

FREMONT ENVIRONMENTAL INC.

May 28, 2019

Mr. Jacob Evans
Noble Energy Inc.
2115 117th Ave,
Greeley, CO 80634

Subject: **Ground Water Data Submittal**
UPRC Federal 27-3F, 6F
API # 05-123-15369
SENW Sec 27, T4N, R66W
Weld County, Colorado
Fremont Project No. C018-169
Location # 327961, Remediation # 12128

Dear Mr. Evans:

Enclosed please find a copy of the above referenced Ground Water Data Submittal for the UPRC Federal 27-3F, 6F site in Weld County, Colorado. The enclosed data describes the ground water quality at the site during the recent quarterly sampling and monitoring event.

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. Henehan, P.E.
Senior Consultant

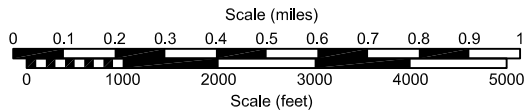
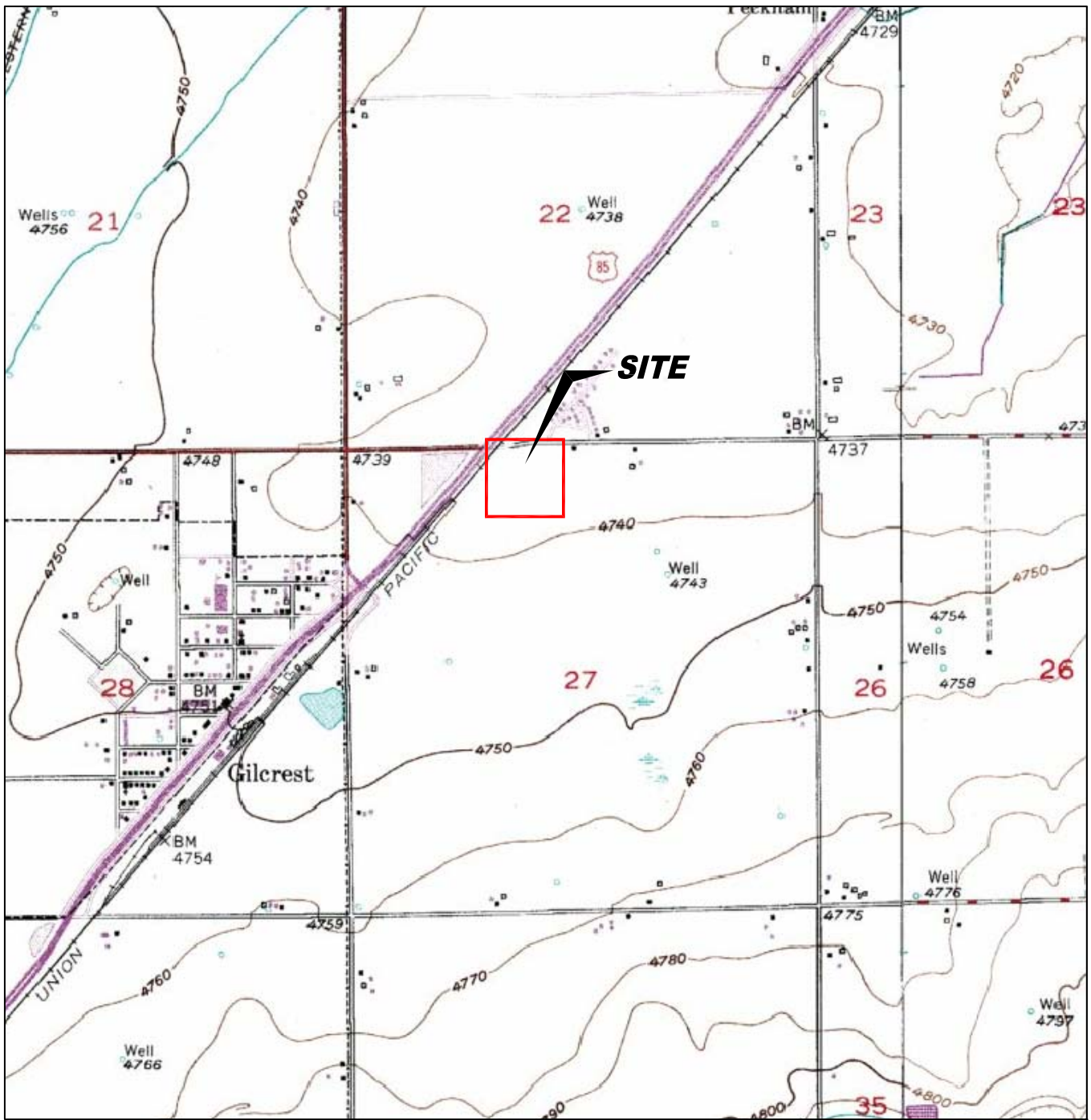
Enclosure

