

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 03, 2025

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Work Order #2502126

Enclosed are the results of analyses for samples received by Summit Scientific on 02/07/25 16:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-CEN 0.5Ft	2502126-01	Soil	02/07/25 09:00	02/07/25 16:38
SB-CEN 10Ft	2502126-02	Soil	02/07/25 09:10	02/07/25 16:38
SB-W 5Ft	2502126-03	Soil	02/07/25 09:20	02/07/25 16:38
SB-W 9Ft	2502126-04	Soil	02/07/25 09:30	02/07/25 16:38
SB-S 4Ft	2502126-05	Soil	02/07/25 09:40	02/07/25 16:38
SB-S 12Ft	2502126-06	Soil	02/07/25 09:50	02/07/25 16:38
SB-N 6Ft	2502126-07	Soil	02/07/25 10:00	02/07/25 16:38
SB-N 9Ft	2502126-08	Soil	02/07/25 10:10	02/07/25 16:38
SB-NW 4Ft	2502126-09	Soil	02/07/25 10:20	02/07/25 16:38
SB-NW 14Ft	2502126-10	Soil	02/07/25 10:30	02/07/25 16:38
SB-NW2 4Ft	2502126-11	Soil	02/07/25 10:40	02/07/25 16:38
SB-NW2 12Ft	2502126-12	Soil	02/07/25 10:50	02/07/25 16:38

Summit Scientific

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4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 1
2502126	

Send Data To:		Send Invoice To:	
Client: Fremont	Project Manager: Paul Henehan	Company: Chevron	
Address:	E-Mail:	Project Name/Location:	
City/State/Zip:		AFE#:	
Phone:	Project Name: Coleman VolKens Long T4N-R6W-S22 Lot (SI)	PO/Billing Codes: UWRWF-A4021-ENV	
Sampler Name: Aaron Olliver	Project Number: C024-121	Contact: Dan Peterson	

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	SB-CEN 0.5ft	2/1/25	0900	2			2			X									
2	SB-CEN 10ft		0910																
3	SB-W 5ft		0920																
4	SB-W 9ft		0930																
5	SB-E 4ft		0940																
6	SB-E 12ft		0950																
7	SB-N 6ft		1000																
8	SB-N 9ft		1010																
9	SB-NW 4ft		1020																
10	SB-NW 14ft		1030																
11	SB-NW2 4ft		1040																
12	SB-NW2 12ft		1050																
13																			
14																			
15																			

Relinquished by: <i>Aaron Olliver</i>	Date/Time: 2/1/25 1638	Received by: Summit North Office	Date/Time: 2/1/25 1638	TAT Business Days	Field DO	Notes:	
				Same Day	X		Field EC
Relinquished by: SL	Date/Time: 2/25 1638	Received by: <i>[Signature]</i>	Date/Time: 2/25 1638	1 Day			Field ORP
				2 Days			Field pH
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days			Field Temp.
				Standard		Field Turb.	
Temperature Upon Receipt: 32	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:				

# S<sub>2</sub>

S2 Work Order# 2502126**Sample Receipt Checklist**

T4N-R64W-522 101 (SI)

Client: Fremont Client Project ID: Coleman Volkers LangReceived Via: H.D./P.U./FedEx/UPS/USPS/Other  Airbill #: \_\_\_\_\_Matrix (Circle all that apply) Air/Soil/Water/Other  Temp (°C) 3.2 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.	-			<u>cooling</u>
If custody seals are present, are they intact? <sup>(1)</sup>	-			
Are samples due within 48 hours?	-			<u>same day</u>
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>		✓		<u>sent extra sample</u>
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>		✓		<u>no sample times</u>
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): <u>SB - CEN 12 ft</u>				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Control Form #: SRC-001

AS  
Custodian Printed Name2/7/25  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-CEN 0.5Ft**  
**2502126-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0398	02/07/25	02/08/25	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		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.1</b>	<b>0.50</b>		"	"	"	"	"	"	

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0353	88.3 %		50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0422	106 %		50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0401	100 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>	7.70	61.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**2502126-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0183	54.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0221	66.3 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-CEN 0.5Ft  
2502126-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.05	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B
Barium	132	0.400	"	"	"	"	"	"
Cadmium	0.274	0.200	"	"	"	"	"	"
Copper	16.4	0.400	"	"	"	"	"	"
Lead	11.8	0.200	"	"	"	"	"	"
Nickel	11.8	0.400	"	"	"	"	"	"
Silver	0.0578	0.0200	"	"	"	"	"	"
Zinc	56.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.3	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	6.83	0.0500	"	"	"	"	"	"	
Sodium	32.7	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.58	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 09:00**

