

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 07, 2025

Mike Medina

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Bruntz G16-23 Flowline

Work Order #2501040

Enclosed are the results of analyses for samples received by Summit Scientific on 01/06/25 17:44. 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 - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG06@0-1'	2501040-01	Soil	01/06/25 11:42	01/06/25 17:44
BG06@1-2'	2501040-02	Soil	01/06/25 11:44	01/06/25 17:44
BG06@2-3'	2501040-03	Soil	01/06/25 11:46	01/06/25 17:44
BG06@3-4'	2501040-04	Soil	01/06/25 11:48	01/06/25 17:44
BG05@0-1'	2501040-05	Soil	01/06/25 11:57	01/06/25 17:44
BG05@1-2'	2501040-06	Soil	01/06/25 11:59	01/06/25 17:44
BG05@2-3'	2501040-07	Soil	01/06/25 12:01	01/06/25 17:44
BG04@0-1'	2501040-08	Soil	01/06/25 12:33	01/06/25 17:44
BG04@1-2'	2501040-09	Soil	01/06/25 12:35	01/06/25 17:44
BG04@2-3'	2501040-10	Soil	01/06/25 12:37	01/06/25 17:44
BG03@0-1'	2501040-11	Soil	01/06/25 12:42	01/06/25 17:44
BG03@1-2'	2501040-12	Soil	01/06/25 12:44	01/06/25 17:44
BG03@2-3'	2501040-13	Soil	01/06/25 12:46	01/06/25 17:44
BG02@0-1'	2501040-14	Soil	01/06/25 13:00	01/06/25 17:44
BG02@1-2'	2501040-15	Soil	01/06/25 13:02	01/06/25 17:44
BG02@2-3'	2501040-16	Soil	01/06/25 13:04	01/06/25 17:44

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

Lab ID	Page 1 of 2
2501040.1	

Client: Noble / Tasman		Send Data To: Project Manager: Mike Medina		Send Invoice To: Company: Noble Energy	
Address: 6855 W 119th Ave		E-Mail: jason.davidson@chevron.com; tas-chevron-2@tasman-geo.com;		Project Name/Location: Brantz G16-23 Flowline	
City/State/Zip: Broomfield / CO / 80020		rbueuf27@chevron.com		AFE#:	
Phone: 303-487-1228		Project Name: Brantz G16-23 Flowline		PO/Billing Codes:	
Sampler Name: Jon Meyer		Project Number:		Contact: 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	BTEXN - 8260B	1,2,4 & 1,3,5-TMB	TDS, Cl, SO4	Full 915-1 Suite	pH, EC, SAR, boron	Table 915-1 Metals	
1	B606@-1'	1/6/25	1142	1			X			X							X	X	
2	B606@1-2'		1144																
3	B606@2-3'		1146																
4	B606@3-4'		1148																
5	B605@0-1'		1157																
6	B605@1-2'		1159																
7	B605@2-3'		1201																
8	B604@0-1'		1233																
9	B604@1-2'		1235																
10	B604@2-3'		1237																
11	B604@3-4'		1242																
12	B603@1-2'		1244																
13	B603@2-3'		1246																
14	B602@0-1'		1300																
15	B602@1-2'		1302																

Relinquished by:	Date/Time: 1/6/25 1500	Received by: Tasman Drop box	Date/Time: 1/6/25 1500	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Drop box	Date/Time: 1/6/25 1744	Received by:	Date/Time: 1/6/25 1744	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 3.3	Corrected Temperature:	IR gun #: 1	HNO3 lot #:			

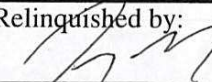
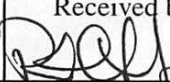
SUMMIT SCIENTIFIC

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

Lab ID	Page 2 of 2
2501040.2	

Client: Noble / Tasman		Send Data To: Project Manager: Mike Medina		Send Invoice To: Company: Noble Energy	
Address: 6855 W 119th Ave		E-Mail: jason.davidson@chevron.com; tas-@chevron-2@tasman-geo.com; rbueuf27@chevron.com		Project Name/Location: Bruntz G16-23 Flowline	
City/State/Zip: Broomfield / CO / 80020		Project Name: Bruntz G16-23 Flowline		AFE#:	
Phone: 303-487-1228		Project Number:		PO/Billing Codes:	
Sampler Name: Jon Meien				Contact: 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	BTEXN - 8260B	1,2,4 & 1,3,5-TMB	TDS, Cl, SO4	Full 915-1 Suite	pH, EC, SAR, boron	Table 915-1 Metals	
1	B602@2-3	11/6/25	1304	1			X			X							X	X	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: 	Date/Time: 11/6/25	Received by: Tasman Dropbox	Date/Time: 11/6/25	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Dropbox	Date/Time: 11/6/25	Received by: 	Date/Time: 11/6/25	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: 3.3	Corrected Temperature: C	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2501040

