

# **FREMONT ENVIRONMENTAL INC.**

December 14, 2022

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

Subject:       **Groundwater Data Submittal**  
                  Lockman C #14-30  
                  API # 05-123-30892  
                  SESE Sec. 10, T4N, R64W  
                  Weld County, Colorado  
                  Fremont Project No. C022-023  
                  Facility #414921, Remediation #19296

Dear Mr. Peterson:

Enclosed please find a copy of the above referenced Groundwater Data Submittal for the Lockman C #14-30 site in Weld County, Colorado. The enclosed data describes the groundwater 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.**



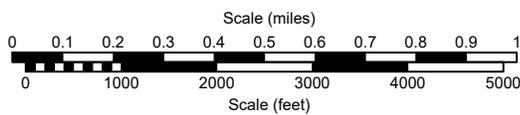
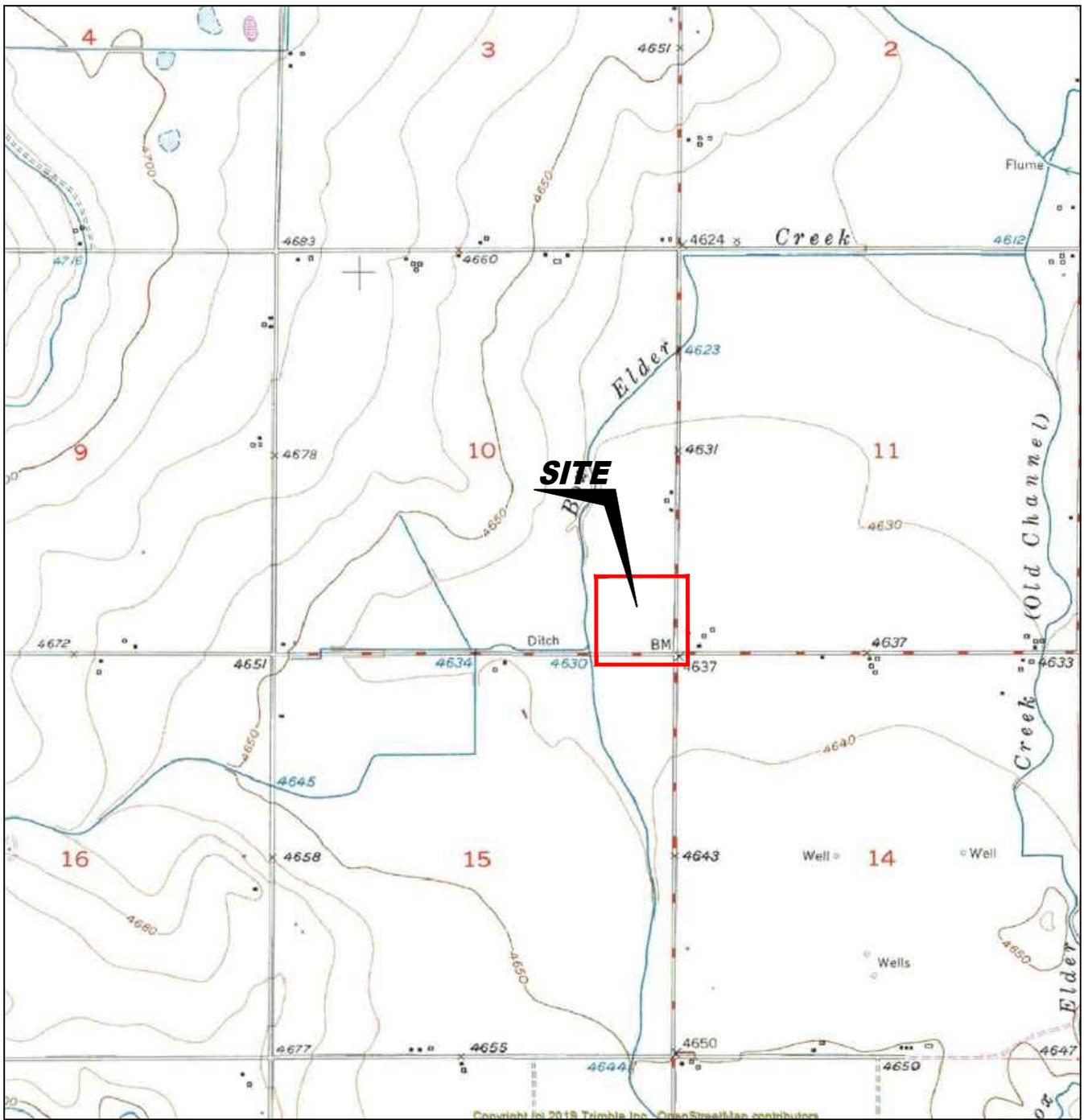
Paul V. Henehan, P.E.  
Senior Consultant

