1	1709038	09/06/17	09/06/17	EPA 9045	
Specific Conductance (EC)	2.04	0.0100	mmhos/cm	"	1709039	09/06/17	09/07/17	SM 2510B	
% Solids	74.1		%	"	1709018	09/05/17	09/06/17	% calculation	

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

Project: Andrew 9-7  
Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

**Base@7'**  
**1708297-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1709008	09/01/17	09/02/17	8015M	

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		102 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1709007	09/01/17	09/02/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %	21-167		"	"	"	"	

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

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>3550</b>	15.7	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>407</b>	7.85	"	"	"	"	"	"	

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

Project: Andrew 9-7  
 Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**Base@7'**  
**1708297-05 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	139	7.85	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.589		units	"	1709040	09/07/17	09/07/17	"	

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

Date Sampled: **08/31/17 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.801	0.0100	mmhos/cm	1	1709039	09/06/17	09/07/17	SM 2510B	
% Solids	63.7		%	"	1709018	09/05/17	09/06/17	% calculation	
pH	7.99	0.100	pH Units	"	1709038	09/06/17	09/06/17	EPA 9045	

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

Project: Andrew 9-7

Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

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

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

**Batch 1709008 - EPA 3550A**

<b>Blank (1709008-BLK1)</b>				Prepared & Analyzed: 09/01/17							
C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	13.2		"	12.5		106	30-150				
<b>LCS (1709008-BS1)</b>				Prepared: 09/01/17 Analyzed: 09/02/17							
C10-C28 (DRO)	436	50	mg/kg	499		87.4	73-134				
<i>Surrogate: o-Terphenyl</i>	13.2		"	12.5		106	30-150				
<b>Matrix Spike (1709008-MS1)</b>				<b>Source: 1708287-01</b>		Prepared: 09/01/17 Analyzed: 09/02/17					
C10-C28 (DRO)	437	50	mg/kg	499	15.2	84.6	50-148				
<i>Surrogate: o-Terphenyl</i>	13.2		"	12.5		105	30-150				
<b>Matrix Spike Dup (1709008-MSD1)</b>				<b>Source: 1708287-01</b>		Prepared: 09/01/17 Analyzed: 09/02/17					
C10-C28 (DRO)	423	50	mg/kg	499	15.2	81.7	50-148	3.33		20	
<i>Surrogate: o-Terphenyl</i>	12.2		"	12.5		97.9	30-150				

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Project Manager: Alyssa Beard

Reported:  
09/08/17 09:18

**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 1709007 - EPA 5030 Soil MS**

**Blank (1709007-BLK1)**

Prepared & Analyzed: 09/01/17

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>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.6</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.0</i>	<i>21-167</i>			

**LCS (1709007-BS1)**

Prepared & Analyzed: 09/01/17

Benzene	0.0824	0.0020	mg/kg	0.100		82.4	58-130			
Toluene	0.0976	0.0050	"	0.100		97.6	61-134			
Ethylbenzene	0.111	0.0050	"	0.0992		112	74-139			
m,p-Xylene	0.219	0.010	"	0.200		109	73-137			
o-Xylene	0.105	0.0050	"	0.0980		108	73-141			
Xylenes (total)	0.324	0.0050	"				30-150			
Gasoline Range Hydrocarbons	5.32	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0391</i>		<i>"</i>	<i>0.0400</i>		<i>97.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>97.9</i>	<i>21-167</i>			

**Matrix Spike (1709007-MS1)**

Source: 1708276-01

Prepared & Analyzed: 09/01/17

Benzene	0.0819	0.0020	mg/kg	0.100	ND	81.9	30-131			
Toluene	0.0958	0.0050	"	0.100	ND	95.8	30-134			
Ethylbenzene	0.110	0.0050	"	0.0992	ND	111	22-153			
m,p-Xylene	0.218	0.010	"	0.200	ND	109	10-159			
o-Xylene	0.108	0.0050	"	0.0980	ND	110	31-151			
Xylenes (total)	0.326	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	33.3	0.50	"		30.3		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>21-167</i>			

