

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 06, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Castor PC T1N-R58W-S36 L01

Work Order #2407404

Enclosed are the results of analyses for samples received by Summit Scientific on 07/31/24 18:20. 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, written in a professional style.

Natalie Tessier For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
Project Manager: Paul Henchan

Reported:
08/06/24 09:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP DL - 3FT	2407404-01	Soil	07/31/24 15:00	07/31/24 18:20

S₂

Sample Receipt Checklist

S2 Work Order# 2407404

Client: Fremont Client Project ID: Castor PC TIN-R58W-S36L01

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

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

Temp (°C) 23.0 Thermometer # 2

	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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>no sample times</u>
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

7/31/24
Date/Time



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Project Number: UWREP-A2000-ABN
Project Manager: Paul Henchan

Reported:
08/06/24 09:36

SEP DL - 3FT
2407404-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHH0038	08/01/24	08/02/24	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: **07/31/24 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0348	86.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0424	106 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	101 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHH0037	08/01/24	08/01/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.1	80.6 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0007	08/01/24	08/02/24	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: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0200	59.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0008	08/01/24	08/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	10.4	0.200	mg/kg dry	1	BHH0023	08/01/24	08/06/24	EPA 6020B
Barium	293	0.400	"	"	"	"	"	"
Cadmium	0.272	0.200	"	"	"	"	"	"
Copper	4.95	0.400	"	"	"	"	"	"
Lead	19.5	0.200	"	"	"	"	"	"
Nickel	3.12	0.400	"	"	"	"	"	"
Silver	0.0373	0.0200	"	"	"	"	"	"
Zinc	15.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0014	08/01/24	08/01/24	EPA 7196A	

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

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	165	0.0500	mg/L dry	1	BHH0051	08/01/24	08/02/24	EPA 6020B	
Magnesium	25.7	0.0500	"	"	"	"	"	"	
Sodium	387	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.40	0.00100	units	1	BHH0102	08/05/24	08/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	71.6	%	1	BHH0002	08/01/24	08/01/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.23	0.0100	mmhos/cm	1	BHH0053	08/01/24	08/02/24	EPA 120.1	

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

Date Sampled: **07/31/24 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BHH0052	08/01/24	08/02/24	EPA 9045D	

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHH0038 - EPA 5030 Soil MS

Blank (BHH0038-BLK1)

Prepared & Analyzed: 08/01/24

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	0.0444		"	0.0400		111	50-150				
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150				
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150				

LCS (BHH0038-BS1)

Prepared & Analyzed: 08/01/24

Benzene	0.0768	0.0020	mg/kg	0.100		76.8	70-130				
Toluene	0.0981	0.0050	"	0.100		98.1	70-130				
Ethylbenzene	0.0967	0.0050	"	0.100		96.7	70-130				
m,p-Xylene	0.192	0.010	"	0.200		96.2	70-130				
o-Xylene	0.0948	0.0050	"	0.100		94.8	70-130				
1,2,4-Trimethylbenzene	0.0867	0.0050	"	0.100		86.7	70-130				
1,3,5-Trimethylbenzene	0.0880	0.0050	"	0.100		88.0	70-130				
Naphthalene	0.0757	0.0038	"	0.100		75.7	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	50-150				
Surrogate: Toluene-d8	0.0431		"	0.0400		108	50-150				
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150				

Matrix Spike (BHH0038-MS1)

Source: 2407402-01

Prepared & Analyzed: 08/01/24

Benzene	0.0755	0.0020	mg/kg	0.100	ND	75.5	70-130				
Toluene	0.0893	0.0050	"	0.100	ND	89.3	70-130				
Ethylbenzene	0.0804	0.0050	"	0.100	ND	80.4	70-130				
m,p-Xylene	0.162	0.010	"	0.200	ND	81.1	70-130				
o-Xylene	0.0802	0.0050	"	0.100	ND	80.2	70-130				
1,2,4-Trimethylbenzene	0.0715	0.0050	"	0.100	ND	71.5	70-130				
1,3,5-Trimethylbenzene	0.0720	0.0050	"	0.100	ND	72.0	70-130				
Naphthalene	0.0620	0.0038	"	0.100	ND	62.0	70-130				QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0478		"	0.0400		119	50-150				
Surrogate: Toluene-d8	0.0432		"	0.0400		108	50-150				
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150				

