

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 02, 2025

Bryce Goldade

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - WCL 24-5 Flowline

Work Order #2501376

Enclosed are the results of analyses for samples received by Summit Scientific on 01/24/25 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - WCL 24-5 Flowline
Project Number: UWRWE-A1761-ABN
Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG03@4'	2501376-01	Soil	01/24/25 09:56	01/24/25 17:50
BKG04@4'	2501376-02	Soil	01/24/25 10:55	01/24/25 17:50
BKG05@4'	2501376-03	Soil	01/24/25 12:00	01/24/25 17:50
BKG06@4'	2501376-04	Soil	01/24/25 09:50	01/24/25 17:50
BKG07@4'	2501376-05	Soil	01/24/25 13:15	01/24/25 17:50

Summit Scientific

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Client: Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Bryce Goldade		Company: MDC	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: tas-chevron-4@tasman-geo.com		Project Name/Location: WCL 24.5	
Phone: 810-923-0781		Project Name: WCL 24.5 Flowline		AFE#:	
Sampler Name: Shannon Walus		Project Number:		PO/Billing Codes:	
				Contact: Dan Peterson & Jason Davidson	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC pH	Boron - HWS			SAR, EC, pH by saturated paste	
1	BH703 W41	11/24/25	0950	2			X			X			X				X	X				
2	BH704 W41		1055	1																		
3	BH705 W41		1200	1																		
4	BH706 W41		0950	1																		
5	BH707 W41		1315	1																		
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: Shannon Walus	Date/Time: 11/24/25 1015	Received by: Tasman Lock Box	Date/Time: 11/24/25 1015	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 11/24/25 1750	Received by: [Signature]	Date/Time: 11/24/25 1750	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: 5.7	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

S2 Work Order# 2501376

Sample Receipt Checklist

Client: Tasman/Noble Client Project ID: WCL 245 FlowlineReceived Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐Matrix (Circle all that apply) Air/Soil/Water/Other ☐ Temp (°C) 5.7 Thermometer # 1Bottle ware (Circle all that apply) Glass Jar/Voa/Amber/Poly/Other ☐

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			mdcf
If custody seals are present, are they intact? ⁽¹⁾	-			
Are samples due within 48 hours?		-		
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, Total Residual Chlorine (TRC)		-		
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	-			
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	-			
Were all samples received intact? ⁽¹⁾	✓			
Was adequate sample volume provided? ⁽¹⁾	✓			
Were samples provided in appropriate bottle ware?	✓			
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	✓			
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are any samples/bottles preserved (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Are there requested analysis that cannot be performed by S2? Note analysis in the comments column		✓		
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Control Form #: SRC-001

AS
Custodian Printed Name

1/24/25
Date/Time



Tasman Geosciences
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Project: Noble - WCL 24-5 Flowline
Project Number: UWRWE-A1761-ABN
Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

BKG03@4'
2501376-01 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB1485	02/26/25	03/11/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.69	0.200		mg/kg dry	1	BIC0417	03/07/25	03/26/25	EPA 6020B	
Barium	71.5	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	3.94	0.400		"	"	"	"	"	"	
Lead	6.51	0.200		"	"	"	"	"	"	
Nickel	4.97	0.400		"	"	"	"	"	"	
Silver	0.0430	0.0200		"	"	"	"	"	"	
Zinc	18.2	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIB0406	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	26.7	0.0500		mg/L dry	1	BIB0782	02/14/25	02/26/25	EPA 6020B	
Magnesium	9.71	0.0500		"	"	"	"	"	"	
Sodium	57.4	0.0500		"	"	"	"	"	"	

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Reported:
04/02/25 09:04

BKG03@4'
2501376-01 (Soil)

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Calculated Analysis

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.42	0.00100	units	1	BIB1512	02/26/25	02/26/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	BIB0494	02/10/25	02/12/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.473	0.0100	mmhos/cm	1	BIB0783	02/14/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		pH Units	1	BIB0784	02/14/25	02/19/25	EPA 9045D	

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Project Number: UWRWE-A1761-ABN
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Reported:
04/02/25 09:04

