

# **FREMONT ENVIRONMENTAL INC.**

January 30, 2023

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

Subject:     **Groundwater Monitoring Data Submittal**  
Cox PM C8-6  
API # 05-123-14174  
SENW Sec. 8, T4N, R64W  
Weld County, Colorado  
Fremont Project No. C022-018  
Facility # 327111, Remediation # 21024

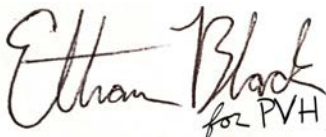
Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Groundwater Monitoring Report for the Cox PM C 8-6 site in Weld County, Colorado. The enclosed report describes remedial actions and sampling efforts to assess groundwater quality at the 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

**TABLE 1**  
**SUMMARY OF ORGANIC GROUNDWATER CHEMISTRY DATA**  
**NOBLE ENERGY INC.**  
**COX PM C 8-6, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C022-018**

SAMPLE LOCATION	DATE	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	NAPHTHALENE (µg/L)	1,2,4 TRIMETHYL- BENZENE (µg/L)	1,3,5 TRIMETHYL- BENZENE (µg/L)
MW-1	5/4/2022	1.5	<1.0	<1.0	61	<1.0	1.4	14
	8/26/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
	11/16/2022	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
Table 915-1 Limits		5	560	700	1,400	140	67	67

TABLE 2  
SUMMARY OF INORGANIC GROUNDWATER CHEMISTRY DATA  
NOBLE ENERGY INC.  
COX PM C 8-6, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C022-018

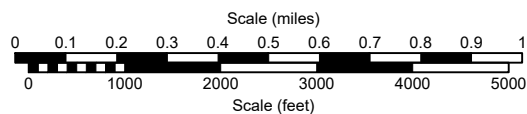
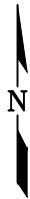
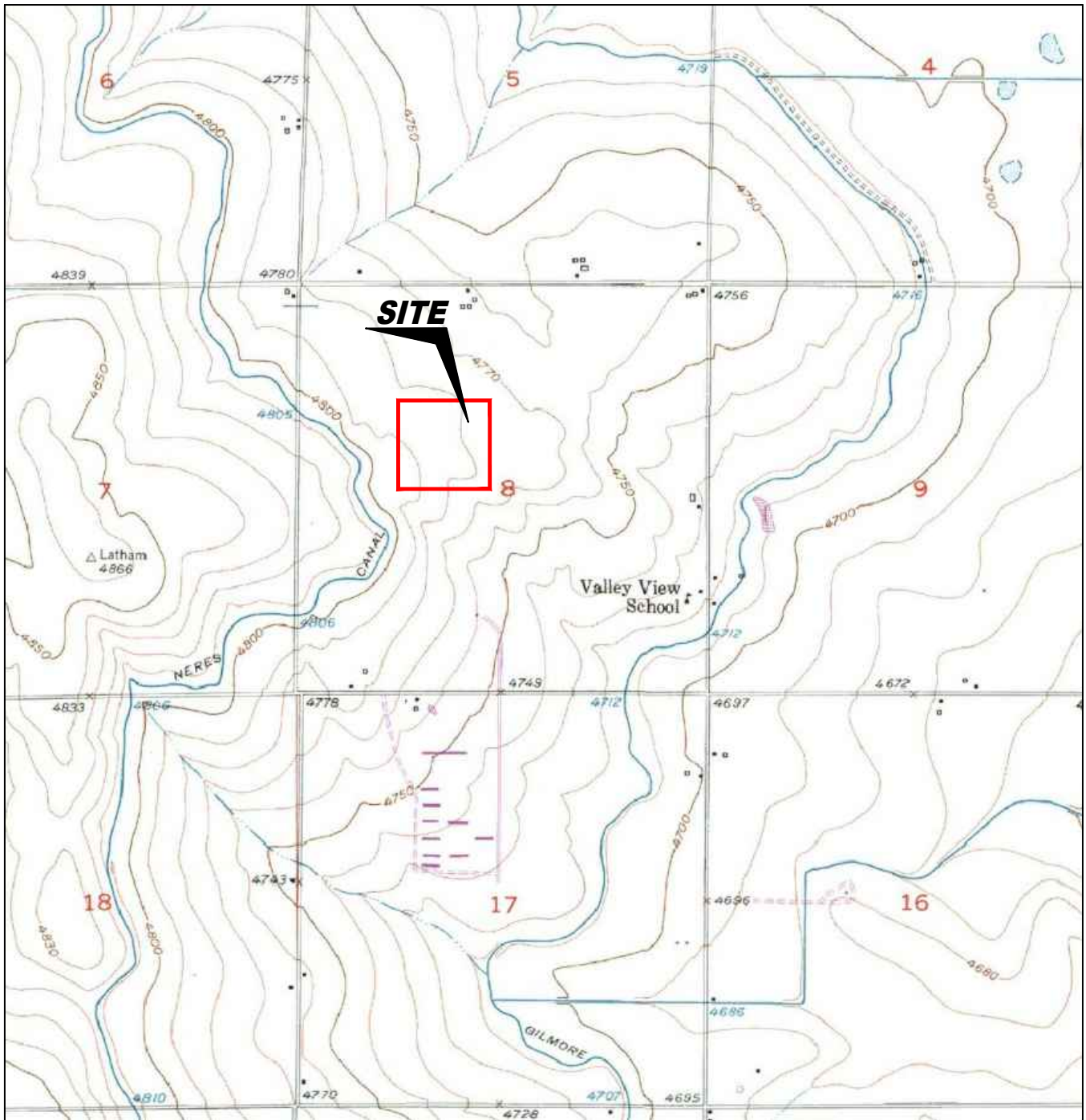
SAMPLE LOCATION	DATE	TOTAL DISSOLVED SOLIDS (mg/L)	CHLORIDE ION (mg/L)	SULFATE ION (mg/L)
MW-1	5/4/2022	2050	<b>367</b>	198
	8/26/2022	1280	205	283.0
	11/16/2022	526	251	98.4
Table 915-1 Limits		<1.25 x local background	250	250