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

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-CEN 0.5Ft  
 2502126-01 (Soil)**

**Summit Scientific**

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

% Solids	81.6	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.367	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-CEN 10Ft**  
**2502126-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.020	mg/kg	10	BIB0398	02/07/25	02/09/25	EPA 8260B	R-05
Toluene	ND	0.050	"	"	"	"	"	"	R-05
Ethylbenzene	ND	0.050	"	"	"	"	"	"	R-05
Xylenes (total)	ND	0.10	"	"	"	"	"	"	R-05
1,2,4-Trimethylbenzene	ND	0.050	"	"	"	"	"	"	R-05
1,3,5-Trimethylbenzene	ND	0.050	"	"	"	"	"	"	R-05
Naphthalene	ND	0.038	"	"	"	"	"	"	R-05
<b>Gasoline Range Hydrocarbons</b>	<b>100</b>	5.0	"	"	"	"	"	"	

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0314	78.6 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0347	86.7 %	50-150	"	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>C10-C28 (DRO)</b>	<b>830</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>130</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.23	65.8 %	30-150	"	"	"	"	"	

**PAH by EPA Method 8270D SIM**

**O-02**

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Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-CEN 10Ft**  
**2502126-02 (Soil)**

Summit Scientific

**PAH by EPA Method 8270D SIM**

**O-02**

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0250</b>	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0234</b>	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.260</b>	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00271	8.14 %	40-140		"	"	"	"	S-04
Surrogate: Fluoranthene-d10	0.0297	89.0 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:10**

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

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-CEN 10Ft**  
**2502126-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.933	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	22.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.21	0.400	"	"	"	"	"	"	
Lead	2.74	0.200	"	"	"	"	"	"	
Nickel	1.86	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	9.62	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.2	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	8.91	0.0500	"	"	"	"	"	"	
Sodium	54.6	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.20	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

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 Project Manager: Paul Henchan

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

**SB-CEN 10Ft**  
**2502126-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.9		%	1	BIB0427	02/10/25	02/10/25	Calculation	

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.613	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.99		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 5Ft**  
**2502126-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0398	02/07/25	02/08/25	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: **02/07/25 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.64	69.1 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 5Ft**  
**2502126-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0187	56.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.0 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:20**

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 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 5Ft**  
**2502126-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.70	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	105	0.400	"	"	"	"	"	"	
Cadmium	0.297	0.200	"	"	"	"	"	"	
Copper	12.5	0.400	"	"	"	"	"	"	
Lead	11.4	0.200	"	"	"	"	"	"	
Nickel	10.5	0.400	"	"	"	"	"	"	
Silver	0.0522	0.0200	"	"	"	"	"	"	
Zinc	49.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.0	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	11.7	0.0500	"	"	"	"	"	"	
Sodium	32.0	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.13	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 09:20**

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 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-W 5Ft**  
**2502126-03 (Soil)**

**Summit Scientific**

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

% Solids	82.2	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.574	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 9Ft**  
**2502126-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0398	02/07/25	02/09/25	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>0.071</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>6.5</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0326	81.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0293	73.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>510</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>87</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.1	81.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 9Ft**  
**2502126-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.00883</b>	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00514</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0561</b>	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: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.4 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:30**

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 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-W 9Ft**  
**2502126-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.11	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	58.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	9.56	0.400	"	"	"	"	"	"	
Lead	8.97	0.200	"	"	"	"	"	"	
Nickel	7.59	0.400	"	"	"	"	"	"	
Silver	0.0420	0.0200	"	"	"	"	"	"	
Zinc	38.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	44.6	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	9.52	0.0500	"	"	"	"	"	"	
Sodium	36.7	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.30	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-W 9Ft**  
**2502126-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>80.4</b>		%	1	BIB0427	02/10/25	02/10/25	Calculation	

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.314</b>	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.73</b>		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

Summit Scientific

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 4Ft**  
**2502126-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0398	02/07/25	02/08/25	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: **02/07/25 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0361	90.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.98	63.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 4Ft**  
**2502126-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0282	84.6 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:40**

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 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 4Ft**  
**2502126-05 (Soil)**

