

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 22, 2024

Paul Henehan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)

Work Order #2410239

Enclosed are the results of analyses for samples received by Summit Scientific on 10/15/24 16:30. 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 fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01@6'	2410239-01	Soil	10/15/24 00:00	10/15/24 16:30
MW-01@12'	2410239-02	Soil	10/15/24 00:00	10/15/24 16:30
MW-02@6'	2410239-03	Soil	10/15/24 00:00	10/15/24 16:30
MW-02@12'	2410239-04	Soil	10/15/24 00:00	10/15/24 16:30
MW-03@1'	2410239-05	Soil	10/15/24 00:00	10/15/24 16:30
MW-03@12'	2410239-06	Soil	10/15/24 00:00	10/15/24 16:30
MW-04@6'	2410239-07	Soil	10/15/24 00:00	10/15/24 16:30
MW-04@12'	2410239-08	Soil	10/15/24 00:00	10/15/24 16:30
MW-05@6'	2410239-09	Soil	10/15/24 00:00	10/15/24 16:30
MW-05@12'	2410239-10	Soil	10/15/24 00:00	10/15/24 16:30
Sep01@0.5'	2410239-11	Soil	10/15/24 00:00	10/15/24 16:30
Sep02@0.5'	2410239-12	Soil	10/15/24 00:00	10/15/24 16:30
Sep03@4'	2410239-13	Soil	10/15/24 00:00	10/15/24 16:30
Sep05@4'	2410239-14	Soil	10/15/24 00:00	10/15/24 16:30
31FL06@3'	2410239-15	Soil	10/15/24 00:00	10/15/24 16:30

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Client: Fremont	Send Data To: Project Manager: Paul Henehan	Send Invoice To: Company: Chevron
Address: 8305 6 th Street	E-Mail: <u>Chevron Dist. List, paul.H., ethan.B., jordan.S.</u>	Project Name/Location:
City/State/Zip: Wellington, CO, 80549	@fremontenv.com	AFE#:
Phone: 603-477-6907	Project Name: Noble-Volkens Coleman T4N-R64W-S23 Lot 1	PO/Billing Codes: UWRWE-A2617-ABN
Sampler Name: Jordan Suttles	Project Number: 6023-266 6023-266	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	BTX, Naphthalene, TMBs	TPH (C6-C36)	PAH	SAR, EC, pH, Boron		Metals (Table 9.5-1)
1	MW-01 @ 6'	10/15/2024		2			X			X			X	X	X	X	X	
2	MW-01 @ 12'																	
3	MW-02 @ 6' MW-02 @ 6'																	
4	MW-02 @ 12'																	
5	MW-03 @ 1'																	
6	MW-03 @ 12'																	
7	MW-04 @ 6'																	
8	MW-04 @ 12'																	
9	MW-05 @ 6'																	
10	MW-05 @ 12'																	
11	Sep01 @ 0.5'																	
12	Sep02 @ 0.5'																	
13	Sep03 @ 4'																	
14	Sep05 @ 4'																	
15	31 FLO6 @ 3'																	

Relinquished by: <u>Jordan Suttles</u>	Date/Time: 10/15/2024 15:40	Received by: <u>SA-North office</u>	Date/Time: 10/15/2024 15:40	TAT Business Days	Field DO	Notes:
Relinquished by: <u>SZ</u>	Date/Time: 10/15/2024 16:00	Received by: <u>[Signature]</u>	Date/Time: 10/15/2024 16:30	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	X Field Turb.	
Temperature Upon Receipt: <u>6.3</u>	Corrected Temperature: <u>9</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2410239Client: FremontClient Project ID: Noble-Volkens Coleman

(Facility)

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #: T4N-R64W-523 101

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply)

Air ☐Soil ☒Water ☐Other ☐

Temp (°C)

6.3

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name SNDate/Time 10/15/24



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-01@6'
2410239-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0444	111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0426	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.0	80.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
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PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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	0.00627	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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10/22/24 09:40

