

# **FREMONT ENVIRONMENTAL INC.**

July 23, 2018

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

Subject:     **Excavation Report**  
          Cydney White D33-1  
          API # 05-123-16848  
          NENE Sec 33, T3N, R64W  
          Weld County, Colorado  
          Fremont Project No. C016-019  
          Facility #329086

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Excavation Report for the Cydney White D33-1 release site in Weld County, Colorado. The enclosed report describes excavation actions to remove impacted soil from the site.

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.

Please contact me at (303) 956-8714 if you require any additional information. Fremont appreciates the opportunity to provide this service.

Sincerely,  
**FREMONT ENVIRONMENTAL INC.**



Paul V. Henahan, P.E.  
Senior Consultant

Enclosure

**1759 REDWING LANE, BROOMFIELD, CO 80020**  
**(303) 956-8714 (DIRECT)**

**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**CYDNEY WHITE D33-1**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-019**  
**FACILITY #329086**

**Prepared by:**

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

**July 23, 2018**

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**EXCAVATION REPORT**  
**NOBLE ENERGY INC.**  
**CYDNEY WHITE D33-1**  
**WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C016-019**  
**FACILITY #329086**

**1.0 INTRODUCTION**

The purpose of this document is to present information collected during the excavation of petroleum-impacted soil at the Cydney White D33-1 release location in Weld County, Colorado. Impacted soil was identified at this site due to a release from the well's flow line. This excavation project was completed on July 19, 2018.

**2.0 BACKGROUND INFORMATION**

**2.1 Site Location**

The Cydney White D33-1 site is located on the Gutterson Ranch approximately 10 miles south of Kersey, Colorado in Weld County as shown on Figure 1. The site is located in a rural area two miles east of the intersection of County Road 30 and County Road 53. The location is further described as the NE  $\frac{1}{4}$  of the NE  $\frac{1}{4}$  of Section 33, Township 3N, Range 64W.

**2.2 Site History**

The site consists of an area of the flow line approximately 800 feet northwest of the wellhead for the Cydney White D33-1 natural gas well. This well was drilled in 1993 to a depth of approximately 7,180 feet. Soil impacts were identified above the piping during routine maintenance. 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 topsoil which was underlain by silty sand to a depth of at least 19 feet. Ground water was not encountered during the excavation work. The 18' x 37' x 19' deep excavated area is shown on Figure 2.

Excavation was initiated in the location of the flow line release on July 17, 2018. The soil was excavated to a depth of 19 feet around the piping. Soil removal took place primarily in the area adjacent to and below the flow line failure location. Excavation continued until all soil impacts were excavated on July 19, 2018.

The sidewall samples were collected as grab samples along the excavation wall at a depth of seven to eight feet. Two floor samples were collected at a depth of 19 feet. 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 report and chain-of-custody documentation are included in Appendix A.

A summarization of the laboratory data is included in Table 1, which presents the laboratory analyses for each soil sample. The laboratory analyses indicated that the soil samples collected from the sidewalls and ultimate floor achieved the COGCC Table 910-1 limits. Two floor samples collected at 10 feet and 11.5 feet exceeded the limits and indicated that further excavation was required.

A total of 310 cubic yards of petroleum impacted soil were removed by Gusher Oilfield Services Inc. from the location during the course of this 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**

Site remediation of the Cydney White D33-1 location was completed on July 19, 2018 by excavation and removal of impacted soil. Approximately 310 cubic yards of impacted soil were excavated and transported from this site. Floor and sidewall samples confirmed that the impacted soil has been removed.

As demonstrated by the soil sampling and analyses, the petroleum impacted soil was removed from the site by excavation. This was confirmed by the analyses of the soil samples collected from the excavation floor and sidewalls which were below the COGCC Table 910-1 limits. 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.**