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA AND CHEMISTRY DATA
NOBLE ENERGY INC.
UPRC FEDERAL 27-3F, 6F, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C018-169

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	TOC ELEVATION (feet)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)	FREE PRODUCT THICKNESS (ft)
MW-1	11/21/18	<1.0	<1.0	<1.0	<1.0	99.68	8.00	91.68	NP
	02/28/19	<1.0	<1.0	<1.0	<2.0		9.64	90.04	NP
	05/15/19	<1.0	<1.0	<1.0	<2.0		10.73	88.95	NP
MW-2	11/21/18	<1.0	<1.0	<1.0	<1.0	100.00	8.24	91.76	NP
	02/28/19	<1.0	<1.0	<1.0	<2.0		9.84	90.16	NP
	05/15/19	<1.0	<1.0	<1.0	<2.0		10.93	89.07	NP
MW-3	11/21/18	210	1100	100	1500	99.77	8.10	91.67	NP
	02/28/19	460	290	100	2600		10.21	89.56	NP
	05/15/19	360	300	92	1900		11.30	88.47	NP
MW-4	11/21/18	<1.0	<1.0	<1.0	<1.0	99.68	8.03	91.65	NP
	02/28/19	<1.0	<1.0	<1.0	<2.0		9.63	90.05	NP
	05/15/19	<1.0	<1.0	<1.0	<2.0		10.72	88.96	NP
MW-5	11/21/18	<1.0	<1.0	<1.0	<1.0	99.75	8.18	91.57	NP
	02/28/19	<1.0	<1.0	<1.0	3.0		9.82	89.93	NP
		<1.0	<1.0	<1.0	<2.0		10.91	88.84	NP
Table 910-1 Limits		5	560	700	1,400				

