

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 07, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Novacek C28-27D Tank Battery

Work Order #2407233

Enclosed are the results of analyses for samples received by Summit Scientific on 07/18/24 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2407233-01	Soil	07/18/24 07:55	07/18/24 17:45
AST02@0-6"	2407233-02	Soil	07/18/24 07:58	07/18/24 17:45
SEP01-DL01@3'	2407233-03	Soil	07/18/24 08:15	07/18/24 17:45
SEP01-DL02@3'	2407233-04	Soil	07/18/24 08:20	07/18/24 17:45
SEP01-FL@3'	2407233-05	Soil	07/18/24 08:35	07/18/24 17:45
SEP02-DL01@3'	2407233-06	Soil	07/18/24 08:38	07/18/24 17:45
SEP02-DL02@3'	2407233-07	Soil	07/18/24 08:40	07/18/24 17:45
PWV01-B@5'	2407233-08	Soil	07/18/24 09:15	07/18/24 17:45
PWV01-N@2.5'	2407233-09	Soil	07/18/24 09:17	07/18/24 17:45
PWV01-E@2.5'	2407233-10	Soil	07/18/24 09:19	07/18/24 17:45
PWV01-S@2.5'	2407233-11	Soil	07/18/24 09:21	07/18/24 17:45
PWV02-B@5'	2407233-12	Soil	07/18/24 09:23	07/18/24 17:45
PWV02-N@2.5'	2407233-13	Soil	07/18/24 09:25	07/18/24 17:45
PWV02-S@2.5'	2407233-14	Soil	07/18/24 09:27	07/18/24 17:45
PWV02-W@2.5'	2407233-15	Soil	07/18/24 09:29	07/18/24 17:45
BKG01@0-6"	2407233-16	Soil	07/18/24 11:44	07/18/24 17:45
BKG01@2.5'	2407233-17	Soil	07/18/24 11:45	07/18/24 17:45
BKG01@3'	2407233-18	Soil	07/18/24 11:46	07/18/24 17:45
BKG01@5'	2407233-19	Soil	07/18/24 11:47	07/18/24 17:45

Case Narrative

Hunter Merlo requested full Table 915 be added to PWV01-N@2.5', PWV01-S@2.5', PWV02-N@2.5', & PWV02-S@2.5' on 7/31/2024.
This report includes those results.

This is a revision of the report originally sent on 7/26/24 at 13:12 MT.

Summit Scientific

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

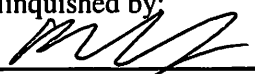

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: <i>Noble</i>	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: <i>Novacek C28-270 Tank Battery</i>	
Phone:		Project Name: <i>Novacek C28-270 Tank Battery</i>		AFE#: <i>UWRWTE-AZ720-ABN</i>	
Sampler Name: Ryan Yavinsky / <i>Jeff Rollins</i>		Project Number:		PO/Billing Codes:	
				Contact: <i>Mique Barron</i>	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	Metals - 915	pH, EC, SAR	Boron - HWS	HOLD			
1	ASTD1C0-6"	7/18/24	0755	3			3			X			X	X	X	X	X	X				
2	AST02C0-6"		0758																			
3	SEP01-DL0103'		0815																			
4	SEP01-DL0203'		0820																			
5	SEP01-FL03'		0835																			
6	SEP02-DL0103'		0838																			
7	SEP02-DL0203'		0840																			
8	PWVD1-B05'		0915																			
9	PWVD1-N02.5'		0917																X			
10	PWVD1-E02.5'		0919										X	X	X	X	X	X				
11	PWVD1-S02.5'		0921																X			
12	PWVD2-B05'		0923										X	X	X	X	X	X				
13	PWVD2-N02.5'		0925																X			
14	PWVD2-S02.5'		0927																X			
15	PWVD2-W02.5'		0929										X	X	X	X	X	X				

Relinquished by: <i>[Signature]</i>	Date/Time: 7/18/24 1500	Received by: Tasman Lock Box	Date/Time: 7/18/24 1500	TAT Business Days	Field DO <i>12/1</i>	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 7/18/24 1745	Received by: <i>[Signature]</i>	Date/Time: 7/18/24 1745	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <i>8.5</i>	Corrected Temperature: <i>8</i>	IR gun #:		HNO3 lot #:		

		Send Data To:	Send Invoice To:
Client: Noble/Tasman		Project Manager: Jake Whritenour	Company: Noble
Address: 6855 W. 119th Ave.		E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Novacek C28-270 Tank Battery
City/State/Zip: Broomfield/CO/ 80020			AFE#: UWRWE - A2720-ABN
Phone:		Project Name: Novacek C28-270 Tank Battery	PO/Billing Codes:
Sampler Name: Ryan Yavinsky / Jeff Collins		Project Number:	Contact: Miguel Barron

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	Metals - 915	pH, EC, SAR	Boron - HWS	HOLD			
1	BK601 @ 0'-6"	7/18/24	1144	3			3			X						X	X	X				
2	BK601 @ 2.5'	I	1145	I			I			I						I	I	I				
3	BK601 @ 3'	I	1146	I			I			I						I	I	I				
4	BK601 @ 5'	I	1147	I			I			I						I	I	I				
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: 	Date/Time: 7/18/24 1500	Received by: Tasman Lock Box	Date/Time: 7/18/24 1500	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 7/18/24 1745	Received by: 	Date/Time: 7/18/24 1745	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 85	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2407233Client: NicklasmanClient Project ID: NOVACEK C28 CID Tank BatteryShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #: _____

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air ☐Soil ☒ Solid ☐Water ☐Other ☐

Temp (°C)

85

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

7/18/24
 Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

AST01@0-6"
2407233-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 07:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0364	91.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0372	92.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	13.3	107 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2407233-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 07:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0187	56.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
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Reported:
08/07/24 09:14

AST01@0-6"
2407233-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.51	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	26.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.73	0.400	"	"	"	"	"	"
Lead	2.72	0.200	"	"	"	"	"	"
Nickel	2.28	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.45	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.6	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	8.74	0.0500	"	"	"	"	"	"	
Sodium	6.28	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.238	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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2407233-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.1			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.420	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 07:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.60			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