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2410239-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.635	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	33.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.42	0.400	"	"	"	"	"	"
Lead	5.42	0.200	"	"	"	"	"	"
Nickel	6.05	0.400	"	"	"	"	"	"
Silver	0.0280	0.0200	"	"	"	"	"	"
Zinc	29.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.5	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	9.03	0.0500	"	"	"	"	"	"	
Sodium	46.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.85	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
10/22/24 09:40

MW-01@6'
2410239-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.1		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.205	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.37		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-01@12'
2410239-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0421	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.79	62.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0243	72.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0261	78.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Manager: Paul Henchan

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MW-01@12'
2410239-02 (Soil)

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Total Metals by EPA 6020B

Arsenic	1.66	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	4.89	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.10	0.400	"	"	"	"	"	"
Lead	1.22	0.200	"	"	"	"	"	"
Nickel	0.843	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	3.92	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.7	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	9.35	0.0500	"	"	"	"	"	"	
Sodium	89.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.83	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
10/22/24 09:40

MW-01@12'
2410239-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.7		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.560	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@6'
2410239-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0459	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0418	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.3	82.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@6'
2410239-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@6'
2410239-03 (Soil)

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Total Metals by EPA 6020B

Arsenic	1.87	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	89.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.63	0.400	"	"	"	"	"	"
Lead	7.17	0.200	"	"	"	"	"	"
Nickel	8.96	0.400	"	"	"	"	"	"
Silver	0.0222	0.0200	"	"	"	"	"	"
Zinc	31.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	59.4	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	21.1	0.0500	"	"	"	"	"	"	
Sodium	89.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.54	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@6'
2410239-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.1		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.653	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@12'
2410239-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0441	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0437	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@12'
2410239-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0207	62.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0222	66.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@12'
2410239-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.725	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	10.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.30	0.400	"	"	"	"	"	"
Lead	2.38	0.200	"	"	"	"	"	"
Nickel	1.57	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.38	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.1	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	6.41	0.0500	"	"	"	"	"	"	
Sodium	75.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.80	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-02@12'
2410239-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.5		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.408	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.51		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@1'
2410239-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0422	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	83.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@1'
2410239-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0230	69.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@1'
2410239-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.64	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	180	0.400	"	"	"	"	"	"
Cadmium	0.268	0.200	"	"	"	"	"	"
Copper	14.4	0.400	"	"	"	"	"	"
Lead	10.4	0.200	"	"	"	"	"	"
Nickel	12.3	0.400	"	"	"	"	"	"
Silver	0.0429	0.0200	"	"	"	"	"	"
Zinc	52.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.9	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	8.71	0.0500	"	"	"	"	"	"	
Sodium	46.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.84	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@1'
2410239-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.3	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.425	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@12'
2410239-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.84	70.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@12'
2410239-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0225	67.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@12'
2410239-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.387	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	13.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.18	0.400	"	"	"	"	"	"
Lead	3.20	0.200	"	"	"	"	"	"
Nickel	2.20	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.4	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	4.17	0.0500	"	"	"	"	"	"	
Sodium	64.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.24	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-03@12'
2410239-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.7		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.343	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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Fremont Environmental
PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@6'
2410239-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