BKG04@4'
2501376-02 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB1485	02/26/25	03/11/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.70	0.200	mg/kg dry	1	BIC0417	03/07/25	03/26/25	EPA 6020B	
Barium	61.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.09	0.400	"	"	"	"	"	"	
Lead	5.40	0.200	"	"	"	"	"	"	
Nickel	4.32	0.400	"	"	"	"	"	"	
Silver	0.0220	0.0200	"	"	"	"	"	"	
Zinc	18.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0406	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	17.8	0.0500	mg/L dry	1	BIB0782	02/14/25	02/26/25	EPA 6020B	
Magnesium	7.68	0.0500	"	"	"	"	"	"	
Sodium	36.7	0.0500	"	"	"	"	"	"	

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Reported:
04/02/25 09:04

BKG04@4'
2501376-02 (Soil)

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Calculated Analysis

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.83	0.00100	units	1	BIB1512	02/26/25	02/26/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BIB0494	02/10/25	02/12/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.351	0.0100	mmhos/cm	1	BIB0783	02/14/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BIB0784	02/14/25	02/19/25	EPA 9045D	

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Reported:
04/02/25 09:04

BKG05@4'
2501376-03 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB1485	02/26/25	03/11/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.00	0.200	mg/kg dry	1	BIC0417	03/07/25	03/26/25	EPA 6020B	
Barium	93.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.47	0.400	"	"	"	"	"	"	
Lead	8.28	0.200	"	"	"	"	"	"	
Nickel	5.73	0.400	"	"	"	"	"	"	
Silver	0.0462	0.0200	"	"	"	"	"	"	
Zinc	24.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0406	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	355	0.0500	mg/L dry	1	BIB0782	02/14/25	02/26/25	EPA 6020B	
Magnesium	101	0.0500	"	"	"	"	"	"	
Sodium	41.2	0.0500	"	"	"	"	"	"	

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Reported:
04/02/25 09:04

BKG05@4'
2501376-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.497	0.00100	units	1	BIB1512	02/26/25	02/26/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.8		%	1	BIB0494	02/10/25	02/12/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.366	0.0100	mmhos/cm	1	BIB0783	02/14/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.24		pH Units	1	BIB0784	02/14/25	02/19/25	EPA 9045D	

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Reported:
04/02/25 09:04

BKG06@4'
2501376-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB1485	02/26/25	03/11/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.10	0.200	mg/kg dry	1	BIC0417	03/07/25	03/26/25	EPA 6020B	
Barium	72.9	0.400	"	"	"	"	"	"	
Cadmium	0.255	0.200	"	"	"	"	"	"	
Copper	4.74	0.400	"	"	"	"	"	"	
Lead	6.34	0.200	"	"	"	"	"	"	
Nickel	5.09	0.400	"	"	"	"	"	"	
Silver	0.0333	0.0200	"	"	"	"	"	"	
Zinc	19.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0406	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	40.0	0.0500	mg/L dry	1	BIB0782	02/14/25	02/26/25	EPA 6020B	
Magnesium	7.12	0.0500	"	"	"	"	"	"	
Sodium	46.0	0.0500	"	"	"	"	"	"	

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Reported:
04/02/25 09:04

BKG06@4'
2501376-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.76	0.00100	units	1	BIB1512	02/26/25	02/26/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BIB0494	02/10/25	02/12/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.404	0.0100	mmhos/cm	1	BIB0783	02/14/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.38		pH Units	1	BIB0784	02/14/25	02/19/25	EPA 9045D	

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Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

BKG07@4'
2501376-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB1487	02/26/25	03/12/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.74	0.200	mg/kg dry	1	BIC0417	03/07/25	03/26/25	EPA 6020B	
Barium	68.8	0.400	"	"	"	"	"	"	
Cadmium	0.227	0.200	"	"	"	"	"	"	
Copper	5.64	0.400	"	"	"	"	"	"	
Lead	8.46	0.200	"	"	"	"	"	"	
Nickel	4.66	0.400	"	"	"	"	"	"	
Silver	0.0685	0.0200	"	"	"	"	"	"	
Zinc	24.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0406	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	23.5	0.0500	mg/L dry	1	BIB0782	02/14/25	02/26/25	EPA 6020B	
Magnesium	7.14	0.0500	"	"	"	"	"	"	
Sodium	59.1	0.0500	"	"	"	"	"	"	

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Broomfield CO, 80020

Project: Noble - WCL 24-5 Flowline
Project Number: UWRWE-A1761-ABN
Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

BKG07@4'
2501376-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.74	0.00100	units	1	BIB1512	02/26/25	02/26/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1		%	1	BIB0494	02/10/25	02/12/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.480	0.0100	mmhos/cm	1	BIB0783	02/14/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.56		pH Units	1	BIB0784	02/14/25	02/19/25	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - WCL 24-5 Flowline
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Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