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**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.93	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	125	0.400	"	"	"	"	"	"	
Cadmium	0.287	0.200	"	"	"	"	"	"	
Copper	15.1	0.400	"	"	"	"	"	"	
Lead	11.2	0.200	"	"	"	"	"	"	
Nickel	11.8	0.400	"	"	"	"	"	"	
Silver	0.0538	0.0200	"	"	"	"	"	"	
Zinc	54.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.2	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	6.94	0.0500	"	"	"	"	"	"	
Sodium	41.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.85	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 09:40**

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

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-S 4Ft**  
**2502126-05 (Soil)**

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

% Solids	75.4	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.392</b>	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.30</b>		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 12Ft**  
**2502126-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0398	02/07/25	02/08/25	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: **02/07/25 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0327	81.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0373	93.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.2	81.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 12Ft**  
**2502126-06 (Soil)**

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**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0240	72.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0302	90.5 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 09:50**

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

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-S 12Ft**  
**2502126-06 (Soil)**

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**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.37	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	4.55	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.714	0.400	"	"	"	"	"	"	
Lead	1.14	0.200	"	"	"	"	"	"	
Nickel	1.01	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.73	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.9	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	17.4	0.0500	"	"	"	"	"	"	
Sodium	94.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.54	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)  
 Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-S 12Ft**  
**2502126-06 (Soil)**

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.1		%	1	BIB0427	02/10/25	02/10/25	Calculation	

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.26	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-N 6Ft**  
**2502126-07 (Soil)**

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0398	02/07/25	02/09/25	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>0.11</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>18</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0341	85.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0654	163 %	50-150		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene	0.0695	174 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>1100</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>160</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.88	79.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project Manager: Paul Henchan

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

**SB-N 6Ft**  
**2502126-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00505</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0596</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.259</b>	0.00500	"	"	"	"	"	"	E
<b>2-Methylnaphthalene</b>	<b>0.649</b>	0.00500	"	"	"	"	"	"	E

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.1 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>2.09</b>	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:00**

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

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-N 6Ft**  
**2502126-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.55	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	88.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	8.94	0.400	"	"	"	"	"	"	
Lead	6.95	0.200	"	"	"	"	"	"	
Nickel	6.31	0.400	"	"	"	"	"	"	
Silver	0.0323	0.0200	"	"	"	"	"	"	
Zinc	36.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	58.6	0.0500	mg/L dry	1	BIB0394	02/07/25	02/10/25	EPA 6020B	
Magnesium	9.75	0.0500	"	"	"	"	"	"	
Sodium	67.0	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.13	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

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Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-N 6Ft**  
**2502126-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.6		%	1	BIB0427	02/10/25	02/10/25	Calculation	

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.365	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-N 9Ft**  
**2502126-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.033</b>	0.0020	mg/kg	1	BIB0398	02/07/25	02/09/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.027</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.012</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.78</b>	0.038	"	10	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>360</b>	5.0	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0283	70.6 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.637	1590 %	50-150		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>	0.427	1070 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>1200</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>220</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	8.78	70.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-N 9Ft**  
**2502126-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0333</b>	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0253</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0181</b>	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.113</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>1.25</b>	0.0500	"	10	"	"	02/27/25	"	
<b>2-Methylnaphthalene</b>	<b>3.07</b>	0.0500	"	"	"	"	"	"	E

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0428	129 %	40-140		"	"	"	"	E
Surrogate: Fluoranthene-d10	0.0388	116 %	40-140		"	"	02/24/25	"	

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

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:10**

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 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-N 9Ft**  
**2502126-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.17	0.200	mg/kg dry	1	BIB0454	02/10/25	02/11/25	EPA 6020B	
Barium	21.3	0.400	"	"	"	"	"	"	
Cadmium	1.49	0.200	"	"	"	"	"	"	
Copper	4.26	0.400	"	"	"	"	"	"	
Lead	3.25	0.200	"	"	"	"	"	"	
Nickel	1.49	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.24	0.400	"	"	"	"	"	"	
Selenium	0.298	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	133	0.0500	mg/L dry	1	BIB0394	02/07/25	02/11/25	EPA 6020B	
Magnesium	23.2	0.0500	"	"	"	"	"	"	
Sodium	78.7	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.66	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 10:10**

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

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-N 9Ft**  
**2502126-08 (Soil)**

**Summit Scientific**

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

% Solids	86.5	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.490	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 4Ft**  
**2502126-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0398	02/07/25	02/09/25	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>0.094</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>14</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0335	83.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0430	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0248	62.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>560</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>110</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.83	78.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 4Ft**  
**2502126-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0178</b>	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0112</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.00762</b>	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0830</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.735</b>	0.0500	"	10	"	"	02/27/25	"	
<b>2-Methylnaphthalene</b>	<b>1.76</b>	0.0500	"	"	"	"	"	"	E

