

# **FREMONT ENVIRONMENTAL INC.**

June 24, 2018

Mr. Jacob Evans  
Noble Energy  
2115 117<sup>th</sup> Avenue  
Greeley, CO 80634

Subject:     **Excavation Report**  
          Dechant 7-13  
          API 05-123-19995  
          SWNE Sec 7, T3N, R64W  
          Weld County, Colorado  
          Fremont Project No. C018-041  
          Facility #330991, Spill #

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Excavation Report for the Dechant 7-13 release site in Weld County, Colorado. The enclosed report describes excavation actions to remove impacted soil from the site. Please contact me at (303) 956-8714 if you require any additional information.

Since the excavation project has removed the subsurface petroleum impacts, Noble Energy Inc. should request that a No Further Action (NFA) determination be provided by the Colorado Oil and Gas Conservation Commission (COGCC) for this site.

Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Paul V. Henehan, P.E.  
Senior Consultant

Enclosure

**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**DECHANT 7-13**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C018-041**  
**FACILITY #330991, SPILL #**

**Prepared by:**

**Fremont Environmental Inc.**  
**1759 Redwing Lane**  
**Broomfield, CO 80020**  
**(303) 956-8714**

**June 24, 2018**

## TABLE OF CONTENTS

1.0 INTRODUCTION .....	1
2.0 BACKGROUND INFORMATION .....	1
2.1 Site Location .....	1
2.2 Site History .....	1
3.0 FIELD ACTIVITIES .....	1
4.0 DISCUSSION .....	3
5.0 REMARKS .....	3

### Table

Table 1: Summary of Petroleum Constituents in Soil Chemistry Data

### Figures

Figure 1: Site Location Map

Figure 2: Site Map

Figure 3: Excavation and Sample Locations for Laboratory Analyses

### Appendix

Appendix A: Laboratory Documentation

**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**DECHANT 7-13**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C018-041**  
**FACILITY #330991, SPILL #**

**1.0 INTRODUCTION**

The purpose of this document is to present information collected during the excavation of petroleum-impacted soil at the Dechant 7-13 produced water vault release location in Weld County, Colorado. This three-day excavation project was completed on May 17, 2018.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Dechant 7-13 site is located approximately 12 miles east of Platteville, Colorado in Weld County as shown on Figure 1. The site is located in a rural area approximately 0.5 miles east of the intersection of Weld County Road (WCR) 49 and WCR 36. The location is further described as the SW ¼ of the NE ¼ of Section 7, Township 3N, Range 64W.

**2.2 Site History**

The site consisted of the produced water vault used as storage for fluids from the Dechant 7-13 gas well. The Dechant 7-13 well was drilled in 2000 to a depth of approximately 7,247 feet. Soil impacts were identified at the vault location during routine maintenance of the facility. These soil impacts initiated this excavation effort.

**3.0 FIELD ACTIVITIES**

Remediation efforts consisted of the excavation of petroleum-impacted soil at this site. The soil consisted of roadbase which was underlain by silty sand to a depth of

approximately 15 feet. Ground water was not encountered during the excavation work. The 17' x 25' excavated area is shown on Figure 3.

Excavation was initiated at the produced water vault location on May 14 and was completed on May 17, 2018. Soil removal was limited to the area immediately adjacent to and below the two water vaults; 12 floor and sidewall samples collected during the excavation work directed the extent of the overall excavation. Ultimately, soil samples were collected from the exterior sidewalls and floor that indicated that no impacts greater than the allowable limits set forth in the Colorado Oil and Gas Conservation Commission's (COGCC's) Table 910-1 were present.

The four sidewall samples were collected as grab samples near the lower portion of the excavation wall at a depth of four to seven feet. Further, eight soil samples were collected from various depths on the excavation floor. No clean overburden was utilized to backfill the excavation.

The soil samples were analyzed by Summit Scientific Inc. of Golden, Colorado for benzene, toluene, ethylbenzene and xylenes (BTEX), naphthalene, Total Petroleum Hydrocarbons - Gasoline Range Organics (TPH-GRO) by EPA method 8260C, and TPH - Diesel Range Organics (TPH-DRO) by EPA method 8015. The laboratory reports and chain-of-custody documentation are included in Appendix A.

A summary of the laboratory data is included in Table 1 and presents the laboratory analyses for each soil sample. In addition, a column stating whether the laboratory analyses passed or failed the COGCC Table 910-1 limits is provided.

The laboratory analyses indicated that the four soil samples collected from the outermost sidewalls and deepest floor depths achieved the COGCC Table 910-1 limits.

A total of 220 cubic yards of petroleum impacted soil was removed by Affirm Oilfield Inc. from the location over this three-day project. The impacted soil was disposed of at the Waste Management Inc. Buffalo Ridge landfill in Keenesburg, Colorado as non-hazardous waste.