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHH0038 - EPA 5030 Soil MS

Matrix Spike Dup (BHH0038-MSD1)	Source: 2407402-01			Prepared & Analyzed: 08/01/24						
Benzene	0.0734	0.0020	mg/kg	0.100	ND	73.4	70-130	2.86	30	
Toluene	0.0903	0.0050	"	0.100	ND	90.3	70-130	1.07	30	
Ethylbenzene	0.0832	0.0050	"	0.100	ND	83.2	70-130	3.52	30	
m,p-Xylene	0.168	0.010	"	0.200	ND	84.1	70-130	3.63	30	
o-Xylene	0.0828	0.0050	"	0.100	ND	82.8	70-130	3.20	30	
1,2,4-Trimethylbenzene	0.0780	0.0050	"	0.100	ND	78.0	70-130	8.67	30	
1,3,5-Trimethylbenzene	0.0776	0.0050	"	0.100	ND	77.6	70-130	7.58	30	
Naphthalene	0.0659	0.0038	"	0.100	ND	65.9	70-130	6.09	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0492		"	0.0400		123	50-150			
Surrogate: Toluene-d8	0.0432		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	50-150			

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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 BHH0037 - EPA 3550A

Blank (BHH0037-BLK1)

Prepared & Analyzed: 08/01/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.8		30-150			

LCS (BHH0037-BS1)

Prepared & Analyzed: 08/01/24

C10-C28 (DRO)	489	50	mg/kg	500		97.7		70-130			
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5		101		30-150			

Matrix Spike (BHH0037-MS1)

Source: 2407402-01

Prepared & Analyzed: 08/01/24

C10-C28 (DRO)	506	50	mg/kg	500	ND	101		70-130			
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		83.5		30-150			

Matrix Spike Dup (BHH0037-MSD1)

Source: 2407402-01

Prepared & Analyzed: 08/01/24

C10-C28 (DRO)	464	50	mg/kg	500	ND	92.9		70-130	8.53	20	
Surrogate: <i>o</i> -Terphenyl	10.1		"	12.5		80.5		30-150			

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PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHH0007 - EPA 5030 Soil MS

Blank (BHH0007-BLK1)

Prepared: 08/01/24 Analyzed: 08/02/24

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	0.0240		"	0.0333		71.9	40-150			
Surrogate: Fluoranthene-d10	0.0262		"	0.0333		78.5	40-150			

LCS (BHH0007-BS1)

Prepared: 08/01/24 Analyzed: 08/02/24

Acenaphthene	0.0265	0.00500	mg/kg	0.0333		79.4	31-137			
Anthracene	0.0264	0.00500	"	0.0333		79.3	30-120			
Benzo (a) anthracene	0.0287	0.00500	"	0.0333		86.0	30-120			
Benzo (a) pyrene	0.0258	0.00500	"	0.0333		77.4	30-120			
Benzo (b) fluoranthene	0.0264	0.00500	"	0.0333		79.2	30-120			
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333		80.4	30-120			
Chrysene	0.0279	0.00500	"	0.0333		83.7	30-120			
Dibenz (a,h) anthracene	0.0267	0.00500	"	0.0333		80.1	30-120			
Fluoranthene	0.0281	0.00500	"	0.0333		84.2	30-120			
Fluorene	0.0282	0.00500	"	0.0333		84.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0359	0.00500	"	0.0333		108	30-120			
Pyrene	0.0305	0.00500	"	0.0333		91.5	35-142			
1-Methylnaphthalene	0.0234	0.00500	"	0.0333		70.3	35-142			
2-Methylnaphthalene	0.0270	0.00500	"	0.0333		80.9	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0248		"	0.0333		74.3	40-150			
Surrogate: Fluoranthene-d10	0.0291		"	0.0333		87.3	40-150			

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08/06/24 09:36

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHH0007 - EPA 5030 Soil MS

Matrix Spike (BHH0007-MS1)	Source: 2407404-01			Prepared: 08/01/24 Analyzed: 08/02/24						
Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.2	31-137			
Anthracene	0.0169	0.00500	"	0.0333	ND	50.7	30-120			
Benzo (a) anthracene	0.0195	0.00500	"	0.0333	ND	58.4	30-120			
Benzo (a) pyrene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Benzo (b) fluoranthene	0.0169	0.00500	"	0.0333	ND	50.6	30-120			
Benzo (k) fluoranthene	0.0171	0.00500	"	0.0333	ND	51.3	30-120			
Chrysene	0.0193	0.00500	"	0.0333	ND	57.9	30-120			
Dibenz (a,h) anthracene	0.0170	0.00500	"	0.0333	ND	50.9	30-120			
Fluoranthene	0.0189	0.00500	"	0.0333	ND	56.6	30-120			
Fluorene	0.0201	0.00500	"	0.0333	ND	60.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0220	0.00500	"	0.0333	ND	66.1	30-120			
Pyrene	0.0195	0.00500	"	0.0333	ND	58.6	35-142			
1-Methylnaphthalene	0.0140	0.00500	"	0.0333	ND	42.1	15-130			
2-Methylnaphthalene	0.0150	0.00500	"	0.0333	ND	45.1	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0188</i>		<i>"</i>	<i>0.0333</i>		<i>56.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0199</i>		<i>"</i>	<i>0.0333</i>		<i>59.8</i>	<i>40-150</i>			