Client: Nobert TasmanClient Project ID: BruntzBruntz Gile-23 FoulmShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #: ☐

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

Matrix (Check all that apply)

Air ☐Soil/Solid ☒Water ☐Other ☐

Temp (°C)

3.3

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>QW2CE</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 checked="" type="checkbox"/>	<input type="checkbox"/>	<u>missing times on this page</u>
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

Date/Time



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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@0-1'
2501040-01 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.66	0.200		mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	50.4	0.400		"	"	"	"	"	"	
Cadmium	0.227	0.200		"	"	"	"	"	"	
Copper	5.61	0.400		"	"	"	"	"	"	
Lead	6.72	0.200		"	"	"	"	"	"	
Nickel	3.34	0.400		"	"	"	"	"	"	
Silver	0.0426	0.0200		"	"	"	"	"	"	
Zinc	16.9	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	50.8	0.0500		mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	7.00	0.0500		"	"	"	"	"	"	
Sodium	78.8	0.0500		"	"	"	"	"	"	

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Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@0-1'
2501040-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.75	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.5		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.87	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.32		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@1-2'
2501040-02 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.98	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	76.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.21	0.400	"	"	"	"	"	"	
Lead	7.24	0.200	"	"	"	"	"	"	
Nickel	4.90	0.400	"	"	"	"	"	"	
Silver	0.0278	0.0200	"	"	"	"	"	"	
Zinc	20.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	20.3	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	9.12	0.0500	"	"	"	"	"	"	
Sodium	53.1	0.0500	"	"	"	"	"	"	

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Broomfield CO, 80020

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@1-2'
2501040-02 (Soil)

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Calculated Analysis

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.46	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.1		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.24	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.15		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@2-3'
2501040-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	3.29	0.200		mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	107	0.400		"	"	"	"	"	"	
Cadmium	0.264	0.200		"	"	"	"	"	"	
Copper	5.64	0.400		"	"	"	"	"	"	
Lead	9.38	0.200		"	"	"	"	"	"	
Nickel	6.73	0.400		"	"	"	"	"	"	
Silver	0.0509	0.0200		"	"	"	"	"	"	
Zinc	24.6	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	15.7	0.0500		mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	10.4	0.0500		"	"	"	"	"	"	
Sodium	32.7	0.0500		"	"	"	"	"	"	

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Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@2-3'
2501040-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.57	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.8		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.484	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.47		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@3-4'
2501040-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	5.51	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	145	0.400	"	"	"	"	"	"	
Cadmium	0.380	0.200	"	"	"	"	"	"	
Copper	5.19	0.400	"	"	"	"	"	"	
Lead	8.38	0.200	"	"	"	"	"	"	
Nickel	7.11	0.400	"	"	"	"	"	"	
Silver	0.0531	0.0200	"	"	"	"	"	"	
Zinc	25.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	18.3	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	7.88	0.0500	"	"	"	"	"	"	
Sodium	127	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG06@3-4'
2501040-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.25	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.2		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.572	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@0-1'
2501040-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	3.28	0.200	mg/kg dry	1	BIB1319	02/24/25	03/03/25	EPA 6020B	
Barium	46.9	0.400	"	"	"	"	"	"	
Cadmium	0.264	0.200	"	"	"	"	"	"	
Copper	6.03	0.400	"	"	"	"	"	"	
Lead	9.02	0.200	"	"	"	"	"	"	
Nickel	3.29	0.400	"	"	"	"	"	"	
Silver	0.0557	0.0200	"	"	"	"	"	"	
Zinc	19.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	35.8	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	232	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@0-1'
2501040-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.75	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.1		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.89	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.78		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@1-2'
2501040-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0914	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.31	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	59.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.24	0.400	"	"	"	"	"	"	
Lead	6.84	0.200	"	"	"	"	"	"	
Nickel	4.48	0.400	"	"	"	"	"	"	
Silver	0.0284	0.0200	"	"	"	"	"	"	
Zinc	17.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	17.2	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	8.83	0.0500	"	"	"	"	"	"	
Sodium	35.4	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@1-2'
2501040-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.73	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.582	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 11:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.91		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@2-3'
2501040-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.89	0.200		mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	44.6	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	3.63	0.400		"	"	"	"	"	"	
Lead	5.68	0.200		"	"	"	"	"	"	
Nickel	4.45	0.400		"	"	"	"	"	"	
Silver	0.0283	0.0200		"	"	"	"	"	"	
Zinc	15.9	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	16.4	0.0500		mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	9.22	0.0500		"	"	"	"	"	"	
Sodium	129	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG05@2-3'
2501040-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.32	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.4		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.666	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@0-1'
2501040-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	3.12	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	90.7	0.400	"	"	"	"	"	"	
Cadmium	0.225	0.200	"	"	"	"	"	"	
Copper	4.54	0.400	"	"	"	"	"	"	
Lead	7.76	0.200	"	"	"	"	"	"	
Nickel	5.07	0.400	"	"	"	"	"	"	
Silver	0.0495	0.0200	"	"	"	"	"	"	
Zinc	21.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	35.0	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	8.63	0.0500	"	"	"	"	"	"	
Sodium	6.47	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@0-1'
2501040-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.254	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.4		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.212	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.92		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@1-2'
2501040-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.32	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	47.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.92	0.400	"	"	"	"	"	"	
Lead	4.32	0.200	"	"	"	"	"	"	
Nickel	3.52	0.400	"	"	"	"	"	"	
Silver	0.0277	0.0200	"	"	"	"	"	"	
Zinc	12.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	24.7	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	5.43	0.0500	"	"	"	"	"	"	
Sodium	10.5	0.0500	"	"	"	"	"	"	