#### **4.0 DISCUSSION**

As demonstrated by the soil sampling and analyses, the petroleum impacted soil was removed from the site by excavation after removal of the two water vaults. This was confirmed by the analyses of the soil samples collected from the excavation sidewalls and floor which were below the COGCC Table 910-1 limits. Approximately 220 cubic yards of impacted soil were removed and transported to the landfill. Therefore, Noble should request a no further action (NFA) determination from the COGCC.

#### **5.0 REMARKS**

The discussion and conclusions contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

This report was prepared by **FREMONT ENVIRONMENTAL INC.**



6/24/18

\_\_\_\_\_  
Date\_\_\_\_\_

Kenneth Rogowski  
Environmental Consultant

Reviewed by:



6/24/18

\_\_\_\_\_  
Date\_\_\_\_\_

Paul V. Henehan, P.E.  
Senior Consultant

## TABLES

**TABLE 1**  
**SUMMARY OF SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**DECHANT 7-13, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C018-041**

Sample	Depth (ft)	Date Sampled	Location	Pass or Fail	Benzene mg/kg	Toluene mg/kg	Ethyl-Benzene mg/kg	Xylenes mg/kg	Naphthalene mg/kg	TPH GRO mg/kg	TPH DRO mg/kg
A 6 Ft	6	5/14/2018	Floor	<b>Fail</b>	<b>0.78</b>	34	4.9	72	2.2	<b>2300</b>	<b>1500</b>
B 4 Ft	4	5/14/2018	Floor	<b>Fail</b>	<b>36</b>	<b>240</b>	30	<b>380</b>	8.1	<b>9100</b>	<b>5600</b>
C 4 Ft	4	5/14/2018	Floor	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
D 4 Ft	4	5/14/2018	Floor	<b>Fail</b>	<b>0.24</b>	17	0.46	66	2.6	<b>2800</b>	<b>730</b>
E 4 Ft	4	5/14/2018	Floor	<b>Fail</b>	<b>0.35</b>	24	0.34	130	3.3	<b>3900</b>	<b>2400</b>
N. Wall 6 Ft	6	5/16/2018	Wall	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
S. Wall 5 Ft	5	5/16/2018	Wall	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
E. Wall 7 Ft	7	5/16/2018	Wall	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
W. Wall 8 Ft	8	5/16/2018	Wall	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
Floor 8 Ft	8	5/16/2018	Floor	Pass	<0.002	<0.005	<0.005	0.17	0.038	<50	87
Floor-2 8 Ft	8	5/16/2018	Floor	<b>Fail</b>	0.11	2.0	0.39	7.5	0.27	<b>510</b>	<b>180</b>
Floor-2 15 Ft	15	5/17/2018	Floor	Pass	<0.002	<0.005	<0.005	<0.005	<0.010	<50	<50
COGCC Table 910-1 Limits					0.17	85	100	175	23	500	500