7/23/18

Date \_\_\_\_\_

\_\_\_\_\_  
Paul V. Henahan, P.E.  
Senior Consultant

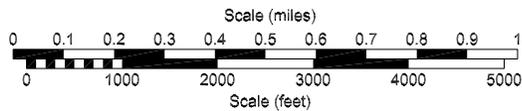
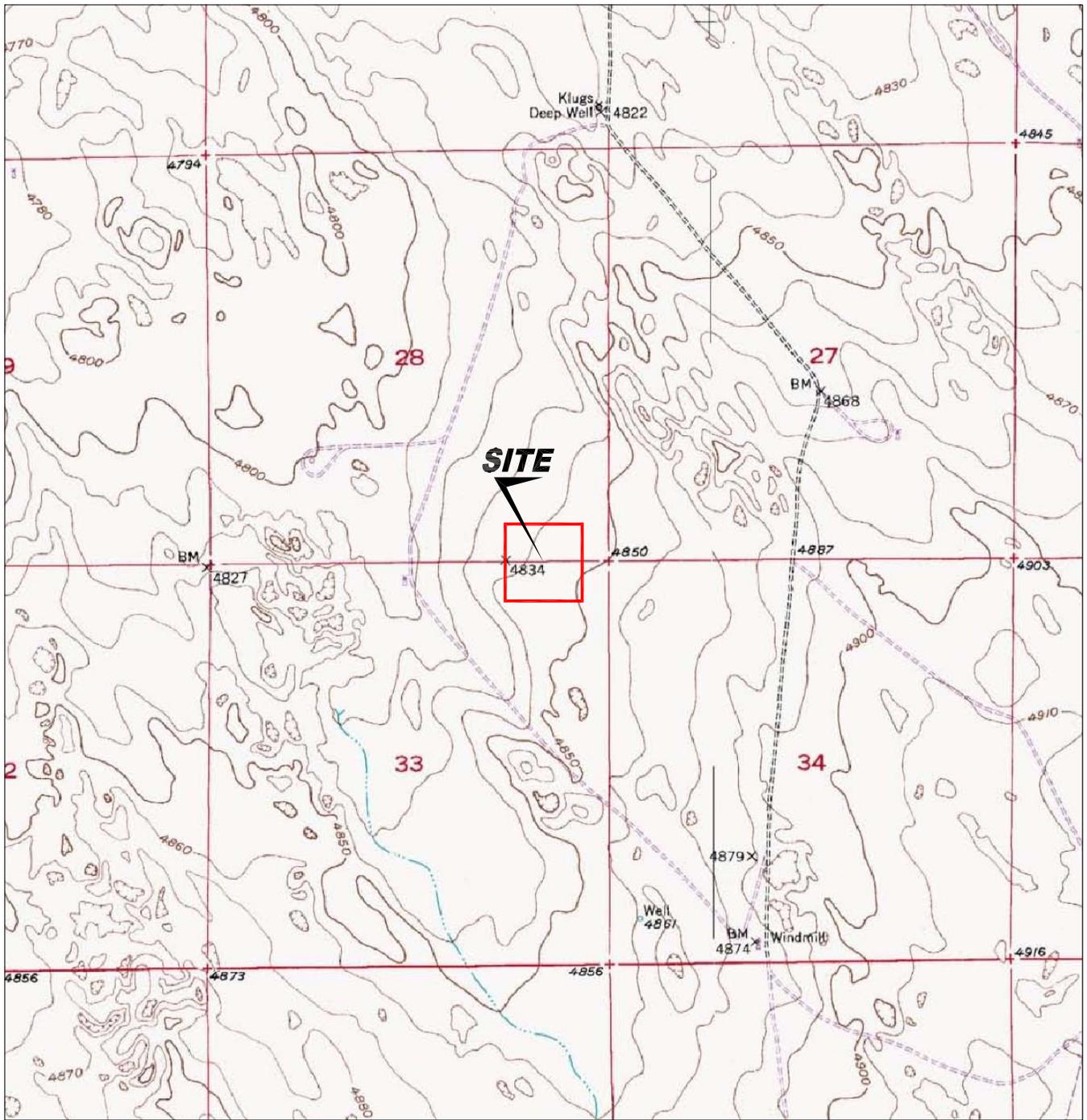
## TABLES

**TABLE 1**  
**SUMMARY OF SOIL CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**CYDNEY WHITE D33-1, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C018-075**