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 BIB1485 - EPA 3050B

Blank (BIB1485-BLK1)

Prepared: 02/26/25 Analyzed: 03/11/25

Boron ND 2.00 mg/L

LCS (BIB1485-BS1)

Prepared: 02/26/25 Analyzed: 03/11/25

Boron 4.48 2.00 mg/L 5.00 89.7 80-120

Duplicate (BIB1485-DUP1)

Source: 2501374-17

Prepared: 02/26/25 Analyzed: 03/11/25

Boron ND 2.00 mg/L ND 20

Matrix Spike (BIB1485-MS1)

Source: 2501374-17

Prepared: 02/26/25 Analyzed: 03/11/25

Boron 4.65 2.00 mg/L 5.00 ND 93.1 75-125

Matrix Spike Dup (BIB1485-MSD1)

Source: 2501374-17

Prepared: 02/26/25 Analyzed: 03/11/25

Boron 4.40 2.00 mg/L 5.00 ND 87.9 75-125 5.70 25

Batch BIB1487 - EPA 3050B

Blank (BIB1487-BLK1)

Prepared: 02/26/25 Analyzed: 03/12/25

Boron ND 2.00 mg/L

LCS (BIB1487-BS1)

Prepared: 02/26/25 Analyzed: 03/12/25

Boron 4.79 2.00 mg/L 5.00 95.7 80-120

Duplicate (BIB1487-DUP1)

Source: 2501376-05

Prepared: 02/26/25 Analyzed: 03/12/25

Boron 0.134 2.00 mg/L 0.144 6.72 20

Matrix Spike (BIB1487-MS1)

Source: 2501376-05

Prepared: 02/26/25 Analyzed: 03/12/25

Boron 4.75 2.00 mg/L 5.00 0.144 92.2 75-125

Summit Scientific

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Broomfield CO, 80020

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Project Number: UWRWE-A1761-ABN

Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

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 BIB1487 - EPA 3050B

Matrix Spike Dup (BIB1487-MSD1)

Source: 2501376-05

Prepared: 02/26/25 Analyzed: 03/12/25

Boron	5.04	2.00	mg/L	5.00	0.144	97.9	75-125	5.86	25
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Project Number: UWRWE-A1761-ABN
Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

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 BIC0417 - EPA 3050B

Blank (BIC0417-BLK1)

Prepared: 03/07/25 Analyzed: 03/25/25

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

LCS (BIC0417-BS1)

Prepared: 03/07/25 Analyzed: 03/25/25

Arsenic	43.5	0.200	mg/kg wet	40.7	107	80-120
Barium	39.1	0.400	"	40.7	96.1	80-120
Cadmium	2.05	0.200	"	2.03	101	80-120
Copper	44.3	0.400	"	40.7	109	80-120
Lead	20.1	0.200	"	20.3	98.9	80-120
Nickel	45.4	0.400	"	40.7	112	80-120
Silver	2.06	0.0200	"	2.03	101	80-120
Zinc	45.1	0.400	"	40.7	111	80-120
Selenium	4.58	0.260	"	4.07	113	80-120

Duplicate (BIC0417-DUP1)

Source: 2501374-20

Prepared: 03/07/25 Analyzed: 03/25/25

Arsenic	2.50	0.200	mg/kg dry	2.96	16.8	20	
Barium	177	0.400	"	226	24.6	20	QR-04
Cadmium	0.234	0.200	"	0.296	23.6	20	QR-04
Copper	5.04	0.400	"	5.92	16.2	20	
Lead	6.73	0.200	"	8.21	19.8	20	
Nickel	4.16	0.400	"	4.71	12.4	20	
Silver	0.0173	0.0200	"	0.0228	27.3	20	QR-01
Zinc	23.7	0.400	"	28.8	19.2	20	
Selenium	ND	0.260	"	0.176	200	20	QR-01

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Project Number: UWRWE-A1761-ABN
Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