Bold faced values exceed the COGCC Table 910-1 concentrations

## FIGURES

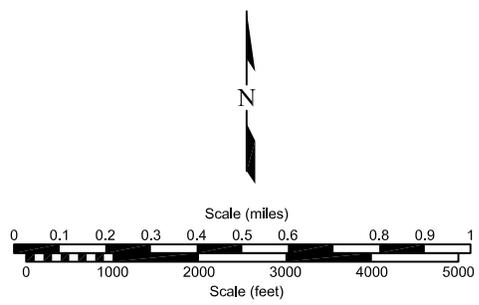
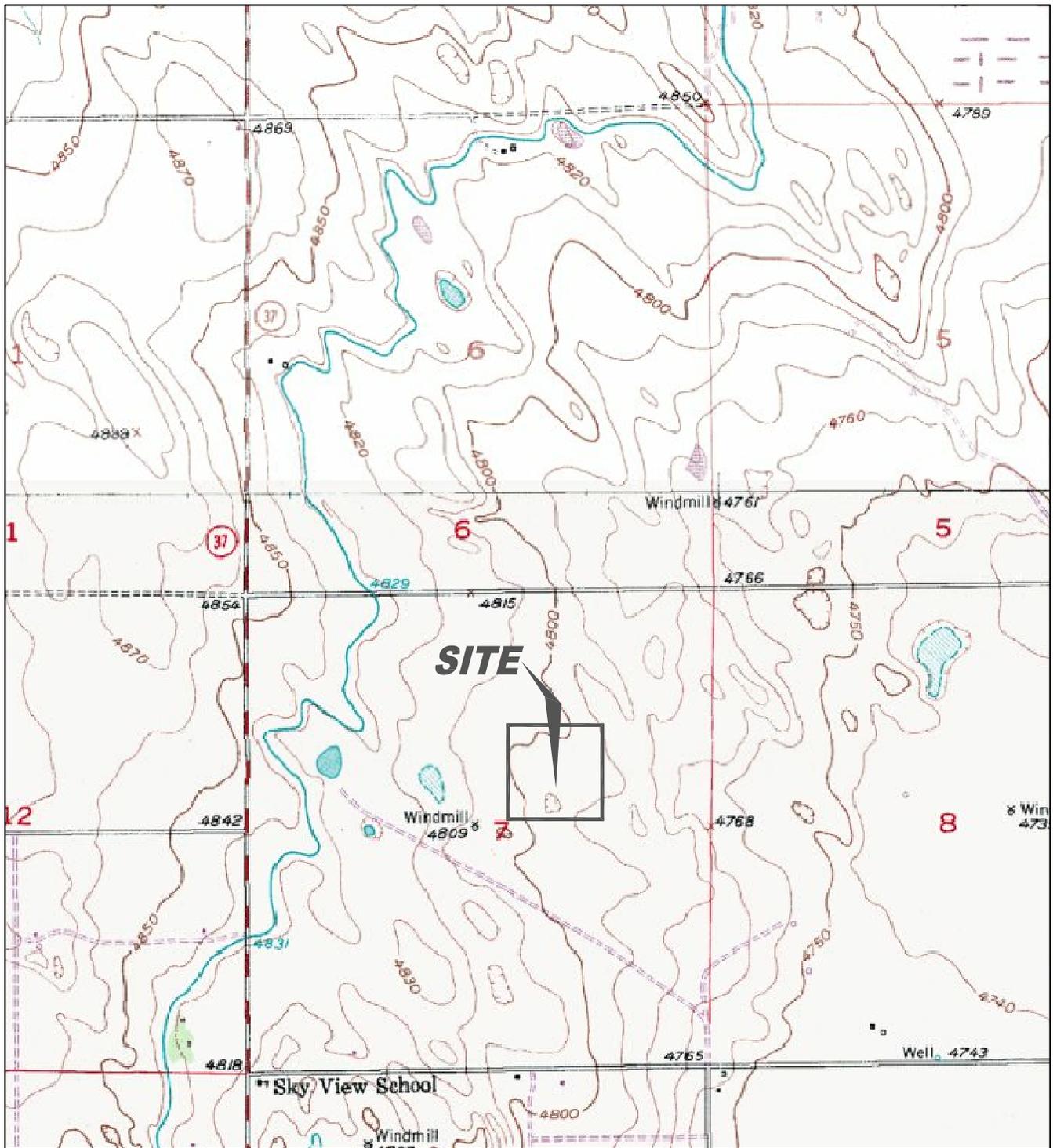


Figure 1  
SITE LOCATION MAP

**NOBLE DECHANT 7-13**  
SWNE Section 7, T3N, R64W - 40.24676°N, 104.59146°W  
Weld County, Colorado

Project No. <b>CO18-041</b>	Prepared by <b>TDA</b>	Drawn by <b>TDA</b>
Date <b>6/15/18</b>	Reviewed by <b>PH</b>	Filename <b>18041T</b>





**LEGEND**

- ..... BERM
- CONTAINMENT WALL
- - - - - LIMITS OF EXCAVATION
- FENCE LINE
- ABOVE GROUND STORAGE TANK
- FORMER FORMER FACILITY

