



COUNTY ROAD

4/4/18	
N. Wall ~ 3'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<0.50
D	<50
EC	0.300
pH	8.6
SAR	0.130

4/4/18	
Floor ~ 6'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<50
D	<50

4/4/18	
N. Wall ~ 3'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<0.50
D	<50
EC	0.459
pH	8.6
SAR	0.240

4/4/18	
Floor ~ 5'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<50
D	<50

**LEGEND**

- SOIL SAMPLE LOCATION
- CONTAINMENT BERM
- CONTAINMENT WALL
- FORMER FACILITY
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY

4/4/18	
3	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<0.50
D	<50
EC	0.300
pH	8.6
SAR	0.130

DATE SAMPLED  
LOCATION and DEPTH (ft)  
BENZENE (mg/kg)  
TOLUENE (mg/kg)  
ETHYLBENZENE (mg/kg)  
TOTAL XYLENES (mg/kg)  
NAPHTHALENE (mg/kg)  
TPH-GRO (mg/kg)  
TPH-DRO (mg/kg)  
EC mmhos/cm  
pH Units  
SAR Units

4/4/18	
Floor ~ 6'	
B	<0.002
T	<0.005
E	<0.005
X	<0.005
N	<0.010
G	<50
D	<50

DATE SAMPLED  
LOCATION and DEPTH (ft)  
BENZENE (mg/kg)  
TOLUENE (mg/kg)  
ETHYLBENZENE (mg/kg)  
TOTAL XYLENES (mg/kg)  
NAPHTHALENE (mg/kg)  
TPH-GRO (mg/kg)  
TPH-DRO (mg/kg)

Figure 1

**SITE MAP**

**Noble Hoffner 44-35, 34-35 (N. Vault)**  
**Noble Hoffner 43-35, 33-35 (S. Vault)**  
 Facility ID - 305868 / Facility ID - 305328  
 NESE Sec 35, T6N, R64W - 40.4398°N 104.51107°W  
 NESE Sec 35, T6N, R64W 40.43965°N104.51106°W

API No.  
05-123-23599 / 05-123-22806

Prepared by  
**TDA**

Drawn by  
**TDA**

Date  
**6/5/18**

Reviewed by  
**PH**

Filename  
**V171AV172A**



# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 17, 2018

Paul Henehan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Hoffner 44-35, 34-35 North Vault

Enclosed are the results of analyses for samples received by Summit Scientific on 04/05/18 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:24

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N. WALL 3FT	1804064-01	Soil	04/04/18 00:00	04/05/18 15:00
FLOOR 6FT	1804064-02	Soil	04/04/18 00:00	04/05/18 15:00

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Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# Summit Scientific

S<sub>2</sub>

1804064

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

Page 1 of 1

Client: Fremont Environmental

Project Manager: Paul Henehan

BILL TO HOWARD

Address: P.O. Box 1289

E-Mail: paulh@fremontenv.com

City/State/Zip: PO Box 1829 Wellington, CO 80549

Phone: 303-956-8714

Fax:

Project Name: NORLE - HOFFNER 44-35, 34-35 (N. VAULT)

Sampler Name: HENEHAN

Project Number: RC# 815893035

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	GRO/DRO	Napthalene	SAR	EC	Ph		
1	N. WALL 3 FT	4/4/18		1			✓			✓				✓	✓	✓	✓	✓		
2	FLOOR 6 FT			1			✓			✓				✓	✓	✓				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>BAH/FE</u>	Date/Time: <u>4/5/18 1500</u>	Received by: <u>MA</u>	Date/Time: <u>4/5/18 1500</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> <u>Standard</u> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>5.7°C</u> Intact: <input checked="" type="radio"/> Yes No	Notes:  <u>on ice</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

**Sample Receipt Checklist**

S2 Work Order: 1804064

Client: Fremont Env. Client Project ID: Noble-Hoffner 44-35, 34-35(N. Vault)

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

Airbill #: \_\_\_\_\_

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

Cooler ID					
Temp (°C)	5.7				

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> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<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 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

4/5/18 1500  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

Reported:  
04/17/18 08:24

**N. WALL 3FT**  
**1804064-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1804034	04/06/18	04/07/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		89.8 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		104 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.5 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804037	04/06/18	04/07/18	EPA 8015M	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		107 %	80-124		"	"	"	"	

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2670	2.50	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B	

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
 Project Manager: Paul Henehan

**Reported:**  
 04/17/18 08:24

**N. WALL 3FT  
 1804064-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	162	1.00	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B	
Sodium	25.6	5.00	"	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.130	0.100	units	1	1804077	04/14/18	04/14/18	Calculation	

