

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 23, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Ocoma T4W-R64W-S17 L01

Work Order #2409204

Enclosed are the results of analyses for samples received by Summit Scientific on 09/13/24 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN

Project Manager: Paul Henchan

Reported:
09/23/24 09:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01 CEN SURF.	2409204-01	Soil	09/10/24 00:00	09/13/24 16:30
PWV FLOOR 4FT	2409204-02	Soil	09/10/24 00:00	09/13/24 16:30
SEP01 DLR 3FT	2409204-03	Soil	09/10/24 00:00	09/13/24 16:30
SEP01 FLR 3FT	2409204-04	Soil	09/10/24 00:00	09/13/24 16:30

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

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

Lab ID 2409204 Page 1 of 1

Client: Fremont Environmental, Inc.		Send Data To:		Send Invoice To:	
Address: 8305 6th St.,		Project Manager: Henehan		Company: Chevron	
City/State/Zip: Wellington, CO, 80549		E-Mail: (Chevron Dist. List, PDC Dist. List, Civitas Dist. List, Fremont Dist. List) reports@fremontenv.com, ethanb@fremontenv.com, paulh@fremontenv.com		Project Name/Location:	
Phone: 603-477-6907		Project Name: Noble - Ocean T4W-R64W-S17 L01		AFE#:	
Sampler Name: Ethan Black		Project Number:		PO/Billing Codes: UWRWE-A2638-ABN	
				Contact: Mike Montoya	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, Naphthalene, TMBs	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	Metals (Table 915-1)		TDS, Chloride, Sulfate
1	FLO1 3FT	9/10/24		2															
2	FLO2 3FT			2															
3	ASTOI CEN SURF	9/10/24		2															
4	PWV FLOOR 4FT																		
5	SEPO1 DLR 3FT																		
6	SEPO1 FLR 3FT																		
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: Ethan Black	Date/Time: 9/18/24 1430	Received by: S2 - North Office	Date/Time: 9/13/24 1430	TAT Business Days	Field DO	Notes: - Dist lab data to parties circled above.
Relinquished by: S2	Date/Time: 9/12/24 1430	Received by: <i>[Signature]</i>	Date/Time: 9/12/24 1430	Same Day	Field EC	
Relinquished by: S2	Date/Time: 9/12/24 1430	Received by: <i>[Signature]</i>	Date/Time: 9/12/24 1430	1 Day	Field ORP	
Relinquished by: S2	Date/Time: 9/12/24 1430	Received by: <i>[Signature]</i>	Date/Time: 9/12/24 1430	2 Days	Field pH	
Relinquished by: S2	Date/Time: 9/12/24 1430	Received by: <i>[Signature]</i>	Date/Time: 9/12/24 1430	3 Days	Field Temp.	
Temperature Upon Receipt: 7.9	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	<input checked="" type="checkbox"/> Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2409204

Client: Fremont

Client Project ID: Ndde-Ocoma T4W-Rd4W-S17-201

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

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

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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"/>	
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 checked="" 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.

AS

Custodian Printed Name

9/13/24

Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

AST01 CEN SURF.

2409204-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHI0471	09/15/24	09/16/24	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: **09/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0442	110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHI0468	09/15/24	09/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.1	96.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2409204-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHI0475	09/16/24	09/17/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0140	41.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHI0491	09/16/24	09/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

AST01 CEN SURE.
2409204-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.95	0.200	mg/kg dry	1	BHI0486	09/16/24	09/16/24	EPA 6020B	
Barium	47.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.58	0.400	"	"	"	"	"	"	
Lead	4.33	0.200	"	"	"	"	"	"	
Nickel	4.72	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	20.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0540	09/17/24	09/17/24	EPA 7196A	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	72.8	0.0500	mg/L dry	1	BHI0565	09/17/24	09/19/24	EPA 6020B	
Magnesium	8.95	0.0500	"	"	"	"	"	"	
Sodium	1.57	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0462	0.00100	units	1	BHI0688	09/20/24	09/20/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

