

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 27, 2025

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Work Order #2502438

Enclosed are the results of analyses for samples received by Summit Scientific on 02/25/25 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121

Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Wwall01 12Ft(2)	2502438-01	Soil	02/25/25 13:00	02/25/25 16:30
Wwall02 12Ft	2502438-02	Soil	02/25/25 13:10	02/25/25 16:30
Ewall02 12Ft	2502438-03	Soil	02/25/25 13:20	02/25/25 16:30
Nwall01 12Ft	2502438-04	Soil	02/25/25 13:30	02/25/25 16:30
Nwall02 12Ft	2502438-05	Soil	02/25/25 13:40	02/25/25 16:30
CENBase01 13Ft	2502438-06	Soil	02/25/25 13:50	02/25/25 16:30

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.*

Send Data To:		Send Invoice To:	
ent: Fremont Environmental	Project Manager: <u>Paul Henehan</u>	Company: <u>Chevron (Noble)</u>	
dress: 8305 6th St.	E-Mail: <u>Chevron Dist. List</u> , PDC Dist List, Civitas Dist List, Fremont Dist List, <u>paulH</u> /mikeG,	Project Name/Location:	
y/State/Zip: Wellington, CO	nickL, <u>ethanB</u> , jeffG, chrisL, stanG, aaronO, joshB, <u>jordanS</u> , tammyA (@fremontenv.com)	AFE#: <u>UWRWF-A4021-ENV</u>	
me: <u>864-423-2068</u>	Project Name: <u>Coleman Volkers Lang THN-R64W-S22 LOI</u>	PO/Billing Codes:	
ampler Name: <u>Jordan Suttles</u>	Project Number: <u>1024-121</u>	Contact: <u>Dan Peterson</u>	

Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
				HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Full Table 915-1 (Soil)	Full Table 915-1 (GW)				
<u>Nwall01 12FT (2)</u>	<u>2/25/25</u>	<u>1:00-13:00</u>	<u>2</u>			<u>X</u>							<u>X</u>				
<u>Nwall02 12FT</u>		<u>1:10-13:10</u>															
<u>Ewall02 12FT</u>		<u>1:20-13:20</u>															
<u>Nwall01 12FT</u>		<u>1:30-13:30</u>															
<u>Nwall02 12FT</u>		<u>13:40</u>															
<u>CENBase01 13FT</u>		<u>13:50</u>															

relinquished by: <u>Jordan Suttles</u> Date/Time: <u>2/25/25 16:30</u>	Received by: <u>S2 North Office</u> Date/Time: <u>2/25/25 16:30</u>	TAT Business Days Same Day <input checked="" type="checkbox"/>	Field DO Field EC	<b>Notes:</b> Dist. Report to parties circled in the email line(s) only.
relinquished by: <u>SL</u> Date/Time: <u>2/25/25 16:30</u>	Received by: <u>[Signature]</u> Date/Time: <u>2/25/25 16:30</u>	1 Day <input type="checkbox"/>	Field ORP	
relinquished by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	Received by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	2 Days <input type="checkbox"/>	Field pH	
relinquished by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	Received by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	3 Days <input type="checkbox"/>	Field Temp.	
relinquished by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	Received by: <u>[Signature]</u> Date/Time: <u>[Signature]</u>	Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>2.2</u>	Corrected Temperature: <u>[Symbol]</u>	IR gun #: <u>1</u>	HNO3 lot #:	

# S<sub>2</sub>

S2 Work Order# 2502438

### Sample Receipt Checklist

Client: Tremont Client Project ID: Coleman Volkers Long T4N-R4W-522WReceived Via: H.D.  P.U.  FedEx  UPS  USPS  Other  Airbill #: \_\_\_\_\_Matrix (Circle all that apply) Air  Soil  Water  Other  Temp (°C) 2.2 Thermometer # 1Bottle ware (Circle all that apply) Glass  Jar  Voa  Amber  Poly  Other 