Bold face values exceed the COGCC limits

NP - No Free Product



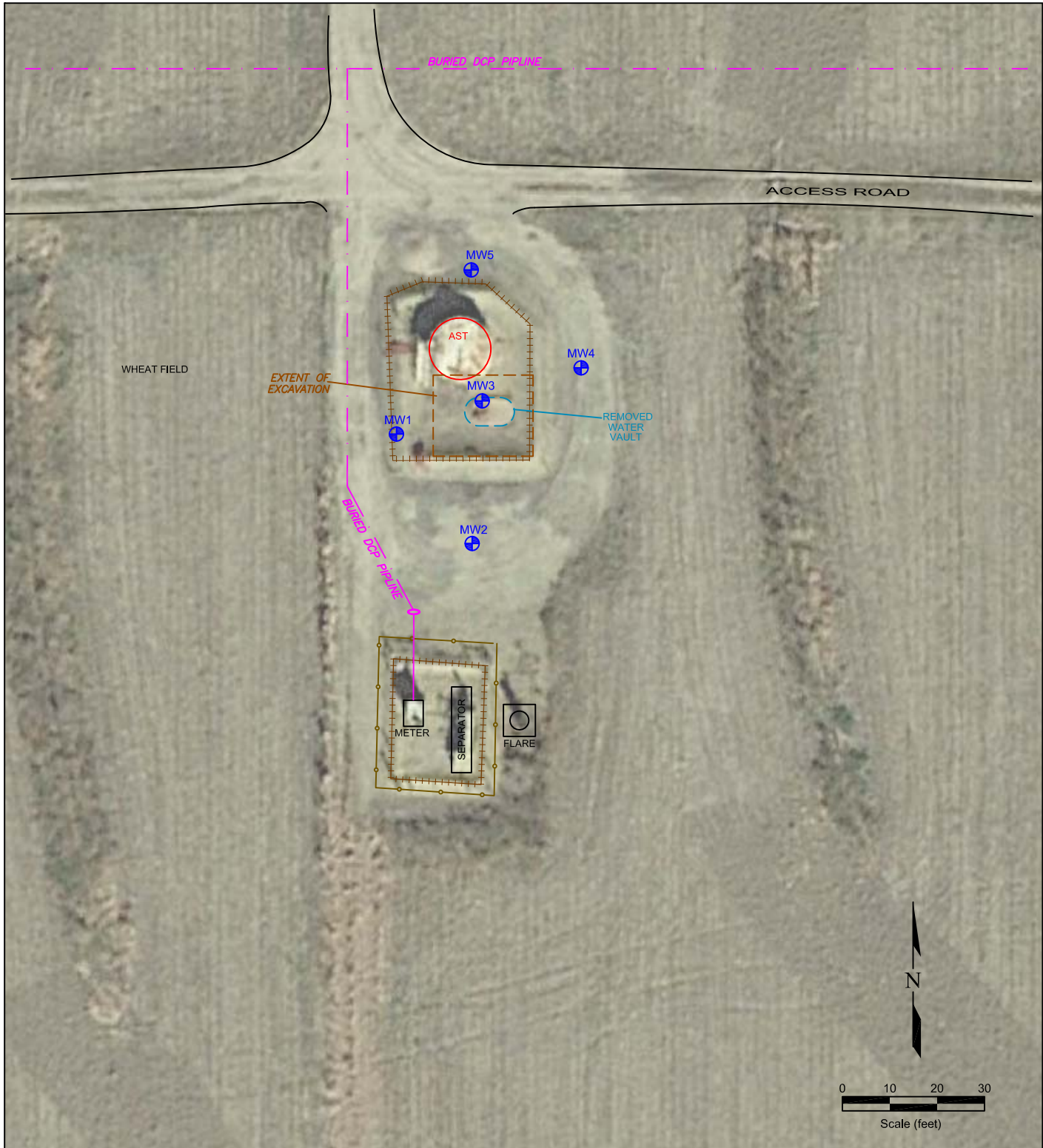
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

NOBLE UPRC FEDERAL 27-3F, 6F
NENW Section 27, T4N R66W
Weld County, Colorado

Project No. CO18-169	Prepared by	Drawn by TDA
Date 5/24/19	Reviewed by EB	Filename 18169T





