



LEGEND

	FENCE LINE
	CONTAINMENT BERM
	ABOVE GROUND STORAGE TANK
	FORMER FACILITY

Figure 1 SITE MAP

Noble Rothe 1-24
 Facility ID - 322911
 NE NE Section 24, T5N R64W
 Weld County, Colorado

API No.
05-123-12254

Prepared by

Drawn by
JMA

Date
9/1/16

Reviewed by

Filename
V051A



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 25, 2016

Paul Henehan
Fremont Environmental
1759 Redwing Lane
Broomfield, CO 80020
RE: Noble - Roth 1-24

Enclosed are the results of analyses for samples received by Summit Scientific on 08/24/16 14:10. 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 - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor 7Ft	1608193-01	Soil	08/24/16 00:00	08/24/16 14:10
W. Wall 3Ft	1608193-02	Soil	08/24/16 00:00	08/24/16 14:10

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

Summit Scientific 1608193

S₂

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: INVOICE TO HOWARD
City/State/Zip: _____
Phone: 3037568714 Fax: _____ Project Name: NOBLE - ROTHE 1-24
Sampler Name: HENEHAN Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BIEX	GRO/DRO	NARHAT	SAR	EC	
1	FLOOR 7 FT	8/24/16		1			✓			✓			✓	✓	✓	✓		
2	W. WALL 3 FT			1			✓			✓			✓	✓	✓	✓		
3	N. WALL 3 FT			1			✓			✓			✓	✓	✓	✓		PLZ HOLD
4	S. WALL 3 FT			1			✓			✓			✓	✓	✓	✓		PLZ HOLD
5	E. WALL 3 FT			1			✓			✓			✓	✓	✓	✓		PLZ HOLD
6																		
7																		IF W. WALL OVER
8																		CORRE LIMITS, MAY
9																		WANT TO ANALYZE
10																		

Relinquished by: <u>PAUL HENEHAN</u> Date/Time: <u>8/24/16 14:10</u>	Received by: <u>NA</u> Date/Time: <u>8-24-16 14:10</u>	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/> <u>THURS AM PLZ</u>	Notes:
Relinquished by: <u>NA</u> Date/Time: <u>8-24-16 17:35</u>	Received by: _____ Date/Time: _____	Sample Integrity: _____	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	Temperature Upon Receipt: <u>4.9</u> Intact: Yes No	

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

Sample Receipt Checklist

S2 Work Order: 1608193

Client: Fremont

Client Project ID: Noble - Roth 1-24

Shipped Via: H.D. on ice

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

Cooler ID					
Temp (°C)	<u>4.8</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Muri P.
Custodian Printed Name

KA 8-24-16
Signature or Initials of Custodian

11:38
Date/Time



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

Floor 7Ft
1608193-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/16 00:00**

Analyte	Result	Reporting	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Limit							
C10-C28 (DRO)	ND	50	5.3	mg/kg	1	1608252	08/24/16	08/24/16	8015M	

Date Sampled: **08/24/16 00:00**

Analyte	Result	Reporting	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Limit							
Surrogate: o-Terphenyl			96.7 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/16 00:00**

Analyte	Result	Reporting	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Limit							
Naphthalene	ND	0.010	0.000	mg/kg	1	1608251	08/24/16	08/25/16	EPA 8260B	
Benzene	ND	0.0020	0.000	"	"	"	"	"	"	
Toluene	ND	0.0050	0.000	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	0.000	"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	0.18	"	"	"	"	"	"	

Date Sampled: **08/24/16 00:00**

Analyte	Result	Reporting	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Limit							
Surrogate: 1,2-Dichloroethane-d4			104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8			94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene			94.2 %	21-167		"	"	"	"	

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

**W. Wall 3Ft
1608193-02 (Soil)**

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/24/16 00:00**

Analyte	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit								
C10-C28 (DRO)	50	50	5.3	mg/kg	1	1608252	08/24/16	08/24/16	8015M	

Date Sampled: **08/24/16 00:00**

Analyte	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit								
Surrogate: o-Terphenyl		99.2 %		30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/24/16 00:00**