	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.	-			on 2/25
If custody seals are present, are they intact? <sup>(1)</sup>	-			
Are samples due within 48 hours?	-			same day
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, Total Residual Chlorine (TRC)		-		
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	-			
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	-			
Were all samples received intact? <sup>(1)</sup>	-			
Was adequate sample volume provided? <sup>(1)</sup>	-			
Were samples provided in appropriate bottle ware?	-			
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>	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are any samples/bottles preserved (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.			-	
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?			-	
Are there requested analysis that cannot be performed by S2? Note analysis in the comments column		-		
Additional Comments (if any):				

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

Control Form #: SRC-001

SN  
Custodian Printed Name

2/25/25  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Wwall01 12Ft(2)**  
**2502438-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB1466	02/25/25	02/25/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0415	104 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.85	54.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**Wwall01 12Ft(2)**  
**2502438-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/16/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0233	69.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	72.0 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Wwall01 12Ft(2)  
2502438-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.10	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B
Barium	85.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.82	0.400	"	"	"	"	"	"
Lead	5.42	0.200	"	"	"	"	"	"
Nickel	3.71	0.400	"	"	"	"	"	"
Silver	0.0235	0.0200	"	"	"	"	"	"
Zinc	12.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	63.5	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	11.3	0.0500	"	"	"	"	"	"	
Sodium	41.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.26	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Wwall01 12Ft(2)  
 2502438-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BIB1478	02/26/25	02/26/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.362	0.0100	mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Wwall02 12Ft**  
**2502438-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB1466	02/25/25	02/25/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0360	90.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	94.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	4.06	32.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Wwall02 12Ft**  
**2502438-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/17/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0321	96.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0314	94.1 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PO Box 1289  
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Wwall02 12Ft**  
**2502438-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.747	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B
Barium	37.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.31	0.400	"	"	"	"	"	"
Lead	3.44	0.200	"	"	"	"	"	"
Nickel	1.56	0.400	"	"	"	"	"	"
Silver	0.0208	0.0200	"	"	"	"	"	"
Zinc	6.10	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	61.0	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	14.7	0.0500	"	"	"	"	"	"	
Sodium	105	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.13	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Wwall02 12Ft**  
**2502438-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.3			%	1	BIB1478	02/26/25	02/26/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.769	0.0100		mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.71			pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Ewall02 12Ft**  
**2502438-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.10</b>	0.0020	mg/kg	1	BIB1466	02/25/25	02/25/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.22</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>680</b>	5.0	"	10	"	"	02/26/25	"	

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %	50-150	"	"	"	02/25/25	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150	"	"	"	02/26/25	"	
Surrogate: 4-Bromofluorobenzene	0.0309	77.2 %	50-150	"	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>420</b>	50	mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.02	48.2 %	30-150	"	"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Ewall02 12Ft**  
**2502438-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/17/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	O-03
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0114</b>	0.00500	"	"	"	"	"	"	O-03
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0807</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.00695</b>	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.840</b>	0.0500	"	10	"	"	03/17/25	"	
<b>2-Methylnaphthalene</b>	<b>2.02</b>	0.0500	"	"	"	"	"	"	E

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0285	85.5 %	40-140		"	"	03/17/25	"	
Surrogate: Fluoranthene-d10	0.0244	73.3 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Ewall02 12Ft**  
**2502438-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.37	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B
Barium	55.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.12	0.400	"	"	"	"	"	"
Lead	5.20	0.200	"	"	"	"	"	"
Nickel	3.70	0.400	"	"	"	"	"	"
Silver	0.0291	0.0200	"	"	"	"	"	"
Zinc	11.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	44.5	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	10.9	0.0500	"	"	"	"	"	"	
Sodium	153	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.33	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Ewall02 12Ft**  
**2502438-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.0		%	1	BIB1478	02/26/25	02/26/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.687	0.0100	mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall01 12Ft**  
**2502438-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB1466	02/25/25	02/26/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0433	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	4.70	37.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall01 12Ft**  
**2502438-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/17/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	64.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.3 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall01 12Ft**  
**2502438-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.61	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B
Barium	77.5	0.400	"	"	"	"	"	"
Cadmium	0.254	0.200	"	"	"	"	"	"
Copper	6.45	0.400	"	"	"	"	"	"
Lead	8.26	0.200	"	"	"	"	"	"
Nickel	5.32	0.400	"	"	"	"	"	"
Silver	0.0425	0.0200	"	"	"	"	"	"
Zinc	19.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.7	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	9.16	0.0500	"	"	"	"	"	"	
Sodium	76.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.92	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Nwall01 12Ft**  
**2502438-04 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	79.4	%	1	BIB1478	02/26/25	02/26/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.441	0.0100	mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall02 12Ft**  
**2502438-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB1466	02/25/25	02/26/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0079</b>	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>21</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0437	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0354	88.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0464	116 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	5.67	45.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall02 12Ft**  
**2502438-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/17/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0399</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.147</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.316</b>	0.00500	"	"	"	"	"	"	E

