

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 17, 2025

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

RE: Noble - Spomer 65N66W 32ESE

Work Order #2501084

Enclosed are the results of analyses for samples received by Summit Scientific on 01/09/25 16:30. 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 written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-B@4'	2501084-01	Soil	01/09/25 10:00	01/09/25 16:30
PWV01-N@2'	2501084-02	Soil	01/09/25 10:02	01/09/25 16:30
PWV01-S@2'	2501084-03	Soil	01/09/25 10:04	01/09/25 16:30
PWV01-E@2'	2501084-04	Soil	01/09/25 10:06	01/09/25 16:30
PWV01-W@2'	2501084-05	Soil	01/09/25 10:08	01/09/25 16:30
AST01@0-6"	2501084-06	Soil	01/09/25 10:10	01/09/25 16:30
SEP01-FL@3'	2501084-07	Soil	01/09/25 10:16	01/09/25 16:30
SEP01-DL@3'	2501084-08	Soil	01/09/25 10:18	01/09/25 16:30
BKG01@0-6"	2501084-09	Soil	01/09/25 12:00	01/09/25 16:30
BKG01@1'	2501084-10	Soil	01/09/25 12:02	01/09/25 16:30
BKG01@2'	2501084-11	Soil	01/09/25 12:04	01/09/25 16:30
BKG01@3'	2501084-12	Soil	01/09/25 12:06	01/09/25 16:30
BKG01@4'	2501084-13	Soil	01/09/25 12:08	01/09/25 16:30



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

Lab ID
2501084

Page **1** of **1**

Client: Noble/Tasman		Project Manager: Daniel Simpson		Company: Noble/Tasman	
Address: 6855 W. 119th Ave.		E-Mail: tas-chevron-5@tasman-geo.com		Project Name/Location:	
City/State/Zip: Broomfield/CO/ 80020		RBUEUF27@Chevron.com <i>DonPeterson@Chevron.com</i>		AFE#: <i>UWRWE-A 3439-ABN</i>	
Phone: 970/424-9162		Project Name: <i>SPOMER-65N66W 32ESE</i>		PO/Billing Codes:	
Sampler Name: David Erwin		Project Number:		Contact: Dan Peterson	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC pH		Boron - HWS
1	<i>PWV01-Be4'</i>	<i>1-9-25</i>	<i>10:00</i>	<i>2</i>			<i>X</i>			<i>X</i>			<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>		
2	<i>PWV01-No2'</i>		<i>10:02</i>	<i>1</i>															
3	<i>PWV01-se2'</i>		<i>10:04</i>	<i>1</i>															
4	<i>PWV01-#Ee2'</i>		<i>10:06</i>	<i>1</i>															
5	<i>PWV01-w02'</i>		<i>10:08</i>	<i>1</i>															
6	<i>ASTD1@0-6"</i>		<i>10:10</i>	<i>1</i>															
7	<i>SEP01-FL03'</i>		<i>10:16</i>	<i>1</i>															
8	<i>SEP01-DE03'</i>		<i>10:18</i>	<i>2</i>									<i>X</i>	<i>X</i>	<i>X</i>				
9	<i>BK601@0-6"</i>		<i>12:00</i>	<i>1</i>															
10	<i>BK601@1'</i>		<i>12:02</i>	<i>1</i>															
11	<i>BK601@2'</i>		<i>12:04</i>	<i>1</i>															
12	<i>BK601@3'</i>		<i>12:06</i>	<i>1</i>									<i>X</i>			<i>X</i>	<i>X</i>		
13	<i>BK601@4'</i>		<i>12:08</i>	<i>1</i>															

SAR, EC, pH by saturated paste

QA - Hold DE
QA - Hold DE
QA - Hold DE

Relinquished by: <i>[Signature]</i>	Date/Time: <i>1-9-25 14:50</i>	Received by: <i>Mead Satilite</i> / Tasman Lock Box	Date/Time: <i>1-9-25 14:50</i>	TAT Business Days	Field DO	Notes:
Relinquished by: <i>SL</i>	Date/Time: <i>1-9-25 16:30</i>	Received by: <i>[Signature]</i>	Date/Time: <i>1-9-25 16:30</i>	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <i>3.4</i>	Corrected Temperature <i>6</i>	IR gun #:		HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2501084

Client: Alford Tasman Client Project ID: Somerv - USN (low) 32 ESE

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

-

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	m2CE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Samadey
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.

AS
Custodian Printed Name

1/9/25
Date/Time

5-200-01-01



Tasman Geosciences
6855 W. 119th Ave.
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Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-B@4'
2501084-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0377	94.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.31	66.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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01/17/25 08:35

PWV01-B@4'
2501084-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/14/25	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	0.00912	0.00500	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0174	52.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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01/17/25 08:35

PWV01-B@4'
2501084-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.37	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B
Barium	54.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.93	0.400	"	"	"	"	"	"
Lead	7.80	0.200	"	"	"	"	"	"
Nickel	5.37	0.400	"	"	"	"	"	"
Silver	0.109	0.0200	"	"	"	"	"	"
Zinc	21.8	0.400	"	"	"	"	"	"
Selenium	0.425	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.8	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	8.21	0.0500	"	"	"	"	"	"	
Sodium	7.27	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.304	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:00**

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

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PWV01-B@4'
2501084-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.2	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.229	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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01/17/25 08:35

PWV01-N@2'
2501084-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0373	93.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0377	94.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.63	69.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PWV01-N@2'
2501084-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/14/25	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: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0226	67.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
01/17/25 08:35

