



#### LEGEND

	FENCE LINE
	CONTAINMENT BERM
	ABOVE GROUND STORAGE TANK
	FORMER FACILITY

Figure 1  
SITE MAP

**Noble Wells Ranch AE 32-5&6**  
Facility ID - 413795  
SE NW Section 32, T6N, R62W  
Weld County, Colorado

API No. <b>05-123-30489</b>	Prepared by	Drawn by <b>JMA</b>	
Date <b>3/31/16</b>	Reviewed by	Filename <b>V003A</b>	

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 06, 2016

Paul Henehan  
Fremont Environmental  
1759 Redwing Lane  
Broomfield, CO 80020  
RE: Noble - Wells Ranch AE 32-5 & 6

Enclosed are the results of analyses for samples received by Summit Scientific on 01/05/16 15:47. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury  
President



Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
01/06/16 06:17

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor-6FT	1601012-01	Soil	01/05/16 00:00	01/05/16 15:47
N. Wall-3FT	1601012-02	Soil	01/05/16 00:00	01/05/16 15:47

Summit Scientific

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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

# Summit Scientific 1601012

S<sub>2</sub>

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

Page 1 of 1

Client: FREMONT/NOBLE Project Manager: HENEHAN  
Address: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: 303/956-8714 Fax: \_\_\_\_\_ Project Name: NOBLE - WELLS RANCH AE 32-5 & 6  
Sampler Name: HENEHAN Project Number: \_\_\_\_\_

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	S <sub>2</sub> O <sub>2</sub> /DRO	NAPHTH.	EC	SAR	PH	
1	FLOOR - 6 FT	1/5/16		1															
2	N. WALL - 3 FT	..		1															
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

  

Relinquished by: <u>MSH/KE</u>	Date/Time: <u>1/5/16 15:47</u>	Received by: <u>MSH</u>	Date/Time: <u>1-5-16 15:47</u>	Turn Around Time (Check)	Notes:
				Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
				48 hours <input type="checkbox"/> <u>WED AM PLZ</u>	
Relinquished by: <u>MSH</u>	Date/Time: <u>1-5-16 17:40</u>	Received by: <u>MSH</u>	Date/Time: <u>1-5-15 1740</u>	Sample Integrity:	
				Temperature Upon Receipt: <u>17.6°C</u>	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
01/06/16 06:17

**Floor-6FT**  
**1601012-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601013	01/05/16	01/05/16	8015M	

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.5 %	30-150		"	"	"	"	

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

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1601012	01/05/16	01/05/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	21-167		"	"	"	"	

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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

**N. Wall-3FT**  
**1601012-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1601013	01/05/16	01/05/16	8015M	

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.8 %	30-150		"	"	"	"	

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

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1601012	01/05/16	01/05/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

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

Date Sampled: 01/05/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

**N. Wall-3FT**  
**1601012-02 (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
Calcium	172	10.9	mg/kg dry	1	1601010	01/05/16	01/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	97.2	5.43	"	"	"	"	"	"	
Sodium	13.4	5.43	"	"	"	"	"	"	

Date Sampled: 01/05/16 00:00

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.200		units	"	1601021	01/06/16	01/06/16	"	

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

Date Sampled: 01/05/16 00:00

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.263	0.0100	mmhos/cm	1	1601018	01/05/16	01/05/16	SM 2510B	

Date Sampled: 01/05/16 00:00

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15	0.100	pH Units	"	1601017	"	01/05/16	EPA 9045	

Date Sampled: 01/05/16 00:00

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.0		%	"	1601022	01/06/16	01/06/16	% calculation	

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1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
01/06/16 06:17

**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 1601013 - EPA 3550A**

**Blank (1601013-BLK1)**

Prepared & Analyzed: 01/05/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 11.6 " 12.5 93.2 30-150

**LCS (1601013-BS1)**

Prepared & Analyzed: 01/05/16

C10-C28 (DRO) 545 50 mg/kg 499 109 73-134

Surrogate: o-Terphenyl 12.0 " 12.5 96.0 30-150

**Matrix Spike (1601013-MS1)**

Source: 1512254-01

Prepared & Analyzed: 01/05/16

C10-C28 (DRO) 1400 50 mg/kg 467 732 143 50-148

Surrogate: o-Terphenyl 11.8 " 11.7 101 30-150

**Matrix Spike Dup (1601013-MSD1)**

Source: 1512254-01

Prepared & Analyzed: 01/05/16

C10-C28 (DRO) 708 50 mg/kg 462 732 NR 50-148 65.9 13 QM-07

Surrogate: o-Terphenyl 5.91 " 11.6 51.0 30-150

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1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6  
Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