LEGEND

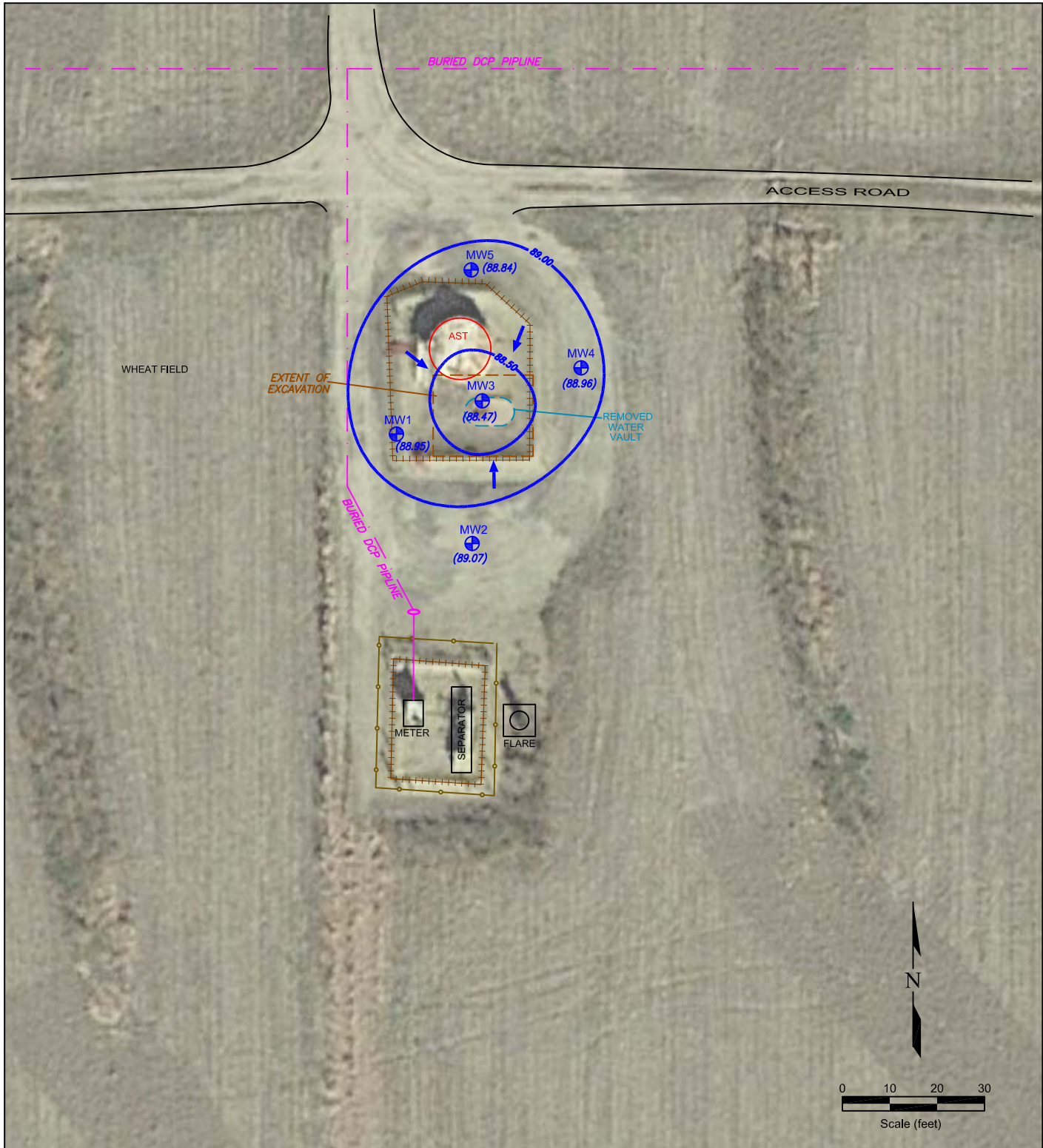
- + MONITORING WELL
- CONTAINMENT WALL
- LIMITS OF EXCAVATION
- CONTAINMENT BERM
- FENCE LINE
- DCP PIPELINE
- ABOVE GROUND STORAGE TANK
- FORMER FORMER FACILITY

**Figure 2
SITE MAP**

NOBLE UPRC FEDERAL 27-3F, 6F
 NENW Section 27, T4N R66W
 Weld County, Colorado

Project No. CO18-169	Prepared by TDA	Drawn by TDA
Date 5/24/19	Reviewed by EB	Filename 18169Q