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.



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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@1-2'
2501040-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.498	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.261	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@2-3'
2501040-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	3.55	0.200	mg/kg dry	1	BIB1319	02/24/25	03/03/25	EPA 6020B	
Barium	68.4	0.400	"	"	"	"	"	"	
Cadmium	0.215	0.200	"	"	"	"	"	"	
Copper	3.92	0.400	"	"	"	"	"	"	
Lead	5.71	0.200	"	"	"	"	"	"	
Nickel	5.54	0.400	"	"	"	"	"	"	
Silver	0.0393	0.0200	"	"	"	"	"	"	
Zinc	15.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	29.6	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	6.38	0.0500	"	"	"	"	"	"	
Sodium	8.94	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG04@2-3'
2501040-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.389	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.169	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@0-1'
2501040-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.82	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	41.8	0.400	"	"	"	"	"	"	
Cadmium	0.325	0.200	"	"	"	"	"	"	
Copper	5.51	0.400	"	"	"	"	"	"	
Lead	9.09	0.200	"	"	"	"	"	"	
Nickel	3.48	0.400	"	"	"	"	"	"	
Silver	0.0991	0.0200	"	"	"	"	"	"	
Zinc	22.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	27.0	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	5.75	0.0500	"	"	"	"	"	"	
Sodium	5.41	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@0-1'
2501040-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.247	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.270	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.04		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@1-2'
2501040-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.08	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	74.9	0.400	"	"	"	"	"	"	
Cadmium	0.209	0.200	"	"	"	"	"	"	
Copper	4.38	0.400	"	"	"	"	"	"	
Lead	6.55	0.200	"	"	"	"	"	"	
Nickel	4.42	0.400	"	"	"	"	"	"	
Silver	0.0488	0.0200	"	"	"	"	"	"	
Zinc	19.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	32.0	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	7.79	0.0500	"	"	"	"	"	"	
Sodium	4.98	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@1-2'
2501040-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.205	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.153	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.44		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@2-3'
2501040-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.19	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	42.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.03	0.400	"	"	"	"	"	"	
Lead	4.30	0.200	"	"	"	"	"	"	
Nickel	2.88	0.400	"	"	"	"	"	"	
Silver	0.0222	0.0200	"	"	"	"	"	"	
Zinc	14.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	18.5	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	5.15	0.0500	"	"	"	"	"	"	
Sodium	4.90	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG03@2-3'
2501040-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.260	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.115	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.31		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@0-1'
2501040-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	2.38	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	49.4	0.400	"	"	"	"	"	"	
Cadmium	0.287	0.200	"	"	"	"	"	"	
Copper	5.60	0.400	"	"	"	"	"	"	
Lead	9.88	0.200	"	"	"	"	"	"	
Nickel	4.10	0.400	"	"	"	"	"	"	
Silver	0.0917	0.0200	"	"	"	"	"	"	
Zinc	21.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	31.8	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	7.45	0.0500	"	"	"	"	"	"	
Sodium	6.07	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@0-1'
2501040-14 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.252	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.204	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.14		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@1-2'
2501040-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.994	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	31.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.31	0.400	"	"	"	"	"	"	
Lead	2.89	0.200	"	"	"	"	"	"	
Nickel	2.54	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	9.41	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	20.2	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	4.85	0.0500	"	"	"	"	"	"	
Sodium	5.98	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@1-2'
2501040-15 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.310	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.4		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.113	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.34		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@2-3'
2501040-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BIB0916	02/18/25	02/22/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	0.971	0.200	mg/kg dry	1	BIB1319	02/24/25	03/01/25	EPA 6020B	
Barium	38.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.21	0.400	"	"	"	"	"	"	
Lead	3.26	0.200	"	"	"	"	"	"	
Nickel	2.60	0.400	"	"	"	"	"	"	
Silver	0.0230	0.0200	"	"	"	"	"	"	
Zinc	9.90	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA1064	01/23/25	01/23/25	EPA 7196A	