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
N Wall 7 Ft	7	7/18/2018	Wall	Pass	<0.002	<0.005	<0.01	<0.01	<0.01	<50	<50
S Wall 8 Ft	8	7/18/2018	Wall	Pass	<0.002	<0.005	<0.01	<0.01	<0.01	<50	<50
E Wall 7 Ft	7	7/18/2018	Wall	Pass	<0.002	<0.005	<0.01	<0.01	<0.01	<50	<50
W Wall 8 Ft	8	7/18/2018	Wall	Pass	<0.002	<0.005	<0.01	0.019	<0.01	<50	<50
Floor/N 11.5 Ft	11.5	7/18/2018	Floor	<b>Fail</b>	<b>0.41</b>	8.6	4.9	37	4.2	<b>1100</b>	<b>3600</b>
Floor/S 10 Ft	10	7/18/2018	Floor	<b>Fail</b>	<b>3.0</b>	28	11	78	5.8	<b>2100</b>	<b>4800</b>
Floor/N 19 Ft	19	7/19/2018	Floor	Pass	0.0079	<0.005	<0.01	<0.01	<0.01	<50	<50
Floor/S 19 Ft	19	7/19/2018	Floor	Pass	0.042	0.02	<0.01	0.033	<0.01	<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



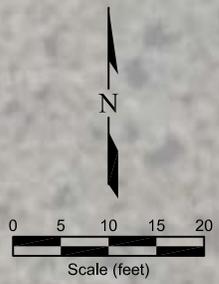
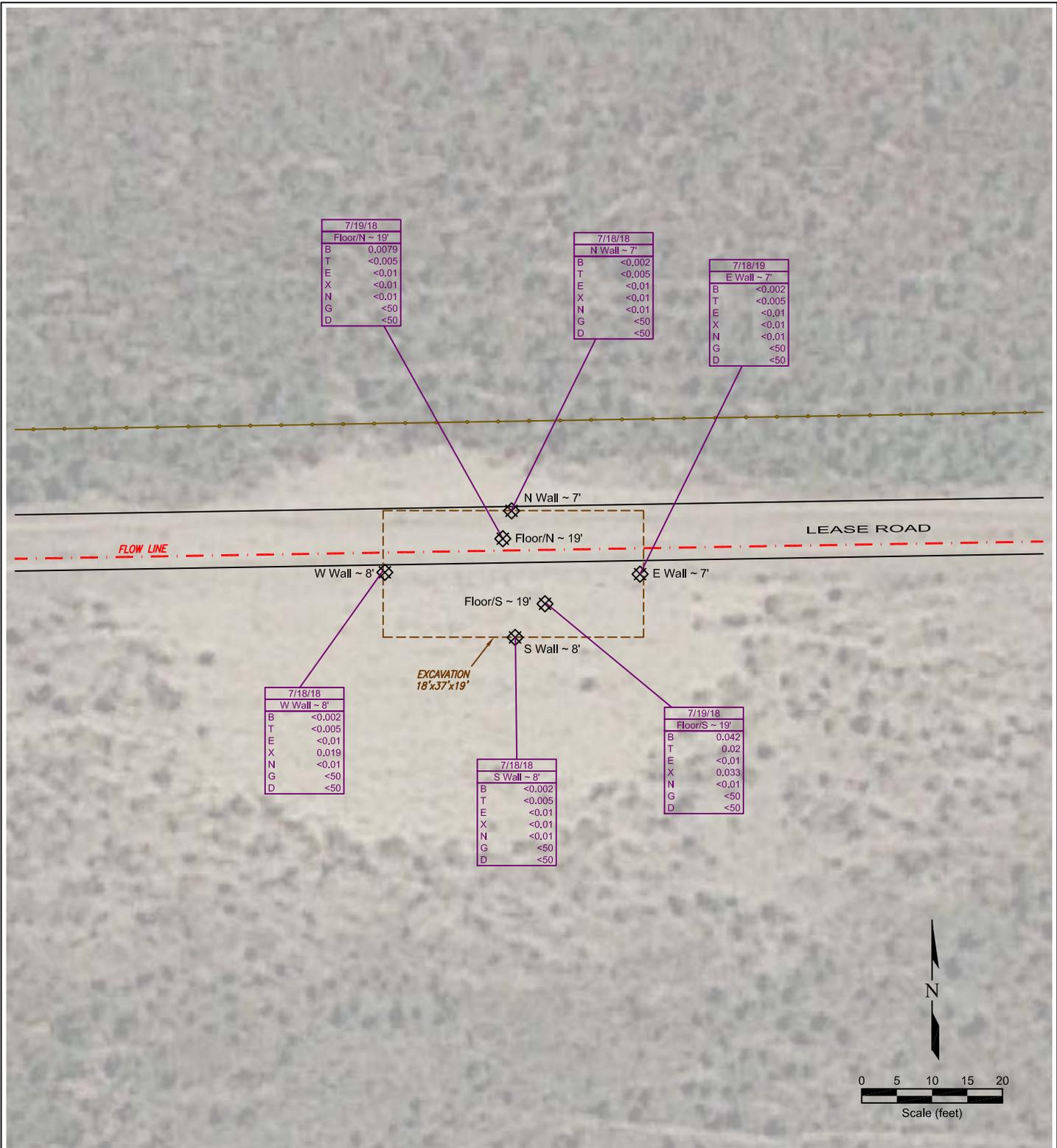
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
**SITE LOCATION MAP**