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0347	104 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.1 %	40-140		"	"	02/24/25	"	

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

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:20**

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 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 4Ft**  
**2502126-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.81	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B
Barium	101	0.400	"	"	"	"	"	"
Cadmium	0.224	0.200	"	"	"	"	"	"
Copper	10.8	0.400	"	"	"	"	"	"
Lead	9.22	0.200	"	"	"	"	"	"
Nickel	8.83	0.400	"	"	"	"	"	"
Silver	0.0391	0.0200	"	"	"	"	"	"
Zinc	38.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.4	0.0500	mg/L dry	1	BIB0394	02/07/25	02/11/25	EPA 6020B	
Magnesium	8.40	0.0500	"	"	"	"	"	"	
Sodium	38.7	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.77	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)  
 Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-NW 4Ft**  
**2502126-09 (Soil)**

**Summit Scientific**

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

% Solids	87.3	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.461	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 14Ft**  
**2502126-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0398	02/07/25	02/08/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.16</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>9.5</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0361	90.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0425	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>6200</b>	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>880</b>	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.7	85.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 14Ft**  
**2502126-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.336	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	EPA 8270D SIM	
Anthracene	1.26	0.00500	"	"	"	"	"	"	E
Benzo (a) anthracene	0.135	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.00668	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00747	0.00500	"	"	"	"	"	"	
Chrysene	0.123	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0476	0.00500	"	"	"	"	"	"	
Fluorene	0.746	0.100	"	20	"	"	02/27/25	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	02/24/25	"	
Pyrene	0.0490	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	1.77	0.100	"	20	"	"	02/27/25	"	
2-Methylnaphthalene	1.93	0.100	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00359	10.8 %	40-140		"	"	02/24/25	"	S-04
Surrogate: Fluoranthene-d10	0.0404	121 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.623	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	

Summit Scientific

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW 14Ft  
2502126-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	4.67	0.400	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.822	0.400	"	"	"	"	"	"	
Lead	1.70	0.200	"	"	"	"	"	"	
Nickel	0.947	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.63	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.84	0.0500	mg/L dry	1	BIB0394	02/07/25	02/11/25	EPA 6020B	
Magnesium	23.7	0.0500	"	"	"	"	"	"	
Sodium	150	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.10	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)  
 Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-NW 14Ft  
 2502126-10 (Soil)**

**Summit Scientific**

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

% Solids	85.9	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.56	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW2 4Ft**  
**2502126-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0398	02/07/25	02/08/25	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: **02/07/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0329	82.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0399	02/07/25	02/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.65	69.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW2 4Ft**  
**2502126-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0262	78.5 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:40**

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

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW2 4Ft  
2502126-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.56	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	154	0.400	"	"	"	"	"	"	
Cadmium	0.372	0.200	"	"	"	"	"	"	
Copper	15.8	0.400	"	"	"	"	"	"	
Lead	12.2	0.200	"	"	"	"	"	"	
Nickel	14.8	0.400	"	"	"	"	"	"	
Silver	0.0616	0.0200	"	"	"	"	"	"	
Zinc	57.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.999	0.0500	mg/L dry	1	BIB0394	02/07/25	02/11/25	EPA 6020B	
Magnesium	8.02	0.0500	"	"	"	"	"	"	
Sodium	69.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.10	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)  
 Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

**SB-NW2 4Ft  
 2502126-11 (Soil)**

**Summit Scientific**

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

% Solids	79.9	%	1	BIB0427	02/10/25	02/10/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.651	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW2 12Ft**  
**2502126-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BIB0398	02/07/25	02/08/25	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: **02/07/25 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0336	83.9 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.8 %	50-150	"	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BIB0399	02/07/25	02/08/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.95	71.6 %	30-150	"	"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project Manager: Paul Henchan

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

**SB-NW2 12Ft**  
**2502126-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0970	02/18/25	02/24/25	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: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0195	58.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0260	78.1 %	40-140		"	"	"	"	

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0428	02/10/25	02/10/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/07/25 10:50**

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

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

**SB-NW2 12Ft**  
**2502126-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.832	0.200	mg/kg dry	1	BIB0454	02/10/25	02/10/25	EPA 6020B	
Barium	6.05	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.08	0.400	"	"	"	"	"	"	
Lead	1.35	0.200	"	"	"	"	"	"	
Nickel	0.838	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.44	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0413	02/09/25	02/10/25	EPA 7196A	