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

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	24.0	0.0500	mg/L dry	1	BIA1166	01/24/25	01/28/25	EPA 6020B	
Magnesium	5.42	0.0500	"	"	"	"	"	"	
Sodium	5.17	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

BG02@2-3'
2501040-16 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.248	0.00100	units	1	BIA1351	01/29/25	01/29/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BIA1239	01/28/25	01/28/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.229	0.0100	mmhos/cm	1	BIA1168	01/24/25	01/28/25	EPA 120.1	

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

Date Sampled: **01/06/25 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.22		pH Units	1	BIA1167	01/24/25	01/28/25	EPA 9045D	

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIB0914 - EPA 3050B

Blank (BIB0914-BLK1)

Prepared: 02/18/25 Analyzed: 02/22/25

Boron ND 2.00 mg/L

LCS (BIB0914-BS1)

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 5.25 2.00 mg/L 5.00 105 80-120

Duplicate (BIB0914-DUP1)

Source: 2501039-01

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 0.199 2.00 mg/L 0.230 14.4 20

Matrix Spike (BIB0914-MS1)

Source: 2501039-01

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 4.63 2.00 mg/L 5.00 0.230 88.1 75-125

Matrix Spike Dup (BIB0914-MSD1)

Source: 2501039-01

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 4.81 2.00 mg/L 5.00 0.230 91.7 75-125 3.82 25

Batch BIB0916 - EPA 3050B

Blank (BIB0916-BLK1)

Prepared: 02/18/25 Analyzed: 02/22/25

Boron ND 2.00 mg/L

LCS (BIB0916-BS1)

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 5.62 2.00 mg/L 5.00 112 80-120

Duplicate (BIB0916-DUP1)

Source: 2501040-07

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 0.418 2.00 mg/L 0.436 3.98 20

Matrix Spike (BIB0916-MS1)

Source: 2501040-07

Prepared: 02/18/25 Analyzed: 02/22/25

Boron 5.40 2.00 mg/L 4.98 0.436 99.7 75-125

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline

Project Number: UWRWE-A3660-ABN

Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIB0916 - EPA 3050B

Matrix Spike Dup (BIB0916-MSD1)				Source: 2501040-07		Prepared: 02/18/25 Analyzed: 02/22/25				
Boron	5.43	2.00	mg/L	4.98	0.436	100	75-125	0.644	25	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIB1319 - EPA 3050B

Blank (BIB1319-BLK1)

Prepared: 02/24/25 Analyzed: 03/01/25

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 (BIB1319-BS1)

Prepared: 02/24/25 Analyzed: 03/01/25

Arsenic	38.5	0.200	mg/kg wet	41.0	94.0	80-120
Barium	41.7	0.400	"	41.0	102	80-120
Cadmium	2.11	0.200	"	2.05	103	80-120
Copper	44.3	0.400	"	41.0	108	80-120
Lead	21.0	0.200	"	20.5	103	80-120
Nickel	43.5	0.400	"	41.0	106	80-120
Silver	2.08	0.0200	"	2.05	102	80-120
Zinc	42.6	0.400	"	41.0	104	80-120
Selenium	4.32	0.260	"	4.10	106	80-120

Duplicate (BIB1319-DUP1)

Source: 2501040-01

Prepared: 02/24/25 Analyzed: 03/01/25

Arsenic	2.25	0.200	mg/kg dry	2.66	16.9	20
Barium	48.2	0.400	"	50.4	4.40	20
Cadmium	0.236	0.200	"	0.227	3.68	20
Copper	5.64	0.400	"	5.61	0.654	20
Lead	7.62	0.200	"	6.72	12.5	20
Nickel	3.39	0.400	"	3.34	1.24	20
Silver	0.0381	0.0200	"	0.0426	11.1	20
Zinc	16.5	0.400	"	16.9	2.35	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIB1319 - EPA 3050B

Matrix Spike (BIB1319-MS1)