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Reported:
08/07/24 09:14

AST02@0-6"
2407233-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.18	49.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

AST02@0-6"
2407233-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0236	70.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

AST02@0-6"
2407233-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.05	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	32.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.98	0.400	"	"	"	"	"	"
Lead	2.89	0.200	"	"	"	"	"	"
Nickel	2.75	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	64.7	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	16.7	0.0500	"	"	"	"	"	"	
Sodium	18.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.522	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

AST02@0-6"
2407233-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.1			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.702	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 07:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.28			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL01@3'
2407233-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.99	63.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL01@3'
2407233-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL01@3'
2407233-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.35	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	30.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.31	0.400	"	"	"	"	"	"
Lead	3.52	0.200	"	"	"	"	"	"
Nickel	2.17	0.400	"	"	"	"	"	"
Silver	0.0231	0.0200	"	"	"	"	"	"
Zinc	9.43	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	76.7	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	16.5	0.0500	"	"	"	"	"	"	
Sodium	0.481	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0130	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL01@3'
2407233-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.1			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0446	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 08:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.26			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL02@3'
2407233-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0360	89.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0417	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.34	74.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL02@3'
2407233-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL02@3'
2407233-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.91	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	37.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.57	0.400	"	"	"	"	"	"
Lead	5.01	0.200	"	"	"	"	"	"
Nickel	2.46	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	68.5	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	13.7	0.0500	"	"	"	"	"	"	
Sodium	0.594	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0171	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-DL02@3'
2407233-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.1			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0668	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 08:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.52			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-FL@3'
2407233-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 08:35**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-FL@3'
2407233-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0152	45.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-FL@3'
2407233-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.47	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	32.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.15	0.400	"	"	"	"	"	"
Lead	3.15	0.200	"	"	"	"	"	"
Nickel	2.18	0.400	"	"	"	"	"	"
Silver	0.0273	0.0200	"	"	"	"	"	"
Zinc	9.71	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	93.4	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	17.9	0.0500	"	"	"	"	"	"	
Sodium	1.68	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0417	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP01-FL@3'
2407233-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.9			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0783	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 08:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.05			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL01@3'
2407233-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0424	106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 08:38**

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

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL01@3'
2407233-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0196	58.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL01@3'
2407233-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.13	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	33.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.96	0.400	"	"	"	"	"	"
Lead	4.00	0.200	"	"	"	"	"	"
Nickel	2.51	0.400	"	"	"	"	"	"
Silver	0.0232	0.0200	"	"	"	"	"	"
Zinc	9.27	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	63.6	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	9.22	0.0500	"	"	"	"	"	"	
Sodium	1.02	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0316	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL01@3'
2407233-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.6			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.108	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 08:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.75			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL02@3'
2407233-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0362	90.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.81	78.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL02@3'
2407233-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0203	60.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0167	50.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 08:40**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL02@3'
2407233-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.57	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	36.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.22	0.400	"	"	"	"	"	"
Lead	3.43	0.200	"	"	"	"	"	"
Nickel	2.40	0.400	"	"	"	"	"	"
Silver	0.0207	0.0200	"	"	"	"	"	"
Zinc	9.97	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	65.0	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	14.6	0.0500	"	"	"	"	"	"	
Sodium	1.78	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0519	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

SEP02-DL02@3'
2407233-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.0			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0718	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 08:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.55			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-B@5'
2407233-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.7	85.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-B@5'
2407233-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-B@5'
2407233-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.21	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	31.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.31	0.400	"	"	"	"	"	"
Lead	3.10	0.200	"	"	"	"	"	"
Nickel	1.99	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.1	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	11.2	0.0500	"	"	"	"	"	"	
Sodium	1.06	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0302	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-B@5'
2407233-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.9			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0759	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.30			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-N@2.5'
2407233-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0925	07/31/24	07/31/24	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: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0412	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0926	07/31/24	07/31/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.7	101 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-N@2.5'
2407233-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHH0003	08/01/24	08/01/24	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: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0203	60.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0009	08/01/24	08/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-N@2.5'
2407233-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.28	0.200	mg/kg dry	1	BHH0023	08/01/24	08/05/24	EPA 6020B
Barium	35.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.65	0.400	"	"	"	"	"	"
Lead	3.24	0.200	"	"	"	"	"	"
Nickel	2.22	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.01	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0015	08/01/24	08/01/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.4	0.0500	mg/L dry	1	BHH0074	08/02/24	08/06/24	EPA 6020B	
Magnesium	5.33	0.0500	"	"	"	"	"	"	
Sodium	1.61	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0747	0.00100	units	1	BHH0162	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-N@2.5'
2407233-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.0			%	1	BHG0935	07/31/24	08/01/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0751	0.0100		mmhos/cm	1	BHH0077	08/02/24	08/05/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.26			pH Units	1	BHH0076	08/02/24	08/05/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-E@2.5'
2407233-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0360	89.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0424	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	96.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-E@2.5'
2407233-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0142	42.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-E@2.5'
2407233-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.46	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	34.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.83	0.400	"	"	"	"	"	"
Lead	3.46	0.200	"	"	"	"	"	"
Nickel	2.28	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.70	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	48.3	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	7.34	0.0500	"	"	"	"	"	"	
Sodium	1.63	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0578	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-E@2.5'
2407233-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.4			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0993	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:19**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.61			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-S@2.5'
2407233-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0925	07/31/24	07/31/24	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: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0368	92.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0926	07/31/24	08/01/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.8	86.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Reported:
08/07/24 09:14

PWV01-S@2.5'
2407233-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHH0003	08/01/24	08/01/24	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: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0009	08/01/24	08/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-S@2.5'
2407233-11 (Soil)

