



LEGEND

	FENCE LINE
	RAILROAD TRACKS
	CONTAINMENT BERM
	ABOVE GROUND STORAGE TANK
	FORMER FACILITY

Figure 1
SITE MAP

Noble UPV 23-1H4, 23-8H4
Facility ID - 336587
NE SE Section 23, T5N, R64W
Weld County, Colorado

API No. 05-123-18886	Prepared by JMA	Drawn by JMA	
Date 7/12/16	Reviewed by	Filename V036A	

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 01, 2016

Paul Henehan
Fremont Environmental
1759 Redwing Lane
Broomfield, CO 80020
RE: Noble - UPV 23-1H4 + 23-8H4

Enclosed are the results of analyses for samples received by Summit Scientific on 06/29/16 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury
President



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bottom-5	1606305-01	Soil	06/29/16 15:15	06/29/16 18:00
North-3'	1606305-04	Soil	06/29/16 15:22	06/29/16 18:00

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henahan

Reported:
07/01/16 10:24

Summit Scientific 1666305

S₂

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

Page 1 of 1

Client: Fremont Env Project Manager: Paul Henahan
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: 303 956 8714 Fax: _____ Project Name: UPV 23-1H4 + 23-8H4 Noble
Sampler Name: Mike Gersho Project Number: C016-073

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)	BTEX	Naphthalene	Gas DAD	SAR EC		PH
1	Bottom - 5'	6/29/16	1515	1														
2	West - 2.5'		1518	1														Please Help
3	South - 3'		1520	1														" "
4	North - 3'		1522	1														
5	East 3'		1526	1														Please Help
6																		
7																		
8																		
9																		
10																		

Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/29/16 1700</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/29/16 1700</u>	Turn Around Time (Check)	Notes:
				Same Day <u>X</u>	72 hours —
				24 hours —	Standard —
				48 hours —	
Relinquished by: <u>[Signature]</u>	Date/Time: <u>6/29/16 1830</u>	Received by: _____	Date/Time: _____	Sample Integrity:	
				Temperature Upon Receipt: <u>25.4°C</u>	
				Intact: <u>(Yes)</u> No	

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[Signature]



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

Sample Receipt Checklist

S2 Work Order: 606305

Client: Fremont

Client Project ID: UPV 23-1H4 + 23-8H4

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

Airbill #: _____

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

Cooler ID					
Temp (°C)	<u>25.4</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⁾ ?				
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			<u>on ice</u>
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, H2SO4, NaOH, HNO3, 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.				

Loon S
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

6-29-16
Date/Time



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

Bottom-5
1606305-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/29/16 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1606301	06/29/16	06/29/16	8015M	

Date Sampled: **06/29/16 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/29/16 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1606300	06/29/16	06/29/16	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: **06/29/16 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %	21-167		"	"	"	"	

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

North-3'
1606305-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/29/16 15:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1606301	06/29/16	06/29/16	8015M	

Date Sampled: **06/29/16 15:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/29/16 15:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1606300	06/29/16	06/29/16	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: **06/29/16 15:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	21-167		"	"	"	"	

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

Date Sampled: **06/29/16 15:22**

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 - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

North-3'
1606305-04 (Soil)

Summit Scientific

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

Calcium	94.8	7.85 mg/kg dry	1	1606296	06/29/16	06/29/16	EPA 6020/Mod. USDA60 6(2, 3A)
Magnesium	86.9	3.92	"	"	"	"	"
Sodium	8.79	3.92	"	"	"	"	"

Date Sampled: 06/29/16 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.160		units	"	1606308	06/30/16	06/30/16	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 06/29/16 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.197	0.0100	mmhos/cm	1	1606306	06/29/16	06/29/16	SM 2510B	

Date Sampled: 06/29/16 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.71	0.100	pH Units	"	1606295	06/29/16	06/29/16	EPA 9045	

Date Sampled: 06/29/16 15:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.4		%	"	1606294	06/29/16	06/30/16	% calculation	

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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 1606301 - EPA 3550A

Blank (1606301-BLK1)

Prepared: 06/29/16 Analyzed: 06/30/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.4 " 12.5 99.5 30-150

LCS (1606301-BS1)

Prepared: 06/29/16 Analyzed: 06/30/16

C10-C28 (DRO) 490 50 mg/kg 499 98.2 73-134

Surrogate: o-Terphenyl 12.2 " 12.5 97.2 30-150

Matrix Spike (1606301-MS1)

Source: 1606294-01

Prepared: 06/29/16 Analyzed: 06/30/16

C10-C28 (DRO) 10000 50 mg/kg 473 13000 NR 50-148 QM-07

Surrogate: o-Terphenyl 15.8 " 11.9 133 30-150

Matrix Spike Dup (1606301-MSD1)

Source: 1606294-01

Prepared: 06/29/16 Analyzed: 06/30/16

C10-C28 (DRO) 12000 50 mg/kg 483 13000 NR 50-148 18.5 13 QM-07

Surrogate: o-Terphenyl 16.2 " 12.1 134 30-150

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4
Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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 1606300 - EPA 5030 Soil MS