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.300	0.0100	mmhos/cm	1	1804068	04/13/18	04/13/18	EPA 120.1	
% Solids	93.2		%	"	1804111	04/16/18	04/16/18	Calculation	
pH	8.6		pH Units	"	1804076	04/06/18	04/14/18	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

Reported:  
04/17/18 08:24

**FLOOR 6FT**  
**1804064-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1804034	04/06/18	04/07/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.0 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		104 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.0 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804037	04/06/18	04/07/18	EPA 8015M	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	80-124		"	"	"	"	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

Reported:  
04/17/18 08:24

### 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 1804034 - EPA 5030 Soil MS

##### Blank (1804034-BLK1)

Prepared & Analyzed: 04/05/18

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Naphthalene	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0338		"	0.0396		85.5	70-130			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0337		"	0.0400		84.2	70-130			

##### LCS (1804034-BS1)

Prepared & Analyzed: 04/05/18

Benzene	0.0734	0.0050	mg/kg	0.100		73.4	86-121			
Toluene	0.0764	0.0050	"	0.100		76.4	76-137			
Surrogate: 1,2-Dichloroethane-d4	0.0312		"	0.0396		78.8	70-130			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0326		"	0.0400		81.5	70-130			

##### Matrix Spike (1804034-MS1)

Source: 1804061-01

Prepared & Analyzed: 04/05/18

Benzene	0.0808	0.0050	mg/kg	0.100	ND	80.8	86-121			
Toluene	0.0824	0.0050	"	0.100	ND	82.4	76-137			
Surrogate: 1,2-Dichloroethane-d4	0.0341		"	0.0396		86.1	70-130			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.0323		"	0.0400		80.8	70-130			

##### Matrix Spike Dup (1804034-MSD1)

Source: 1804061-01

Prepared & Analyzed: 04/05/18

Benzene	0.0713	0.0050	mg/kg	0.100	ND	71.3	86-121	12.5	20	
Toluene	0.0722	0.0050	"	0.100	ND	72.2	76-137	13.2	20	
Surrogate: 1,2-Dichloroethane-d4	0.0328		"	0.0396		82.7	70-130			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0329		"	0.0400		82.2	70-130			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
 Project Manager: Paul Henehan

**Reported:**  
 04/17/18 08:24

**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 1804037 - EPA 3550A**

<b>Blank (1804037-BLK1)</b>				Prepared & Analyzed: 04/05/18							
C10-C28 (DRO)	ND	50	mg/kg								
<b>LCS (1804037-BS1)</b>				Prepared & Analyzed: 04/05/18							
C10-C28 (DRO)	530	50	mg/kg	500	106	81.4-129					
<b>Matrix Spike (1804037-MS1)</b>				<b>Source: 1804061-01</b>		Prepared & Analyzed: 04/05/18					
C10-C28 (DRO)	470	50	mg/kg	500	14.9	91.0	77.8-133				
<b>Matrix Spike Dup (1804037-MSD1)</b>				<b>Source: 1804061-01</b>		Prepared & Analyzed: 04/05/18					
C10-C28 (DRO)	508	50	mg/kg	500	14.9	98.5	77.8-133	7.76	8.48		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

Reported:  
04/17/18 08:24

**Soluble Nutrients by EPA 6020/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 1804061 - General Preparation**

**Blank (1804061-BLK1)**

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	ND	2.50	mg/kg wet						
Magnesium	ND	1.00	"						
Sodium	ND	5.00	"						

**LCS (1804061-BS1)**

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1070	2.50	mg/kg wet	1000		107	70-130		
Magnesium	1130	1.00	"	1000		113	70-130		
Sodium	1120	5.00	"	1000		112	70-130		

**Duplicate (1804061-DUP1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1030	2.50	mg/kg dry		1050			2.27	20
Magnesium	885	1.00	"		905			2.21	20
Sodium	499	5.00	"		482			3.33	20

**Matrix Spike (1804061-MS1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1950	2.50	mg/kg dry	1080	1050	83.3	70-130		
Magnesium	1870	1.00	"	1080	905	89.8	70-130		
Sodium	1330	5.00	"	1080	482	78.9	70-130		

**Matrix Spike Dup (1804061-MSD1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1920	2.50	mg/kg dry	1080	1050	80.4	70-130	1.59	25
Magnesium	1860	1.00	"	1080	905	89.1	70-130	0.377	25
Sodium	1290	5.00	"	1080	482	75.2	70-130	3.09	25