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	0.0422	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.55	76.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@6'
2410239-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@6'
2410239-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.66	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	88.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.48	0.400	"	"	"	"	"	"
Lead	7.76	0.200	"	"	"	"	"	"
Nickel	8.96	0.400	"	"	"	"	"	"
Silver	0.0304	0.0200	"	"	"	"	"	"
Zinc	35.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.1	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	5.36	0.0500	"	"	"	"	"	"	
Sodium	102	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.31	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@6'
2410239-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.3		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.592	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.39		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@12'
2410239-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0425	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.24	73.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@12'
2410239-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0150	44.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	70.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@12'
2410239-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.238	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	8.37	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.28	0.400	"	"	"	"	"	"
Lead	1.89	0.200	"	"	"	"	"	"
Nickel	1.07	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	7.12	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.6	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	6.85	0.0500	"	"	"	"	"	"	
Sodium	96.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.88	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-04@12'
2410239-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.0		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.572	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.61		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@6'
2410239-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0423	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0420	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.04	72.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@6'
2410239-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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	0.0102	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00796	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	55.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@6'
2410239-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.85	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	125	0.400	"	"	"	"	"	"
Cadmium	0.260	0.200	"	"	"	"	"	"
Copper	12.1	0.400	"	"	"	"	"	"
Lead	13.2	0.200	"	"	"	"	"	"
Nickel	10.1	0.400	"	"	"	"	"	"
Silver	0.0436	0.0200	"	"	"	"	"	"
Zinc	47.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.6	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	4.01	0.0500	"	"	"	"	"	"	
Sodium	72.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.85	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@6'
2410239-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.3	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.262	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.44		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@12'
2410239-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0435	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.05	48.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@12'
2410239-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	57.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@12'
2410239-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.27	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	9.03	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.25	0.400	"	"	"	"	"	"
Lead	2.02	0.200	"	"	"	"	"	"
Nickel	1.02	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.54	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.7	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	10.7	0.0500	"	"	"	"	"	"	
Sodium	82.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.25	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

MW-05@12'
2410239-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.2		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.464	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.87		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep01@0.5'
2410239-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0409	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0424	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.3	90.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep01@0.5'
2410239-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00592	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	EPA 8270D SIM	
Anthracene	0.0252	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0339	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0200	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0306	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0124	0.00500	"	"	"	"	"	"	
Chrysene	0.0339	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0881	0.00500	"	"	"	"	"	"	
Fluorene	0.00841	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	"	"	"	"	"	
Pyrene	0.0727	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0233	69.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.52	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep01@0.5'
2410239-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Barium	103	0.400	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.25	0.400	"	"	"	"	"	"
Lead	7.39	0.200	"	"	"	"	"	"
Nickel	7.44	0.400	"	"	"	"	"	"
Silver	0.0380	0.0200	"	"	"	"	"	"
Zinc	35.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.3	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	5.91	0.0500	"	"	"	"	"	"	
Sodium	17.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.801	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep01@0.5'
2410239-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.4	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.245	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.58		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep02@0.5'
2410239-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0422	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0430	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.0	80.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep02@0.5'
2410239-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0152	45.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0263	78.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep02@0.5'
2410239-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.07	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	50.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.53	0.400	"	"	"	"	"	"
Lead	4.31	0.200	"	"	"	"	"	"
Nickel	5.23	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	20.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.4	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	3.41	0.0500	"	"	"	"	"	"	
Sodium	4.41	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.248	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep02@0.5'
2410239-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.9		%	1	BHJ0697	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.148	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.94		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep03@4'
2410239-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0423	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.63	77.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep03@4'
2410239-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00618	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	EPA 8270D SIM	
Anthracene	0.0442	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.109	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0636	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0931	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0347	0.00500	"	"	"	"	"	"	
Chrysene	0.106	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	0.00914	0.00500	"	"	"	"	"	"	
Fluoranthene	0.260	0.00500	"	"	"	"	"	"	E
Fluorene	0.0110	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0565	0.00500	"	"	"	"	"	"	
Pyrene	0.217	0.00500	"	"	"	"	"	"	E
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	72.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.55	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep03@4'
2410239-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Barium	116	0.400	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.79	0.400	"	"	"	"	"	"
Lead	7.08	0.200	"	"	"	"	"	"
Nickel	7.92	0.400	"	"	"	"	"	"
Silver	0.0264	0.0200	"	"	"	"	"	"
Zinc	33.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.5	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	3.70	0.0500	"	"	"	"	"	"	
Sodium	24.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.32	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep03@4'
2410239-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.6	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.202	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.89		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep05@4'
2410239-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0420	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	130	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep05@4'
2410239-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0157	47.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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 - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep05@4'
2410239-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.55	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	117	0.400	"	"	"	"	"	"
Cadmium	0.237	0.200	"	"	"	"	"	"
Copper	11.8	0.400	"	"	"	"	"	"
Lead	8.84	0.200	"	"	"	"	"	"
Nickel	8.73	0.400	"	"	"	"	"	"
Silver	0.0382	0.0200	"	"	"	"	"	"
Zinc	43.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.3	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	4.98	0.0500	"	"	"	"	"	"	
Sodium	3.41	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.167	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

