



# LEGEND

	SOIL SAMPLE LOCATION		ABOVE GROUND STORAGE TANK
	FENCE LINE		FORMER FACILITY
	CONTAINMENT BERM		

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

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

**Dinner 14-13, 14, 15 (East Vault)**  
Facility ID - 332187  
SENW Sec 14, T6N, R65W - 40.48747°N 104.63483°W  
Weld County, Colorado

API No.  
**05-123-21947**

Prepared by

Drawn by  
**TDA**

Date  
**5/29/18**

Reviewed by  
**PH**

Filename  
**V173A**



# 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 - Dinner 14-14, 15 East 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 - Dinner 14-14, 15 East Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S. WALL 3 FT	1804061-01	Soil	04/04/18 00:00	04/05/18 15:00
FLOOR 6FT	1804061-02	Soil	04/04/18 00:00	04/05/18 15:00

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

1804061

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 - DINNER 14-14, 15 (EAST VAULT)

Sampler Name: HENEHAN

Project Number: RC# 815902570

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

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

# Sample Receipt Checklist

S2 Work Order: 1804061

Client: Fremont Env. Client Project ID: Noble - Dinner 14-14, 15 (East 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> ?				
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> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
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 <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			✓	
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.				
If dissolved metals are requested, were samples field filtered?			✓	
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 - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

**S. WALL 3 FT**  
**1804061-01 (Soil)**

**Summit Scientific**

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

Date Sampled: <b>04/04/18 00:00</b>									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	1804034	04/06/18	04/06/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0051</b>	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: <b>04/04/18 00:00</b>									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86.0 %	70-130		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.3 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: <b>04/04/18 00:00</b>									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1804037	04/06/18	04/06/18	EPA 8015M	

Date Sampled: <b>04/04/18 00:00</b>									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		104 %	80-124		"	"	"	"	

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

Date Sampled: <b>04/04/18 00:00</b>									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>3260</b>	2.50	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B	

Summit Scientific

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Project: Noble - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

**S. WALL 3 FT**  
**1804061-01 (Soil)**

**Summit Scientific**

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

<b>Magnesium</b>	<b>463</b>	1.00	mg/kg dry	1	1804061	04/13/18	04/16/18	EPA 6020B
<b>Sodium</b>	<b>346</b>	5.00	"	"	"	"	"	"

**Calculated Analysis**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Sodium Adsorption Ratio</b>	<b>1.45</b>	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
<b>Specific Conductance (EC)</b>	<b>0.646</b>	0.0100	mmhos/cm	1	1804068	04/13/18	04/13/18	EPA 120.1	
<b>% Solids</b>	<b>93.0</b>		%	"	1804111	04/16/18	04/16/18	Calculation	
<b>pH</b>	<b>8.5</b>		pH Units	"	1804076	04/06/18	04/14/18	EPA 9045D	

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Project: Noble - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

Reported:  
04/17/18 08:14

**FLOOR 6FT**  
**1804061-02 (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	04/06/18	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		87.7 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		105 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.3 %	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	04/06/18	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		"	"	"	"	

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Project: Noble - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

## 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 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 - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

**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 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 - Dinner 14-14, 15 East Vault  
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**Reported:**  
04/17/18 08:14

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

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

**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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Project: Noble - Dinner 14-14, 15 East Vault  
Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

**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 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		

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Wellington CO, 80549

Project: Noble - Dinner 14-14, 15 East Vault

Project Number: RC# 815902570  
Project Manager: Paul Henehan

**Reported:**  
04/17/18 08:14

### 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