AST01 CEN SURE.
2409204-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHI0497	09/16/24	09/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0960	0.0100	mmhos/cm	1	BHI0616	09/18/24	09/19/24	EPA 120.1	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.97		pH Units	1	BHI0617	09/18/24	09/19/24	EPA 9045D	

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Project Number: UWRWE-A2638-ABN
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Reported:
09/23/24 09:00

PWV FLOOR 4FT
2409204-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHI0471	09/15/24	09/16/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0485	121 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0468	09/15/24	09/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.8	102 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

PWV FLOOR 4FT
2409204-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHI0475	09/16/24	09/17/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHI0491	09/16/24	09/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

PWV FLOOR 4FT
2409204-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.88	0.200	mg/kg dry	1	BHI0486	09/16/24	09/16/24	EPA 6020B	
Barium	42.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.59	0.400	"	"	"	"	"	"	
Lead	3.32	0.200	"	"	"	"	"	"	
Nickel	4.24	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0540	09/17/24	09/17/24	EPA 7196A	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	60.4	0.0500	mg/L dry	1	BHI0565	09/17/24	09/19/24	EPA 6020B	
Magnesium	6.88	0.0500	"	"	"	"	"	"	
Sodium	1.06	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0345	0.00100	units	1	BHI0688	09/20/24	09/20/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

PWV FLOOR 4FT
2409204-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHI0497	09/16/24	09/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0940	0.0100	mmhos/cm	1	BHI0616	09/18/24	09/19/24	EPA 120.1	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.83		pH Units	1	BHI0617	09/18/24	09/19/24	EPA 9045D	

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 DLR 3FT
2409204-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHI0471	09/15/24	09/16/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0404	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0468	09/15/24	09/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.6	92.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 DLR 3FT
2409204-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHI0475	09/16/24	09/17/24	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: **09/10/24 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	0.0138	41.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHI0491	09/16/24	09/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 DLR 3FT
2409204-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.59	0.200	mg/kg dry	1	BHI0486	09/16/24	09/16/24	EPA 6020B	
Barium	41.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.62	0.400	"	"	"	"	"	"	
Lead	3.45	0.200	"	"	"	"	"	"	
Nickel	3.98	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	14.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0540	09/17/24	09/17/24	EPA 7196A	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	119	0.0500	mg/L dry	1	BHI0565	09/17/24	09/19/24	EPA 6020B	
Magnesium	9.84	0.0500	"	"	"	"	"	"	
Sodium	2.47	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0585	0.00100	units	1	BHI0688	09/20/24	09/20/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

**SEP01 DLR 3FT
 2409204-03 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHI0497	09/16/24	09/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.110	0.0100	mmhos/cm	1	BHI0616	09/18/24	09/19/24	EPA 120.1	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.82		pH Units	1	BHI0617	09/18/24	09/19/24	EPA 9045D	

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Project: Noble - Ocoma T4W-R64W-S17 L01
Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 FLR 3FT
2409204-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHI0471	09/15/24	09/16/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0431	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	94.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0468	09/15/24	09/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/10/24 00:00**

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

PAH by EPA Method 8270D SIM

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 FLR 3FT
2409204-04 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHI0475	09/16/24	09/17/24	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: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0252	75.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	58.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHI0491	09/16/24	09/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

SEP01 FLR 3FT
2409204-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.08	0.200	mg/kg dry	1	BHI0486	09/16/24	09/16/24	EPA 6020B	
Barium	46.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.59	0.400	"	"	"	"	"	"	
Lead	3.05	0.200	"	"	"	"	"	"	
Nickel	3.72	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	14.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0540	09/17/24	09/17/24	EPA 7196A	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	81.9	0.0500	mg/L dry	1	BHI0565	09/17/24	09/19/24	EPA 6020B	
Magnesium	6.39	0.0500	"	"	"	"	"	"	
Sodium	1.00	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0286	0.00100	units	1	BHI0688	09/20/24	09/20/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

SEP01 FLR 3FT
2409204-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.6		%	1	BHI0497	09/16/24	09/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.129	0.0100	mmhos/cm	1	BHI0616	09/18/24	09/19/24	EPA 120.1	