Matrix Spike Dup (BHH0007-MSD1)	Source: 2407404-01			Prepared: 08/01/24 Analyzed: 08/02/24						
Acenaphthene	0.0208	0.00500	mg/kg	0.0333	ND	62.4	31-137	7.01	30	
Anthracene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	12.3	30	
Benzo (a) anthracene	0.0220	0.00500	"	0.0333	ND	66.1	30-120	12.3	30	
Benzo (a) pyrene	0.0195	0.00500	"	0.0333	ND	58.4	30-120	12.3	30	
Benzo (b) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.3	30-120	10.6	30	
Benzo (k) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	8.13	30	
Chrysene	0.0214	0.00500	"	0.0333	ND	64.3	30-120	10.6	30	
Dibenz (a,h) anthracene	0.0214	0.00500	"	0.0333	ND	64.3	30-120	23.2	30	
Fluoranthene	0.0212	0.00500	"	0.0333	ND	63.7	30-120	11.7	30	
Fluorene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	5.94	30	
Indeno (1,2,3-cd) pyrene	0.0263	0.00500	"	0.0333	ND	79.0	30-120	17.8	30	
Pyrene	0.0235	0.00500	"	0.0333	ND	70.6	35-142	18.5	30	
1-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.0	15-130	22.8	50	
2-Methylnaphthalene	0.0154	0.00500	"	0.0333	ND	46.2	15-130	2.32	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0193</i>		<i>"</i>	<i>0.0333</i>		<i>57.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0223</i>		<i>"</i>	<i>0.0333</i>		<i>66.8</i>	<i>40-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
 Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0008 - EPA 3050B

Blank (BHH0008-BLK1)

Prepared: 08/01/24 Analyzed: 08/02/24

Boron ND 2.00 mg/L

LCS (BHH0008-BS1)

Prepared: 08/01/24 Analyzed: 08/02/24

Boron 4.31 2.00 mg/L 5.00 86.3 80-120

Duplicate (BHH0008-DUP1)

Source: 2407399-01

Prepared: 08/01/24 Analyzed: 08/02/24

Boron 2.07 2.00 mg/L 2.02 2.29 20

Matrix Spike (BHH0008-MS1)

Source: 2407399-01

Prepared: 08/01/24 Analyzed: 08/02/24

Boron 9.16 2.00 mg/L 5.04 2.02 142 75-125 QM-01

Matrix Spike Dup (BHH0008-MSD1)

Source: 2407399-01

Prepared: 08/01/24 Analyzed: 08/02/24

Boron 9.43 2.00 mg/L 5.04 2.02 147 75-125 2.92 25 QM-01

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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
Project Manager: Paul Henchan

Reported:
08/06/24 09:36

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHH0023 - EPA 3050B

Blank (BHH0023-BLK1)

Prepared: 08/01/24 Analyzed: 08/05/24

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 (BHH0023-BS1)

Prepared: 08/01/24 Analyzed: 08/05/24

Arsenic	42.4	0.200	mg/kg wet	39.7	107	80-120
Barium	41.0	0.400	"	39.7	103	80-120
Cadmium	2.04	0.200	"	1.98	103	80-120
Copper	40.5	0.400	"	39.7	102	80-120
Lead	20.4	0.200	"	19.8	103	80-120
Nickel	41.0	0.400	"	39.7	103	80-120
Silver	2.05	0.0200	"	1.98	103	80-120
Zinc	40.5	0.400	"	39.7	102	80-120
Selenium	4.34	0.260	"	3.97	109	80-120

Duplicate (BHH0023-DUP1)

Source: 2407233-09

Prepared: 08/01/24 Analyzed: 08/05/24

Arsenic	1.39	0.200	mg/kg dry	1.28	8.50	20
Barium	35.9	0.400	"	35.1	2.08	20
Cadmium	0.0373	0.200	"	0.0353	5.56	20
Copper	1.77	0.400	"	1.65	7.22	20
Lead	3.31	0.200	"	3.24	2.12	20
Nickel	2.37	0.400	"	2.22	6.71	20
Silver	0.0164	0.0200	"	0.0168	2.48	20
Zinc	9.26	0.400	"	9.01	2.72	20
Selenium	ND	0.260	"	ND		20