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0256	76.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0265	79.6 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Nwall02 12Ft**  
**2502438-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.76	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B
Barium	76.0	0.400	"	"	"	"	"	"
Cadmium	0.236	0.200	"	"	"	"	"	"
Copper	5.72	0.400	"	"	"	"	"	"
Lead	7.66	0.200	"	"	"	"	"	"
Nickel	4.73	0.400	"	"	"	"	"	"
Silver	0.0423	0.0200	"	"	"	"	"	"
Zinc	18.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.9	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	5.47	0.0500	"	"	"	"	"	"	
Sodium	72.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.42	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Nwall02 12Ft**  
**2502438-05 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	82.8	%	1	BIB1478	02/26/25	02/26/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.379	0.0100	mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**CENBase01 13Ft**  
**2502438-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB1466	02/25/25	02/26/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.030</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.16</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.082</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.055</b>	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>150</b>	5.0	"	10	"	"	02/26/25	"	

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0376	93.9 %	50-150		"	"	02/26/25	"	
<i>Surrogate: Toluene-d8</i>	0.0347	86.7 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0515	129 %	50-150		"	"	02/26/25	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>350</b>	50	mg/kg	1	BIB1470	02/25/25	02/25/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	6.59	52.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**CENBase01 13Ft**  
**2502438-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIC0419	03/07/25	03/17/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0145</b>	0.00500	"	"	"	"	"	"	O-03
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00955</b>	0.00500	"	"	"	"	"	"	O-03
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0893</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.00750</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0301	90.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0341	102 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1475	02/26/25	02/27/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**CENBase01 13Ft**  
**2502438-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.836	0.200	mg/kg dry	1	BIB1408	02/26/25	02/26/25	EPA 6020B	
Barium	5.17	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.11	0.400	"	"	"	"	"	"	
Lead	2.15	0.200	"	"	"	"	"	"	
Nickel	0.907	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	2.47	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB1497	02/26/25	02/26/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.2	0.0500	mg/L dry	1	BIB1467	02/25/25	02/27/25	EPA 6020B	
Magnesium	9.50	0.0500	"	"	"	"	"	"	
Sodium	77.5	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.99	0.00100	units	1	BIB1649	02/28/25	02/28/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**CENBase01 13Ft  
 2502438-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.3		%	1	BIB1478	02/26/25	02/26/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.566	0.0100	mmhos/cm	1	BIB1471	02/25/25	02/26/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/25/25 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BIB1469	02/25/25	02/26/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

### 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 BIB1466 - EPA 5030 Soil MS

##### Blank (BIB1466-BLK1)

Prepared: 02/25/25 Analyzed: 02/26/25

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0366		"	0.0400		91.6	50-150				
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150				
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150				

##### LCS (BIB1466-BS1)

Prepared: 02/25/25 Analyzed: 02/26/25

Benzene	0.0953	0.0020	mg/kg	0.100		95.3	70-130				
Toluene	0.0978	0.0050	"	0.100		97.8	70-130				
Ethylbenzene	0.110	0.0050	"	0.100		110	70-130				
m,p-Xylene	0.196	0.010	"	0.200		98.0	70-130				
o-Xylene	0.0946	0.0050	"	0.100		94.6	70-130				
1,2,4-Trimethylbenzene	0.0905	0.0050	"	0.100		90.5	70-130				
1,3,5-Trimethylbenzene	0.0953	0.0050	"	0.100		95.3	70-130				
Naphthalene	0.0834	0.0038	"	0.100		83.4	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.2	50-150				
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150				
Surrogate: 4-Bromofluorobenzene	0.0339		"	0.0400		84.7	50-150				