**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 1601012 - EPA 5030 Soil MS**

**Blank (1601012-BLK1)**

Prepared & Analyzed: 01/05/16

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

**LCS (1601012-BS1)**

Prepared & Analyzed: 01/05/16

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0896	0.0020	"	0.100		89.6	58-130			
Toluene	0.0896	0.0050	"	0.100		89.6	61-134			
Ethylbenzene	0.104	0.0050	"	0.0992		104	74-139			
m,p-Xylene	0.184	0.010	"	0.200		92.2	73-137			
o-Xylene	0.0944	0.0050	"	0.0984		95.9	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	21-167			

**Matrix Spike (1601012-MS1)**

Source: 1512254-01

Prepared & Analyzed: 01/05/16

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0901	0.0020	"	0.0962	ND	93.7	30-131			
Toluene	0.0912	0.0050	"	0.0962	ND	94.9	30-134			
Ethylbenzene	0.107	0.0050	"	0.0954	ND	113	22-153			
m,p-Xylene	0.193	0.010	"	0.192	ND	100	10-159			
o-Xylene	0.0984	0.0050	"	0.0946	ND	104	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0385		107	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0385		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0385		98.1	21-167			

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1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

**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 1601012 - EPA 5030 Soil MS**

Matrix Spike Dup (1601012-MSD1)		Source: 1512254-01			Prepared & Analyzed: 01/05/16					
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0918	0.0020	"	0.0963	ND	95.2	30-131	1.88	34	
Toluene	0.0926	0.0050	"	0.0963	ND	96.2	30-134	1.54	30	
Ethylbenzene	0.115	0.0050	"	0.0956	ND	121	22-153	7.04	24	
m,p-Xylene	0.203	0.010	"	0.192	ND	106	10-159	5.14	68	
o-Xylene	0.105	0.0050	"	0.0948	ND	110	31-151	6.00	38	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0385		109	23-173			
Surrogate: Toluene-d8	0.0382		"	0.0385		99.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0385		98.8	21-167			

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1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6  
Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
01/06/16 06:17

**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 1601010 - General Preparation**

**Blank (1601010-BLK1)**

Prepared & Analyzed: 01/05/16

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

**LCS (1601010-BS1)**

Prepared & Analyzed: 01/05/16

Calcium	489	10.0	mg/kg wet	500	97.8	82.9-118
Magnesium	566	5.00	"	500	113	77.1-123
Sodium	564	5.00	"	500	113	71-129

**Duplicate (1601010-DUP1)**

Source: 1512259-01

Prepared & Analyzed: 01/05/16

Calcium	66.0	7.94	mg/kg wet	56.7	15.2	200
Magnesium	72.3	3.97	"	75.2	3.89	200
Sodium	9.06	3.97	"	7.86	14.3	200

**Matrix Spike (1601010-MS1)**

Source: 1512259-01

Prepared & Analyzed: 01/05/16

Calcium	474	7.94	mg/kg wet	397	56.7	105	75-125
Magnesium	515	3.97	"	397	75.2	111	75-125
Sodium	448	3.97	"	397	7.86	111	75-125

**Matrix Spike Dup (1601010-MSD1)**

Source: 1512259-01

Prepared & Analyzed: 01/05/16

Calcium	471	7.94	mg/kg wet	397	56.7	104	75-125	0.618	25
Magnesium	532	3.97	"	397	75.2	115	75-125	3.11	25
Sodium	447	3.97	"	397	7.86	111	75-125	0.194	25

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1759 Redwing Lane  
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Project: Noble - Wells Ranch AE 32-5 & 6  
Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
01/06/16 06:17

**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 1601017 - General Preparation**

**LCS (1601017-BS1)**

Prepared & Analyzed: 01/05/16

pH	8.06	0.100	pH Units	8.00	101	95-105
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**Duplicate (1601017-DUP1)**

**Source: 1601012-02**

Prepared & Analyzed: 01/05/16

pH	8.15	0.100	pH Units	8.15	0.00	20
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**Batch 1601018 - General Preparation**

**Blank (1601018-BLK1)**

Prepared & Analyzed: 01/05/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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**LCS (1601018-BS1)**

Prepared & Analyzed: 01/05/16

Specific Conductance (EC)	0.489	0.0100	mmhos/cm	0.500	97.9	90-110
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**Duplicate (1601018-DUP1)**

**Source: 1601012-02**

Prepared & Analyzed: 01/05/16

Specific Conductance (EC)	0.270	0.0100	mmhos/cm	0.263	2.44	20
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Fremont Environmental  
1759 Redwing Lane  
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-5 & 6

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
01/06/16 06:17

### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.

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

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