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

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Sep05@4'
2410239-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.7	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.189	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

31FL06@3'
2410239-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0690	10/17/24	10/18/24	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: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0691	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	85.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility)
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

31FL06@3'
2410239-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0610	10/16/24	10/17/24	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: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0145	43.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0236	70.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0746	10/18/24	10/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 00:00**

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

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

31FL06@3'
2410239-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.76	0.200	mg/kg dry	1	BHJ0763	10/18/24	10/21/24	EPA 6020B
Barium	137	0.400	"	"	"	"	"	"
Cadmium	0.317	0.200	"	"	"	"	"	"
Copper	20.8	0.400	"	"	"	"	"	"
Lead	11.8	0.200	"	"	"	"	"	"
Nickel	11.5	0.400	"	"	"	"	"	"
Silver	0.0501	0.0200	"	"	"	"	"	"
Zinc	62.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0684	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.2	0.0500	mg/L dry	1	BHJ0779	10/18/24	10/22/24	EPA 6020B	
Magnesium	5.22	0.0500	"	"	"	"	"	"	
Sodium	28.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.42	0.00100	units	1	BHJ0891	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

31FL06@3'
2410239-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.7	%	1	BHJ0697	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.265	0.0100	mmhos/cm	1	BHJ0780	10/18/24	10/21/24	EPA 120.1	

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

Date Sampled: **10/15/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.44		pH Units	1	BHJ0781	10/18/24	10/21/24	EPA 9045D	

Summit Scientific

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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHJ0690 - EPA 5030 Soil MS

Blank (BHJ0690-BLK1)

Prepared & Analyzed: 10/17/24

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	0.0446		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

LCS (BHJ0690-BS1)

Prepared & Analyzed: 10/17/24

Benzene	0.111	0.0020	mg/kg	0.100		111	70-130			
Toluene	0.112	0.0050	"	0.100		112	70-130			
Ethylbenzene	0.117	0.0050	"	0.100		117	70-130			
m,p-Xylene	0.233	0.010	"	0.200		117	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100		114	70-130			
Naphthalene	0.104	0.0038	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	50-150			

Matrix Spike (BHJ0690-MS1)

Source: 2410239-01

Prepared & Analyzed: 10/17/24

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
m,p-Xylene	0.221	0.010	"	0.200	0.00321	109	70-130			
o-Xylene	0.0975	0.0050	"	0.100	ND	97.5	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	50-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

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

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

Batch BHJ0690 - EPA 5030 Soil MS

Matrix Spike Dup (BHJ0690-MSD1)	Source: 2410239-01			Prepared & Analyzed: 10/17/24						
Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130	0.368	30	
Toluene	0.108	0.0050	"	0.100	ND	108	70-130	2.70	30	
Ethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	0.569	30	
m,p-Xylene	0.227	0.010	"	0.200	0.00321	112	70-130	2.90	30	
o-Xylene	0.0976	0.0050	"	0.100	ND	97.6	70-130	0.154	30	
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	1.56	30	
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	0.867	30	
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130	0.254	30	
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHJ0691 - EPA 3550A

Blank (BHJ0691-BLK1)

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	14.3		"	12.5	114	30-150				

LCS (BHJ0691-BS1)

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	471	50	mg/kg	500	94.3	70-130				
Surrogate: o-Terphenyl	13.5		"	12.5	108	30-150				

Matrix Spike (BHJ0691-MS1)