**Noble Cydney White D33-1**  
 NE NE Section 33, T3N, R64W  
 Weld County, Colorado

Project No. C016-019	Prepared by	Drawn by JMA
Date 3/8/16	Reviewed by	Filename 16019T





**LEGEND**

- SOIL SAMPLE LOCATION
- FENCE LINE
- PIPELINE
- EXTENT OF EXCAVATION

7/18/18	
N Wall ~ 7'	
B	<0.002
T	<0.005
E	<0.01
X	<0.01
N	<0.01
G	<50
D	<50

7/19/18	
Floor/N ~ 19'	
B	0.0079
T	<0.005
E	<0.01
X	<0.01
N	<0.01
G	<50
D	<50

7/18/18	
W Wall ~ 8'	
B	<0.002
T	<0.005
E	<0.01
X	0.019
N	<0.01
G	<50
D	<50

7/18/18	
S Wall ~ 8'	
B	<0.002
T	<0.005
E	<0.01
X	<0.01
N	<0.01
G	<50
D	<50

7/19/18	
Floor/S ~ 19'	
B	0.042
T	0.02
E	<0.01
X	0.033
N	<0.01
G	<50
D	<50

**Figure 2**  
**EXCAVATION LOCATION & SOIL CHEMISTRY**

**Noble Cydney White D33-1**  
NE NE Section 33, T3N, R64W  
Weld County, Colorado

Project No. <b>C018-075</b>	Prepared by <b>TDA</b>	Drawn by <b>JMA</b>
Date <b>7/23/18</b>	Reviewed by <b>PH</b>	Filename <b>18075Q</b>



APPENDIX A

LABORATORY DOCUMENTATION

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 19, 2018

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Cydney White D33-1

Enclosed are the results of analyses for samples received by Summit Scientific on 07/18/18 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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/19/18 11:08

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N. WALL 7 FT	1807222-01	Soil	07/17/18 00:00	07/18/18 16:45
S. WALL 8 FT	1807222-02	Soil	07/17/18 00:00	07/18/18 16:45
E. WALL 7 FT	1807222-03	Soil	07/17/18 00:00	07/18/18 16:45
W. WALL 8 FT	1807222-04	Soil	07/17/18 00:00	07/18/18 16:45
FLOOR/N 11.5 FT	1807222-05	Soil	07/17/18 00:00	07/18/18 16:45
FLOOR/S 10 FT	1807222-06	Soil	07/17/18 00:00	07/18/18 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.*

1807222

# Summit Scientific

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

Page 1 of 1

Client: FREMONT  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Sampler Name: Paul Henahan

Project Manager: HENEHAN  
E-Mail: \_\_\_\_\_  
Project Name: NOBLE - CYDNEY WHITE D33-1  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:						Special Instructions			
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX	GR/DRO	NAPHTHALENE	SAR	EC		PTH		
N. WALL 7 FT	7/17/18		1			✓		✓					✓	✓	✓					
S. WALL 8 FT																				
E. WALL 7 FT																				
W. WALL 8 FT																				
FLOOR/H 11.5 FT																				
FLOOR/S 10 FT																				
Relinquished by: <u>[Signature]</u> Date/Time: <u>7/18/18 16:45</u>				Received by: <u>[Signature]</u> Date/Time: <u>7-18-18 1635</u>				Turn Around Time (Check)				Notes:								
								Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/>												
								24 Hours <input type="checkbox"/> Standard <input type="checkbox"/>												
								48 Hours <input type="checkbox"/>												
Relinquished by:				Received by:				Sample Integrity: <u>THURS. AM PLZ. 24.6</u>												
Date/Time:				Date/Time:				Temperature Upon Receipt: <u>24.6</u>												
Relinquished by:				Received in Lab by:				Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No												
Date/Time:				Date/Time:																