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 BIC0417 - EPA 3050B

Matrix Spike (BIC0417-MS1)		Source: 2501374-20			Prepared: 03/07/25 Analyzed: 03/25/25					
Arsenic	32.8	0.200	mg/kg dry	48.1	2.96	62.0	75-125			QM-05
Barium	267	0.400	"	48.1	226	85.4	75-125			
Cadmium	2.68	0.200	"	2.41	0.296	99.1	75-125			
Copper	34.6	0.400	"	48.1	5.92	59.7	75-125			QM-05
Lead	30.1	0.200	"	24.1	8.21	91.0	75-125			
Nickel	35.1	0.400	"	48.1	4.71	63.2	75-125			QM-05
Silver	2.37	0.0200	"	2.41	0.0228	97.7	75-125			
Zinc	56.0	0.400	"	48.1	28.8	56.6	75-125			QM-05
Selenium	5.40	0.260	"	4.81	0.176	109	75-125			

Matrix Spike Dup (BIC0417-MSD1)		Source: 2501374-20			Prepared: 03/07/25 Analyzed: 03/25/25					
Arsenic	33.3	0.200	mg/kg dry	46.6	2.96	65.1	75-125	1.40	25	QM-05
Barium	293	0.400	"	46.6	226	144	75-125	9.26	25	QM-05
Cadmium	2.83	0.200	"	2.33	0.296	109	75-125	5.44	25	
Copper	35.2	0.400	"	46.6	5.92	62.8	75-125	1.44	25	QM-05
Lead	31.5	0.200	"	23.3	8.21	100	75-125	4.66	25	
Nickel	35.6	0.400	"	46.6	4.71	66.4	75-125	1.38	25	QM-05
Silver	2.49	0.0200	"	2.33	0.0228	106	75-125	4.90	25	
Zinc	57.2	0.400	"	46.6	28.8	61.1	75-125	2.22	25	QM-05
Selenium	5.42	0.260	"	4.66	0.176	113	75-125	0.379	25	

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Reported:
04/02/25 09:04

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BIB0406 - 3060A Mod

Blank (BIB0406-BLK1)

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIB0406-BS1)

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 22.7 0.30 mg/kg wet 25.0 90.8 80-120

Duplicate (BIB0406-DUP1)

Source: 2501372-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIB0406-MS1)

Source: 2501372-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 25.8 0.30 mg/kg dry 27.9 ND 92.6 75-125

Matrix Spike Dup (BIB0406-MSD1)

Source: 2501372-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 26.0 0.30 mg/kg dry 27.9 ND 93.2 75-125 0.646 20

Summit Scientific

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Reported:
04/02/25 09:04

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

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

Batch BIB0782 - General Preparation

Blank (BIB0782-BLK1)

Prepared: 02/14/25 Analyzed: 02/25/25

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

LCS (BIB0782-BS1)

Prepared: 02/14/25 Analyzed: 02/25/25

Calcium	5.82	0.0500	mg/L wet	5.00	116	70-130
Magnesium	5.42	0.0500	"	5.00	108	70-130
Sodium	5.37	0.0500	"	5.00	107	70-130

Summit Scientific

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Project Number: UWRWE-A1761-ABN

Project Manager: Bryce Goldade

Reported:
04/02/25 09:04

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 BIB0494 - General Preparation

Duplicate (BIB0494-DUP1)

Source: 2501374-31

Prepared: 02/10/25 Analyzed: 02/12/25

% Solids	84.1	%		83.5		0.679	20
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Summit Scientific

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Reported:
04/02/25 09:04

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

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

Batch BIB0783 - General Preparation

Blank (BIB0783-BLK1)

Prepared: 02/14/25 Analyzed: 02/19/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIB0783-BS1)

Prepared: 02/14/25 Analyzed: 02/19/25

Specific Conductance (EC) 1.38 0.0100 mmhos/cm 1.41 97.9 95-105

Duplicate (BIB0783-DUP1)

Source: 2501340-01

Prepared: 02/14/25 Analyzed: 02/19/25

Specific Conductance (EC) 0.411 0.0100 mmhos/cm 0.409 0.482 20

Summit Scientific

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Reported:
04/02/25 09:04

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

Summit Scientific

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

Batch BIB0784 - General Preparation

LCS (BIB0784-BS1)

Prepared: 02/14/25 Analyzed: 02/19/25

pH	9.13	pH Units	9.18	99.5	95-105
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Duplicate (BIB0784-DUP1)

Source: 2501340-01

Prepared: 02/14/25 Analyzed: 02/19/25

pH	7.88	pH Units	7.84	0.471	20
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Reported:
04/02/25 09:04

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values. Only applies to source/DUP and MS/MSD pairs.
QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
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