Source: 2410239-01

Prepared & Analyzed: 10/17/24

C10-C28 (DRO)	483	50	mg/kg	500	ND	96.6	70-130			
Surrogate: o-Terphenyl	11.2		"	12.5	89.6	30-150				

Matrix Spike Dup (BHJ0691-MSD1)

Source: 2410239-01

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	483	50	mg/kg	500	ND	96.7	70-130	0.0434	20	
Surrogate: o-Terphenyl	11.3		"	12.5	90.2	30-150				

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0610 - EPA 5030 Soil MS

Blank (BHJ0610-BLK1)

Prepared: 10/16/24 Analyzed: 10/17/24

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	0.0192		"	0.0333		57.7	40-150			
Surrogate: Fluoranthene-d10	0.0220		"	0.0333		65.9	40-150			

LCS (BHJ0610-BS1)

Prepared: 10/16/24 Analyzed: 10/17/24

Acenaphthene	0.0251	0.00500	mg/kg	0.0333		75.2	31-137			
Anthracene	0.0258	0.00500	"	0.0333		77.4	30-120			
Benzo (a) anthracene	0.0266	0.00500	"	0.0333		79.7	30-120			
Benzo (a) pyrene	0.0225	0.00500	"	0.0333		67.6	30-120			
Benzo (b) fluoranthene	0.0226	0.00500	"	0.0333		67.7	30-120			
Benzo (k) fluoranthene	0.0228	0.00500	"	0.0333		68.4	30-120			
Chrysene	0.0265	0.00500	"	0.0333		79.5	30-120			
Dibenz (a,h) anthracene	0.0213	0.00500	"	0.0333		63.8	30-120			
Fluoranthene	0.0248	0.00500	"	0.0333		74.5	30-120			
Fluorene	0.0256	0.00500	"	0.0333		76.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0140	0.00500	"	0.0333		42.0	30-120			
Pyrene	0.0260	0.00500	"	0.0333		77.9	35-142			
1-Methylnaphthalene	0.0255	0.00500	"	0.0333		76.4	35-142			
2-Methylnaphthalene	0.0261	0.00500	"	0.0333		78.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0251		"	0.0333		75.3	40-150			
Surrogate: Fluoranthene-d10	0.0246		"	0.0333		73.9	40-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0610 - EPA 5030 Soil MS

Matrix Spike (BHJ0610-MS1)

Source: 2410239-01

Prepared: 10/16/24 Analyzed: 10/17/24

Acenaphthene	0.0213	0.00500	mg/kg	0.0333	ND	64.0	31-137			
Anthracene	0.0228	0.00500	"	0.0333	ND	68.3	30-120			
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	69.1	30-120			
Benzo (a) pyrene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Benzo (b) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Benzo (k) fluoranthene	0.0198	0.00500	"	0.0333	ND	59.4	30-120			
Chrysene	0.0230	0.00500	"	0.0333	ND	69.1	30-120			
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333	ND	52.2	30-120			
Fluoranthene	0.0225	0.00500	"	0.0333	0.00627	48.6	30-120			
Fluorene	0.0220	0.00500	"	0.0333	ND	66.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0185	0.00500	"	0.0333	ND	55.4	30-120			
Pyrene	0.0230	0.00500	"	0.0333	ND	69.1	35-142			
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130			
2-Methylnaphthalene	0.0195	0.00500	"	0.0333	ND	58.5	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0189		"	0.0333		56.6	40-150			
Surrogate: Fluoranthene-d10	0.0215		"	0.0333		64.6	40-150			

Matrix Spike Dup (BHJ0610-MSD1)