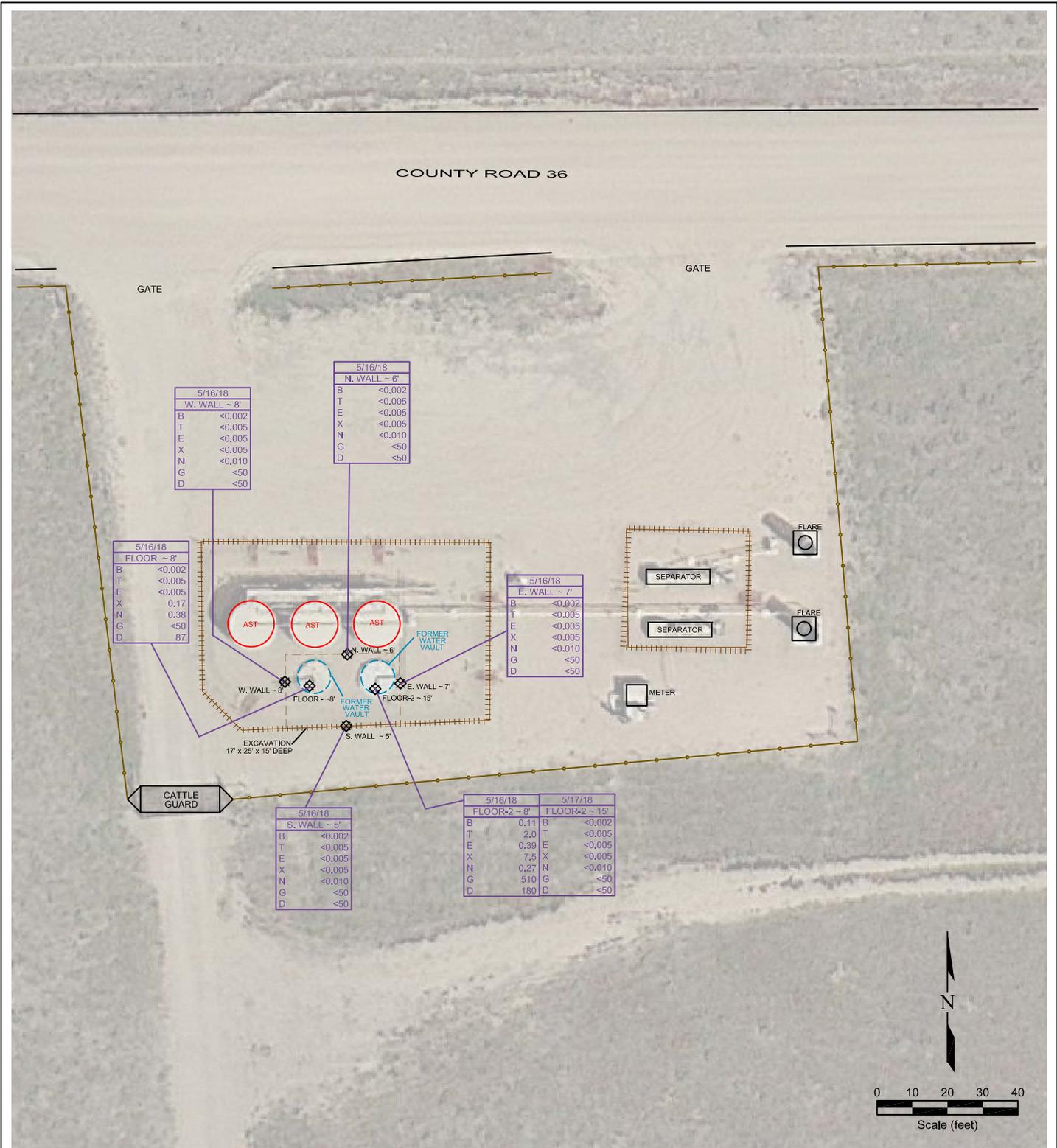
**Figure 2**

**SITE MAP**

**Noble - Dechant 7-13**  
 SWNE Section 7, T3N, R64W - 40.24676°N, -104.59146°W  
 Weld County, Colorado

Project No. <b>CO18-041</b>	Prepared by <b>TDA</b>	Drawn by <b>TDA</b>
Date <b>6/15/18</b>	Reviewed by <b>PH</b>	Filename <b>18041Q</b>





**LEGEND**

- SOIL SAMPLE LOCATION
- BERM
- CONTAINMENT WALL
- LIMITS OF EXCAVATION
- FENCE LINE
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY

5/14/18	
N. WALL ~ 6'	
B	<0.002
T	<0.005
E	<0.01
X	<0.01
N	<0.01
G	<50
D	<50

**Figure 3**  
**SOIL EXCAVATION**

**Noble - Dechant 7-13**  
SWNE Section 7, T3N, R64W - 40.24676°N, -104.59146°W  
Weld County, Colorado

Project No. <b>CO18-041</b>	Prepared by <b>TDA</b>	Drawn by <b>TDA</b>
Date <b>6/16/18</b>	Reviewed by <b>PH</b>	Filename <b>18041Q</b>

APPENDIX A

LABORATORY DOCUMENTATION

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

May 15, 2018

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Dechant 7-13

Enclosed are the results of analyses for samples received by Summit Scientific on 05/14/18 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/15/18 06:51

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A - 6FT	1805165-01	Soil	05/14/18 00:00	05/14/18 16:45
B - 4FT	1805165-02	Soil	05/14/18 00:00	05/14/18 16:45
C - 5FT	1805165-03	Soil	05/14/18 00:00	05/14/18 16:45
D - 4FT	1805165-04	Soil	05/14/18 00:00	05/14/18 16:45
E - 4FT	1805165-05	Soil	05/14/18 00:00	05/14/18 16:45

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.*

1805165

# Summit Scientific

S<sub>2</sub>

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

Address: P.O. Box 1289

E-Mail: paulh@fremontenv.com

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

BILL TO HOWARD

Phone: 303-956-8714

Fax:

Project Name: NOBUE-DECLANT 7-13

Sampler Name: HENEHAN

Project Number: RC# 425771230

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	A - 6 FT	5/14/18		1			✓			✓				✓	✓	✓				
2	B - <del>5 FT</del> 4 FT			1			✓			✓				✓	✓	✓				
3	C - <del>5 FT</del> 5 FT			1			✓			✓				✓	✓	✓				
4	D - 4 FT			1			✓			✓				✓	✓	✓				
5	E - 4 FT	b		1			✓			✓				✓	✓	✓				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <i>PAH</i>	Date/Time: 5/14/18 16:45	Received by: <i>[Signature]</i>	Date/Time: 5/14/18 16:45	<b>Turn Around Time</b> (Check) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 hours <input type="checkbox"/> Standard <b>Sample Integrity:</b> TUES AM PLZ. Temperature Upon Receipt: 16.0 Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

**Sample Receipt Checklist**

S2 Work Order: 1805165

Client: FREEMONT ENVIRONMENTAL Client Project ID: None - DECHANT 7-13

Shipped Via: Hand Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Temp (°C)	16.0
-----------	------

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"/>	
<small>NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.</small>				
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 samples with holding times due within 48 hours sample 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"/>	
<small>Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect</small>				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<small>Record the pH in Comments.</small>				
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.

LP  
 Custodian Printed Name or Initials

[Signature]  
 Signature or Initials of Custodian

5/14/18 1816  
 Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/15/18 06:51

**A - 6FT**  
**1805165-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.78</b>	0.0020	mg/kg	1	1805167	05/14/18	05/14/18	EPA 8260B	
<b>Toluene</b>	<b>34</b>	0.50	"	100	"	"	"	"	
<b>Ethylbenzene</b>	<b>4.9</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>72</b>	1.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>2.2</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2300</b>	50	"	"	"	"	"	"	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		131 %	70-130		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		102 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		148 %	70-130		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>1500</b>	50	mg/kg	1	1805168	05/14/18	05/14/18	EPA 8015M	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		109 %	30-150		"	"	"	"	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/15/18 06:51

**B - 4FT**  
**1805165-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>36</b>	0.20	mg/kg	100	1805167	05/14/18	05/14/18	EPA 8260B	
<b>Toluene</b>	<b>240</b>	0.50	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>30</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>380</b>	1.0	"	"	"	"	"	"	E
<b>Naphthalene</b>	<b>8.1</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>9100</b>	50	"	"	"	"	"	"	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		197 %	70-130		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		100 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		199 %	70-130		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>5600</b>	50	mg/kg	1	1805168	05/14/18	05/14/18	EPA 8015M	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		159 %	30-150		"	"	"	"	S-02

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.*



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/15/18 06:51

**C - 5FT**  
**1805165-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805167	05/14/18	05/14/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		131 %	70-130		"	"	"	"	S-02
Surrogate: Toluene-d8		78.9 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805168	05/14/18	05/14/18	EPA 8015M	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.3 %	30-150		"	"	"	"	

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.



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/15/18 06:51

**D - 4FT**  
**1805165-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.24</b>	0.0020	mg/kg	1	1805167	05/14/18	05/14/18	EPA 8260B	
<b>Toluene</b>	<b>17</b>	0.50	"	100	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.46</b>	0.0050	"	1	"	"	"	"	
<b>Xylenes (total)</b>	<b>66</b>	1.0	"	100	"	"	"	"	
<b>Naphthalene</b>	<b>2.6</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2800</b>	50	"	"	"	"	"	"	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		132 %	70-130		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		101 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		157 %	70-130		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>730</b>	50	mg/kg	1	1805168	05/14/18	05/14/18	EPA 8015M	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		109 %	30-150		"	"	"	"	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/15/18 06:51

**E - 4FT**  
**1805165-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.35</b>	0.0020	mg/kg	1	1805167	05/14/18	05/14/18	EPA 8260B	
<b>Toluene</b>	<b>24</b>	0.50	"	100	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.34</b>	0.0050	"	1	"	"	"	"	
<b>Xylenes (total)</b>	<b>130</b>	1.0	"	100	"	"	"	"	
<b>Naphthalene</b>	<b>3.3</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3900</b>	50	"	"	"	"	"	"	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		133 %	70-130		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		99.9 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		171 %	70-130		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>2400</b>	50	mg/kg	1	1805168	05/14/18	05/15/18	EPA 8015M	

Date Sampled: **05/14/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		126 %	30-150		"	"	"	"	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
05/15/18 06:51

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch 1805167 - EPA 5030 Soil MS**

**Blank (1805167-BLK1)**

Prepared: 05/14/18 Analyzed: 05/15/18

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Naphthalene	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0396		117	70-130				
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	70-130				
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	70-130				