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Total Metals by EPA 6020B

Arsenic	1.84	0.200	mg/kg dry	1	BHH0023	08/01/24	08/06/24	EPA 6020B
Barium	63.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.76	0.400	"	"	"	"	"	"
Lead	4.06	0.200	"	"	"	"	"	"
Nickel	3.10	0.400	"	"	"	"	"	"
Silver	0.0299	0.0200	"	"	"	"	"	"
Zinc	11.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0015	08/01/24	08/01/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	84.2	0.0500	mg/L dry	1	BHH0074	08/02/24	08/06/24	EPA 6020B	
Magnesium	14.7	0.0500	"	"	"	"	"	"	
Sodium	0.805	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0213	0.00100	units	1	BHH0162	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Novacek C28-27D Tank Battery
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Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV01-S@2.5'
2407233-11 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.6			%	1	BHG0935	07/31/24	08/01/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0445	0.0100		mmhos/cm	1	BHH0077	08/02/24	08/05/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.51			pH Units	1	BHH0076	08/02/24	08/05/24	EPA 9045D	

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-B@5'
2407233-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	84.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-B@5'
2407233-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0199	59.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-B@5'
2407233-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.24	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	46.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.83	0.400	"	"	"	"	"	"
Lead	3.43	0.200	"	"	"	"	"	"
Nickel	2.76	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	12.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.6	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	11.5	0.0500	"	"	"	"	"	"	
Sodium	9.48	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.311	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
08/07/24 09:14

PWV02-B@5'
2407233-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.8			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.535	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.80			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-N@2.5'
2407233-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0925	07/31/24	08/01/24	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: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0375	93.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0926	07/31/24	08/01/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.8	103 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
08/07/24 09:14

PWV02-N@2.5'
2407233-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHH0003	08/01/24	08/01/24	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: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0225	67.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0009	08/01/24	08/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-N@2.5'
2407233-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.30	0.200	mg/kg dry	1	BHH0023	08/01/24	08/06/24	EPA 6020B
Barium	37.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.87	0.400	"	"	"	"	"	"
Lead	3.06	0.200	"	"	"	"	"	"
Nickel	2.33	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.23	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0015	08/01/24	08/01/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.4	0.0500	mg/L dry	1	BHH0074	08/02/24	08/06/24	EPA 6020B	
Magnesium	6.49	0.0500	"	"	"	"	"	"	
Sodium	4.39	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.191	0.00100	units	1	BHH0162	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-N@2.5'
2407233-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.4			%	1	BHG0935	07/31/24	08/01/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.142	0.0100		mmhos/cm	1	BHH0077	08/02/24	08/05/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.51			pH Units	1	BHH0076	08/02/24	08/05/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-S@2.5'
2407233-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0925	07/31/24	08/01/24	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: **07/18/24 09:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0294	73.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0926	07/31/24	08/01/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.5	100 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-S@2.5'
2407233-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0003	08/01/24	08/01/24	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: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0009	08/01/24	08/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:27**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-S@2.5'
2407233-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.23	0.200	mg/kg dry	1	BHH0023	08/01/24	08/06/24	EPA 6020B
Barium	36.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.46	0.400	"	"	"	"	"	"
Lead	3.26	0.200	"	"	"	"	"	"
Nickel	2.06	0.400	"	"	"	"	"	"
Silver	0.0236	0.0200	"	"	"	"	"	"
Zinc	10.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0015	08/01/24	08/01/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	55.3	0.0500	mg/L dry	1	BHH0074	08/02/24	08/06/24	EPA 6020B	
Magnesium	10.3	0.0500	"	"	"	"	"	"	
Sodium	2.97	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0962	0.00100	units	1	BHH0162	08/07/24	08/07/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-S@2.5'
2407233-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.1			%	1	BHG0935	07/31/24	08/01/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0771	0.0100		mmhos/cm	1	BHH0077	08/02/24	08/05/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.70			pH Units	1	BHH0076	08/02/24	08/05/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-W@2.5'
2407233-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0543	07/19/24	07/21/24	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: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0334	83.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0371	92.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0545	07/19/24	07/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.4	91.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-W@2.5'
2407233-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHG0520	07/19/24	07/20/24	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	0.00668	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0104	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0144	0.00500	"	"	"	"	"	"	

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	54.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-W@2.5'
2407233-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.28	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B
Barium	26.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.03	0.400	"	"	"	"	"	"
Lead	3.20	0.200	"	"	"	"	"	"
Nickel	1.95	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.8	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	6.75	0.0500	"	"	"	"	"	"	
Sodium	4.97	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.200	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PWV02-W@2.5'
2407233-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.9			%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.358	0.0100		mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 09:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.06			pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@0-6"
2407233-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.34	0.200	mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B	
Barium	30.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.08	0.400	"	"	"	"	"	"	
Lead	5.93	0.200	"	"	"	"	"	"	
Nickel	1.89	0.400	"	"	"	"	"	"	
Silver	0.0261	0.0200	"	"	"	"	"	"	
Zinc	11.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	24.0	0.0500	mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	4.92	0.0500	"	"	"	"	"	"	
Sodium	15.3	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@0-6"
2407233-16 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.743	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5		%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.255	0.0100	mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.81		pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@2.5'
2407233-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.05	0.200		mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B	
Barium	29.8	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	1.40	0.400		"	"	"	"	"	"	
Lead	3.68	0.200		"	"	"	"	"	"	
Nickel	1.82	0.400		"	"	"	"	"	"	
Silver	ND	0.0200		"	"	"	"	"	"	
Zinc	9.83	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	5.84	0.0500		mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	1.39	0.0500		"	"	"	"	"	"	
Sodium	2.52	0.0500		"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@2.5'
2407233-17 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.243	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.2		%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0144	0.0100	mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@3'
2407233-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	0.701	0.200		mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B	
Barium	15.0	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	0.804	0.400		"	"	"	"	"	"	
Lead	2.84	0.200		"	"	"	"	"	"	
Nickel	1.38	0.400		"	"	"	"	"	"	
Silver	ND	0.0200		"	"	"	"	"	"	
Zinc	7.56	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	5.89	0.0500		mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	1.11	0.0500		"	"	"	"	"	"	
Sodium	6.31	0.0500		"	"	"	"	"	"	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@3'
2407233-18 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.625	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.2		%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0476	0.0100	mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@5'
2407233-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHG0528	07/19/24	07/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.19	0.200		mg/kg dry	1	BHG0536	07/19/24	07/20/24	EPA 6020B	
Barium	17.2	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	0.646	0.400		"	"	"	"	"	"	
Lead	3.33	0.200		"	"	"	"	"	"	
Nickel	1.34	0.400		"	"	"	"	"	"	
Silver	ND	0.0200		"	"	"	"	"	"	
Zinc	8.11	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHG0524	07/19/24	07/19/24	EPA 7196A	