Enclosure

**TABLE 1  
SUMMARY OF ORGANIC GROUNDWATER CHEMISTRY DATA  
NOBLE ENERGY INC.  
LOCKMAN C14-30  
FREMONT PROJECT NO. C022-023**

<b>SAMPLE LOCATION</b>	<b>DATE</b>	<b>BENZENE (µg/L)</b>	<b>TOLUENE (µg/L)</b>	<b>ETHYL BENZENE (µg/L)</b>	<b>TOTAL XYLENES (µg/L)</b>	<b>NAPH- THALENE (µg/L)</b>	<b>1,2,4 TMB (µg/L)</b>	<b>1,3,5 TMB (µg/L)</b>
MW-1	03/25/22	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0
	06/21/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
	09/22/22	<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

Bold face values exceed the COGCC limits



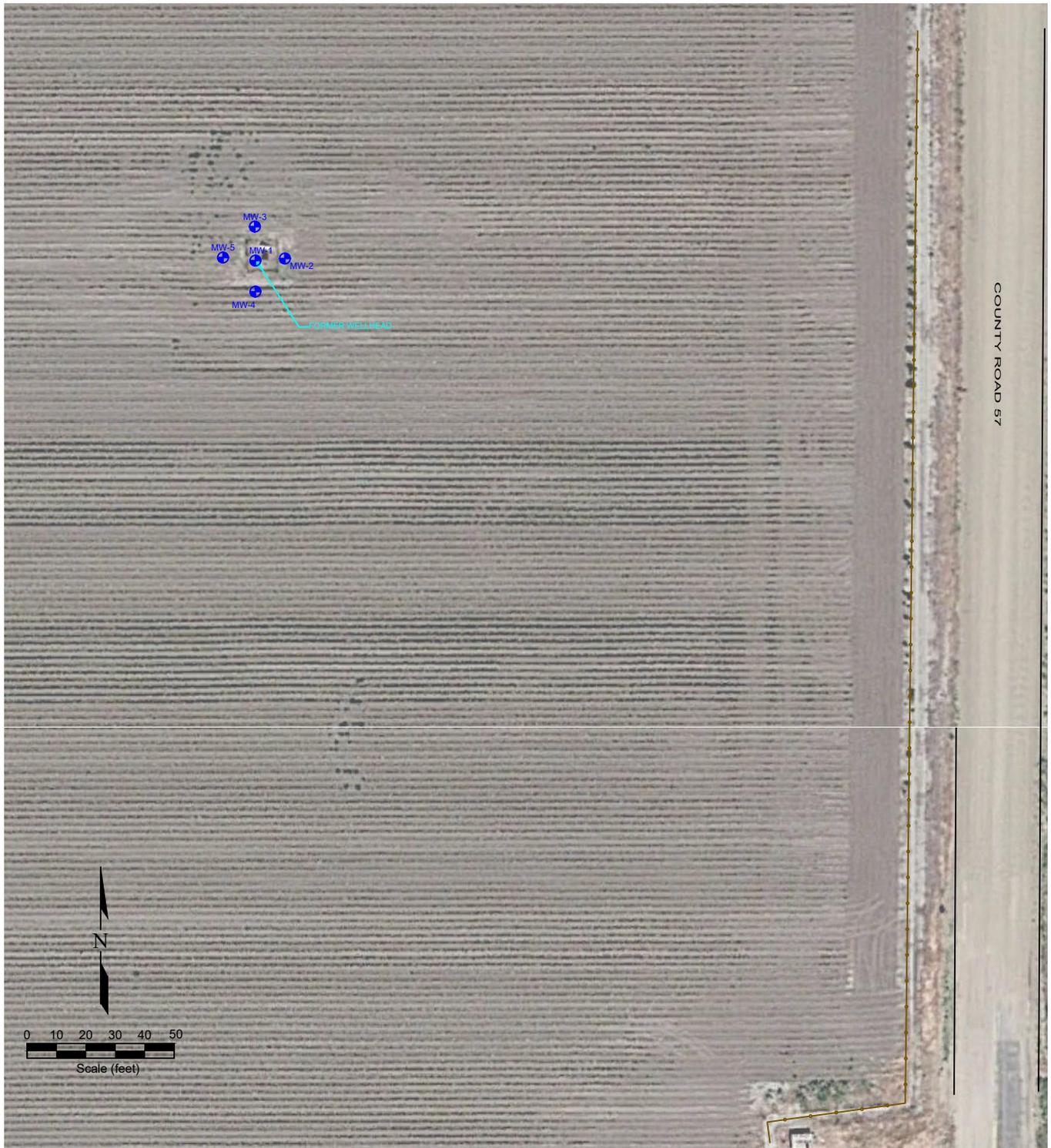
USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1  
**SITE LOCATION MAP**