Analyte	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit								
Naphthalene	0.043	0.010	0.000	mg/kg	1	1608251	08/24/16	08/25/16	EPA 8260B	
Benzene	ND	0.0020	0.000	"	"	"	"	"	"	
Toluene	ND	0.0050	0.000	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	0.000	"	"	"	"	"	"	
Xylenes (total)	0.016	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	0.18	"	"	"	"	"	"	

Date Sampled: **08/24/16 00:00**

Analyte	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit								
Surrogate: 1,2-Dichloroethane-d4		99.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.7 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.5 %		21-167		"	"	"	"	

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

Date Sampled: **08/24/16 00:00**

Analyte	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit								

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

**W. Wall 3Ft
1608193-02 (Soil)**

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	453	11.5	3.78	mg/kg dry	1	1608248	08/24/16	08/24/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	240	5.75	0.742	"	"	"	"	"	"	
Sodium	711	5.75	0.862	"	"	"	"	"	"	

Date Sampled: 08/24/16 00:00

Analyte	Result	Reporting Limit	MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.21			units	"	1608254	08/25/16	08/25/16	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 08/24/16 00:00

Analyte	Result	Reporting Limit	MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.41	0.0100	0.001	mmhos/cm	1	1608250	08/24/16	08/24/16	SM 2510B	

Date Sampled: 08/24/16 00:00

Analyte	Result	Reporting Limit	MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.89	0.100		pH Units	"	1608249	08/24/16	08/24/16	EPA 9045	

Date Sampled: 08/24/16 00:00

Analyte	Result	Reporting Limit	MDL Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.9			%	"	1608253	08/24/16	08/25/16	% calculation	

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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 1608252 - EPA 3550A

Blank (1608252-BLK1)

Prepared & Analyzed: 08/24/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: *o*-Terphenyl 12.2 " 12.5 98.0 30-150

LCS (1608252-BS1)

Prepared & Analyzed: 08/24/16

C10-C28 (DRO) 519 50 mg/kg 499 104 73-134

Surrogate: *o*-Terphenyl 12.6 " 12.5 101 30-150

Matrix Spike (1608252-MS1)

Source: 1608189-04

Prepared & Analyzed: 08/24/16

C10-C28 (DRO) 455 50 mg/kg 499 12.5 88.7 50-148

Surrogate: *o*-Terphenyl 12.5 " 12.5 99.8 30-150

Matrix Spike Dup (1608252-MSD1)

Source: 1608189-04

Prepared & Analyzed: 08/24/16

C10-C28 (DRO) 454 50 mg/kg 499 12.5 88.5 50-148 0.287 20

Surrogate: *o*-Terphenyl 12.3 " 12.5 98.5 30-150

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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 1608251 - EPA 5030 Soil MS

Blank (1608251-BLK1)

Prepared & Analyzed: 08/24/16

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	0.0421	"	0.0400	105	23-173
Surrogate: Toluene-d8	0.0389	"	0.0400	97.3	20-170
Surrogate: 4-Bromofluorobenzene	0.0382	"	0.0400	95.5	21-167

LCS (1608251-BS1)

Prepared & Analyzed: 08/24/16

Naphthalene	ND	0.010	mg/kg		66-138
Benzene	0.0795	0.0020	"	0.100	79.5 58-130
Toluene	0.0874	0.0050	"	0.100	87.4 61-134
Ethylbenzene	0.0992	0.0050	"	0.0992	100 74-139
m,p-Xylene	0.206	0.010	"	0.200	103 73-137
o-Xylene	0.108	0.0050	"	0.0980	110 73-141

Surrogate: 1,2-Dichloroethane-d4	0.0422	"	0.0400	106	23-173
Surrogate: Toluene-d8	0.0385	"	0.0400	96.2	20-170
Surrogate: 4-Bromofluorobenzene	0.0388	"	0.0400	97.0	21-167

Matrix Spike (1608251-MS1)