1807002

Sample Receipt Checklist

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

Client: Fremont

Client Project ID: Noble - Sydney White D33-1

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

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

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

Temp (°C)	24.6
-----------	------

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

7.18.18 1645  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/19/18 11:08

**N. WALL 7 FT  
1807222-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807215	07/18/18	07/18/18	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: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/19/18 11:08

**S. WALL 8 FT  
1807222-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807215	07/18/18	07/19/18	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: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		115 %	30-150		"	"	"	"	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/19/18 11:08

**E. WALL 7 FT  
1807222-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807215	07/18/18	07/19/18	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: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/19/18 11:08

**W. WALL 8 FT  
1807222-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807215	07/18/18	07/19/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.019</b>	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/19/18 11:08

**FLOOR/N 11.5 FT**  
**1807222-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.41</b>	0.0020	mg/kg	1	1807215	07/18/18	07/18/18	EPA 8260B	
<b>Toluene</b>	<b>8.6</b>	0.50	"	100	"	"	"	"	
<b>Ethylbenzene</b>	<b>4.9</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>37</b>	1.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>4.2</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1100</b>	50	"	"	"	"	"	"	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		146 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>3600</b>	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		146 %	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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/19/18 11:08

**FLOOR/S 10 FT**  
**1807222-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3.0</b>	0.20	mg/kg	100	1807215	07/18/18	07/19/18	EPA 8260B	
<b>Toluene</b>	<b>28</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>11</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>78</b>	1.0	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>5.8</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2100</b>	50	"	"	"	"	"	"	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		172 %	21-167		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>4800</b>	50	mg/kg	1	1807216	07/18/18	07/19/18	EPA 8015M	

Date Sampled: **07/17/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		162 %	30-150		"	"	"	"	S-02

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/19/18 11:08

### 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 1807215 - EPA 5030 Soil MS

##### Blank (1807215-BLK1)

Prepared: 07/18/18 Analyzed: 07/19/18

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	50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0396		97.5	23-173				
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170				
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		101	21-167				

##### LCS (1807215-BS1)

Prepared: 07/18/18 Analyzed: 07/19/18

Benzene	0.0856	0.0020	mg/kg	0.100		85.6	70-130				
Toluene	0.0892	0.0050	"	0.100		89.2	70-130				
Ethylbenzene	0.0900	0.0050	"	0.100		90.0	70-130				
m,p-Xylene	0.165	0.010	"	0.200		82.7	70-130				
o-Xylene	0.0796	0.0050	"	0.100		79.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0374		"	0.0396		94.3	23-173				
Surrogate: Toluene-d8	0.0432		"	0.0400		108	20-170				
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	21-167				

##### Matrix Spike (1807215-MS1)

Source: 1807210-01

Prepared: 07/18/18 Analyzed: 07/19/18

Benzene	0.0976	0.0020	mg/kg	0.100	ND	97.6	70-130				
Toluene	0.102	0.0050	"	0.100	ND	102	70-130				
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130				
m,p-Xylene	0.196	0.010	"	0.200	ND	97.8	70-130				
o-Xylene	0.0950	0.0050	"	0.100	ND	95.0	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0396		105	23-173				
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170				
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	21-167				

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 07/19/18 11:08

**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 1807215 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1807215-MSD1)</b>	<b>Source: 1807210-01</b>			Prepared: 07/18/18	Analyzed: 07/19/18					
Benzene	0.0984	0.0020	mg/kg	0.100	ND	98.4	70-130	0.796	30	
Toluene	0.103	0.0050	"	0.100	ND	103	70-130	1.28	30	
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	5.79	30	
m,p-Xylene	0.209	0.010	"	0.200	ND	104	70-130	6.46	30	
o-Xylene	0.0997	0.0050	"	0.100	ND	99.7	70-130	4.90	30	
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0396		109	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	21-167			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 07/19/18 11:08

**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 1807216 - EPA 3580A**

**Blank (1807216-BLK1)**

Prepared: 07/18/18 Analyzed: 07/19/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1807216-BS1)**

Prepared: 07/18/18 Analyzed: 07/19/18

C10-C28 (DRO) 503 50 mg/kg 70-130

**Matrix Spike (1807216-MS1)**

**Source: 1807210-01**

Prepared: 07/18/18 Analyzed: 07/19/18

C10-C28 (DRO) 507 50 mg/kg 30.7 70-130

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/19/18 11:08

### 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

July 20, 2018

Paul Henehan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Cydney White D33-1

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/18 14:30. 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 - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/20/18 06:11