##### Matrix Spike (BIB1466-MS1)

Source: 2502438-01

Prepared: 02/25/25 Analyzed: 02/26/25

Benzene	0.0868	0.0020	mg/kg	0.100	ND	86.8	70-130				
Toluene	0.0879	0.0050	"	0.100	ND	87.9	70-130				
Ethylbenzene	0.0973	0.0050	"	0.100	ND	97.3	70-130				
m,p-Xylene	0.174	0.010	"	0.200	ND	86.8	70-130				
o-Xylene	0.0841	0.0050	"	0.100	ND	84.1	70-130				
1,2,4-Trimethylbenzene	0.0763	0.0050	"	0.100	ND	76.3	70-130				
1,3,5-Trimethylbenzene	0.0819	0.0050	"	0.100	ND	81.9	70-130				
Naphthalene	0.0729	0.0038	"	0.100	ND	72.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.6	50-150				
Surrogate: Toluene-d8	0.0421		"	0.0400		105	50-150				
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.3	50-150				

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**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 BIB1466 - EPA 5030 Soil MS**

Matrix Spike Dup (BIB1466-MSD1)	Source: 2502438-01			Prepared: 02/25/25 Analyzed: 02/26/25						
Benzene	0.0944	0.0020	mg/kg	0.100	ND	94.4	70-130	8.31	30	
Toluene	0.0972	0.0050	"	0.100	ND	97.2	70-130	10.1	30	
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130	12.1	30	
m,p-Xylene	0.193	0.010	"	0.200	ND	96.5	70-130	10.6	30	
o-Xylene	0.0944	0.0050	"	0.100	ND	94.4	70-130	11.6	30	
1,2,4-Trimethylbenzene	0.0879	0.0050	"	0.100	ND	87.9	70-130	14.2	30	
1,3,5-Trimethylbenzene	0.0940	0.0050	"	0.100	ND	94.0	70-130	13.8	30	
Naphthalene	0.0742	0.0038	"	0.100	ND	74.2	70-130	1.88	30	
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.4	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150			

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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

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

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

**Batch BIB1470 - EPA 3550A**

**Blank (BIB1470-BLK1)**

Prepared: 02/25/25 Analyzed: 02/26/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	7.14		"	12.5		57.1	30-150			

**LCS (BIB1470-BS1)**

Prepared: 02/25/25 Analyzed: 02/26/25

C10-C28 (DRO)	419	50	mg/kg	500		83.9	70-130			
Surrogate: <i>o</i> -Terphenyl	8.46		"	12.5		67.7	30-150			

**Matrix Spike (BIB1470-MS1)**

Source: 2502434-01

Prepared: 02/25/25 Analyzed: 02/26/25

C10-C28 (DRO)	395	50	mg/kg	500	19.2	75.1	70-130			
Surrogate: <i>o</i> -Terphenyl	8.03		"	12.5		64.2	30-150			

**Matrix Spike Dup (BIB1470-MSD1)**

Source: 2502434-01

Prepared: 02/25/25 Analyzed: 02/26/25

C10-C28 (DRO)	399	50	mg/kg	500	19.2	76.0	70-130	1.20	20	
Surrogate: <i>o</i> -Terphenyl	8.24		"	12.5		65.9	30-150			

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

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

**Batch BIC0419 - EPA 5030 Soil MS**

**Blank (BIC0419-BLK1)**

Prepared: 03/07/25 Analyzed: 03/16/25

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0297		"	0.0333		89.1	40-140			
Surrogate: Fluoranthene-d10	0.0306		"	0.0333		91.8	40-140			