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

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	34.1	0.0500		mg/L dry	1	BHG0539	07/19/24	07/22/24	EPA 6020B	
Magnesium	3.80	0.0500		"	"	"	"	"	"	
Sodium	26.3	0.0500		"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

BKG01@5'
2407233-19 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.14	0.00100	units	1	BHG0623	07/23/24	07/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.7		%	1	BHG0546	07/19/24	07/19/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.367	0.0100	mmhos/cm	1	BHG0549	07/19/24	07/22/24	EPA 120.1	

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

Date Sampled: **07/18/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.36		pH Units	1	BHG0548	07/19/24	07/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0543 - EPA 5030 Soil MS

Blank (BHG0543-BLK1)

Prepared: 07/19/24 Analyzed: 07/21/24

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	0.0376		"	0.0400		94.0	50-150			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

LCS (BHG0543-BS1)

Prepared: 07/19/24 Analyzed: 07/21/24

Benzene	0.0953	0.0020	mg/kg	0.100		95.3	70-130			
Toluene	0.115	0.0050	"	0.100		115	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.228	0.010	"	0.200		114	70-130			
o-Xylene	0.113	0.0050	"	0.100		113	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100		106	70-130			
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100		107	70-130			
Naphthalene	0.0872	0.0038	"	0.100		87.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.6	50-150			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.6	50-150			

Matrix Spike (BHG0543-MS1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/21/24

Benzene	0.0903	0.0020	mg/kg	0.100	ND	90.3	70-130			
Toluene	0.109	0.0050	"	0.100	ND	109	70-130			
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
m,p-Xylene	0.213	0.010	"	0.200	ND	107	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.0961	0.0050	"	0.100	ND	96.1	70-130			
1,3,5-Trimethylbenzene	0.0974	0.0050	"	0.100	ND	97.4	70-130			
Naphthalene	0.0845	0.0038	"	0.100	ND	84.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.7	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.8	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0543 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0543-MSD1)			Source: 2407233-01		Prepared: 07/19/24 Analyzed: 07/21/24					
Benzene	0.0859	0.0020	mg/kg	0.100	ND	85.9	70-130	5.00	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	4.21	30	
Ethylbenzene	0.0987	0.0050	"	0.100	ND	98.7	70-130	3.93	30	
m,p-Xylene	0.203	0.010	"	0.200	ND	101	70-130	4.88	30	
o-Xylene	0.0999	0.0050	"	0.100	ND	99.9	70-130	2.34	30	
1,2,4-Trimethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130	4.99	30	
1,3,5-Trimethylbenzene	0.0931	0.0050	"	0.100	ND	93.1	70-130	4.57	30	
Naphthalene	0.0821	0.0038	"	0.100	ND	82.1	70-130	2.88	30	
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.3	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.1	50-150			

Batch BHG0925 - EPA 5030 Soil MS

Blank (BHG0925-BLK1)			Prepared & Analyzed: 07/31/24							
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	0.0372		"	0.0400		93.0	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0925 - EPA 5030 Soil MS

LCS (BHG0925-BS1)

Prepared & Analyzed: 07/31/24

Benzene	0.0811	0.0020	mg/kg	0.100		81.1	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.0991	0.0050	"	0.100		99.1	70-130			
m,p-Xylene	0.198	0.010	"	0.200		99.1	70-130			
o-Xylene	0.0974	0.0050	"	0.100		97.4	70-130			
1,2,4-Trimethylbenzene	0.0889	0.0050	"	0.100		88.9	70-130			
1,3,5-Trimethylbenzene	0.0890	0.0050	"	0.100		89.0	70-130			
Naphthalene	0.0856	0.0038	"	0.100		85.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.6	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	50-150			

Matrix Spike (BHG0925-MS1)

Source: 2407233-09

Prepared & Analyzed: 07/31/24

Benzene	0.0808	0.0020	mg/kg	0.100	ND	80.8	70-130			
Toluene	0.104	0.0050	"	0.100	ND	104	70-130			
Ethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130			
m,p-Xylene	0.192	0.010	"	0.200	ND	95.9	70-130			
o-Xylene	0.0931	0.0050	"	0.100	ND	93.1	70-130			
1,2,4-Trimethylbenzene	0.0872	0.0050	"	0.100	ND	87.2	70-130			
1,3,5-Trimethylbenzene	0.0863	0.0050	"	0.100	ND	86.3	70-130			
Naphthalene	0.0783	0.0038	"	0.100	ND	78.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.7	50-150			

Matrix Spike Dup (BHG0925-MSD1)

Source: 2407233-09

Prepared & Analyzed: 07/31/24

Benzene	0.0763	0.0020	mg/kg	0.100	ND	76.3	70-130	5.81	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	2.69	30	
Ethylbenzene	0.0926	0.0050	"	0.100	ND	92.6	70-130	3.50	30	
m,p-Xylene	0.184	0.010	"	0.200	ND	92.2	70-130	3.94	30	
o-Xylene	0.0909	0.0050	"	0.100	ND	90.9	70-130	2.32	30	
1,2,4-Trimethylbenzene	0.0826	0.0050	"	0.100	ND	82.6	70-130	5.30	30	
1,3,5-Trimethylbenzene	0.0834	0.0050	"	0.100	ND	83.4	70-130	3.39	30	
Naphthalene	0.0755	0.0038	"	0.100	ND	75.5	70-130	3.63	30	
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.4	50-150			
Surrogate: Toluene-d8	0.0432		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0545 - EPA 3550A

Blank (BHG0545-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.4		"	12.5		91.3	30-150			

LCS (BHG0545-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

C10-C28 (DRO)	507	50	mg/kg	500		101	70-130			
Surrogate: o-Terphenyl	10.8		"	12.5		86.4	30-150			