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

Date Sampled: **09/10/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.63		pH Units	1	BHI0617	09/18/24	09/19/24	EPA 9045D	

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHI0471 - EPA 5030 Soil MS

Blank (BHI0471-BLK1)

Prepared & Analyzed: 09/15/24

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	0.0431		"	0.0400		108	50-150				
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150				
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	50-150				

LCS (BHI0471-BS1)

Prepared & Analyzed: 09/15/24

Benzene	0.0970	0.0020	mg/kg	0.100		97.0	70-130				
Toluene	0.0952	0.0050	"	0.100		95.2	70-130				
Ethylbenzene	0.101	0.0050	"	0.100		101	70-130				
m,p-Xylene	0.193	0.010	"	0.200		96.6	70-130				
o-Xylene	0.0942	0.0050	"	0.100		94.2	70-130				
1,2,4-Trimethylbenzene	0.0954	0.0050	"	0.100		95.4	70-130				
1,3,5-Trimethylbenzene	0.0978	0.0050	"	0.100		97.8	70-130				
Naphthalene	0.0844	0.0038	"	0.100		84.4	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150				
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6	50-150				
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		101	50-150				

Matrix Spike (BHI0471-MS1)

Source: 2409176-01

Prepared & Analyzed: 09/15/24

Benzene	0.0939	0.0020	mg/kg	0.100	ND	93.9	70-130				
Toluene	0.0892	0.0050	"	0.100	ND	89.2	70-130				
Ethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130				
m,p-Xylene	0.168	0.010	"	0.200	ND	84.0	70-130				
o-Xylene	0.0830	0.0050	"	0.100	ND	83.0	70-130				
1,2,4-Trimethylbenzene	0.0770	0.0050	"	0.100	ND	77.0	70-130				
1,3,5-Trimethylbenzene	0.0786	0.0050	"	0.100	ND	78.6	70-130				
Naphthalene	0.0926	0.0038	"	0.100	ND	92.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0443		"	0.0400		111	50-150				
Surrogate: Toluene-d8	0.0401		"	0.0400		100	50-150				
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	50-150				

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHI0471 - EPA 5030 Soil MS

Matrix Spike Dup (BHI0471-MSD1)	Source: 2409176-01			Prepared & Analyzed: 09/15/24						
Benzene	0.107	0.0020	mg/kg	0.100	ND	107	70-130	13.1	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	12.8	30	
Ethylbenzene	0.0960	0.0050	"	0.100	ND	96.0	70-130	8.17	30	
m,p-Xylene	0.179	0.010	"	0.200	ND	89.4	70-130	6.23	30	
o-Xylene	0.0872	0.0050	"	0.100	ND	87.2	70-130	4.94	30	
1,2,4-Trimethylbenzene	0.0808	0.0050	"	0.100	ND	80.8	70-130	4.83	30	
1,3,5-Trimethylbenzene	0.0830	0.0050	"	0.100	ND	83.0	70-130	5.42	30	
Naphthalene	0.0938	0.0038	"	0.100	ND	93.8	70-130	1.22	30	
Surrogate: 1,2-Dichloroethane-d4	0.0519		"	0.0400		130	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHI0468 - EPA 3550A

Blank (BHI0468-BLK1)

Prepared & Analyzed: 09/15/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.6		"	12.5		109		30-150			

LCS (BHI0468-BS1)

Prepared & Analyzed: 09/15/24

C10-C28 (DRO)	528	50	mg/kg	500		106		70-130			
Surrogate: <i>o</i> -Terphenyl	13.2		"	12.5		105		30-150			

Matrix Spike (BHI0468-MS1)

Source: 2409176-01

Prepared & Analyzed: 09/15/24

C10-C28 (DRO)	509	50	mg/kg	500	ND	102		70-130			
Surrogate: <i>o</i> -Terphenyl	12.9		"	12.5		103		30-150			

Matrix Spike Dup (BHI0468-MSD1)

Source: 2409176-01

Prepared & Analyzed: 09/15/24

C10-C28 (DRO)	425	50	mg/kg	500	ND	85.1		70-130	17.9	20	
Surrogate: <i>o</i> -Terphenyl	14.1		"	12.5		113		30-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHI0475 - EPA 5030 Soil MS