Source: 2410239-01

Prepared: 10/16/24 Analyzed: 10/17/24

Acenaphthene	0.0172	0.00500	mg/kg	0.0333	ND	51.6	31-137	21.5	30	
Anthracene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	23.7	30	
Benzo (a) anthracene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	24.1	30	
Benzo (a) pyrene	0.0154	0.00500	"	0.0333	ND	46.1	30-120	23.9	30	
Benzo (b) fluoranthene	0.0154	0.00500	"	0.0333	ND	46.3	30-120	23.4	30	
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	19.5	30	
Chrysene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	24.1	30	
Dibenz (a,h) anthracene	0.0138	0.00500	"	0.0333	ND	41.5	30-120	22.7	30	
Fluoranthene	0.0178	0.00500	"	0.0333	0.00627	34.6	30-120	23.2	30	
Fluorene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	23.1	30	
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	23.5	30	
Pyrene	0.0189	0.00500	"	0.0333	ND	56.6	35-142	19.9	30	
1-Methylnaphthalene	0.0166	0.00500	"	0.0333	ND	49.7	15-130	14.3	50	
2-Methylnaphthalene	0.0166	0.00500	"	0.0333	ND	49.7	15-130	16.4	50	
Surrogate: 2-Methylnaphthalene-d10	0.0168		"	0.0333		50.3	40-150			
Surrogate: Fluoranthene-d10	0.0176		"	0.0333		52.9	40-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

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

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

Batch BHJ0746 - EPA 3050B

Blank (BHJ0746-BLK1)

Prepared: 10/18/24 Analyzed: 10/20/24

Boron ND 2.00 mg/L

LCS (BHJ0746-BS1)

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.70 2.00 mg/L 5.00 93.9 80-120

Duplicate (BHJ0746-DUP1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 0.468 2.00 mg/L 0.485 3.47 20

Matrix Spike (BHJ0746-MS1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.53 2.00 mg/L 5.02 0.485 80.7 75-125

Matrix Spike Dup (BHJ0746-MSD1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/20/24

Boron 4.62 2.00 mg/L 5.02 0.485 82.4 75-125 1.96 25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHJ0763 - EPA 3050B

Blank (BHJ0763-BLK1)

Prepared: 10/18/24 Analyzed: 10/21/24

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 (BHJ0763-BS1)

Prepared: 10/18/24 Analyzed: 10/21/24

Arsenic	27.0	0.200	mg/kg wet	39.1	69.0	80-120	QM-05
Barium	30.5	0.400	"	39.1	78.0	80-120	QM-05
Cadmium	1.36	0.200	"	1.95	69.6	80-120	QM-05
Copper	29.0	0.400	"	39.1	74.4	80-120	QM-05
Lead	13.7	0.200	"	19.5	70.2	80-120	QM-05
Nickel	29.5	0.400	"	39.1	75.5	80-120	QM-05
Silver	1.38	0.0200	"	1.95	70.6	80-120	QM-05
Zinc	29.9	0.400	"	39.1	76.6	80-120	QM-05
Selenium	3.09	0.260	"	3.91	79.1	80-120	QM-05

Duplicate (BHJ0763-DUP1)

Source: 2410239-01

Prepared: 10/18/24 Analyzed: 10/21/24

Arsenic	1.00	0.200	mg/kg dry	0.635	44.9	20	QR-01
Barium	56.7	0.400	"	33.6	51.1	20	QR-02
Cadmium	0.173	0.200	"	0.111	43.3	20	QR-01
Copper	7.99	0.400	"	7.42	7.32	20	
Lead	6.52	0.200	"	5.42	18.5	20	
Nickel	8.17	0.400	"	6.05	29.8	20	QR-02
Silver	0.0271	0.0200	"	0.0280	3.47	20	
Zinc	29.2	0.400	"	29.2	0.0130	20	
Selenium	ND	0.260	"	ND		20	

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHJ0763 - EPA 3050B

Matrix Spike (BHJ0763-MS1)			Source: 2410239-01		Prepared: 10/18/24 Analyzed: 10/21/24					
Arsenic	28.4	0.200	mg/kg dry	46.6	0.635	59.6	75-125			QM-05
Barium	88.9	0.400	"	46.6	33.6	118	75-125			
Cadmium	2.37	0.200	"	2.33	0.111	96.7	75-125			
Copper	53.0	0.400	"	46.6	7.42	97.8	75-125			
Lead	27.1	0.200	"	23.3	5.42	92.8	75-125			
Nickel	53.0	0.400	"	46.6	6.05	101	75-125			
Silver	2.23	0.0200	"	2.33	0.0280	94.4	75-125			
Zinc	74.6	0.400	"	46.6	29.2	97.3	75-125			
Selenium	4.31	0.260	"	4.66	ND	92.4	75-125			