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Foundation Energy, LLC  
 15 E 15th St  
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Project: Andrew 9-7  
 Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**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 1709007 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1709007-MSD1)</b>	<b>Source: 1708276-01</b>			<b>Prepared &amp; Analyzed: 09/01/17</b>						
Benzene	0.0814	0.0020	mg/kg	0.100	ND	81.4	30-131	0.624	34	
Toluene	0.0924	0.0050	"	0.100	ND	92.4	30-134	3.67	30	
Ethylbenzene	0.111	0.0050	"	0.0992	ND	112	22-153	0.788	24	
m,p-Xylene	0.212	0.010	"	0.200	ND	106	10-159	2.71	68	
o-Xylene	0.103	0.0050	"	0.0980	ND	105	31-151	4.35	38	
Xylenes (total)	0.315	0.0050	"		ND		30-150	3.25	20	
Gasoline Range Hydrocarbons	33.7	0.50	"		30.3		30-150	1.45	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.1</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>		<i>95.8</i>	<i>21-167</i>			

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Project: Andrew 9-7

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 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**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 1709019 - General Preparation**

**Blank (1709019-BLK1)**

Prepared: 09/05/17 Analyzed: 09/06/17

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

**LCS (1709019-BS1)**

Prepared: 09/05/17 Analyzed: 09/06/17

Calcium	500	10.0	mg/kg wet	500	100	82.9-118			
Magnesium	526	5.00	"	500	105	77.1-123			
Sodium	491	5.00	"	500	98.3	71-129			

**Duplicate (1709019-DUP1)**

Source: 1708285-01

Prepared: 09/05/17 Analyzed: 09/07/17

Calcium	1180	12.5	mg/kg dry	1230			3.90	200	
Magnesium	196	6.27	"	221			11.7	200	
Sodium	832	6.27	"	827			0.664	200	

**Matrix Spike (1709019-MS1)**

Source: 1708285-01

Prepared: 09/05/17 Analyzed: 09/07/17

Calcium	1750	12.5	mg/kg dry	627	1230	82.8	75-125		
Magnesium	841	6.27	"	627	221	98.9	75-125		
Sodium	1370	6.27	"	627	827	86.0	75-125		

**Matrix Spike Dup (1709019-MSD1)**

Source: 1708285-01

Prepared: 09/05/17 Analyzed: 09/07/17

Calcium	1740	12.5	mg/kg dry	627	1230	81.6	75-125	0.459	25
Magnesium	882	6.27	"	627	221	105	75-125	4.78	25
Sodium	1410	6.27	"	627	827	93.1	75-125	3.19	25

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Project: Andrew 9-7

Project Number: [none]  
 Project Manager: Alyssa Beard

**Reported:**  
 09/08/17 09:18

**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 1709018 - General Preparation**

<b>Duplicate (1709018-DUP1)</b>	<b>Source: 1708285-01</b>			Prepared: 09/05/17 Analyzed: 09/06/17						
% Solids	77.9		%		79.7			2.28	20	

**Batch 1709038 - General Preparation**

<b>LCS (1709038-BS1)</b>				Prepared & Analyzed: 09/06/17						
pH	9.22	0.100	pH Units	9.16		101	95-105			
<b>Duplicate (1709038-DUP1)</b>	<b>Source: 1708281-01</b>			Prepared & Analyzed: 09/05/17						
pH	8.51	0.100	pH Units		8.49			0.235	20	

**Batch 1709039 - General Preparation**

<b>Blank (1709039-BLK1)</b>				Prepared: 09/06/17 Analyzed: 09/07/17						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
<b>LCS (1709039-BS1)</b>				Prepared: 09/06/17 Analyzed: 09/07/17						
Specific Conductance (EC)	0.750	0.0100	mmhos/cm	0.750		100	90-110			
<b>Duplicate (1709039-DUP1)</b>	<b>Source: 1708281-01</b>			Prepared: 09/06/17 Analyzed: 09/07/17						
Specific Conductance (EC)	0.297	0.0100	mmhos/cm		0.297			0.0505	20	

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Tulsa OK, 74103

Project: Andrew 9-7

Project Number: [none]  
Project Manager: Alyssa Beard

**Reported:**  
09/08/17 09:18

### 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