Matrix Spike (BHG0545-MS1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

C10-C28 (DRO)	504	50	mg/kg	500	10.2	98.8	70-130			
Surrogate: o-Terphenyl	8.68		"	12.5		69.5	30-150			

Matrix Spike Dup (BHG0545-MSD1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

C10-C28 (DRO)	479	50	mg/kg	500	10.2	93.8	70-130	5.05	20	
Surrogate: o-Terphenyl	10.5		"	12.5		84.1	30-150			

Batch BHG0926 - EPA 3550A

Blank (BHG0926-BLK1)

Prepared & Analyzed: 07/31/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.8		"	12.5		94.1	30-150			

LCS (BHG0926-BS1)

Prepared & Analyzed: 07/31/24

C10-C28 (DRO)	493	50	mg/kg	500		98.6	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		93.6	30-150			

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0926 - EPA 3550A

Matrix Spike (BHG0926-MS1)		Source: 2407233-09			Prepared & Analyzed: 07/31/24					
C10-C28 (DRO)	523	50	mg/kg	500	5.07	104	70-130			
Surrogate: o-Terphenyl	12.9		"	12.5		103	30-150			
Matrix Spike Dup (BHG0926-MSD1)		Source: 2407233-09			Prepared & Analyzed: 07/31/24					
C10-C28 (DRO)	616	50	mg/kg	500	5.07	122	70-130	16.3	20	
Surrogate: o-Terphenyl	13.7		"	12.5		110	30-150			

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHG0520 - EPA 5030 Soil MS

Blank (BHG0520-BLK1)

Prepared & Analyzed: 07/19/24

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	0.0177		"	0.0333		53.2	40-150			
Surrogate: Fluoranthene-d10	0.0193		"	0.0333		57.8	40-150			

LCS (BHG0520-BS1)

Prepared & Analyzed: 07/19/24

Acenaphthene	0.0205	0.00500	mg/kg	0.0333		61.5	31-137			
Anthracene	0.0216	0.00500	"	0.0333		64.8	30-120			
Benzo (a) anthracene	0.0215	0.00500	"	0.0333		64.5	30-120			
Benzo (a) pyrene	0.0198	0.00500	"	0.0333		59.5	30-120			
Benzo (b) fluoranthene	0.0195	0.00500	"	0.0333		58.6	30-120			
Benzo (k) fluoranthene	0.0198	0.00500	"	0.0333		59.5	30-120			
Chrysene	0.0211	0.00500	"	0.0333		63.3	30-120			
Dibenz (a,h) anthracene	0.0193	0.00500	"	0.0333		58.0	30-120			
Fluoranthene	0.0208	0.00500	"	0.0333		62.5	30-120			
Fluorene	0.0215	0.00500	"	0.0333		64.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333		43.3	30-120			
Pyrene	0.0220	0.00500	"	0.0333		66.0	35-142			
1-Methylnaphthalene	0.0192	0.00500	"	0.0333		57.6	35-142			
2-Methylnaphthalene	0.0196	0.00500	"	0.0333		58.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.2	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		64.0	40-150			

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Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0520 - EPA 5030 Soil MS

Matrix Spike (BHG0520-MS1)

Source: 2407229-01

Prepared & Analyzed: 07/19/24

Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.4	31-137				
Anthracene	0.0160	0.00500	"	0.0333	ND	48.1	30-120				
Benzo (a) anthracene	0.0162	0.00500	"	0.0333	ND	48.5	30-120				
Benzo (a) pyrene	0.0144	0.00500	"	0.0333	ND	43.1	30-120				
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	41.9	30-120				
Benzo (k) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.7	30-120				
Chrysene	0.0158	0.00500	"	0.0333	ND	47.5	30-120				
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	47.9	30-120				
Fluoranthene	0.0153	0.00500	"	0.0333	ND	45.9	30-120				
Fluorene	0.0164	0.00500	"	0.0333	ND	49.1	30-120				
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.3	30-120				
Pyrene	0.0170	0.00500	"	0.0333	ND	50.9	35-142				
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.8	15-130				
2-Methylnaphthalene	0.0157	0.00500	"	0.0333	ND	47.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0142		"	0.0333		42.6	40-150				
Surrogate: Fluoranthene-d10	0.0159		"	0.0333		47.8	40-150				

Matrix Spike Dup (BHG0520-MSD1)

Source: 2407229-01

Prepared & Analyzed: 07/19/24

Acenaphthene	0.0173	0.00500	mg/kg	0.0333	ND	52.0	31-137	7.27	30		
Anthracene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	7.03	30		
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.7	30-120	4.52	30		
Benzo (a) pyrene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	4.50	30		
Benzo (b) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	4.27	30		
Benzo (k) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	1.93	30		
Chrysene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	4.35	30		
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.1	30-120	15.2	30		
Fluoranthene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	6.00	30		
Fluorene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	6.77	30		
Indeno (1,2,3-cd) pyrene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	7.41	30		
Pyrene	0.0175	0.00500	"	0.0333	ND	52.5	35-142	3.15	30		
1-Methylnaphthalene	0.0157	0.00500	"	0.0333	ND	47.2	15-130	3.15	50		
2-Methylnaphthalene	0.0162	0.00500	"	0.0333	ND	48.6	15-130	2.87	50		
Surrogate: 2-Methylnaphthalene-d10	0.0154		"	0.0333		46.1	40-150				
Surrogate: Fluoranthene-d10	0.0170		"	0.0333		50.9	40-150				

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHG0823 - EPA 5030 Soil MS

Blank (BHG0823-BLK1)

Prepared: 07/29/24 Analyzed: 07/30/24

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	0.0140		"	0.0333		42.1	40-150			
Surrogate: Fluoranthene-d10	0.0158		"	0.0333		47.5	40-150			

LCS (BHG0823-BS1)