Source: 2501040-01

Prepared: 02/24/25 Analyzed: 03/01/25

Arsenic	43.4	0.200	mg/kg dry	45.9	2.66	88.6	75-125
Barium	91.3	0.400	"	45.9	50.4	89.2	75-125
Cadmium	2.53	0.200	"	2.30	0.227	100	75-125
Copper	41.5	0.400	"	45.9	5.61	78.1	75-125
Lead	29.5	0.200	"	23.0	6.72	99.1	75-125
Nickel	38.9	0.400	"	45.9	3.34	77.4	75-125
Silver	2.31	0.0200	"	2.30	0.0426	98.5	75-125
Zinc	53.1	0.400	"	45.9	16.9	78.8	75-125
Selenium	4.11	0.260	"	4.59	ND	89.5	75-125

Matrix Spike Dup (BIB1319-MSD1)

Source: 2501040-01

Prepared: 02/24/25 Analyzed: 03/01/25

Arsenic	44.2	0.200	mg/kg dry	44.5	2.66	93.5	75-125	1.97	25
Barium	93.4	0.400	"	44.5	50.4	96.8	75-125	2.26	25
Cadmium	2.57	0.200	"	2.22	0.227	105	75-125	1.78	25
Copper	41.3	0.400	"	44.5	5.61	80.2	75-125	0.476	25
Lead	31.2	0.200	"	22.2	6.72	110	75-125	5.65	25
Nickel	38.2	0.400	"	44.5	3.34	78.3	75-125	1.94	25
Silver	2.38	0.0200	"	2.22	0.0426	105	75-125	3.24	25
Zinc	53.7	0.400	"	44.5	16.9	82.8	75-125	1.21	25
Selenium	4.35	0.260	"	4.45	ND	97.7	75-125	5.63	25

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIA1064 - 3060A Mod

Blank (BIA1064-BLK1)

Prepared & Analyzed: 01/23/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIA1064-BS1)

Prepared & Analyzed: 01/23/25

Chromium, Hexavalent 25.6 0.30 mg/kg wet 26.0 98.2 80-120

Duplicate (BIA1064-DUP1)

Source: 2501040-01

Prepared & Analyzed: 01/23/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIA1064-MS1)

Source: 2501040-01

Prepared & Analyzed: 01/23/25

Chromium, Hexavalent 29.2 0.30 mg/kg dry 29.1 ND 100 75-125

Matrix Spike Dup (BIA1064-MSD1)

Source: 2501040-01

Prepared & Analyzed: 01/23/25

Chromium, Hexavalent 27.9 0.30 mg/kg dry 27.7 ND 101 75-125 4.43 20

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIA1166 - General Preparation

Blank (BIA1166-BLK1)

Prepared: 01/24/25 Analyzed: 01/28/25

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

LCS (BIA1166-BS1)

Prepared: 01/24/25 Analyzed: 01/28/25

Calcium	5.45	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.00	0.0500	"	5.00	100	70-130
Sodium	5.05	0.0500	"	5.00	101	70-130

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline

Project Number: UWRWE-A3660-ABN

Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIA1239 - General Preparation

Duplicate (BIA1239-DUP1)		Source: 2501039-01			Prepared & Analyzed: 01/28/25					
% Solids	91.9		%		91.6		0.329		20	

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline
Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIA1168 - General Preparation

Blank (BIA1168-BLK1)

Prepared: 01/24/25 Analyzed: 01/28/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIA1168-BS1)

Prepared: 01/24/25 Analyzed: 01/28/25

Specific Conductance (EC) 1.41 0.0100 mmhos/cm 1.41 99.7 95-105

Duplicate (BIA1168-DUP1)

Source: 2501040-01

Prepared: 01/24/25 Analyzed: 01/28/25

Specific Conductance (EC) 1.86 0.0100 mmhos/cm 1.87 0.499 20

Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline

Project Number: UWRWE-A3660-ABN

Project Manager: Mike Medina

Reported:
03/07/25 11:33

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 BIA1167 - General Preparation

LCS (BIA1167-BS1)

Prepared: 01/24/25 Analyzed: 01/28/25

pH	9.17	pH Units	9.18	99.9	95-105
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Duplicate (BIA1167-DUP1)

Source: 2501040-01

Prepared: 01/24/25 Analyzed: 01/28/25

pH	9.31	pH Units	9.32	0.0902	20
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Summit Scientific

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

Project: Noble - Bruntz G16-23 Flowline

Project Number: UWRWE-A3660-ABN
Project Manager: Mike Medina

Reported:
03/07/25 11:33

Notes and Definitions

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