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5.37	0.0500	mg/L dry	1	BIB0394	02/07/25	02/11/25	EPA 6020B	
Magnesium	12.4	0.0500	"	"	"	"	"	"	
Sodium	82.5	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.47	0.00100	units	1	BIB0605	02/12/25	02/12/25	Calculation	

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

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 Project Manager: Paul Henchan

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

**SB-NW2 12Ft  
 2502126-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.2		%	1	BIB0427	02/10/25	02/10/25	Calculation	

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.02	0.0100	mmhos/cm	1	BIB0395	02/07/25	02/10/25	EPA 120.1	

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

Date Sampled: **02/07/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.85		pH Units	1	BIB0396	02/07/25	02/10/25	EPA 9045D	

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Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

Reported:  
03/03/25 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 BIB0398 - EPA 5030 Soil MS

##### Blank (BIB0398-BLK1)

Prepared: 02/07/25 Analyzed: 02/08/25

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	0.0369		"	0.0400		92.3	50-150				
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6	50-150				
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.2	50-150				

##### LCS (BIB0398-BS1)

Prepared: 02/07/25 Analyzed: 02/08/25

Benzene	0.0915	0.0020	mg/kg	0.100		91.5	70-130				
Toluene	0.0890	0.0050	"	0.100		89.0	70-130				
Ethylbenzene	0.0988	0.0050	"	0.100		98.8	70-130				
m,p-Xylene	0.188	0.010	"	0.200		94.1	70-130				
o-Xylene	0.0918	0.0050	"	0.100		91.8	70-130				
1,2,4-Trimethylbenzene	0.0896	0.0050	"	0.100		89.6	70-130				
1,3,5-Trimethylbenzene	0.0916	0.0050	"	0.100		91.6	70-130				
Naphthalene	0.0716	0.0038	"	0.100		71.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.7	50-150				
Surrogate: Toluene-d8	0.0413		"	0.0400		103	50-150				
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.6	50-150				

##### Matrix Spike (BIB0398-MS1)

Source: 2502126-01

Prepared: 02/07/25 Analyzed: 02/08/25

Benzene	0.0789	0.0020	mg/kg	0.100	ND	78.9	70-130				
Toluene	0.0730	0.0050	"	0.100	ND	73.0	70-130				
Ethylbenzene	0.0769	0.0050	"	0.100	ND	76.9	70-130				
m,p-Xylene	0.151	0.010	"	0.200	ND	75.3	70-130				
o-Xylene	0.0716	0.0050	"	0.100	ND	71.6	70-130				
1,2,4-Trimethylbenzene	0.0638	0.0050	"	0.100	ND	63.8	70-130				QM-05
1,3,5-Trimethylbenzene	0.0647	0.0050	"	0.100	ND	64.7	70-130				QM-05
Naphthalene	0.0631	0.0038	"	0.100	ND	63.1	70-130				QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0371		"	0.0400		92.8	50-150				
Surrogate: Toluene-d8	0.0455		"	0.0400		114	50-150				
Surrogate: 4-Bromofluorobenzene	0.0657		"	0.0400		164	50-150				QM-05

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Fremont Environmental  
 PO Box 1289  
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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 03/03/25 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 BIB0398 - EPA 5030 Soil MS**

Matrix Spike Dup (BIB0398-MSD1)	Source: 2502126-01			Prepared: 02/07/25 Analyzed: 02/08/25						
Benzene	0.0860	0.0020	mg/kg	0.100	ND	86.0	70-130	8.58	30	
Toluene	0.0765	0.0050	"	0.100	ND	76.5	70-130	4.74	30	
Ethylbenzene	0.0757	0.0050	"	0.100	ND	75.7	70-130	1.61	30	
m,p-Xylene	0.143	0.010	"	0.200	ND	71.7	70-130	4.84	30	
o-Xylene	0.0702	0.0050	"	0.100	ND	70.2	70-130	1.86	30	
1,2,4-Trimethylbenzene	0.0596	0.0050	"	0.100	ND	59.6	70-130	6.66	30	QM-05
1,3,5-Trimethylbenzene	0.0599	0.0050	"	0.100	ND	59.9	70-130	7.80	30	QM-05
Naphthalene	0.0553	0.0038	"	0.100	ND	55.3	70-130	13.2	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0490		"	0.0400		122	50-150			
Surrogate: 4-Bromofluorobenzene	0.0498		"	0.0400		125	50-150			