Prepared: 07/29/24 Analyzed: 07/30/24

Acenaphthene	0.0211	0.00500	mg/kg	0.0333	63.4	31-137	
Anthracene	0.0203	0.00500	"	0.0333	61.0	30-120	
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	63.2	30-120	
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	60.5	30-120	
Benzo (b) fluoranthene	0.0263	0.00500	"	0.0333	78.9	30-120	
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	76.6	30-120	
Chrysene	0.0204	0.00500	"	0.0333	61.3	30-120	
Dibenz (a,h) anthracene	0.0103	0.00500	"	0.0333	31.0	30-120	
Fluoranthene	0.0195	0.00500	"	0.0333	58.4	30-120	
Fluorene	0.0216	0.00500	"	0.0333	64.7	30-120	
Indeno (1,2,3-cd) pyrene	0.0148	0.00500	"	0.0333	44.4	30-120	
Pyrene	0.0271	0.00500	"	0.0333	81.2	35-142	
1-Methylnaphthalene	0.0167	0.00500	"	0.0333	50.1	35-142	
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	56.5	35-142	
Surrogate: 2-Methylnaphthalene-d10	0.0168		"	0.0333	50.5	40-150	
Surrogate: Fluoranthene-d10	0.0200		"	0.0333	60.1	40-150	

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0823 - EPA 5030 Soil MS

Matrix Spike (BHG0823-MS1)			Source: 2407368-01		Prepared: 07/29/24 Analyzed: 07/30/24						
Acenaphthene	0.0172	0.00500	mg/kg	0.0333	ND	51.5	31-137				
Anthracene	0.0171	0.00500	"	0.0333	ND	51.2	30-120				
Benzo (a) anthracene	0.0174	0.00500	"	0.0333	ND	52.3	30-120				
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	48.0	30-120				
Benzo (b) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.1	30-120				
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333	ND	60.2	30-120				
Chrysene	0.0170	0.00500	"	0.0333	ND	50.9	30-120				
Dibenz (a,h) anthracene	0.0149	0.00500	"	0.0333	ND	44.7	30-120				
Fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120				
Fluorene	0.0175	0.00500	"	0.0333	ND	52.4	30-120				
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	48.9	30-120				
Pyrene	0.0240	0.00500	"	0.0333	ND	72.1	35-142				
1-Methylnaphthalene	0.0138	0.00500	"	0.0333	ND	41.3	15-130				
2-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.6	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0142		"	0.0333		42.7	40-150				
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150				

Matrix Spike Dup (BHG0823-MSD1)			Source: 2407368-01		Prepared: 07/29/24 Analyzed: 07/30/24						
Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.4	31-137	10.8	30		
Anthracene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	6.76	30		
Benzo (a) anthracene	0.0189	0.00500	"	0.0333	ND	56.7	30-120	8.03	30		
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	6.60	30		
Benzo (b) fluoranthene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	5.40	30		
Benzo (k) fluoranthene	0.0213	0.00500	"	0.0333	ND	64.0	30-120	6.10	30		
Chrysene	0.0182	0.00500	"	0.0333	ND	54.5	30-120	6.80	30		
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.2	30-120	1.12	30		
Fluoranthene	0.0174	0.00500	"	0.0333	ND	52.2	30-120	7.41	30		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	11.6	30		
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	0.198	30		
Pyrene	0.0262	0.00500	"	0.0333	ND	78.5	35-142	8.43	30		
1-Methylnaphthalene	0.0144	0.00500	"	0.0333	ND	43.2	15-130	4.48	50		
2-Methylnaphthalene	0.0155	0.00500	"	0.0333	ND	46.5	15-130	1.89	50		
Surrogate: 2-Methylnaphthalene-d10	0.0146		"	0.0333		43.7	40-150				
Surrogate: Fluoranthene-d10	0.0179		"	0.0333		53.6	40-150				

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Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHH0003 - EPA 5030 Soil MS

Blank (BHH0003-BLK1)

Prepared & Analyzed: 08/01/24

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	0.0217		"	0.0333		65.1	40-150			
Surrogate: Fluoranthene-d10	0.0257		"	0.0333		77.2	40-150			

LCS (BHH0003-BS1)

Prepared & Analyzed: 08/01/24

Acenaphthene	0.0275	0.00500	mg/kg	0.0333		82.5	31-137			
Anthracene	0.0257	0.00500	"	0.0333		77.0	30-120			
Benzo (a) anthracene	0.0276	0.00500	"	0.0333		82.7	30-120			
Benzo (a) pyrene	0.0242	0.00500	"	0.0333		72.5	30-120			
Benzo (b) fluoranthene	0.0246	0.00500	"	0.0333		73.9	30-120			
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333		80.5	30-120			
Chrysene	0.0286	0.00500	"	0.0333		85.7	30-120			
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333		70.5	30-120			
Fluoranthene	0.0274	0.00500	"	0.0333		82.1	30-120			
Fluorene	0.0326	0.00500	"	0.0333		97.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0358	0.00500	"	0.0333		107	30-120			
Pyrene	0.0342	0.00500	"	0.0333		103	35-142			
1-Methylnaphthalene	0.0278	0.00500	"	0.0333		83.3	35-142			
2-Methylnaphthalene	0.0325	0.00500	"	0.0333		97.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0289		"	0.0333		86.6	40-150			
Surrogate: Fluoranthene-d10	0.0283		"	0.0333		85.0	40-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHH0003 - EPA 5030 Soil MS

Matrix Spike (BHH0003-MS1)

Source: 2407233-09

Prepared & Analyzed: 08/01/24

Acenaphthene	0.0237	0.00500	mg/kg	0.0333	ND	71.0	31-137		
Anthracene	0.0215	0.00500	"	0.0333	ND	64.6	30-120		
Benzo (a) anthracene	0.0246	0.00500	"	0.0333	ND	73.8	30-120		
Benzo (a) pyrene	0.0217	0.00500	"	0.0333	ND	65.2	30-120		
Benzo (b) fluoranthene	0.0224	0.00500	"	0.0333	ND	67.3	30-120		
Benzo (k) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.3	30-120		
Chrysene	0.0258	0.00500	"	0.0333	ND	77.4	30-120		
Dibenz (a,h) anthracene	0.0214	0.00500	"	0.0333	ND	64.2	30-120		
Fluoranthene	0.0239	0.00500	"	0.0333	ND	71.6	30-120		
Fluorene	0.0256	0.00500	"	0.0333	ND	76.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0310	0.00500	"	0.0333	ND	93.0	30-120		
Pyrene	0.0303	0.00500	"	0.0333	ND	91.0	35-142		
1-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.7	15-130		
2-Methylnaphthalene	0.0243	0.00500	"	0.0333	ND	72.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0196		"	0.0333		58.7	40-150		
Surrogate: Fluoranthene-d10	0.0244		"	0.0333		73.1	40-150		