LEGEND













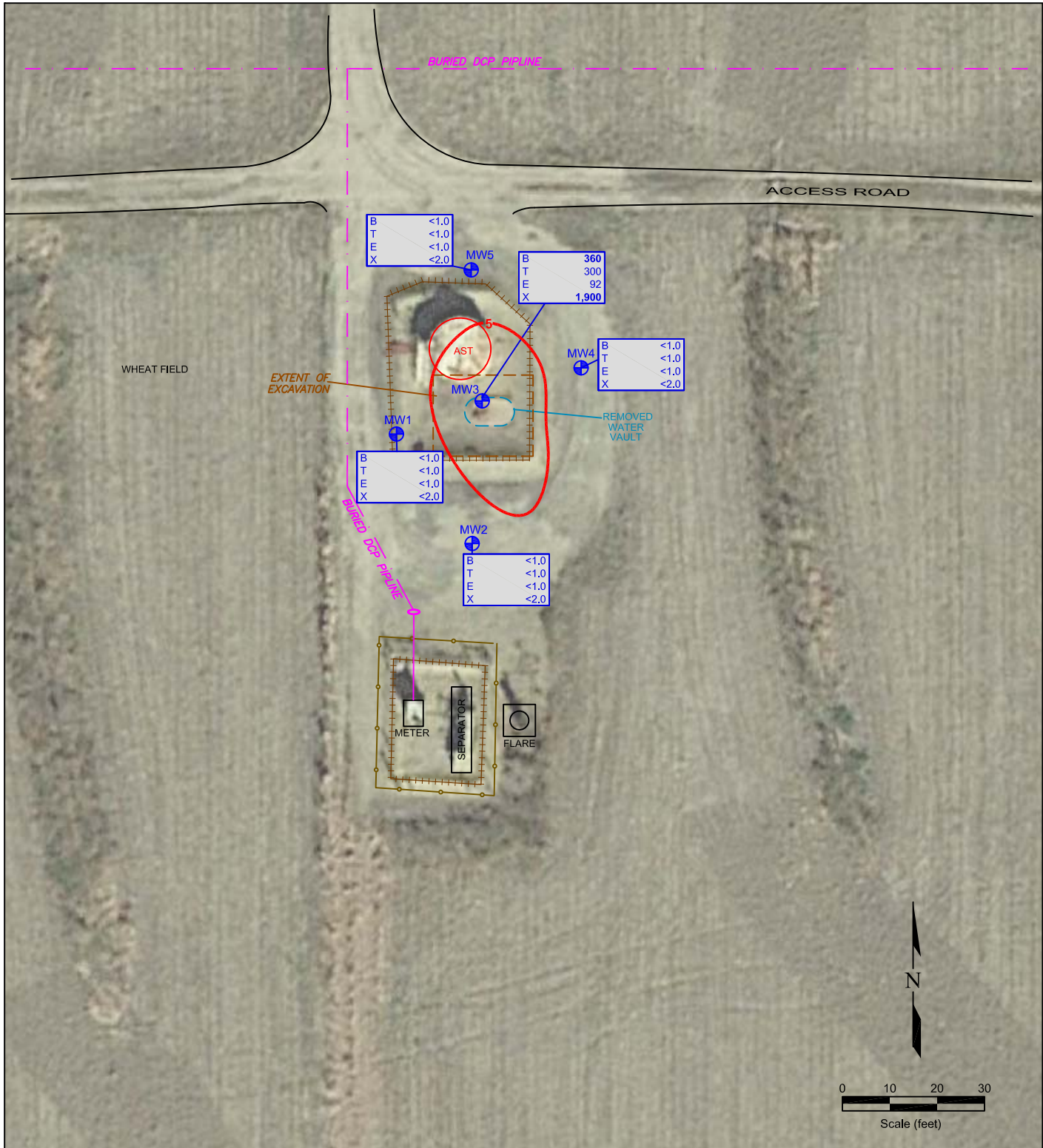
-  MONITORING WELL
-  CONTAINMENT WALL
-  LIMITS OF EXCAVATION
-  CONTAINMENT BERM
-  FENCE LINE
-  DCP PIPELINE
-  ABOVE GROUND STORAGE TANK
-  FORMER FACILITY
-  88.95 GROUND WATER ELEVATION 6/2/08 (feet above mean sea level)
-  89.00 WATER TABLE CONTOUR (feet above mean sea level)
-  INFERRED GROUND WATER FLOW DIRECTION
-  NM NOT MEASURED