Blank (BHI0475-BLK1)

Prepared & Analyzed: 09/16/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0286</i>		"	<i>0.0333</i>		<i>85.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0312</i>		"	<i>0.0333</i>		<i>93.6</i>	<i>40-150</i>			

LCS (BHI0475-BS1)

Prepared & Analyzed: 09/16/24

Acenaphthene	0.0238	0.00500	mg/kg	0.0333		71.5	31-137			
Anthracene	0.0230	0.00500	"	0.0333		69.1	30-120			
Benzo (a) anthracene	0.0247	0.00500	"	0.0333		74.0	30-120			
Benzo (a) pyrene	0.0223	0.00500	"	0.0333		66.8	30-120			
Benzo (b) fluoranthene	0.0228	0.00500	"	0.0333		68.5	30-120			
Benzo (k) fluoranthene	0.0233	0.00500	"	0.0333		69.8	30-120			
Chrysene	0.0243	0.00500	"	0.0333		73.0	30-120			
Dibenz (a,h) anthracene	0.0238	0.00500	"	0.0333		71.4	30-120			
Fluoranthene	0.0242	0.00500	"	0.0333		72.7	30-120			
Fluorene	0.0241	0.00500	"	0.0333		72.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333		45.4	30-120			
Pyrene	0.0247	0.00500	"	0.0333		74.1	35-142			
1-Methylnaphthalene	0.0250	0.00500	"	0.0333		75.1	35-142			
2-Methylnaphthalene	0.0240	0.00500	"	0.0333		71.9	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0236</i>		"	<i>0.0333</i>		<i>70.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0260</i>		"	<i>0.0333</i>		<i>78.1</i>	<i>40-150</i>			

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Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHI0475 - EPA 5030 Soil MS

Matrix Spike (BHI0475-MS1)	Source: 2409193-14			Prepared & Analyzed: 09/16/24							
Acenaphthene	0.0260	0.00500	mg/kg	0.0333	ND	77.9	31-137				
Anthracene	0.0247	0.00500	"	0.0333	ND	74.0	30-120				
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	ND	93.0	30-120				
Benzo (a) pyrene	0.0232	0.00500	"	0.0333	ND	69.7	30-120				
Benzo (b) fluoranthene	0.0395	0.00500	"	0.0333	ND	119	30-120				
Benzo (k) fluoranthene	0.0301	0.00500	"	0.0333	ND	90.2	30-120				
Chrysene	0.0339	0.00500	"	0.0333	ND	102	30-120				
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.6	30-120				
Fluoranthene	0.0223	0.00500	"	0.0333	ND	66.9	30-120				
Fluorene	0.0389	0.00500	"	0.0333	0.0100	86.5	30-120				
Indeno (1,2,3-cd) pyrene	0.0180	0.00500	"	0.0333	ND	54.0	30-120				
Pyrene	0.0678	0.00500	"	0.0333	0.0128	165	35-142				QM-01
1-Methylnaphthalene	0.0479	0.00500	"	0.0333	0.0245	70.0	15-130				
2-Methylnaphthalene	0.0406	0.00500	"	0.0333	0.0139	80.1	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.5</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0216</i>		<i>"</i>	<i>0.0333</i>		<i>64.7</i>	<i>40-150</i>				