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

**Reported:**  
03/03/25 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 BIB0399 - EPA 3550A**

**Blank (BIB0399-BLK1)**

Prepared & Analyzed: 02/07/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		102	30-150			

**LCS (BIB0399-BS1)**

Prepared & Analyzed: 02/07/25

C10-C28 (DRO)	501	50	mg/kg	500	6.32	109	70-130			
Surrogate: <i>o</i> -Terphenyl	10.9		"	12.5		87.4	30-150			

**Matrix Spike (BIB0399-MS1)**

Source: 2502126-01

Prepared: 02/07/25 Analyzed: 02/08/25

C10-C28 (DRO)	551	50	mg/kg	500	6.32	109	70-130			
Surrogate: <i>o</i> -Terphenyl	7.90		"	12.5		63.2	30-150			

**Matrix Spike Dup (BIB0399-MSD1)**

Source: 2502126-01

Prepared: 02/07/25 Analyzed: 02/08/25

C10-C28 (DRO)	474	50	mg/kg	500	6.32	93.4	70-130	15.1	20	
Surrogate: <i>o</i> -Terphenyl	7.46		"	12.5		59.7	30-150			

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

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

**Summit Scientific**

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

**Batch BIB0970 - EPA 5030 Soil MS**

**Blank (BIB0970-BLK1)**

Prepared: 02/18/25 Analyzed: 02/24/25

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	0.0197		"	0.0333		59.2	40-140			
Surrogate: Fluoranthene-d10	0.0238		"	0.0333		71.3	40-140			

**LCS (BIB0970-BS1)**

Prepared: 02/18/25 Analyzed: 02/24/25

Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.4	40-140			
Anthracene	0.0288	0.00500	"	0.0333		86.3	40-140			
Benzo (a) anthracene	0.0275	0.00500	"	0.0333		82.6	40-140			
Benzo (a) pyrene	0.0293	0.00500	"	0.0333		88.0	40-140			
Benzo (b) fluoranthene	0.0291	0.00500	"	0.0333		87.2	40-140			
Benzo (k) fluoranthene	0.0294	0.00500	"	0.0333		88.1	40-140			
Chrysene	0.0278	0.00500	"	0.0333		83.3	40-140			
Dibenz (a,h) anthracene	0.0319	0.00500	"	0.0333		95.7	40-140			
Fluoranthene	0.0273	0.00500	"	0.0333		81.8	40-140			
Fluorene	0.0265	0.00500	"	0.0333		79.4	40-140			
Indeno (1,2,3-cd) pyrene	0.0211	0.00500	"	0.0333		63.2	40-140			
Pyrene	0.0292	0.00500	"	0.0333		87.6	40-140			
1-Methylnaphthalene	0.0251	0.00500	"	0.0333		75.4	40-140			
2-Methylnaphthalene	0.0259	0.00500	"	0.0333		77.8	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0244		"	0.0333		73.1	40-140			
Surrogate: Fluoranthene-d10	0.0279		"	0.0333		83.6	40-140			

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

**Reported:**  
03/03/25 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 BIB0970 - EPA 5030 Soil MS**

<b>Matrix Spike (BIB0970-MS1)</b>	<b>Source: 2502116-01</b>			Prepared: 02/18/25 Analyzed: 02/24/25					
Acenaphthene	0.0258	0.00500	mg/kg	0.0333	ND	77.4	40-140		
Anthracene	0.0272	0.00500	"	0.0333	ND	81.6	40-140		
Benzo (a) anthracene	0.0269	0.00500	"	0.0333	ND	80.6	40-140		
Benzo (a) pyrene	0.0281	0.00500	"	0.0333	ND	84.3	40-140		
Benzo (b) fluoranthene	0.0279	0.00500	"	0.0333	ND	83.6	40-140		
Benzo (k) fluoranthene	0.0281	0.00500	"	0.0333	ND	84.4	40-140		
Chrysene	0.0272	0.00500	"	0.0333	ND	81.5	40-140		
Dibenz (a,h) anthracene	0.0351	0.00500	"	0.0333	ND	105	40-140		
Fluoranthene	0.0260	0.00500	"	0.0333	ND	78.1	40-140		
Fluorene	0.0258	0.00500	"	0.0333	ND	77.4	40-140		
Indeno (1,2,3-cd) pyrene	0.0319	0.00500	"	0.0333	ND	95.7	40-140		
Pyrene	0.0316	0.00500	"	0.0333	ND	94.7	40-140		
1-Methylnaphthalene	0.0231	0.00500	"	0.0333	ND	69.4	40-140		
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	40-140		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.3</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0264</i>		<i>"</i>	<i>0.0333</i>		<i>79.3</i>	<i>40-140</i>		