Figure 3
INFERRED GROUNDWATER CONTOUR MAP
 May 15, 2019

NOBLE UPRC FEDERAL 27-3F, 6F
 NENW Section 27, T4N R66W
 Weld County, Colorado

Project No. CO18-169	Prepared by	Drawn by TDA
Date 5/24/19	Reviewed by EB	Filename 18169Q





LEGEND

- MONITORING WELL
- CONTAINMENT WALL
- LIMITS OF EXCAVATION
- CONTAINMENT BERM
- FENCE LINE
- DCP PIPELINE
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- FORMER FACILITY

B	<1.0	BENZENE (ug/L)
T	<1.0	TOLUENE (ug/L)
E	<1.0	ETHYLBENZENE (ug/L)
X	<2.0	TOTAL XYLENES (ug/L)

BENZENE ISOCONCENTRATION (ug/L)
Inferred in part from historical data

Figure 4
**GROUND WATER CHEMISTRY WITH
 BENZENE ISO-CONCENTRATION MAP
 MAY 15, 2019**

NOBLE UPRC FEDERAL 27-3F, 6F
 NENW Section 27, T4N R66W
 Weld County, Colorado

Project No. CO18-169	Prepared by	Drawn by TDA
Date 5/24/19	Reviewed by EB	Filename 18169Q



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 20, 2019

Paul Henehan

Fremont Environmental

PO Box 1289

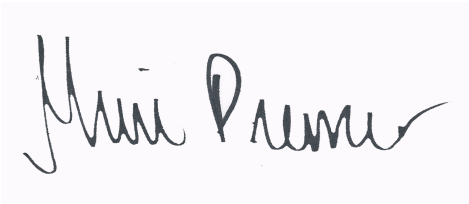
Wellington, CO 80549

RE: Noble - UPRC Federal 27-3F, 6F

Work Order # 1905166

Enclosed are the results of analyses for samples received by Summit Scientific on 05/15/19 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Ben Shrewsbury

Laboratory Manager



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
Project Manager: Paul Henehan

Reported:
05/20/19 13:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	1905166-01	Water	05/15/19 00:00	05/15/19 16:15
MW-2	1905166-02	Water	05/15/19 00:00	05/15/19 16:15
MW-3	1905166-03	Water	05/15/19 00:00	05/15/19 16:15
MW-4	1905166-04	Water	05/15/19 00:00	05/15/19 16:15
MW-5	1905166-05	Water	05/15/19 00:00	05/15/19 16:15

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.

1905166

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310 ♦ 303-374-5933 (f)

Client: Fremont Environmental	Project Manager: Paul Henehan
Address: P.O Box 1289	E-Mail: paulh@fremontenv.com, ethanb@fremontenv.com
City/State/Zip: Wellington, CO 80549	Bill to: <u>Jacob</u>
Phone: 303-956-8714	Project Name: <u>Noble - UPRC Federal 27-3F, 6F</u>
Sampler Name: <u>Black</u>	Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	GRO	DRO	SAR		EC
1	MW-1	5/15/19		2			X		X				X						
2	MW-2	I		I			I		I				I						
3	MW-3	I		I			I		I				I						
4	MW-4	I		I			I		I				I						
5	MW-5	I		I			I		I				I						
6																			
7																			
8																			
9																			
10																			
Relinquished by: <u>Ethan Black</u>		Date/Time: <u>5/15/19 16:15</u>		Received by: <u>[Signature]</u>		Date/Time: <u>5/15/19 16:15</u>		Turn Around Time (Check)			Notes:								
								Same Day <input type="checkbox"/>			72 hours <input type="checkbox"/>								
								24 hours <input type="checkbox"/>			Standard <input checked="" type="checkbox"/>								
								48 hours <input type="checkbox"/>											
								Sample Integrity:			Temperature Upon Receipt: <u>2</u>								
								Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											