Source: 1608189-04

Prepared & Analyzed: 08/24/16

Naphthalene	0.0159	0.010	mg/kg	ND	10-158
Benzene	0.0822	0.0020	"	0.100 ND	82.2 30-131
Toluene	0.0886	0.0050	"	0.100 0.00138	87.2 30-134
Ethylbenzene	0.0982	0.0050	"	0.0992 ND	99.0 22-153
m,p-Xylene	0.206	0.010	"	0.200 ND	103 10-159
o-Xylene	0.109	0.0050	"	0.0980 ND	111 31-151

Surrogate: 1,2-Dichloroethane-d4	0.0453	"	0.0400	113	23-173
Surrogate: Toluene-d8	0.0388	"	0.0400	97.1	20-170
Surrogate: 4-Bromofluorobenzene	0.0393	"	0.0400	98.3	21-167

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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 1608251 - EPA 5030 Soil MS

Matrix Spike Dup (1608251-MSD1)	Source: 1608189-04			Prepared & Analyzed: 08/24/16						
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0806	0.0020	"	0.100	ND	80.6	30-131	1.88	34	
Toluene	0.0892	0.0050	"	0.100	0.00138	87.8	30-134	0.709	30	
Ethylbenzene	0.100	0.0050	"	0.0992	ND	101	22-153	2.18	24	
m,p-Xylene	0.208	0.010	"	0.200	ND	104	10-159	0.883	68	
o-Xylene	0.111	0.0050	"	0.0980	ND	113	31-151	1.83	38	
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.6	21-167			

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24
Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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 1608248 - General Preparation

Blank (1608248-BLK1)

Prepared & Analyzed: 08/24/16

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

LCS (1608248-BS1)

Prepared & Analyzed: 08/24/16

Calcium	527	10.0	mg/kg wet	500	105	82.9-118
Magnesium	534	5.00	"	500	107	77.1-123
Sodium	548	5.00	"	500	110	71-129

Duplicate (1608248-DUP1)

Source: 1608190-01

Prepared & Analyzed: 08/24/16

Calcium	697	12.7	mg/kg dry	181	117	200
Magnesium	778	6.37	"	170	128	200
Sodium	1370	6.37	"	784	54.6	200

Matrix Spike (1608248-MS1)

Source: 1608190-01

Prepared & Analyzed: 08/24/16

Calcium	701	12.7	mg/kg dry	637	181	81.6	75-125
Magnesium	771	6.37	"	637	170	94.4	75-125
Sodium	1340	6.37	"	637	784	87.6	75-125

Matrix Spike Dup (1608248-MSD1)

Source: 1608190-01

Prepared & Analyzed: 08/24/16

Calcium	185	12.7	mg/kg dry	637	181	0.574	75-125	116	25	QM-07
Magnesium	167	6.37	"	637	170	NR	75-125	129	25	QM-07
Sodium	762	6.37	"	637	784	NR	75-125	55.2	25	QM-07

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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 1608249 - General Preparation

LCS (1608249-BS1)

Prepared & Analyzed: 08/24/16

pH	8.02	0.100	pH Units	8.00	100	95-105
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Duplicate (1608249-DUP1)

Source: 1608190-01

Prepared & Analyzed: 08/24/16

pH	8.59	0.100	pH Units	8.82	2.64	20
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Batch 1608250 - General Preparation

Blank (1608250-BLK1)

Prepared & Analyzed: 08/24/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1608250-BS1)

Prepared & Analyzed: 08/24/16

Specific Conductance (EC)	0.480	0.0100	mmhos/cm	0.500	95.9	90-110
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Duplicate (1608250-DUP1)

Source: 1608190-01

Prepared & Analyzed: 08/24/16

Specific Conductance (EC)	2.00	0.0100	mmhos/cm	1.78	11.6	20
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Batch 1608253 - General Preparation

Duplicate (1608253-DUP1)

Source: 1608190-01

Prepared: 08/24/16 Analyzed: 08/25/16

% Solids	67.5		%	66.5	1.46	20
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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Roth 1-24

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/25/16 06:57

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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