Matrix Spike Dup (BHH0003-MSD1)

Source: 2407233-09

Prepared & Analyzed: 08/01/24

Acenaphthene	0.0234	0.00500	mg/kg	0.0333	ND	70.2	31-137	1.05	30
Anthracene	0.0222	0.00500	"	0.0333	ND	66.7	30-120	3.10	30
Benzo (a) anthracene	0.0248	0.00500	"	0.0333	ND	74.4	30-120	0.756	30
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	0.849	30
Benzo (b) fluoranthene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	2.09	30
Benzo (k) fluoranthene	0.0241	0.00500	"	0.0333	ND	72.2	30-120	2.77	30
Chrysene	0.0257	0.00500	"	0.0333	ND	77.1	30-120	0.378	30
Dibenz (a,h) anthracene	0.0243	0.00500	"	0.0333	ND	72.9	30-120	12.7	30
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.6	30-120	2.92	30
Fluorene	0.0256	0.00500	"	0.0333	ND	76.8	30-120	0.138	30
Indeno (1,2,3-cd) pyrene	0.0353	0.00500	"	0.0333	ND	106	30-120	12.9	30
Pyrene	0.0322	0.00500	"	0.0333	ND	96.7	35-142	6.12	30
1-Methylnaphthalene	0.0169	0.00500	"	0.0333	ND	50.8	15-130	14.5	50
2-Methylnaphthalene	0.0238	0.00500	"	0.0333	ND	71.5	15-130	1.80	50
Surrogate: 2-Methylnaphthalene-d10	0.0195		"	0.0333		58.5	40-150		
Surrogate: Fluoranthene-d10	0.0240		"	0.0333		71.9	40-150		

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0528 - EPA 3050B

Blank (BHG0528-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Boron ND 2.00 mg/L

LCS (BHG0528-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Boron 5.11 2.00 mg/L 5.00 102 80-120

Duplicate (BHG0528-DUP1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

Boron 0.131 2.00 mg/L 0.209 46.1 20 QR-01

Matrix Spike (BHG0528-MS1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

Boron 5.49 2.00 mg/L 5.02 0.209 105 75-125

Matrix Spike Dup (BHG0528-MSD1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

Boron 5.61 2.00 mg/L 5.02 0.209 108 75-125 2.08 25

Batch BHH0009 - EPA 3050B

Blank (BHH0009-BLK1)

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

Boron ND 2.00 mg/L

LCS (BHH0009-BS1)

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

Boron 4.32 2.00 mg/L 5.00 86.4 80-120

Duplicate (BHH0009-DUP1)

Source: 2407233-09

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

Boron 0.140 2.00 mg/L 0.184 27.1 20 QR-01

Matrix Spike (BHH0009-MS1)

Source: 2407233-09

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

Boron 4.71 2.00 mg/L 5.02 0.184 90.2 75-125

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery

Project Number: UWRWE-A2720-ABN

Project Manager: Jacob Whritenour

Reported:

08/07/24 09:14

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

Summit Scientific

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

Batch BHH0009 - EPA 3050B

Matrix Spike Dup (BHH0009-MSD1)				Source: 2407233-09		Prepared: 08/01/24 Analyzed: 08/02/24				
Boron	4.56	2.00	mg/L	5.02	0.184	87.2	75-125	3.24	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0536 - EPA 3050B

Blank (BHG0536-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

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 (BHG0536-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	38.0	0.200	mg/kg wet	37.6	101	80-120	
Barium	45.7	0.400	"	37.6	121	80-120	QM-07
Cadmium	1.85	0.200	"	1.88	98.4	80-120	
Copper	37.8	0.400	"	37.6	101	80-120	
Lead	18.6	0.200	"	18.8	99.2	80-120	
Nickel	38.4	0.400	"	37.6	102	80-120	
Silver	1.87	0.0200	"	1.88	99.6	80-120	
Zinc	37.4	0.400	"	37.6	99.5	80-120	
Selenium	3.66	0.260	"	3.76	97.4	80-120	

Duplicate (BHG0536-DUP1)

Source: 2407233-01

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	2.27	0.200	mg/kg dry	1.51	40.3	20	QR-03
Barium	33.6	0.400	"	26.3	24.3	20	QR-03
Cadmium	0.0895	0.200	"	0.0558	46.5	20	QR-01
Copper	3.25	0.400	"	2.73	17.5	20	
Lead	3.61	0.200	"	2.72	28.2	20	QR-03
Nickel	2.80	0.400	"	2.28	20.2	20	QR-01
Silver	0.0127	0.0200	"	0.00852	39.2	20	QR-01
Zinc	10.5	0.400	"	8.45	22.0	20	QR-04
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0536 - EPA 3050B

Matrix Spike (BHG0536-MS1)			Source: 2407233-01		Prepared: 07/19/24 Analyzed: 07/20/24					
Arsenic	41.1	0.200	mg/kg dry	40.9	1.51	96.7	75-125			
Barium	78.7	0.400	"	40.9	26.3	128	75-125			QM-07
Cadmium	2.01	0.200	"	2.04	0.0558	95.6	75-125			
Copper	29.8	0.400	"	40.9	2.73	66.3	75-125			QM-07
Lead	23.8	0.200	"	20.4	2.72	103	75-125			
Nickel	29.9	0.400	"	40.9	2.28	67.5	75-125			QM-07
Silver	1.89	0.0200	"	2.04	0.00852	91.9	75-125			
Zinc	36.5	0.400	"	40.9	8.45	68.6	75-125			QM-07
Selenium	3.47	0.260	"	4.09	ND	85.0	75-125			