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor/N 19ft	1807255-01	Soil	07/19/18 00:00	07/19/18 14:30
Floor/S 19ft	1807255-02	Soil	07/19/18 00:00	07/19/18 14:30

---

Summit Scientific

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1807255

**Sample Receipt Checklist**

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

Client: Fremont Client Project ID: Noble - Cydney White D33-1

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

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

Temp (°C)	19.1
-----------	------

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 <b>(excluding cooling)</b> <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

7.19.18 1653  
 Date/Time



Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
 Project Manager: Paul Henehan

Reported:  
 07/20/18 06:11

**Floor/N 19ft**  
**1807255-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.0079</b>	0.0020	mg/kg	1	1807237	07/19/18	07/19/18	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: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	23-173	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	20-170	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167	"	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807238	07/19/18	07/19/18	EPA 8015M	

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		105 %	30-150	"	"	"	"	"	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/20/18 06:11

**Floor/S 19ft**  
**1807255-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.042</b>	0.0020	mg/kg	1	1807237	07/19/18	07/19/18	EPA 8260B	
<b>Toluene</b>	<b>0.020</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.033</b>	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807238	07/19/18	07/19/18	EPA 8015M	

Date Sampled: **07/19/18 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		114 %	30-150		"	"	"	"	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

Reported:  
07/20/18 06:11

### 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 1807237 - EPA 5030 Soil MS

##### Blank (1807237-BLK1)

Prepared & Analyzed: 07/19/18

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	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0396		104	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

##### LCS (1807237-BS1)

Prepared & Analyzed: 07/19/18

Benzene	0.182	0.0020	mg/kg	0.200		90.8	70-130			
Toluene	0.173	0.0050	"	0.200		86.5	70-130			
Ethylbenzene	0.175	0.0050	"	0.200		87.6	70-130			
m,p-Xylene	0.312	0.010	"	0.400		78.1	70-130			
o-Xylene	0.159	0.0050	"	0.200		79.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0396		105	23-173			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	21-167			

##### Matrix Spike (1807237-MS1)

Source: 1807251-01

Prepared & Analyzed: 07/19/18

Benzene	0.158	0.0020	mg/kg	0.200	ND	79.2	70-130			
Toluene	0.145	0.0050	"	0.200	ND	72.5	70-130			
Ethylbenzene	0.152	0.0050	"	0.200	ND	75.9	70-130			
m,p-Xylene	0.264	0.010	"	0.400	ND	65.9	60-130			
o-Xylene	0.136	0.0050	"	0.200	ND	67.9	60-130			
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0396		101	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 07/20/18 06:11

**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 1807237 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1807237-MSD1)</b>	<b>Source: 1807251-01</b>			<b>Prepared &amp; Analyzed: 07/19/18</b>						
Benzene	0.165	0.0020	mg/kg	0.200	ND	82.6	70-130	4.25	30	
Toluene	0.153	0.0050	"	0.200	ND	76.4	70-130	5.24	30	
Ethylbenzene	0.158	0.0050	"	0.200	ND	79.1	70-130	4.10	30	
m,p-Xylene	0.276	0.010	"	0.400	ND	69.0	60-130	4.63	30	
o-Xylene	0.143	0.0050	"	0.200	ND	71.4	60-130	5.08	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0402</i>		<i>"</i>	<i>0.0396</i>		<i>102</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0421</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0431</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>21-167</i>			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
 Project Manager: Paul Henehan

**Reported:**  
 07/20/18 06:11

**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 1807238 - EPA 3550A**

<b>Blank (1807238-BLK1)</b>				Prepared: 07/19/18 Analyzed: 07/20/18						
C10-C28 (DRO)	ND	50	mg/kg							
<b>LCS (1807238-BS1)</b>				Prepared: 07/19/18 Analyzed: 07/20/18						
C10-C28 (DRO)	548	50	mg/kg			70-130				
<b>Matrix Spike (1807238-MS1)</b>				Source: 1807255-01 Prepared: 07/19/18 Analyzed: 07/20/18						
C10-C28 (DRO)	508	50	mg/kg		19.6	70-130				
<b>Matrix Spike Dup (1807238-MSD1)</b>				Source: 1807255-01 Prepared: 07/19/18 Analyzed: 07/20/18						
C10-C28 (DRO)	502	50	mg/kg		19.6	70-130	1.02	20		

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cydney White D33-1

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
07/20/18 06:11

### 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