**Noble Energy, Inc. ~ Lockman C #14-30**  
SESE Sec. 10, T4N, R64W, 6th PM  
Weld County, Colorado  
40.320651°, -104.528093°

Project # <b>C022-023</b>	API # <b>05-123-30892</b>	Location ID <b>414921</b>
Date <b>12/14/22</b>	Remediation # <b>19296</b>	Filename <b>22023T</b>





**LEGEND**

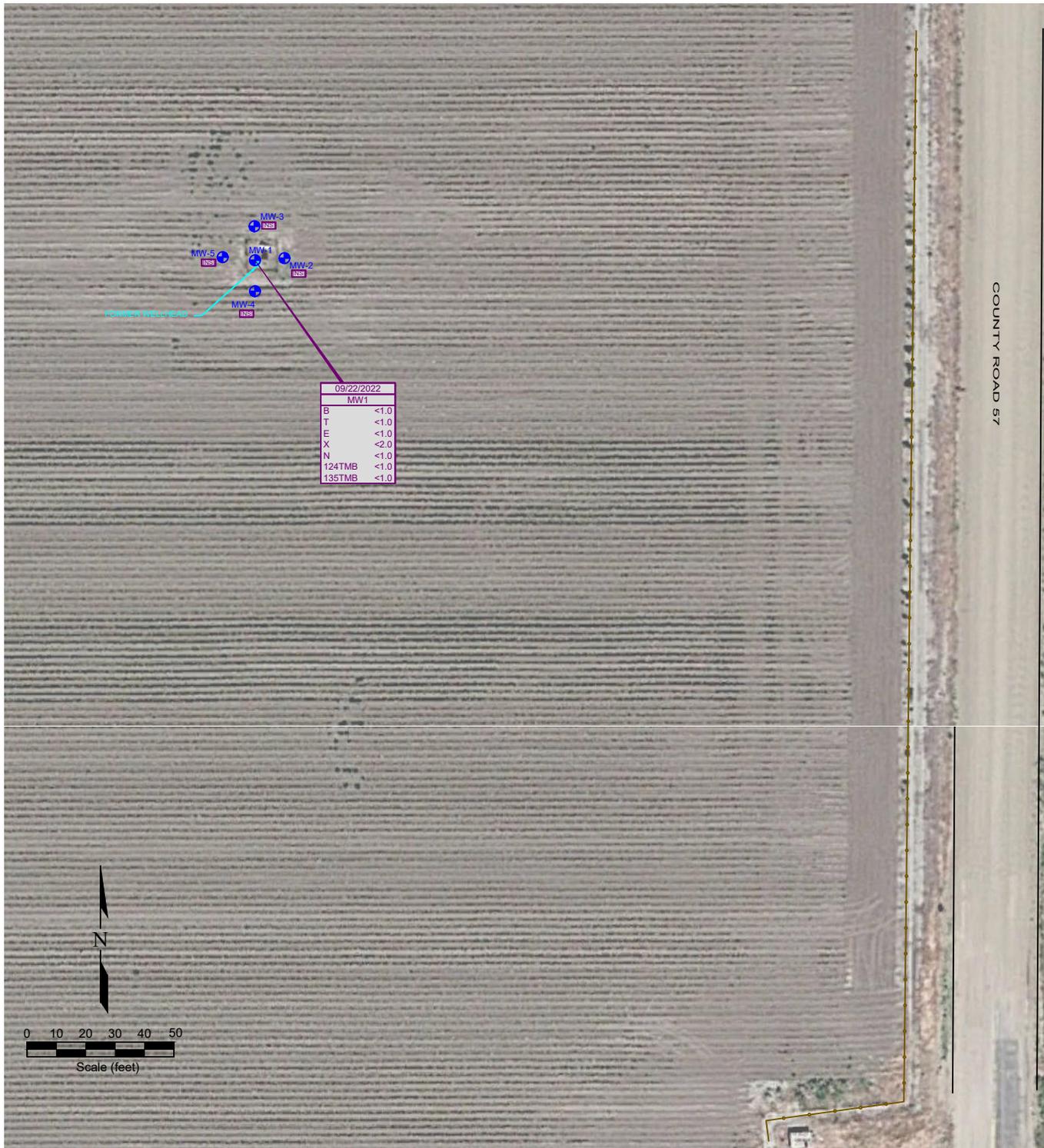
- RISER LOCATION
- ⊗ SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- FORMER FACILITY
- CONTAINMENT BERM FENCE LINE

