

Summit Scientific

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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,

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, 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

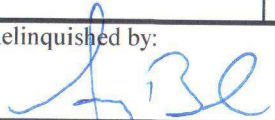
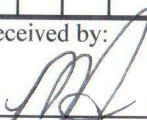
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1708297

Page 1 of 1

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 ₃	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: 	Date/Time: 8/31/17 11:00	Received by: 		Date/Time: 8/31/17 11:00		Turn Around Time (Check)												Notes: on ice								
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: 9.3°C Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																				

1708297

Client: Foundation Energy

Client Project ID: Andrew 9-1

Shipped Via: FD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

Cooler ID					
Temp (°C)	9.3				

	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.	✓			
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?			✓	
<u>Additional Comments (if any):</u>				

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

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

Nakita
Custodian Printed Name

Signature of 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: o-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	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.8	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
Calcium	2790	13.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	343	6.75	"	"	"	"	"	"	

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Project Manager: Alyssa Beard

Reported:
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East@6'
1708297-01 (Soil)

Summit Scientific

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

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

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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

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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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: o-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
Calcium	3950	12.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	574	6.24	"	"	"	"	"	"	

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West@6'
1708297-03 (Soil)

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

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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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: o-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
Calcium	2890	13.5	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	599	6.75	"	"	"	"	"	"	

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

Project: Andrew 9-7
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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

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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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

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: o-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
Calcium	3550	15.7	mg/kg dry	1	1709019	09/05/17	09/07/17	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	407	7.85	"	"	"	"	"	"	

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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

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

Batch 1709008 - EPA 3550A

Blank (1709008-BLK1)

Prepared & Analyzed: 09/01/17

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 13.2 " 12.5 106 30-150

LCS (1709008-BS1)

Prepared: 09/01/17 Analyzed: 09/02/17

C10-C28 (DRO) 436 50 mg/kg 499 87.4 73-134

Surrogate: o-Terphenyl 13.2 " 12.5 106 30-150

Matrix Spike (1709008-MS1)

Source: 1708287-01

Prepared: 09/01/17 Analyzed: 09/02/17

C10-C28 (DRO) 437 50 mg/kg 499 15.2 84.6 50-148

Surrogate: o-Terphenyl 13.2 " 12.5 105 30-150

Matrix Spike Dup (1709008-MSD1)

Source: 1708287-01

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

Surrogate: o-Terphenyl 12.2 " 12.5 97.9 30-150

Summit Scientific

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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

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 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	21-167			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	21-167			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

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Tulsa OK, 74103

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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1709007 - EPA 5030 Soil MS

Matrix Spike Dup (1709007-MSD1)		Source: 1708276-01			Prepared & Analyzed: 09/01/17					
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	
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	21-167			

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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

Soluble Nutrients by EPA 6020/Mod. 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 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

Summit Scientific

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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

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

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

Batch 1709018 - General Preparation

Duplicate (1709018-DUP1) **Source: 1708285-01** Prepared: 09/05/17 Analyzed: 09/06/17

% Solids	77.9		%		79.7			2.28	20	
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Batch 1709038 - General Preparation

LCS (1709038-BS1) Prepared & Analyzed: 09/06/17

pH	9.22	0.100	pH Units	9.16	101	95-105				
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Duplicate (1709038-DUP1) **Source: 1708281-01** Prepared & Analyzed: 09/05/17

pH	8.51	0.100	pH Units	8.49			0.235	20		
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Batch 1709039 - General Preparation

Blank (1709039-BLK1) Prepared: 09/06/17 Analyzed: 09/07/17

Specific Conductance (EC)	ND	0.0100	mmhos/cm							
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LCS (1709039-BS1) Prepared: 09/06/17 Analyzed: 09/07/17

Specific Conductance (EC)	0.750	0.0100	mmhos/cm	0.750	100	90-110				
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Duplicate (1709039-DUP1) **Source: 1708281-01** 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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Summit Scientific

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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

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