Bold face values exceed the COGCC limits

NP - No Free Product

NA - Not Analyzed

NAP - Not Applicable



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
**SITE LOCATION MAP**

**NOBLE ENERGY INC. ~ COX PMC 8-6**  
 SENW Sec. 8, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.333729°, -104.577017°

Project #  
**C022-018**

Prepared By

Drawn By  
**TA**

Date  
**12/5/22**

Reviewed by  
**EB**

Filename  
**22018T**






#### LEGEND

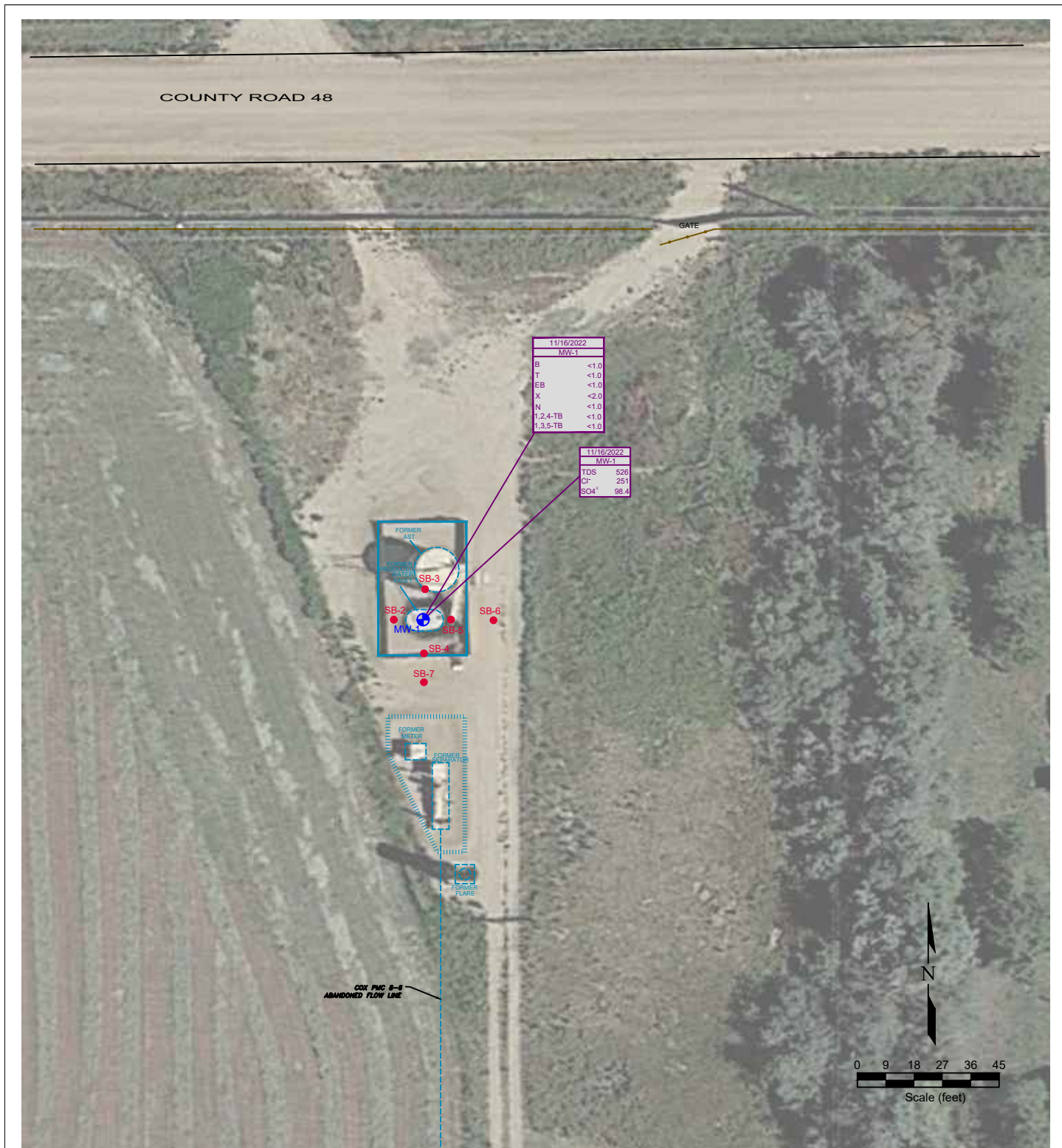
- SOIL BORING
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- FORMER FORMER FACILITY
- CONTAINMENT WALL
- CONTAINMENT BERM
- FLOW LINE
- FENCE LINE

Figure 2  
**SITE MAP**

**NOBLE ENERGY INC. ~ COX PMC 8-6**  
 SENW Sec. 8, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.333729°, -104.577017°

Project No. <b>C022-018</b>	API #	Facility # <b>TA</b>	
Date <b>12/5/22</b>	Reviewed By <b>EB</b>	Filename <b>22018QQ</b>	





#### LEGEND

- SOIL BORING
- ⊕ MONITORING WELL
- ABOVE GROUND STORAGE TANK
- FORMER FACILITY
- CONTAINMENT WALL
- CONTAINMENT BERM
- FLOW LINE
- FENCE LINE

11/16/2022	DATE SAMPLED
MW-1	SAMPLE ID
B	BENZENE (ug/L)
T	TOLUENE (ug/L)
EB	ETHYLBENZENE (ug/L)
X	TOTAL XYLENES (ug/L)
N	NAPHTHALENE (ug/L)
1,2,4-TB	1,2,4-TRIMETHYLBENZENE (ug/L)
1,3,5-TB	1,3,5-TRIMETHYLBENZENE (ug/L)