**Figure 2  
SITE MAP**

**Noble Energy, Inc. ~ Lockman C #14-30**  
 SESE Sec. 10, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.320651°, -104.528093°

Project No. <b>C022-023</b>	API # <b>05-123-30892</b>	Facility # <b>414921</b>
Date <b>12/14/22</b>	Remediation # <b>19296</b>	Filename <b>22023Q1</b>





**LEGEND**

- RISER LOCATION
- ⊗ SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- FORMER FACILITY
- CONTAINMENT BERM FENCE LINE

09/22/2022	
MW1	
B	<1.0
T	<1.0
E	<1.0
X	<2.0
N	<1.0
124TMB	<1.0
135TMB	<1.0

Figure 3  
**GROUNDWATER CHEMISTRY MAP**  
 September 22, 2022  
 Noble Energy, Inc. ~ Lockman C #14-30  
 SESE Sec. 10, T4N, R64W, 6th PM  
 Weld County, Colorado  
 40.320651°, -104.528093°

Project No. <b>C022-023</b>	API # <b>05-123-30892</b>	Facility #
Date <b>1/9/23</b>	Remediation # <b>19296</b>	Filename <b>22023Q1</b>



# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 29, 2022

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Lockman C14-30 (Lockman)

Work Order #2209463

Enclosed are the results of analyses for samples received by Summit Scientific on 09/22/22 16:50. 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 - Lockman C14-30 (Lockman)

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
09/29/22 16:44

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1	2209463-01	Water	09/22/22 00:00	09/22/22 16:50

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>

2209463

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

Page 1 of 1

Client: Fremont Env

Project Manager: Paul Henchan

Address:

E-Mail: Paulh@fremontenv.com jeffg@fremontenv.com

City/State/Zip:

Ethanb@fremontenv.com

Phone:

Project Name: Lockman C14-30 (Lockman)

Sampler Name: JG

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+N	TMDS (915)	TD, CI, Sulf					
1	MW1	09/22/22		4	X				X					X	X	X				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>09/22/22 16:50</u>	Received by: <u>[Signature]</u>	Date/Time: <u>9-22-22 16:50</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> Bill to Noble
				24 hours <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Temperature Upon Receipt: <u>14.6</u>	Corrected Temperature: <u>[Signature]</u>	HNO3 lot #		Sample Integrity:	
IR gun correction: <u>[Signature]</u>	IR gun #: <u>[Signature]</u>			Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S<sub>2</sub>

2209463

Sample Receipt Checklist

S2 Work Order# \_\_\_\_\_

Client: Fremont Client Project ID: Lockman C14-30 (Lockman)

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

Matrix (Check all that apply) Air  Soil/Solid  Water  Other

Temp (°C)  Thermometer #

	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"/>	on ice
If custody seals are present, are they intact? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 <b>(excluding cooling)</b> ? <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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
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.

IAT  
Custodian Printed Name

9.22.22  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
09/29/22 16:44

**MW1**  
**2209463-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/22/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BF10676	09/26/22	09/27/22	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: **09/22/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		88.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.9 %		21-167		"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **09/22/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	<b>610</b>	12.0		mg/L	200	BF10675	09/26/22	09/27/22	EPA 300.0	
Sulfate	<b>1730</b>	60.0		"	"	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **09/22/22 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Total Dissolved Solids</b>	<b>3310</b>	10.0		mg/L	1	BF10681	09/26/22	09/27/22	SM2540C	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
09/29/22 16:44

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

#### Summit Scientific

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

#### Batch BFI0676 - EPA 5030 Water MS

##### Blank (BFI0676-BLK1)

Prepared: 09/26/22 Analyzed: 09/27/22

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	14.0		"	13.3		103		23-173			
<i>Surrogate: Toluene-d8</i>	13.0		"	13.3		97.8		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.4		"	13.3		100		21-167			