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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
 Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0023 - EPA 3050B

Matrix Spike (BHH0023-MS1)

Source: 2407233-09

Prepared: 08/01/24 Analyzed: 08/05/24

Arsenic	43.3	0.200	mg/kg dry	41.0	1.28	103	75-125		
Barium	74.4	0.400	"	41.0	35.1	95.7	75-125		
Cadmium	2.18	0.200	"	2.05	0.0353	105	75-125		
Copper	35.2	0.400	"	41.0	1.65	81.7	75-125		
Lead	24.3	0.200	"	20.5	3.24	103	75-125		
Nickel	36.4	0.400	"	41.0	2.22	83.3	75-125		
Silver	2.10	0.0200	"	2.05	0.0168	102	75-125		
Zinc	43.4	0.400	"	41.0	9.01	83.8	75-125		
Selenium	3.95	0.260	"	4.10	ND	96.3	75-125		

Matrix Spike Dup (BHH0023-MSD1)

Source: 2407233-09

Prepared: 08/01/24 Analyzed: 08/06/24

Arsenic	43.7	0.200	mg/kg dry	41.0	1.28	103	75-125	0.907	25
Barium	76.7	0.400	"	41.0	35.1	101	75-125	3.03	25
Cadmium	2.19	0.200	"	2.05	0.0353	105	75-125	0.395	25
Copper	34.4	0.400	"	41.0	1.65	79.9	75-125	2.06	25
Lead	24.5	0.200	"	20.5	3.24	103	75-125	0.719	25
Nickel	35.6	0.400	"	41.0	2.22	81.2	75-125	2.37	25
Silver	2.11	0.0200	"	2.05	0.0168	102	75-125	0.545	25
Zinc	42.7	0.400	"	41.0	9.01	82.0	75-125	1.69	25
Selenium	4.04	0.260	"	4.10	ND	98.5	75-125	2.19	25

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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
Project Manager: Paul Henchan

Reported:
08/06/24 09:36

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 BHH0014 - 3060A Mod

Blank (BHH0014-BLK1)

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHH0014-BS1)

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHH0014-DUP1)

Source: 2407399-01

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHH0014-MS1)

Source: 2407399-01

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent 30.3 0.30 mg/kg dry 28.3 ND 107 75-125

Matrix Spike Dup (BHH0014-MSD1)

Source: 2407399-01

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent 30.8 0.30 mg/kg dry 28.3 ND 109 75-125 1.48 20

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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
 Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0051 - General Preparation

Blank (BHH0051-BLK1)

Prepared: 08/01/24 Analyzed: 08/02/24

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

LCS (BHH0051-BS1)

Prepared: 08/01/24 Analyzed: 08/02/24

Calcium	5.59	0.0500	mg/L wet	5.00		112	70-130			
Magnesium	5.43	0.0500	"	5.00		109	70-130			
Sodium	5.38	0.0500	"	5.00		108	70-130			

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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN

Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0002 - General Preparation

Duplicate (BHH0002-DUP1)

Source: 2407399-01

Prepared & Analyzed: 08/01/24

% Solids	88.7		%		88.3			0.430	20	
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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
 Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0053 - General Preparation

Blank (BHH0053-BLK1)

Prepared: 08/01/24 Analyzed: 08/02/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0053-BS1)

Prepared: 08/01/24 Analyzed: 08/02/24

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

Duplicate (BHH0053-DUP1)

Source: 2407402-01

Prepared: 08/01/24 Analyzed: 08/02/24

Specific Conductance (EC) 1.24 0.0100 mmhos/cm 1.27 2.31 20

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Fremont Environmental
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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
 Project Manager: Paul Henchan

Reported:
 08/06/24 09:36

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 BHH0052 - General Preparation

LCS (BHH0052-BS1)

Prepared: 08/01/24 Analyzed: 08/02/24

pH	9.08	pH Units	9.18	98.9	95-105
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Duplicate (BHH0052-DUP1)

Source: 2407402-01

Prepared: 08/01/24 Analyzed: 08/02/24

pH	7.99	pH Units	8.01	0.250	20
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PO Box 1289
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Project: Noble - Castor PC T1N-R58W-S36 L01

Project Number: UWREP-A2000-ABN
Project Manager: Paul Henchan

Reported:
08/06/24 09:36

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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