**LCS (1805167-BS1)**

Prepared: 05/14/18 Analyzed: 05/15/18

Benzene	0.0904	0.0020	mg/kg	0.100		90.4	70-130				
Toluene	0.110	0.0050	"	0.100		110	70-130				
Ethylbenzene	0.114	0.0050	"	0.100		114	70-130				
m,p-Xylene	0.241	0.010	"	0.200		120	70-130				
o-Xylene	0.108	0.0050	"	0.100		108	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0435		"	0.0396		110	70-130				
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	70-130				
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	70-130				

**Matrix Spike (1805167-MS1)**

Source: 1805163-01

Prepared: 05/14/18 Analyzed: 05/15/18

Benzene	0.0943	0.0020	mg/kg	0.100	0.00507	89.2	70-130				
Toluene	0.107	0.0050	"	0.100	ND	107	70-130				
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130				
m,p-Xylene	0.231	0.010	"	0.200	ND	116	70-130				
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0475		"	0.0396		120	70-130				
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	70-130				
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	70-130				

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.



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/15/18 06:51

**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 1805167 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1805167-MSD1)</b>	<b>Source: 1805163-01</b>			Prepared: 05/14/18		Analyzed: 05/15/18				
Benzene	0.0950	0.0020	mg/kg	0.100	0.00507	89.9	70-130	0.793	30	
Toluene	0.106	0.0050	"	0.100	ND	106	70-130	0.820	30	
Ethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130	2.30	30	
m,p-Xylene	0.233	0.010	"	0.200	ND	117	70-130	0.866	30	
o-Xylene	0.109	0.0050	"	0.100	ND	109	70-130	2.89	30	
Surrogate: 1,2-Dichloroethane-d4	0.0471		"	0.0396		119	70-130			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	70-130			

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.*



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/15/18 06:51

**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 1805168 - EPA 3550A**

<b>Blank (1805168-BLK1)</b>		Prepared: 05/14/18 Analyzed: 05/15/18								
C10-C28 (DRO)	ND	50	mg/kg							
<b>LCS (1805168-BS1)</b>		Prepared: 05/14/18 Analyzed: 05/15/18								
C10-C28 (DRO)	412	50	mg/kg	500	41.2	82.4	81.4-129			
<b>Matrix Spike (1805168-MS1)</b>		<b>Source: 1805163-01</b>		Prepared: 05/14/18 Analyzed: 05/15/18						
C10-C28 (DRO)	482	50	mg/kg	500	41.2	88.2	77.8-133			
<b>Matrix Spike Dup (1805168-MSD1)</b>		<b>Source: 1805163-01</b>		Prepared: 05/14/18 Analyzed: 05/15/18						
C10-C28 (DRO)	473	50	mg/kg	500	41.2	86.4	77.8-133	1.88	8.48	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/15/18 06:51

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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

May 17, 2018

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Dechant 7-13

Enclosed are the results of analyses for samples received by Summit Scientific on 05/16/18 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N. WALL@6'	1805197-01	Soil	05/16/18 14:00	05/16/18 15:45
S. WALL@5'	1805197-02	Soil	05/16/18 14:40	05/16/18 15:45
E. WALL@7'	1805197-03	Soil	05/16/18 14:45	05/16/18 15:45
W. WALL@8'	1805197-04	Soil	05/16/18 14:14	05/16/18 15:45
FLOOR@8'	1805197-05	Soil	05/16/18 14:10	05/16/18 15:45
FLOOR 2@8'	1805197-06	Soil	05/16/18 14:12	05/16/18 15:45

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.*

1805197

# Summit Scientific

S<sub>2</sub>

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

Client: Fremont Environmental

Project Manager: Paul Henahan

Address: P.O. Box 1289

E-Mail: paulh@fremontenv.com

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

Phone: 303-956-8714

Fax:

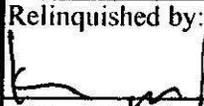
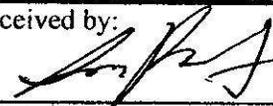
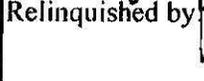
Project Name: DE NOBLE DECHANT 7-13, TWO E RANCH 7-1

Sampler Name: ROGOWSKI

Project Number:

RC # 428771230

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 e 6'	5.16.18	1400	1						X				X	X	X				
2	S. WALL e 5'		1440	1						X										
3	E. WALL e 7'		1445	1						X										
4	W. WALL e 8'		1414	1						X										
5	FLOOR e 8'	5.16.18	1410	1						X				X	X	X				
6	FLOOR 2 e 8'	5.16.18	1412	1						X				X	X	X				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 5.16.18/1548	Received by: 	Date/Time: 5/16/18 1545
Relinquished by: 	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

**Turn Around Time (Check)**

Same Day      72 hours

24 hours      Standard

48 hours

**Sample Integrity:**

Temperature Upon Receipt: 26.2

Intact:  Yes       No

**Notes:**

1805197

Sample Receipt Checklist

S2 Work Order: \_\_\_\_\_

Client: FREMONT ENVIRONMENTAL Client Project ID: Noelle Dechant 7-13, TwoC Ranch 7-1

Shipped Via: Hand Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Temp (°C)	26.2
-----------	------

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.		<input checked="" type="checkbox"/>		
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<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.