Blank (1606300-BLK1)

Prepared: 06/29/16 Analyzed: 06/30/16

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	0.0364		"	0.0400		91.0	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.1	21-167			

LCS (1606300-BS1)

Prepared: 06/29/16 Analyzed: 06/30/16

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0924	0.0020	"	0.100		92.4	58-130			
Toluene	0.108	0.0050	"	0.100		108	61-134			
Ethylbenzene	0.111	0.0050	"	0.0992		112	74-139			
m,p-Xylene	0.240	0.010	"	0.200		120	73-137			
o-Xylene	0.109	0.0050	"	0.0980		111	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.6	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		90.9	21-167			

Matrix Spike (1606300-MS1)

Source: 1606294-01

Prepared: 06/29/16 Analyzed: 06/30/16

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0895	0.0020	"	0.0960	ND	93.2	30-131			
Toluene	0.102	0.0050	"	0.0960	ND	106	30-134			
Ethylbenzene	0.108	0.0050	"	0.0952	ND	114	22-153			
m,p-Xylene	0.231	0.010	"	0.192	0.00346	119	10-159			
o-Xylene	0.102	0.0050	"	0.0940	ND	108	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0349		"	0.0384		90.8	23-173			
Surrogate: Toluene-d8	0.0358		"	0.0384		93.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0333		"	0.0384		86.8	21-167			

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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 1606300 - EPA 5030 Soil MS

Matrix Spike Dup (1606300-MSD1)		Source: 1606294-01			Prepared: 06/29/16		Analyzed: 06/30/16			
Naphthalene	ND	0.010	mg/kg		ND		10-158			42
Benzene	0.0908	0.0020	"	0.0978	ND	92.8	30-131	1.49		34
Toluene	0.104	0.0050	"	0.0978	ND	106	30-134	1.82		30
Ethylbenzene	0.113	0.0050	"	0.0971	ND	116	22-153	4.30		24
m,p-Xylene	0.241	0.010	"	0.195	0.00346	122	10-159	4.36		68
o-Xylene	0.107	0.0050	"	0.0959	ND	112	31-151	5.64		38
Surrogate: 1,2-Dichloroethane-d4	0.0346		"	0.0391		88.4	23-173			
Surrogate: Toluene-d8	0.0365		"	0.0391		93.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0343		"	0.0391		87.5	21-167			

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1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4
Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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 1606296 - General Preparation

Blank (1606296-BLK1)

Prepared & Analyzed: 06/29/16

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

LCS (1606296-BS1)

Prepared & Analyzed: 06/29/16

Calcium	539	10.0	mg/kg wet	500	108	82.9-118
Magnesium	559	5.00	"	500	112	77.1-123
Sodium	587	5.00	"	500	117	71-129

Duplicate (1606296-DUP1)

Source: 1606296-01

Prepared & Analyzed: 06/29/16

Calcium	1090	17.0	mg/kg dry	1060	2.20	200
Magnesium	263	8.52	"	252	4.40	200
Sodium	1360	8.52	"	1300	3.94	200

Matrix Spike (1606296-MS1)

Source: 1606296-01

Prepared & Analyzed: 06/29/16

Calcium	1810	17.0	mg/kg dry	789	1060	94.1	75-125
Magnesium	1180	8.52	"	789	252	118	75-125
Sodium	2110	8.52	"	789	1300	103	75-125

Matrix Spike Dup (1606296-MSD1)

Source: 1606296-01

Prepared & Analyzed: 06/29/16

Calcium	1690	17.0	mg/kg dry	789	1060	79.9	75-125	6.40	25
Magnesium	1060	8.52	"	789	252	103	75-125	10.6	25
Sodium	2140	8.52	"	789	1300	106	75-125	1.17	25

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Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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 1606294 - General Preparation

Duplicate (1606294-DUP1) Source: 1606296-01 Prepared: 06/29/16 Analyzed: 06/30/16

% Solids	58.5		%		58.7			0.341	20	
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Batch 1606295 - General Preparation

LCS (1606295-BS1) Prepared & Analyzed: 06/29/16

pH	8.01	0.100	pH Units	8.00	100	95-105				
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Duplicate (1606295-DUP1) Source: 1606296-01 Prepared & Analyzed: 06/29/16

pH	8.90	0.100	pH Units	8.78			1.36	20		
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Batch 1606306 - General Preparation

Blank (1606306-BLK1) Prepared & Analyzed: 06/29/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm							
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LCS (1606306-BS1) Prepared & Analyzed: 06/29/16

Specific Conductance (EC)	0.499	0.0100	mmhos/cm	0.500	99.8	90-110				
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Duplicate (1606306-DUP1) Source: 1606296-01 Prepared & Analyzed: 06/29/16

Specific Conductance (EC)	2.44	0.0100	mmhos/cm	2.47			0.936	20		
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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - UPV 23-1H4 + 23-8H4

Project Number: C016-073
Project Manager: Paul Henehan

Reported:
07/01/16 10:24

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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