Matrix Spike Dup (BHJ0763-MSD1)			Source: 2410239-01		Prepared: 10/18/24 Analyzed: 10/21/24					
Arsenic	32.3	0.200	mg/kg dry	48.6	0.635	65.2	75-125	12.7	25	QM-05
Barium	98.9	0.400	"	48.6	33.6	134	75-125	10.7	25	QM-05
Cadmium	2.43	0.200	"	2.43	0.111	95.3	75-125	2.54	25	
Copper	56.3	0.400	"	48.6	7.42	101	75-125	5.98	25	
Lead	27.8	0.200	"	24.3	5.42	92.0	75-125	2.54	25	
Nickel	55.4	0.400	"	48.6	6.05	102	75-125	4.43	25	
Silver	2.31	0.0200	"	2.43	0.0280	93.8	75-125	3.36	25	
Zinc	77.2	0.400	"	48.6	29.2	98.8	75-125	3.43	25	
Selenium	4.40	0.260	"	4.86	ND	90.6	75-125	2.04	25	

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHJ0684 - 3060A Mod

Blank (BHJ0684-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0684-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 26.9 0.30 mg/kg wet 25.0 108 80-120

Duplicate (BHJ0684-DUP1)

Source: 2410239-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0684-MS1)

Source: 2410239-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 31.9 0.30 mg/kg dry 29.4 ND 108 75-125

Matrix Spike Dup (BHJ0684-MSD1)

Source: 2410239-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 29.2 0.30 mg/kg dry 29.4 ND 99.4 75-125 8.66 20

Summit Scientific

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PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

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

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

Batch BHJ0779 - General Preparation

Blank (BHJ0779-BLK1)

Prepared: 10/18/24 Analyzed: 10/22/24

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

LCS (BHJ0779-BS1)

Prepared: 10/18/24 Analyzed: 10/22/24

Calcium	5.34	0.0500	mg/L wet	5.00	107	70-130
Magnesium	5.19	0.0500	"	5.00	104	70-130
Sodium	4.72	0.0500	"	5.00	94.4	70-130

Summit Scientific

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Fremont Environmental PO Box 1289 Wellington CO, 80549	Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility Project Number: UWRWE-A2617-ABN CO23-266 Project Manager: Paul Henchan	Reported: 10/22/24 09:40
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Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch BHJ0697 - General Preparation

Duplicate (BHJ0697-DUP1)	Source: 2410239-01			Prepared & Analyzed: 10/17/24							
% Solids	85.3		%		85.1			0.280		20	

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PO Box 1289
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Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

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

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

Batch BHJ0780 - General Preparation

Blank (BHJ0780-BLK1)

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0780-BS1)

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHJ0780-DUP1)

Source: 2410231-01

Prepared: 10/18/24 Analyzed: 10/21/24

Specific Conductance (EC) 1.80 0.0100 mmhos/cm 1.81 0.609 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

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

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

Batch BHJ0781 - General Preparation

LCS (BHJ0781-BS1)

Prepared: 10/18/24 Analyzed: 10/21/24

pH	9.20	pH Units	9.18	100	95-105
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Duplicate (BHJ0781-DUP1)

Source: 2410231-01

Prepared: 10/18/24 Analyzed: 10/21/24

pH	9.21	pH Units	9.23	0.217	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Volkens Coleman T4N-R64W-S23 L01 (Facility
Project Number: UWRWE-A2617-ABN CO23-266
Project Manager: Paul Henchan

Reported:
10/22/24 09:40

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. 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.
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