LP  
Custodian Printed Name or Initials

[Signature]  
Signature or Initials of Custodian

5/16/18 1653  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**N. WALL@6'**  
**1805197-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805201	05/16/18	05/16/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/18 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		130 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		95.8 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:00**

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

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**S. WALL@5'**  
**1805197-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805201	05/16/18	05/16/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		99.9 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.8 %	30-150		"	"	"	"	

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**E. WALL@7'**  
**1805197-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805201	05/16/18	05/16/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/18 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		130 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.4 %	30-150		"	"	"	"	

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**W. WALL@8'**  
**1805197-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805201	05/16/18	05/16/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/18 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		100 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.4 %	30-150		"	"	"	"	

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**FLOOR@8'**  
**1805197-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1805201	05/16/18	05/17/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.17</b>	0.010	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.038</b>	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	70-130		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>87</b>	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.3 %	30-150		"	"	"	"	

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

**FLOOR 2@8'**  
**1805197-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/16/18 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.11</b>	0.0020	mg/kg	1	1805201	05/16/18	05/17/18	EPA 8260B	
<b>Toluene</b>	<b>2.0</b>	0.050	"	10	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.39</b>	0.0050	"	1	"	"	"	"	
<b>Xylenes (total)</b>	<b>7.5</b>	0.10	"	10	"	"	"	"	
<b>Naphthalene</b>	<b>0.27</b>	0.010	"	1	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>510</b>	50	"	10	"	"	"	"	

Date Sampled: **05/16/18 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		137 %	70-130		"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		100 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		155 %	70-130		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/16/18 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>180</b>	50	mg/kg	1	1805202	05/16/18	05/16/18	EPA 8015M	

Date Sampled: **05/16/18 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		93.7 %	30-150		"	"	"	"	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
05/17/18 07:41

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1805201 - EPA 5030 Soil MS**

**Blank (1805201-BLK1)**

Prepared: 05/16/18 Analyzed: 05/17/18

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Naphthalene	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0479		"	0.0396		121	70-130				
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	70-130				
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	70-130				

**LCS (1805201-BS1)**

Prepared: 05/16/18 Analyzed: 05/17/18

Benzene	0.0905	0.0020	mg/kg	0.100		90.5	70-130				
Toluene	0.0969	0.0050	"	0.100		96.9	70-130				
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130				
m,p-Xylene	0.218	0.010	"	0.200		109	70-130				
o-Xylene	0.104	0.0050	"	0.100		104	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0465		"	0.0396		117	70-130				
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	70-130				
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	70-130				

**Matrix Spike (1805201-MS1)**

Source: 1805197-01

Prepared: 05/16/18 Analyzed: 05/17/18

Benzene	0.0896	0.0020	mg/kg	0.100	ND	89.6	70-130				
Toluene	0.0980	0.0050	"	0.100	ND	98.0	70-130				
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130				
m,p-Xylene	0.216	0.010	"	0.200	ND	108	70-130				
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0500		"	0.0396		126	70-130				
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	70-130				
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	70-130				

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.



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/17/18 07:41

**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 1805201 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1805201-MSD1)</b>	<b>Source: 1805197-01</b>			Prepared: 05/16/18	Analyzed: 05/17/18					
Benzene	0.0910	0.0020	mg/kg	0.100	ND	91.0	70-130	1.53	30	
Toluene	0.0977	0.0050	"	0.100	ND	97.7	70-130	0.276	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	1.81	30	
m,p-Xylene	0.219	0.010	"	0.200	ND	109	70-130	1.41	30	
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	1.59	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0494</i>		<i>"</i>	<i>0.0396</i>		<i>125</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>70-130</i>			

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.*



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 05/17/18 07:41

**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 1805202 - EPA 3550A**

<b>Blank (1805202-BLK1)</b>		Prepared: 05/16/18 Analyzed: 05/17/18								
C10-C28 (DRO)	ND	50	mg/kg							
<b>LCS (1805202-BS1)</b>		Prepared: 05/16/18 Analyzed: 05/17/18								
C10-C28 (DRO)	442	50	mg/kg	500	19.5	95.3	77.8-133			
<b>Matrix Spike (1805202-MS1)</b>		<b>Source: 1805197-01</b>		Prepared: 05/16/18 Analyzed: 05/17/18						
C10-C28 (DRO)	496	50	mg/kg	500	19.5	95.3	77.8-133			
<b>Matrix Spike Dup (1805202-MSD1)</b>		<b>Source: 1805197-01</b>		Prepared: 05/16/18 Analyzed: 05/17/18						
C10-C28 (DRO)	484	50	mg/kg	500	19.5	93.0	77.8-133	2.41	8.48	