Matrix Spike Dup (BHI0475-MSD1)	Source: 2409193-14			Prepared & Analyzed: 09/16/24							
Acenaphthene	0.0248	0.00500	mg/kg	0.0333	ND	74.4	31-137	4.60	30		
Anthracene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	3.47	30		
Benzo (a) anthracene	0.0293	0.00500	"	0.0333	ND	87.8	30-120	5.66	30		
Benzo (a) pyrene	0.0228	0.00500	"	0.0333	ND	68.3	30-120	2.17	30		
Benzo (b) fluoranthene	0.0398	0.00500	"	0.0333	ND	119	30-120	0.697	30		
Benzo (k) fluoranthene	0.0291	0.00500	"	0.0333	ND	87.2	30-120	3.42	30		
Chrysene	0.0325	0.00500	"	0.0333	ND	97.4	30-120	4.43	30		
Dibenz (a,h) anthracene	0.0197	0.00500	"	0.0333	ND	59.0	30-120	21.5	30		
Fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	11.4	30		
Fluorene	0.0380	0.00500	"	0.0333	0.0100	83.8	30-120	2.37	30		
Indeno (1,2,3-cd) pyrene	0.0222	0.00500	"	0.0333	ND	66.7	30-120	21.0	30		
Pyrene	0.0702	0.00500	"	0.0333	0.0128	172	35-142	3.45	30		QM-01
1-Methylnaphthalene	0.0493	0.00500	"	0.0333	0.0245	74.4	15-130	2.98	50		
2-Methylnaphthalene	0.0404	0.00500	"	0.0333	0.0139	79.5	15-130	0.552	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0263</i>		<i>"</i>	<i>0.0333</i>		<i>78.9</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0185</i>		<i>"</i>	<i>0.0333</i>		<i>55.6</i>	<i>40-150</i>				

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

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

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

Batch BHI0491 - EPA 3050B

Blank (BHI0491-BLK1)

Prepared: 09/16/24 Analyzed: 09/18/24

Boron ND 2.00 mg/L

LCS (BHI0491-BS1)

Prepared: 09/16/24 Analyzed: 09/18/24

Boron 5.15 2.00 mg/L 5.00 103 80-120

Duplicate (BHI0491-DUP1)

Source: 2409041-01

Prepared: 09/16/24 Analyzed: 09/18/24

Boron 0.152 2.00 mg/L 0.158 3.93 20

Matrix Spike (BHI0491-MS1)

Source: 2409041-01

Prepared: 09/16/24 Analyzed: 09/18/24

Boron 5.33 2.00 mg/L 5.03 0.158 103 75-125

Matrix Spike Dup (BHI0491-MSD1)

Source: 2409041-01

Prepared: 09/16/24 Analyzed: 09/18/24

Boron 5.35 2.00 mg/L 5.03 0.158 103 75-125 0.389 25

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHI0486 - EPA 3050B

Blank (BHI0486-BLK1)

Prepared & Analyzed: 09/16/24

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 (BHI0486-BS1)

Prepared & Analyzed: 09/16/24

Arsenic	41.8	0.200	mg/kg wet	39.1	107	80-120
Barium	40.0	0.400	"	39.1	102	80-120
Cadmium	1.97	0.200	"	1.95	101	80-120
Copper	43.0	0.400	"	39.1	110	80-120
Lead	19.2	0.200	"	19.5	98.1	80-120
Nickel	43.4	0.400	"	39.1	111	80-120
Silver	1.98	0.0200	"	1.95	101	80-120
Zinc	40.7	0.400	"	39.1	104	80-120
Selenium	4.23	0.260	"	3.91	108	80-120

Duplicate (BHI0486-DUP1)

Source: 2409191-01

Prepared & Analyzed: 09/16/24

Arsenic	1.72	0.200	mg/kg dry	1.60	7.48	20
Barium	47.9	0.400	"	44.1	8.16	20
Cadmium	0.0548	0.200	"	0.0495	10.1	20
Copper	3.59	0.400	"	3.40	5.53	20
Lead	4.13	0.200	"	3.92	5.36	20
Nickel	3.71	0.400	"	3.52	5.25	20
Silver	0.0149	0.0200	"	0.0154	3.49	20
Zinc	14.8	0.400	"	14.2	4.28	20
Selenium	ND	0.260	"	ND		20

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHI0486 - EPA 3050B

Matrix Spike (BHI0486-MS1)	Source: 2409191-01			Prepared & Analyzed: 09/16/24								
Arsenic	40.7	0.200	mg/kg dry	38.3	1.60	102	75-125					
Barium	86.4	0.400	"	38.3	44.1	110	75-125					
Cadmium	1.98	0.200	"	1.91	0.0495	101	75-125					
Copper	43.9	0.400	"	38.3	3.40	106	75-125					
Lead	21.2	0.200	"	19.1	3.92	90.4	75-125					
Nickel	44.7	0.400	"	38.3	3.52	108	75-125					
Silver	1.87	0.0200	"	1.91	0.0154	96.8	75-125					
Zinc	53.6	0.400	"	38.3	14.2	103	75-125					
Selenium	7.00	0.260	"	3.83	ND	183	75-125					QM-05