Sample Receipt Checklist

S2 Work Order 1905166

Client: Fremont Environmental Client Project ID: Noble - UPRC Federal

27-3F,
6F

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

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

Temp (°C)	2
-----------	---

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	X			
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 ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			X	
Are samples with holding times due within 48 hours sample due within 48 hours present?		X		Standard TAT
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?				
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			X	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			X	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				

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

RE
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

5-15-19 16:12
Date/Time



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

MW-1
1905166-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905221	05/16/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		94.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %		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 - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

MW-2
1905166-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905221	05/16/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.1 %		21-167		"	"	"	"	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

MW-3
1905166-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	360	100	ug/l	100	1905221	05/16/19	05/18/19	EPA 8260B	
Toluene	300	100	"	"	"	"	"	"	
Ethylbenzene	92	1.0	"	1	"	"	"	"	
Xylenes (total)	1900	200	"	100	"	"	"	"	

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

MW-4
1905166-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905221	05/16/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %		21-167		"	"	"	"	

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

MW-5
1905166-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905221	05/16/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/15/19 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		94.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %		21-167		"	"	"	"	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
Project Manager: Paul Henehan

Reported:
05/20/19 13:30

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1905221 - EPA 5030 Water MS

Blank (1905221-BLK1)

Prepared: 05/16/19 Analyzed: 05/18/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109	23-173			
Surrogate: Toluene-d8	14.9		"	13.3		112	20-170			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		105	21-167			

LCS (1905221-BS1)

Prepared: 05/16/19 Analyzed: 05/18/19

Benzene	50.0	1.0	ug/l	50.0		100	70-130			
Toluene	50.9	1.0	"	50.0		102	70-130			
Ethylbenzene	51.3	1.0	"	50.0		103	70-130			
m,p-Xylene	103	2.0	"	100		103	70-130			
o-Xylene	51.6	1.0	"	50.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		101	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	21-167			

Matrix Spike (1905221-MS1)

Source: 1905164-41

Prepared: 05/16/19 Analyzed: 05/18/19

Benzene	53.9	1.0	ug/l	50.0	ND	108	70-130			
Toluene	54.5	1.0	"	50.0	ND	109	70-130			
Ethylbenzene	56.0	1.0	"	50.0	ND	112	70-130			
m,p-Xylene	111	2.0	"	100	ND	111	70-130			
o-Xylene	54.5	1.0	"	50.0	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.3		90.5	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 05/20/19 13:30

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1905221 - EPA 5030 Water MS

Matrix Spike Dup (1905221-MSD1)

Source: 1905164-41

Prepared: 05/16/19 Analyzed: 05/18/19

Benzene	53.5	1.0	ug/l	50.0	ND	107	70-130	0.652	30	
Toluene	54.5	1.0	"	50.0	ND	109	70-130	0.0184	30	
Ethylbenzene	55.0	1.0	"	50.0	ND	110	70-130	1.84	30	
m,p-Xylene	111	2.0	"	100	ND	111	70-130	0.198	30	
o-Xylene	54.7	1.0	"	50.0	ND	109	70-130	0.458	30	
Surrogate: 1,2-Dichloroethane-d4	11.9		"	13.3		89.3	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	21-167			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - UPRC Federal 27-3F, 6F

Project Number: [none]
Project Manager: Paul Henehan

Reported:
05/20/19 13:30

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