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
05/17/18 07:41

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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

May 18, 2018

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Dechant 7-13, Two E Ranch 7-1

Enclosed are the results of analyses for samples received by Summit Scientific on 05/17/18 13:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
Project Manager: Paul Henehan

**Reported:**  
05/18/18 06:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor 2@15'	1805209-01	Soil	05/17/18 12:20	05/17/18 13:45

---

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.*



**Sample Receipt Checklist**

S2 Work Order: 1805229

Client: FREEMONT Client Project ID: NOBLE DECHANT 7-13, Two E RANCH 7-1

Shipped Via: HAND (UPS, FedEx, Hand Delivered, Pick-up, etc.) Airbill #: \_\_\_\_\_

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

Temp (°C)	13.2
-----------	------

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 samples with holding times due within 48 hours sample 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? <b>If yes, contact client and note in narrative.</b>			✓	
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.

UP  
Custodian Printed Name or Initials

[Signature]  
Signature or Initials of Custodian

5/17/18 1343  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
Project Manager: Paul Henehan

Reported:  
05/18/18 06:36

**Floor 2@15'**  
**1805209-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/17/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.040</b>	0.0020	mg/kg	1	1805219	05/17/18	05/17/18	EPA 8260B	
<b>Toluene</b>	<b>0.14</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.013</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.20</b>	0.010	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.014</b>	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **05/17/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/17/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1805220	05/17/18	05/17/18	EPA 8015M	

Date Sampled: **05/17/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

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.



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
Project Manager: Paul Henehan

Reported:  
05/18/18 06:36

**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 1805219 - EPA 5030 Soil MS**

**Blank (1805219-BLK1)**

Prepared & Analyzed: 05/17/18

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Naphthalene	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0445		"	0.0396		112	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	21-167			

**LCS (1805219-BS1)**

Prepared & Analyzed: 05/17/18

Benzene	0.0916	0.0020	mg/kg	0.100		91.6	70-130			
Toluene	0.0992	0.0050	"	0.100		99.2	70-130			
Ethylbenzene	0.119	0.0050	"	0.100		119	70-130			
m,p-Xylene	0.222	0.010	"	0.200		111	70-130			
o-Xylene	0.106	0.0050	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0396		110	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

**Matrix Spike (1805219-MS1)**

Source: 1805223-03

Prepared & Analyzed: 05/17/18

Benzene	0.0911	0.0020	mg/kg	0.100	ND	91.1	70-130			
Toluene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130			
m,p-Xylene	0.215	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0449		"	0.0396		113	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

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.



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
 Project Manager: Paul Henehan

**Reported:**  
 05/18/18 06:36

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

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

**Batch 1805219 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1805219-MSD1)</b>	<b>Source: 1805223-03</b>			<b>Prepared &amp; Analyzed: 05/17/18</b>					
Benzene	0.0922	0.0020	mg/kg	0.100	ND	92.2	70-130	1.15	30
Toluene	0.0986	0.0050	"	0.100	ND	98.6	70-130	1.04	30
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	0.282	30
m,p-Xylene	0.218	0.010	"	0.200	ND	109	70-130	1.38	30
o-Xylene	0.105	0.0050	"	0.100	ND	105	70-130	0.718	30
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0451</i>		<i>"</i>	<i>0.0396</i>		<i>114</i>	<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>	<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>21-167</i>		

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.*



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
 Project Manager: Paul Henehan

**Reported:**  
 05/18/18 06:36

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

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

**Batch 1805220 - EPA 3550A**

**Blank (1805220-BLK1)**

Prepared & Analyzed: 05/17/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1805220-BS1)**

Prepared & Analyzed: 05/17/18

C10-C28 (DRO) 465 50 mg/kg 500 93.1 81.4-129

**Matrix Spike (1805220-MS1)**

Source: 1805223-01

Prepared & Analyzed: 05/17/18

C10-C28 (DRO) 404 50 mg/kg 500 20.1 76.8 77.8-133

**Matrix Spike Dup (1805220-MSD1)**

Source: 1805223-01

Prepared & Analyzed: 05/17/18

C10-C28 (DRO) 403 50 mg/kg 500 20.1 76.6 77.8-133 0.181 8.48

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.*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Dechant 7-13, Two E Ranch 7-1

Project Number: RC #425771230  
Project Manager: Paul Henehan

**Reported:**  
05/18/18 06:36

### 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