##### LCS (BFI0676-BS1)

Prepared: 09/26/22 Analyzed: 09/27/22

Benzene	51.5	1.0	ug/l	50.0		103		51-132			
Toluene	50.9	1.0	"	50.0		102		51-138			
Ethylbenzene	54.2	1.0	"	50.0		108		58-146			
m,p-Xylene	111	2.0	"	100		111		57-144			
o-Xylene	52.4	1.0	"	50.0		105		53-146			
Naphthalene	57.1	1.0	"	50.0		114		70-130			
1,2,4-Trimethylbenzene	56.9	1.0	"	50.0		114		70-130			
1,3,5-Trimethylbenzene	56.6	1.0	"	50.0		113		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.7		"	13.3		102		23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.6		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.8		"	13.3		95.8		21-167			

##### Matrix Spike (BFI0676-MS1)

Source: 2209428-01

Prepared: 09/26/22 Analyzed: 09/27/22

Benzene	56.3	1.0	ug/l	50.0	ND	113		34-141			
Toluene	56.9	1.0	"	50.0	ND	114		27-151			
Ethylbenzene	62.7	1.0	"	50.0	ND	125		29-160			
m,p-Xylene	126	2.0	"	100	ND	126		20-166			
o-Xylene	58.7	1.0	"	50.0	ND	117		33-159			
Naphthalene	62.5	1.0	"	50.0	ND	125		70-130			
1,2,4-Trimethylbenzene	64.2	1.0	"	50.0	ND	128		70-130			
1,3,5-Trimethylbenzene	64.5	1.0	"	50.0	ND	129		70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.6		"	13.3		94.7		23-173			
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3		98.8		20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	12.7		"	13.3		95.6		21-167			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 09/29/22 16:44

**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 BFI0676 - EPA 5030 Water MS**

**Matrix Spike Dup (BFI0676-MSD1)**

Source: 2209428-01

Prepared: 09/26/22 Analyzed: 09/27/22

Benzene	54.1	1.0	ug/l	50.0	ND	108	34-141	3.95	30	
Toluene	54.8	1.0	"	50.0	ND	110	27-151	3.76	30	
Ethylbenzene	59.8	1.0	"	50.0	ND	120	29-160	4.72	30	
m,p-Xylene	121	2.0	"	100	ND	121	20-166	4.26	30	
o-Xylene	57.1	1.0	"	50.0	ND	114	33-159	2.73	30	
Naphthalene	61.0	1.0	"	50.0	ND	122	70-130	2.45	30	
1,2,4-Trimethylbenzene	63.8	1.0	"	50.0	ND	128	70-130	0.656	30	
1,3,5-Trimethylbenzene	63.9	1.0	"	50.0	ND	128	70-130	0.919	30	
Surrogate: 1,2-Dichloroethane-d4	12.3		"	13.3		92.5	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.6	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.5	21-167			

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 09/29/22 16:44

**Anions by EPA Method 300.0 - Quality Control**

**Summit Scientific**

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

**Batch BFI0675 - General Preparation**

**Blank (BFI0675-BLK1)**

Prepared: 09/26/22 Analyzed: 09/27/22

Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							

**LCS (BFI0675-BS1)**

Prepared: 09/26/22 Analyzed: 09/27/22

Chloride	2.94	0.0600	mg/L	3.00	97.9	90-110				
Sulfate	16.2	0.300	"	15.0	108	90-110				

**Duplicate (BFI0675-DUP1)**

Source: 2209450-01

Prepared: 09/26/22 Analyzed: 09/27/22

Chloride	971	12.0	mg/L		982		1.09	20		
Sulfate	13600	60.0	"		13700		0.992	20		

**Matrix Spike (BFI0675-MS1)**

Source: 2209450-01

Prepared: 09/26/22 Analyzed: 09/27/22

Chloride	1490	12.0	mg/L	600	982	85.4	80-120			
Sulfate	15200	60.0	"	3000	13700	50.3	80-120			

QM-02

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
 Project Manager: Paul Henchan

**Reported:**  
 09/29/22 16:44

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

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

**Batch BFI0681 - General Preparation**

**Blank (BFI0681-BLK1)**

Prepared: 09/26/22 Analyzed: 09/27/22

Total Dissolved Solids      ND      10.0      mg/L

**Duplicate (BFI0681-DUP1)**

**Source: 2209441-01**

Prepared: 09/26/22 Analyzed: 09/27/22

Total Dissolved Solids      1430      10.0      mg/L      1400      2.05      20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lockman C14-30 (Lockman)

Project Number: [none]  
Project Manager: Paul Henchan

**Reported:**  
09/29/22 16:44

### Notes and Definitions

- QM-02 The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
- 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