<b>Matrix Spike Dup (BIB0970-MSD1)</b>	<b>Source: 2502116-01</b>			Prepared: 02/18/25 Analyzed: 02/24/25					
Acenaphthene	0.0234	0.00500	mg/kg	0.0333	ND	70.3	40-140	9.65	30
Anthracene	0.0240	0.00500	"	0.0333	ND	71.9	40-140	12.7	30
Benzo (a) anthracene	0.0239	0.00500	"	0.0333	ND	71.7	40-140	11.8	30
Benzo (a) pyrene	0.0255	0.00500	"	0.0333	ND	76.5	40-140	9.73	30
Benzo (b) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.5	40-140	10.2	30
Benzo (k) fluoranthene	0.0257	0.00500	"	0.0333	ND	77.1	40-140	8.99	30
Chrysene	0.0239	0.00500	"	0.0333	ND	71.8	40-140	12.7	30
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333	ND	84.9	40-140	21.4	30
Fluoranthene	0.0230	0.00500	"	0.0333	ND	69.1	40-140	12.3	30
Fluorene	0.0231	0.00500	"	0.0333	ND	69.3	40-140	11.0	30
Indeno (1,2,3-cd) pyrene	0.0295	0.00500	"	0.0333	ND	88.5	40-140	7.82	30
Pyrene	0.0267	0.00500	"	0.0333	ND	80.0	40-140	16.9	30
1-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.4	40-140	8.96	30
2-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.5	40-140	17.1	30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		<i>"</i>	<i>0.0333</i>		<i>60.7</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0232</i>		<i>"</i>	<i>0.0333</i>		<i>69.7</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 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

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

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

**Batch BIB0428 - EPA 3050B**

**Blank (BIB0428-BLK1)**

Prepared & Analyzed: 02/10/25

Boron ND 2.00 mg/L

**LCS (BIB0428-BS1)**

Prepared: 02/10/25 Analyzed: 02/11/25

Boron 5.02 2.00 mg/L 5.00 100 80-120

**Duplicate (BIB0428-DUP1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Boron 0.656 2.00 mg/L 0.707 7.51 20

**Matrix Spike (BIB0428-MS1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Boron 5.03 2.00 mg/L 5.00 0.707 86.5 75-125

**Matrix Spike Dup (BIB0428-MSD1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Boron 5.50 2.00 mg/L 5.00 0.707 95.9 75-125 8.98 25

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

**Reported:**  
03/03/25 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 BIB0454 - EPA 3050B**

**Blank (BIB0454-BLK1)**

Prepared & Analyzed: 02/10/25

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 (BIB0454-BS1)**

Prepared & Analyzed: 02/10/25

Arsenic	40.7	0.200	mg/kg wet	40.3	101	80-120
Barium	42.1	0.400	"	40.3	104	80-120
Cadmium	2.06	0.200	"	2.02	102	80-120
Copper	42.6	0.400	"	40.3	106	80-120
Lead	20.5	0.200	"	20.2	102	80-120
Nickel	42.3	0.400	"	40.3	105	80-120
Silver	2.06	0.0200	"	2.02	102	80-120
Zinc	41.6	0.400	"	40.3	103	80-120
Selenium	3.88	0.260	"	4.03	96.3	80-120

**Duplicate (BIB0454-DUP1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Arsenic	2.72	0.200	mg/kg dry	3.05	11.3	20
Barium	115	0.400	"	132	14.4	20
Cadmium	0.254	0.200	"	0.274	7.39	20
Copper	14.0	0.400	"	16.4	16.2	20
Lead	10.9	0.200	"	11.8	8.36	20
Nickel	9.65	0.400	"	11.8	20.2	20
Silver	0.0494	0.0200	"	0.0578	15.6	20
Zinc	48.4	0.400	"	56.3	15.0	20
Selenium	ND	0.260	"	ND		20

QR-04

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 03/03/25 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 BIB0454 - EPA 3050B**

**Matrix Spike (BIB0454-MS1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Arsenic	50.7	0.200	mg/kg dry	47.5	3.05	100	75-125			
Barium	172	0.400	"	47.5	132	82.5	75-125			
Cadmium	2.79	0.200	"	2.38	0.274	106	75-125			
Copper	67.6	0.400	"	47.5	16.4	108	75-125			
Lead	35.7	0.200	"	23.8	11.8	100	75-125			
Nickel	60.7	0.400	"	47.5	11.8	103	75-125			
Silver	2.49	0.0200	"	2.38	0.0578	102	75-125			
Zinc	105	0.400	"	47.5	56.3	102	75-125			
Selenium	3.72	0.260	"	4.75	ND	78.3	75-125			