**LCS (BIC0419-BS1)**

Prepared: 03/07/25 Analyzed: 03/16/25

Acenaphthene	0.0277	0.00500	mg/kg	0.0333		83.0	40-140			
Anthracene	0.0285	0.00500	"	0.0333		85.5	40-140			
Benzo (a) anthracene	0.0290	0.00500	"	0.0333		86.9	40-140			
Benzo (a) pyrene	0.0290	0.00500	"	0.0333		87.1	40-140			
Benzo (b) fluoranthene	0.0298	0.00500	"	0.0333		89.3	40-140			
Benzo (k) fluoranthene	0.0294	0.00500	"	0.0333		88.1	40-140			
Chrysene	0.0283	0.00500	"	0.0333		84.9	40-140			
Dibenz (a,h) anthracene	0.0268	0.00500	"	0.0333		80.5	40-140			
Fluoranthene	0.0283	0.00500	"	0.0333		85.0	40-140			
Fluorene	0.0282	0.00500	"	0.0333		84.7	40-140			
Indeno (1,2,3-cd) pyrene	0.0178	0.00500	"	0.0333		53.4	40-140			
Pyrene	0.0289	0.00500	"	0.0333		86.6	40-140			
1-Methylnaphthalene	0.0294	0.00500	"	0.0333		88.2	40-140			
2-Methylnaphthalene	0.0297	0.00500	"	0.0333		89.2	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0301		"	0.0333		90.3	40-140			
Surrogate: Fluoranthene-d10	0.0298		"	0.0333		89.4	40-140			

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**PAH by EPA Method 8270D SIM - Quality Control**

**Summit Scientific**

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

**Batch BIC0419 - EPA 5030 Soil MS**

<b>Matrix Spike (BIC0419-MS1)</b>	<b>Source: 2502434-01</b>			<b>Prepared: 03/07/25 Analyzed: 03/16/25</b>						
Acenaphthene	0.0232	0.00500	mg/kg	0.0333	ND	69.6	40-140			
Anthracene	0.0237	0.00500	"	0.0333	ND	71.1	40-140			
Benzo (a) anthracene	0.0250	0.00500	"	0.0333	ND	75.1	40-140			
Benzo (a) pyrene	0.0242	0.00500	"	0.0333	ND	72.6	40-140			
Benzo (b) fluoranthene	0.0249	0.00500	"	0.0333	ND	74.7	40-140			
Benzo (k) fluoranthene	0.0244	0.00500	"	0.0333	ND	73.2	40-140			
Chrysene	0.0237	0.00500	"	0.0333	ND	71.0	40-140			
Dibenz (a,h) anthracene	0.0222	0.00500	"	0.0333	ND	66.7	40-140			
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.4	40-140			
Fluorene	0.0245	0.00500	"	0.0333	ND	73.5	40-140			
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.6	40-140			
Pyrene	0.0253	0.00500	"	0.0333	ND	75.8	40-140			
1-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.7	40-140			
2-Methylnaphthalene	0.0254	0.00500	"	0.0333	ND	76.1	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0261</i>		<i>"</i>	<i>0.0333</i>		<i>78.2</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0243</i>		<i>"</i>	<i>0.0333</i>		<i>73.0</i>	<i>40-140</i>			

<b>Matrix Spike Dup (BIC0419-MSD1)</b>	<b>Source: 2502434-01</b>			<b>Prepared: 03/07/25 Analyzed: 03/16/25</b>						
Acenaphthene	0.0266	0.00500	mg/kg	0.0333	ND	79.9	40-140	13.8	30	
Anthracene	0.0272	0.00500	"	0.0333	ND	81.5	40-140	13.7	30	
Benzo (a) anthracene	0.0283	0.00500	"	0.0333	ND	84.9	40-140	12.2	30	
Benzo (a) pyrene	0.0277	0.00500	"	0.0333	ND	83.1	40-140	13.4	30	
Benzo (b) fluoranthene	0.0280	0.00500	"	0.0333	ND	84.0	40-140	11.7	30	
Benzo (k) fluoranthene	0.0271	0.00500	"	0.0333	ND	81.4	40-140	10.6	30	
Chrysene	0.0265	0.00500	"	0.0333	ND	79.4	40-140	11.1	30	
Dibenz (a,h) anthracene	0.0275	0.00500	"	0.0333	ND	82.6	40-140	21.4	30	
Fluoranthene	0.0282	0.00500	"	0.0333	ND	84.5	40-140	19.7	30	
Fluorene	0.0288	0.00500	"	0.0333	ND	86.4	40-140	16.0	30	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	52.0	40-140	17.6	30	
Pyrene	0.0284	0.00500	"	0.0333	ND	85.2	40-140	11.7	30	
1-Methylnaphthalene	0.0300	0.00500	"	0.0333	ND	90.0	40-140	16.0	30	
2-Methylnaphthalene	0.0300	0.00500	"	0.0333	ND	90.0	40-140	16.7	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0314</i>		<i>"</i>	<i>0.0333</i>		<i>94.3</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0298</i>		<i>"</i>	<i>0.0333</i>		<i>89.5</i>	<i>40-140</i>			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