11/16/2022	DATE SAMPLED
MW-1	SAMPLE ID
TDS	TOTAL DISSOLVED SOLIDS (mg/L)
Cl <sup>-</sup>	CHLORIDE ION (mg/L)
SO4 <sup>2-</sup>	SULFATE ION (mg/L)

Figure 3

#### GROUNDWATER CHEMISTRY MAP

November 16, 2022

NOBLE ENERGY INC. ~ COX PMC 8-6

SENW Sec. 8, T4N, R64W, 6th PM

Weld County, Colorado

40.333729°, -104.577017°

Project No. <b>C022-018</b>	API #	Facility # <b>TA</b>	
Date <b>12/5/22</b>	Reviewed By <b>EB</b>	Filename <b>22018QQ</b>	

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 28, 2022

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Cox PMC 8-6  
Work Order #2211301

Enclosed are the results of analyses for samples received by Summit Scientific on 11/16/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	2211301-01	Water	11/16/22 00:00	11/16/22 16:00

Summit Scientific

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



# Summit Scientific

S<sub>2</sub>

2211301

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

client: Fremont Project Manager: Henehan  
Address: Fremont Dist List and Noble Dist List  
City/State/Zip: Bill To: Noble  
Phone: Project Name: Noble - COX PMC 8-6  
Sampler Name: EB 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									
1	MWT-1	11/16/22		4			X		X												
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>1500 11/16/22</u>	Received by: <u>SZ</u>	Date/Time: <u>111622 1500</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>SZ</u>	Date/Time: <u>111622 1600</u>	Received by:	Date/Time: <u>111622 1600</u>	Same Day <u>    </u> 72 hours <u>    </u>	Standard <u>X</u>
Temperature Upon Receipt: <u>8.1</u>	Corrected Temperature <u>    </u>	HNO3 lot # <u>    </u>	IR gun correction: <u>    </u>	24 hours <u>    </u>	
				48 hours <u>    </u>	
				Sample Integrity:	
				Samples Intact: <u>Yes</u> No	

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2211301Client: FremontClient Project ID: Noble-Cox Pmc 8-6Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air ☐Soil/Solid ☐Water ☐Other ☐

Temp (°C)

8.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on 2 CE</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<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"/>	
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"/>	
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"/>	
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"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

11-16-22 1600  
 Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henehan

**Reported:**  
11/28/22 15:04

**MW-1**  
**2211301-01 (Water)**

**Summit Scientific**

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

Date Sampled: **11/16/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFK0509	11/21/22	11/23/22	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/16/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		95.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **11/16/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	251	12.0	mg/L	200	BFK0529	11/19/22	11/19/22	EPA 300.0	
Sulfate	98.4	60.0	"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/16/22 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	526	10.0	mg/L	1	BFK0489	11/18/22	11/18/22	SM2540C	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

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

### Summit Scientific

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

#### Batch BFK0509 - EPA 5030 Water MS

##### Blank (BFK0509-BLK1)

Prepared: 11/21/22 Analyzed: 11/22/22

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.5		"	13.3		101	23-173			
Surrogate: Toluene-d8	15.6		"	13.3		117	20-170			
Surrogate: 4-Bromofluorobenzene	18.8		"	13.3		141	21-167			

##### LCS (BFK0509-BS1)

Prepared: 11/21/22 Analyzed: 11/22/22

Benzene	22.8	1.0	ug/l	33.3		68.4	51-132			
Toluene	25.2	1.0	"	33.3		75.6	51-138			
Ethylbenzene	31.7	1.0	"	33.3		95.1	58-146			
m,p-Xylene	63.2	2.0	"	66.7		94.8	57-144			
o-Xylene	32.2	1.0	"	33.3		96.5	53-146			
Naphthalene	41.0	1.0	"	33.3		123	70-130			
1,2,4-Trimethylbenzene	32.2	1.0	"	33.3		96.7	70-130			
1,3,5-Trimethylbenzene	34.0	1.0	"	33.3		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.0		"	13.3		82.4	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	14.9		"	13.3		112	21-167			