**Matrix Spike Dup (BIB0454-MSD1)**

Source: 2502126-01

Prepared & Analyzed: 02/10/25

Arsenic	54.5	0.200	mg/kg dry	51.1	3.05	101	75-125	7.25	25
Barium	186	0.400	"	51.1	132	105	75-125	7.97	25
Cadmium	3.02	0.200	"	2.55	0.274	108	75-125	8.04	25
Copper	71.0	0.400	"	51.1	16.4	107	75-125	4.80	25
Lead	38.9	0.200	"	25.5	11.8	106	75-125	8.51	25
Nickel	65.5	0.400	"	51.1	11.8	105	75-125	7.52	25
Silver	2.70	0.0200	"	2.55	0.0578	104	75-125	8.16	25
Zinc	117	0.400	"	51.1	56.3	120	75-125	11.3	25
Selenium	4.13	0.260	"	5.11	ND	80.9	75-125	10.5	25

Summit Scientific

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Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

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

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

**Batch BIB0413 - 3060A Mod**

**Blank (BIB0413-BLK1)**

Prepared: 02/09/25 Analyzed: 02/10/25

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BIB0413-BS1)**

Prepared: 02/09/25 Analyzed: 02/10/25

Chromium, Hexavalent      26.7      0.30 mg/kg wet      25.3      106      80-120

**Duplicate (BIB0413-DUP1)**

**Source: 2501404-01**

Prepared: 02/09/25 Analyzed: 02/10/25

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BIB0413-MS1)**

**Source: 2501404-01**

Prepared: 02/09/25 Analyzed: 02/10/25

Chromium, Hexavalent      30.0      0.30 mg/kg dry      30.3      ND      98.8      75-125

**Matrix Spike Dup (BIB0413-MSD1)**

**Source: 2501404-01**

Prepared: 02/09/25 Analyzed: 02/10/25

Chromium, Hexavalent      27.6      0.30 mg/kg dry      28.0      ND      98.6      75-125      8.20      20

Summit Scientific

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 03/03/25 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 BIB0394 - General Preparation**

**Blank (BIB0394-BLK1)**

Prepared: 02/07/25 Analyzed: 02/10/25

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

**LCS (BIB0394-BS1)**

Prepared: 02/07/25 Analyzed: 02/10/25

Calcium	5.72	0.0500	mg/L wet	5.00	114	70-130				
Magnesium	5.23	0.0500	"	5.00	105	70-130				
Sodium	5.26	0.0500	"	5.00	105	70-130				

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 03/03/25 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 BIB0427 - General Preparation**

**Duplicate (BIB0427-DUP1)**

**Source: 2502126-01**

Prepared & Analyzed: 02/10/25

% Solids	79.2		%		81.6			2.91	20	
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Summit Scientific

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Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

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

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

**Summit Scientific**

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

**Batch BIB0395 - General Preparation**

**Blank (BIB0395-BLK1)**

Prepared: 02/07/25 Analyzed: 02/10/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BIB0395-BS1)**

Prepared: 02/07/25 Analyzed: 02/10/25

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BIB0395-DUP1)**

Source: 2502126-01

Prepared: 02/07/25 Analyzed: 02/10/25

Specific Conductance (EC) 0.372 0.0100 mmhos/cm 0.367 1.25 20

Summit Scientific

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 03/03/25 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 BIB0396 - General Preparation**

**LCS (BIB0396-BS1)**

Prepared: 02/07/25 Analyzed: 02/10/25

pH	9.12		pH Units	9.18		99.3	95-105			
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**Duplicate (BIB0396-DUP1)**

Source: 2502126-01

Prepared: 02/07/25 Analyzed: 02/10/25

pH	8.13		pH Units	8.20		0.857	20			
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Summit Scientific

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Project: Noble - Coleman Volkens Lang T4N-R64W-S22 L01 (SI)

Project Number: UWRWE-A4021-ABN  
Project Manager: Paul Henchan

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

### Notes and Definitions

- S-04 A sample matrix effect prevented complete surrogate recovery.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to matrix interference. Matrix interference was verified via reanalysis.
- R-05 The reporting limit for this sample has been raised due to the presence of high levels of non-target analytes.
- 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.
- 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-02 Due to matrix interference, the sample 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