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

**Batch BIB1475 - EPA 3050B**

**Blank (BIB1475-BLK1)**

Prepared: 02/26/25 Analyzed: 02/27/25

Boron ND 2.00 mg/L

**LCS (BIB1475-BS1)**

Prepared: 02/26/25 Analyzed: 02/27/25

Boron 5.33 2.00 mg/L 5.00 107 80-120

**Duplicate (BIB1475-DUP1)**

Source: 2502204-01

Prepared: 02/26/25 Analyzed: 02/27/25

Boron 1.34 2.00 mg/L 1.23 8.11 20

**Matrix Spike (BIB1475-MS1)**

Source: 2502204-01

Prepared: 02/26/25 Analyzed: 02/27/25

Boron 5.43 2.00 mg/L 4.98 1.23 84.2 75-125

**Matrix Spike Dup (BIB1475-MSD1)**

Source: 2502204-01

Prepared: 02/26/25 Analyzed: 02/27/25

Boron 6.30 2.00 mg/L 4.98 1.23 102 75-125 14.9 25

Summit Scientific

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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BIB1408 - EPA 3050B**

**Blank (BIB1408-BLK1)**

Prepared & Analyzed: 02/26/25

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	ND	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

**LCS (BIB1408-BS1)**

Prepared & Analyzed: 02/26/25

Arsenic	36.2	0.200	mg/kg wet	39.7	91.2	80-120
Barium	37.4	0.400	"	39.7	94.1	80-120
Cadmium	1.90	0.200	"	1.98	95.9	80-120
Copper	38.2	0.400	"	39.7	96.2	80-120
Lead	18.6	0.200	"	19.8	93.7	80-120
Nickel	37.6	0.400	"	39.7	94.6	80-120
Silver	1.87	0.0200	"	1.98	94.5	80-120
Zinc	36.0	0.400	"	39.7	90.7	80-120
Selenium	3.89	0.260	"	3.97	98.0	80-120

**Duplicate (BIB1408-DUP1)**

Source: 2502436-01

Prepared & Analyzed: 02/26/25

Arsenic	2.51	0.200	mg/kg dry	5.68	77.5	20	QR-04
Barium	66.3	0.400	"	65.1	1.86	20	
Cadmium	0.217	0.200	"	0.249	13.8	20	
Copper	4.41	0.400	"	4.68	6.07	20	
Lead	4.54	0.200	"	4.60	1.28	20	
Nickel	4.41	0.400	"	4.13	6.40	20	
Silver	0.0252	0.0200	"	0.0284	12.0	20	
Zinc	17.8	0.400	"	18.5	3.93	20	
Selenium	0.208	0.260	"	0.232	10.6	20	

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 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BIB1408 - EPA 3050B**

**Matrix Spike (BIB1408-MS1)**

Source: 2502436-01

Prepared & Analyzed: 02/26/25

Arsenic	48.7	0.200	mg/kg dry	45.1	5.68	95.4	75-125			
Barium	112	0.400	"	45.1	65.1	104	75-125			
Cadmium	2.67	0.200	"	2.25	0.249	107	75-125			
Copper	39.3	0.400	"	45.1	4.68	76.8	75-125			
Lead	28.2	0.200	"	22.5	4.60	105	75-125			
Nickel	39.8	0.400	"	45.1	4.13	79.2	75-125			
Silver	2.42	0.0200	"	2.25	0.0284	106	75-125			
Zinc	55.1	0.400	"	45.1	18.5	81.2	75-125			
Selenium	5.13	0.260	"	4.51	0.232	109	75-125			