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:24

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

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

**Batch 1804068 - General Preparation**

<b>Blank (1804068-BLK1)</b>		Prepared & Analyzed: 04/13/18									
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
<b>LCS (1804068-BS1)</b>		Prepared & Analyzed: 04/13/18									
Specific Conductance (EC)	0.786	0.0100	mmhos/cm				80-120				
<b>Duplicate (1804068-DUP1)</b>		<b>Source: 1804004-02</b>		Prepared & Analyzed: 04/13/18							
Specific Conductance (EC)	0.446	0.0100	mmhos/cm		0.410			8.33	20		

**Batch 1804076 - General Preparation**

<b>Duplicate (1804076-DUP1)</b>		<b>Source: 1804004-02</b>		Prepared: 04/06/18 Analyzed: 04/14/18							
pH	8.3		pH Units		8.2			0.484	20		

**Batch 1804111 - General Preparation**

<b>Duplicate (1804111-DUP1)</b>		<b>Source: 1804061-01</b>		Prepared & Analyzed: 04/16/18							
% Solids	93.4		%		93.0			0.429	20		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 44-35, 34-35 North Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:24

### 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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 17, 2018

Paul Henehan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Hoffner 43-35, 33-35 South Vault

Enclosed are the results of analyses for samples received by Summit Scientific on 04/05/18 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 15:01

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N. WALL 3FT	1804065-01	Soil	04/04/18 00:00	04/05/18 15:00
FLOOR 5FT	1804065-02	Soil	04/04/18 00:00	04/05/18 15:00

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Summit Scientific

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# Summit Scientific

S<sub>2</sub>

1804065

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

Page 1 of 1

Client: Fremont Environmental

Project Manager: Paul Henehan

*BILL TO HOWARD*

Address: P.O. Box 1289

E-Mail: paulh@fremontenv.com

City/State/Zip: PO Box 1829 Wellington, CO 80549

Phone: 303-956-8714

Fax:

Project Name: *NOBLE - HOFFNER 43-35, 33-35 (S. VAULT)*

Sampler Name: *HENEHAN*

Project Number: *RC # 815893035*

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX	GRO/DRO	Napthalene	SAR	EC	Ph	
1	<i>N. WALL 3 FT</i>	<i>4/4/18</i>		<i>1</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>					
2	<i>FLOOR 5 FT</i>	<i>"</i>		<i>1</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>					
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: <i>PAUL HENEHAN</i>	Date/Time: <i>4/5/18 1500</i>	Received by: <i>MA</i>	Date/Time: <i>4/5/18 1500</i>
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

<b>Turn Around Time</b> (Check)
Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>
24 hours <input type="checkbox"/> <b>Standard</b> <input checked="" type="checkbox"/>
48 hours <input type="checkbox"/>
<b>Sample Integrity:</b>
Temperature Upon Receipt: <i>5.7°C</i>
Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Notes:**  
*on ice*

**Sample Receipt Checklist**

S2 Work Order: 1804065

Client: Fremont Env. Client Project ID: Noble-Hoffner 43-35, 33-35 (S-Vault)

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

Airbill #: \_\_\_\_\_

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

Cooler ID					
Temp (°C)	5.7				

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> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<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 <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

4/15/18 1500  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

Reported:  
04/17/18 15:01

**N. WALL 3FT**  
**1804065-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1804034	04/06/18	04/07/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		84.6 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		104 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.4 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804037	04/06/18	04/07/18	EPA 8015M	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	80-124		"	"	"	"	

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>886</b>	2.50	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B	

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
 Project Manager: Paul Henehan

**Reported:**  
 04/17/18 15:01

**N. WALL 3FT  
 1804065-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Magnesium	114	1.00	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B	
Sodium	28.2	5.00	"	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.240	0.100	units	1	1804077	04/14/18	04/14/18	Calculation	

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.459	0.0100	mmhos/cm	1	1804069	04/13/18	04/13/18	EPA 120.1	
% Solids	94.2		%	"	1804111	04/16/18	04/16/18	Calculation	
pH	8.6		pH Units	"	1804076	04/06/18	04/14/18	EPA 9045D	

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Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

Reported:  
04/17/18 15:01

**FLOOR 5FT**  
**1804065-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1804034	04/06/18	04/07/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		85.6 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		102 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.2 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804037	04/06/18	04/07/18	EPA 8015M	

Date Sampled: **04/04/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	80-124		"	"	"	"	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

Reported:  
04/17/18 15:01

### 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 1804034 - EPA 5030 Soil MS

##### Blank (1804034-BLK1)

Prepared & Analyzed: 04/05/18

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Naphthalene	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0338		"	0.0396		85.5	70-130			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0337		"	0.0400		84.2	70-130			