Matrix Spike Dup (BHG0536-MSD1)			Source: 2407233-01		Prepared: 07/19/24 Analyzed: 07/20/24					
Arsenic	40.5	0.200	mg/kg dry	39.6	1.51	98.4	75-125	1.39	25	
Barium	66.5	0.400	"	39.6	26.3	101	75-125	16.8	25	
Cadmium	1.96	0.200	"	1.98	0.0558	96.1	75-125	2.52	25	
Copper	31.1	0.400	"	39.6	2.73	71.5	75-125	4.06	25	QM-07
Lead	21.7	0.200	"	19.8	2.72	95.7	75-125	9.30	25	
Nickel	31.1	0.400	"	39.6	2.28	72.6	75-125	3.89	25	QM-07
Silver	1.84	0.0200	"	1.98	0.00852	92.5	75-125	2.48	25	
Zinc	38.2	0.400	"	39.6	8.45	75.0	75-125	4.44	25	
Selenium	3.50	0.260	"	3.96	ND	88.3	75-125	0.730	25	

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	"							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHH0023 - EPA 3050B

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	

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			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHH0023 - EPA 3050B

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

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0524 - 3060A Mod

Blank (BHG0524-BLK1)

Prepared & Analyzed: 07/19/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHG0524-BS1)

Prepared & Analyzed: 07/19/24

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.4 80-120

Duplicate (BHG0524-DUP1)

Source: 2407219-01

Prepared & Analyzed: 07/19/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHG0524-MS1)

Source: 2407219-01

Prepared & Analyzed: 07/19/24

Chromium, Hexavalent 27.4 0.30 mg/kg dry 27.1 ND 101 75-125

Matrix Spike Dup (BHG0524-MSD1)

Source: 2407219-01

Prepared & Analyzed: 07/19/24

Chromium, Hexavalent 26.9 0.30 mg/kg dry 27.1 ND 99.4 75-125 1.79 20

Batch BHH0015 - 3060A Mod

Blank (BHH0015-BLK1)

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHH0015-BS1)

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BHH0015-DUP1)

Source: 2407233-09

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHH0015-MS1)

Source: 2407233-09

Prepared & Analyzed: 08/01/24

Chromium, Hexavalent 26.5 0.30 mg/kg dry 26.1 ND 102 75-125

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery

Project Number: UWRWE-A2720-ABN

Project Manager: Jacob Whritenour

Reported:

08/07/24 09:14

Hexavalent Chromium by EPA Method 7196 - Quality Control

Summit Scientific

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

Batch BHH0015 - 3060A Mod

Matrix Spike Dup (BHH0015-MSD1)			Source: 2407233-09			Prepared & Analyzed: 08/01/24				
Chromium, Hexavalent	26.4	0.30	mg/kg dry	26.1	ND	101	75-125	0.197	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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 BHG0539 - General Preparation

Blank (BHG0539-BLK1)

Prepared: 07/19/24 Analyzed: 07/22/24

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

LCS (BHG0539-BS1)

Prepared: 07/19/24 Analyzed: 07/22/24

Calcium	5.17	0.0500	mg/L wet	5.00	103	70-130
Magnesium	5.11	0.0500	"	5.00	102	70-130
Sodium	5.10	0.0500	"	5.00	102	70-130

Batch BHH0074 - General Preparation

Blank (BHH0074-BLK1)

Prepared: 08/02/24 Analyzed: 08/06/24

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

LCS (BHH0074-BS1)

Prepared: 08/02/24 Analyzed: 08/06/24

Calcium	5.53	0.0500	mg/L wet	5.00	111	70-130
Magnesium	5.41	0.0500	"	5.00	108	70-130
Sodium	5.25	0.0500	"	5.00	105	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery

Project Number: UWRWE-A2720-ABN

Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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

Summit Scientific

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

Batch BHG0546 - General Preparation

Duplicate (BHG0546-DUP1)		Source: 2407233-01			Prepared & Analyzed: 07/19/24					
% Solids	96.5		%		97.1			0.601	20	

Batch BHG0935 - General Preparation

Duplicate (BHG0935-DUP1)		Source: 2406045-02			Prepared: 07/31/24 Analyzed: 08/01/24					
% Solids	93.3		%		92.8			0.495	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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

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

Batch BHG0549 - General Preparation

Blank (BHG0549-BLK1)

Prepared: 07/19/24 Analyzed: 07/22/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHG0549-BS1)

Prepared: 07/19/24 Analyzed: 07/22/24

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHG0549-DUP1)

Source: 2407231-01

Prepared: 07/19/24 Analyzed: 07/22/24

Specific Conductance (EC) 0.113 0.0100 mmhos/cm 0.114 1.41 20

Batch BHH0077 - General Preparation

Blank (BHH0077-BLK1)

Prepared: 08/02/24 Analyzed: 08/05/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0077-BS1)

Prepared: 08/02/24 Analyzed: 08/05/24

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHH0077-DUP1)

Source: 2407233-09

Prepared: 08/02/24 Analyzed: 08/05/24

Specific Conductance (EC) 0.0750 0.0100 mmhos/cm 0.0751 0.173 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery
Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

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

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

Batch BHG0548 - General Preparation

LCS (BHG0548-BS1)

Prepared: 07/19/24 Analyzed: 07/22/24

pH	9.19		pH Units	9.18	100	95-105
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Duplicate (BHG0548-DUP1)

Source: 2407231-01

Prepared: 07/19/24 Analyzed: 07/22/24

pH	8.80		pH Units	8.86		0.679	20
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Batch BHH0076 - General Preparation

LCS (BHH0076-BS1)

Prepared: 08/02/24 Analyzed: 08/05/24

pH	9.24		pH Units	9.18	101	95-105
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Duplicate (BHH0076-DUP1)

Source: 2407233-09

Prepared: 08/02/24 Analyzed: 08/05/24

pH	7.30		pH Units	7.26		0.549	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Novacek C28-27D Tank Battery

Project Number: UWRWE-A2720-ABN
Project Manager: Jacob Whritenour

Reported:
08/07/24 09:14

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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.
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