Matrix Spike Dup (BHI0486-MSD1)	Source: 2409191-01			Prepared & Analyzed: 09/16/24								
Arsenic	41.8	0.200	mg/kg dry	40.3	1.60	99.7	75-125	2.81	25			
Barium	88.7	0.400	"	40.3	44.1	111	75-125	2.71	25			
Cadmium	2.08	0.200	"	2.02	0.0495	101	75-125	4.93	25			
Copper	45.5	0.400	"	40.3	3.40	104	75-125	3.63	25			
Lead	22.5	0.200	"	20.2	3.92	91.9	75-125	5.69	25			
Nickel	46.8	0.400	"	40.3	3.52	107	75-125	4.52	25			
Silver	1.97	0.0200	"	2.02	0.0154	96.8	75-125	5.16	25			
Zinc	54.6	0.400	"	40.3	14.2	100	75-125	1.80	25			
Selenium	7.31	0.260	"	4.03	ND	181	75-125	4.37	25			QM-05

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHI0540 - 3060A Mod

Blank (BHI0540-BLK1)

Prepared & Analyzed: 09/17/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHI0540-BS1)

Prepared & Analyzed: 09/17/24

Chromium, Hexavalent 26.0 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BHI0540-DUP1)

Source: 2409181-01

Prepared & Analyzed: 09/17/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHI0540-MS1)

Source: 2409181-01

Prepared & Analyzed: 09/17/24

Chromium, Hexavalent 27.0 0.30 mg/kg dry 26.3 ND 103 75-125

Matrix Spike Dup (BHI0540-MSD1)

Source: 2409181-01

Prepared & Analyzed: 09/17/24

Chromium, Hexavalent 27.7 0.30 mg/kg dry 26.3 ND 105 75-125 2.50 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

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

Summit Scientific

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

Batch BHI0565 - General Preparation

Blank (BHI0565-BLK1)

Prepared: 09/17/24 Analyzed: 09/19/24

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

LCS (BHI0565-BS1)

Prepared: 09/17/24 Analyzed: 09/19/24

Calcium	5.77	0.0500	mg/L wet	5.00	115	70-130				
Magnesium	5.15	0.0500	"	5.00	103	70-130				
Sodium	5.22	0.0500	"	5.00	104	70-130				

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 PO Box 1289
 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

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

Summit Scientific

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

Batch BHI0497 - General Preparation

Duplicate (BHI0497-DUP1)	Source: 2409194-01		Prepared: 09/16/24 Analyzed: 09/18/24	
% Solids	91.9	%	91.3	0.758 20

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Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

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

Summit Scientific

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

Batch BHI0616 - General Preparation

Blank (BHI0616-BLK1)

Prepared: 09/18/24 Analyzed: 09/19/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHI0616-BS1)

Prepared: 09/18/24 Analyzed: 09/19/24

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHI0616-DUP1)

Source: 2409199-01

Prepared: 09/18/24 Analyzed: 09/19/24

Specific Conductance (EC) 0.120 0.0100 mmhos/cm 0.120 0.00 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
 Project Manager: Paul Henchan

Reported:
 09/23/24 09:00

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

Summit Scientific

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

Batch BHI0617 - General Preparation

LCS (BHI0617-BS1)

Prepared: 09/18/24 Analyzed: 09/19/24

pH	9.11	pH Units	9.18	99.2	95-105
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Duplicate (BHI0617-DUP1)

Source: 2409199-01

Prepared: 09/18/24 Analyzed: 09/19/24

pH	8.43	pH Units	8.47	0.473	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Ocoma T4W-R64W-S17 L01

Project Number: UWRWE-A2638-ABN
Project Manager: Paul Henchan

Reported:
09/23/24 09:00

Notes and Definitions

- 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.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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