##### LCS (1804034-BS1)

Prepared & Analyzed: 04/05/18

Benzene	0.0734	0.0050	mg/kg	0.100		73.4	86-121			
Toluene	0.0764	0.0050	"	0.100		76.4	76-137			
Surrogate: 1,2-Dichloroethane-d4	0.0312		"	0.0396		78.8	70-130			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0326		"	0.0400		81.5	70-130			

##### Matrix Spike (1804034-MS1)

Source: 1804061-01

Prepared & Analyzed: 04/05/18

Benzene	0.0808	0.0050	mg/kg	0.100	ND	80.8	86-121			
Toluene	0.0824	0.0050	"	0.100	ND	82.4	76-137			
Surrogate: 1,2-Dichloroethane-d4	0.0341		"	0.0396		86.1	70-130			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.0323		"	0.0400		80.8	70-130			

##### Matrix Spike Dup (1804034-MSD1)

Source: 1804061-01

Prepared & Analyzed: 04/05/18

Benzene	0.0713	0.0050	mg/kg	0.100	ND	71.3	86-121	12.5	20	
Toluene	0.0722	0.0050	"	0.100	ND	72.2	76-137	13.2	20	
Surrogate: 1,2-Dichloroethane-d4	0.0328		"	0.0396		82.7	70-130			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0329		"	0.0400		82.2	70-130			

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Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
 Project Manager: Paul Henehan

**Reported:**  
 04/17/18 15:01

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

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

**Batch 1804037 - EPA 3550A**

**Blank (1804037-BLK1)**

Prepared & Analyzed: 04/05/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1804037-BS1)**

Prepared & Analyzed: 04/05/18

C10-C28 (DRO) 530 50 mg/kg 500 106 81.4-129

**Matrix Spike (1804037-MS1)**

Source: 1804061-01

Prepared & Analyzed: 04/05/18

C10-C28 (DRO) 470 50 mg/kg 500 14.9 91.0 77.8-133

**Matrix Spike Dup (1804037-MSD1)**

Source: 1804061-01

Prepared & Analyzed: 04/05/18

C10-C28 (DRO) 508 50 mg/kg 500 14.9 98.5 77.8-133 7.76 8.48

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Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
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**Reported:**  
04/17/18 15:01

**Soluble Nutrients by EPA 6020/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 1804061 - General Preparation**

**Blank (1804061-BLK1)**

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	ND	2.50	mg/kg wet							
Magnesium	ND	1.00	"							
Sodium	ND	5.00	"							

**LCS (1804061-BS1)**

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1070	2.50	mg/kg wet	1000		107	70-130			
Magnesium	1130	1.00	"	1000		113	70-130			
Sodium	1120	5.00	"	1000		112	70-130			

**Duplicate (1804061-DUP1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1030	2.50	mg/kg dry		1050			2.27	20	
Magnesium	885	1.00	"		905			2.21	20	
Sodium	499	5.00	"		482			3.33	20	

**Matrix Spike (1804061-MS1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1950	2.50	mg/kg dry	1080	1050	83.3	70-130			
Magnesium	1870	1.00	"	1080	905	89.8	70-130			
Sodium	1330	5.00	"	1080	482	78.9	70-130			

**Matrix Spike Dup (1804061-MSD1)**

Source: 1804067-01

Prepared: 04/13/18 Analyzed: 04/14/18

Calcium	1920	2.50	mg/kg dry	1080	1050	80.4	70-130	1.59	25	
Magnesium	1860	1.00	"	1080	905	89.1	70-130	0.377	25	
Sodium	1290	5.00	"	1080	482	75.2	70-130	3.09	25	

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Fremont Environmental  
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Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 15:01

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

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

**Batch 1804069 - General Preparation**

<b>Blank (1804069-BLK1)</b>			Prepared & Analyzed: 04/13/18							
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
<b>LCS (1804069-BS1)</b>			Prepared & Analyzed: 04/13/18							
Specific Conductance (EC)	0.766	0.0100	mmhos/cm			80-120				
<b>Duplicate (1804069-DUP1)</b>			<b>Source: 1804049-01</b>		Prepared & Analyzed: 04/13/18					
Specific Conductance (EC)	ND	0.0100	mmhos/cm			2.41		20		

**Batch 1804076 - General Preparation**

<b>Duplicate (1804076-DUP1)</b>			<b>Source: 1804004-02</b>		Prepared: 04/06/18 Analyzed: 04/14/18					
pH	8.3		pH Units			8.2		0.484		20

**Batch 1804111 - General Preparation**

<b>Duplicate (1804111-DUP1)</b>			<b>Source: 1804061-01</b>		Prepared & Analyzed: 04/16/18					
% Solids	93.4		%			93.0		0.429		20

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Project: Noble - Hoffner 43-35, 33-35 South Vault

Project Number: RC# 815893035  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 15:01

### 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