**Matrix Spike Dup (BIB1408-MSD1)**

Source: 2502436-01

Prepared & Analyzed: 02/26/25

Arsenic	43.3	0.200	mg/kg dry	43.6	5.68	86.3	75-125	11.6	25	
Barium	105	0.400	"	43.6	65.1	91.0	75-125	6.75	25	
Cadmium	2.34	0.200	"	2.18	0.249	95.8	75-125	13.2	25	
Copper	35.2	0.400	"	43.6	4.68	69.9	75-125	11.0	25	QM-05
Lead	25.5	0.200	"	21.8	4.60	96.0	75-125	9.98	25	
Nickel	34.5	0.400	"	43.6	4.13	69.6	75-125	14.3	25	QM-05
Silver	2.04	0.0200	"	2.18	0.0284	92.3	75-125	17.0	25	
Zinc	50.2	0.400	"	43.6	18.5	72.6	75-125	9.26	25	QM-05
Selenium	4.25	0.260	"	4.36	0.232	92.1	75-125	18.8	25	

Summit Scientific

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BIB1497 - 3060A Mod**

**Blank (BIB1497-BLK1)**

Prepared & Analyzed: 02/26/25

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BIB1497-BS1)**

Prepared & Analyzed: 02/26/25

Chromium, Hexavalent      22.7      0.30 mg/kg wet      23.8      95.4      80-120

**Duplicate (BIB1497-DUP1)**

**Source: 2502344-01**

Prepared & Analyzed: 02/26/25

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BIB1497-MS1)**

**Source: 2502344-01**

Prepared & Analyzed: 02/26/25

Chromium, Hexavalent      27.7      0.30 mg/kg dry      26.2      ND      106      75-125

**Matrix Spike Dup (BIB1497-MSD1)**

**Source: 2502344-01**

Prepared & Analyzed: 02/26/25

Chromium, Hexavalent      25.3      0.30 mg/kg dry      26.2      ND      96.4      75-125      9.11      20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**

**Summit Scientific**

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

**Batch BIB1467 - General Preparation**

**Blank (BIB1467-BLK1)**

Prepared: 02/25/25 Analyzed: 02/27/25

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

**LCS (BIB1467-BS1)**

Prepared: 02/25/25 Analyzed: 02/27/25

Calcium	4.71	0.0500	mg/L wet	5.00	94.2	70-130
Magnesium	4.86	0.0500	"	5.00	97.3	70-130
Sodium	4.44	0.0500	"	5.00	88.8	70-130

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

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

**Batch BIB1478 - General Preparation**

**Duplicate (BIB1478-DUP1)**

Source: 2502430-01

Prepared & Analyzed: 02/26/25

% Solids	91.6		%		90.7			0.979		20	
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Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

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

**Batch BIB1471 - General Preparation**

**Blank (BIB1471-BLK1)**

Prepared: 02/25/25 Analyzed: 02/26/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BIB1471-BS1)**

Prepared: 02/25/25 Analyzed: 02/26/25

Specific Conductance (EC) 1.39 0.0100 mmhos/cm 1.41 98.3 95-105

**Duplicate (BIB1471-DUP1)**

**Source: 2502436-01**

Prepared: 02/25/25 Analyzed: 02/26/25

Specific Conductance (EC) 3.50 0.0100 mmhos/cm 3.53 0.884 20

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
 Project Manager: Paul Henchan

**Reported:**  
 03/27/25 09:57

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

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

**Batch BIB1469 - General Preparation**

**LCS (BIB1469-BS1)**

Prepared: 02/25/25 Analyzed: 02/26/25

pH	9.17	pH Units	9.18	99.9	95-105
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**Duplicate (BIB1469-DUP1)**

Source: 2502436-01

Prepared: 02/25/25 Analyzed: 02/26/25

pH	7.77	pH Units	7.78	0.179	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01

Project Number: UWRWE-A4021-ENV CO24-121  
Project Manager: Paul Henchan

**Reported:**  
03/27/25 09:57

### Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values. Only applies to source/DUP and MS/MSD pairs.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- O-03 Due to matrix interference, the analyte cannot be accurately quantitated. The reported result is qualitative.
- 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