##### Matrix Spike (BFK0509-MS1)

Source: 2211299-01

Prepared: 11/21/22 Analyzed: 11/22/22

Benzene	27.3	1.0	ug/l	33.3	ND	81.9	34-141			
Toluene	31.0	1.0	"	33.3	ND	93.0	27-151			
Ethylbenzene	45.2	1.0	"	33.3	ND	136	29-160			
m,p-Xylene	92.7	2.0	"	66.7	ND	139	20-166			
o-Xylene	45.4	1.0	"	33.3	ND	136	33-159			
Naphthalene	39.5	1.0	"	33.3	ND	119	70-130			
1,2,4-Trimethylbenzene	36.7	1.0	"	33.3	ND	110	70-130			
1,3,5-Trimethylbenzene	37.0	1.0	"	33.3	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.1	23-173			
Surrogate: Toluene-d8	16.7		"	13.3		125	20-170			
Surrogate: 4-Bromofluorobenzene	21.4		"	13.3		160	21-167			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

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

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

**Batch BFK0509 - EPA 5030 Water MS**

Matrix Spike Dup (BFK0509-MSD1)	Source: 2211299-01			Prepared: 11/21/22 Analyzed: 11/22/22						
Benzene	23.8	1.0	ug/l	33.3	ND	71.3	34-141	13.8	30	
Toluene	26.2	1.0	"	33.3	ND	78.5	27-151	16.9	30	
Ethylbenzene	34.4	1.0	"	33.3	ND	103	29-160	27.0	30	
m,p-Xylene	70.2	2.0	"	66.7	ND	105	20-166	27.7	30	
o-Xylene	35.8	1.0	"	33.3	ND	107	33-159	23.7	30	
Naphthalene	38.5	1.0	"	33.3	ND	115	70-130	2.77	30	
1,2,4-Trimethylbenzene	36.5	1.0	"	33.3	ND	110	70-130	0.546	30	
1,3,5-Trimethylbenzene	36.2	1.0	"	33.3	ND	108	70-130	2.40	30	
Surrogate: 1,2-Dichloroethane-d4	10.5		"	13.3		78.7	23-173			
Surrogate: Toluene-d8	13.9		"	13.3		104	20-170			
Surrogate: 4-Bromofluorobenzene	17.7		"	13.3		133	21-167			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

### Anions by EPA Method 300.0 - Quality Control

#### Summit Scientific

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

#### Batch BFK0529 - General Preparation

##### Blank (BFK0529-BLK1)

Prepared & Analyzed: 11/19/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

##### LCS (BFK0529-BS1)

Prepared & Analyzed: 11/19/22

Chloride	3.24	0.0600	mg/L	3.00	108	90-110
Sulfate	15.6	0.300	"	15.0	104	90-110

##### Duplicate (BFK0529-DUP1)

Source: 2211272-01

Prepared & Analyzed: 11/19/22

Chloride	489	12.0	mg/L	503	2.86	20
Sulfate	1130	60.0	"	993	13.3	20

##### Matrix Spike (BFK0529-MS1)

Source: 2211272-01

Prepared & Analyzed: 11/19/22

Chloride	1090	12.0	mg/L	600	503	98.1	80-120
Sulfate	4300	60.0	"	3000	993	110	80-120

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

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

**Batch BFK0489 - General Preparation**

**Blank (BFK0489-BLK1)**

Prepared & Analyzed: 11/18/22

Total Dissolved Solids ND 10.0 mg/L

**Duplicate (BFK0489-DUP1)**

Source: 2211299-01

Prepared & Analyzed: 11/18/22

Total Dissolved Solids 1280 10.0 mg/L 1250 2.69 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Cox PMC 8-6

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
11/28/22 15:04

### 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