PWV01-N@2'
2501084-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.58	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	46.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.14	0.400	"	"	"	"	"	"	
Lead	8.96	0.200	"	"	"	"	"	"	
Nickel	5.64	0.400	"	"	"	"	"	"	
Silver	0.0997	0.0200	"	"	"	"	"	"	
Zinc	24.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.4	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	7.69	0.0500	"	"	"	"	"	"	
Sodium	2.99	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.119	0.00100	units	1	BIA0502	01/13/25	01/13/25	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 - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-N@2'
2501084-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	90.9			%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.208	0.0100		mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.38			pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-S@2'
2501084-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.00	56.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-S@2'
2501084-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/14/25	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: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0183	54.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0192	57.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-S@2'
2501084-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.77	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	42.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.24	0.400	"	"	"	"	"	"	
Lead	9.43	0.200	"	"	"	"	"	"	
Nickel	5.90	0.400	"	"	"	"	"	"	
Silver	0.104	0.0200	"	"	"	"	"	"	
Zinc	26.0	0.400	"	"	"	"	"	"	
Selenium	0.268	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.3	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	6.33	0.0500	"	"	"	"	"	"	
Sodium	0.718	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0296	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-S@2'
2501084-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.5	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.159	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.46		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-E@2'
2501084-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.09	64.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-E@2'
2501084-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/14/25	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: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0216	64.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0237	71.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-E@2'
2501084-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.90	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	36.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.37	0.400	"	"	"	"	"	"	
Lead	10.7	0.200	"	"	"	"	"	"	
Nickel	6.43	0.400	"	"	"	"	"	"	
Silver	0.111	0.0200	"	"	"	"	"	"	
Zinc	28.5	0.400	"	"	"	"	"	"	
Selenium	0.306	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.1	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	6.55	0.0500	"	"	"	"	"	"	
Sodium	1.03	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0443	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-E@2'
2501084-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.7	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.176	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-W@2'
2501084-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0368	92.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.37	67.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-W@2'
2501084-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/15/25	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	0.00548	0.00500	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0222	66.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0236	70.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:08**

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 - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-W@2'
2501084-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.69	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	47.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.55	0.400	"	"	"	"	"	"	
Lead	9.36	0.200	"	"	"	"	"	"	
Nickel	6.45	0.400	"	"	"	"	"	"	
Silver	0.100	0.0200	"	"	"	"	"	"	
Zinc	25.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.2	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	6.61	0.0500	"	"	"	"	"	"	
Sodium	1.24	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0520	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PWV01-W@2'
2501084-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.7			%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.198	0.0100		mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.25			pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

AST01@0-6"
2501084-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	EPA 8260B	
Toluene	0.0098	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.044	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.021	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.015	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.69	0.50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0373	93.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.56	60.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

AST01@0-6"
2501084-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/15/25	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	0.0124	0.00500	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0252	75.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

AST01@0-6"
2501084-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.78	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	75.5	0.400	"	"	"	"	"	"	
Cadmium	0.210	0.200	"	"	"	"	"	"	
Copper	6.11	0.400	"	"	"	"	"	"	
Lead	10.1	0.200	"	"	"	"	"	"	
Nickel	5.77	0.400	"	"	"	"	"	"	
Silver	0.0987	0.0200	"	"	"	"	"	"	
Zinc	26.0	0.400	"	"	"	"	"	"	
Selenium	0.270	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.9	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	8.30	0.0500	"	"	"	"	"	"	
Sodium	2.54	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0983	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

AST01@0-6"
2501084-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.0	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.276	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-FL@3'
2501084-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/09/25	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: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.22	65.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-FL@3'
2501084-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/15/25	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: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-FL@3'
2501084-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.90	0.200	mg/kg dry	1	BIA0417	01/10/25	01/12/25	EPA 6020B	
Barium	49.1	0.400	"	"	"	"	"	"	
Cadmium	0.278	0.200	"	"	"	"	"	"	
Copper	5.69	0.400	"	"	"	"	"	"	
Lead	10.7	0.200	"	"	"	"	"	"	
Nickel	6.04	0.400	"	"	"	"	"	"	
Silver	0.116	0.0200	"	"	"	"	"	"	
Zinc	27.8	0.400	"	"	"	"	"	"	
Selenium	0.283	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.9	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	8.77	0.0500	"	"	"	"	"	"	
Sodium	6.86	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.235	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-FL@3'
2501084-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.8	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.239	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-DL@3'
2501084-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0380	01/09/25	01/10/25	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: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0382	95.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0386	01/09/25	01/10/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.82	62.6 %	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 - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-DL@3'
2501084-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0395	01/10/25	01/15/25	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: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0169	50.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.5 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 10:18**

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 - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-DL@3'
2501084-08 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.93	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	48.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.17	0.400	"	"	"	"	"	"	
Lead	9.30	0.200	"	"	"	"	"	"	
Nickel	5.76	0.400	"	"	"	"	"	"	
Silver	0.110	0.0200	"	"	"	"	"	"	
Zinc	25.7	0.400	"	"	"	"	"	"	
Selenium	0.267	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.3	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	8.17	0.0500	"	"	"	"	"	"	
Sodium	2.39	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0851	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 10:18**

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 - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

SEP01-DL@3'
2501084-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.3	%	1	BIA0400	01/10/25	01/13/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.277	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 10:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@0-6''
2501084-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	7.55	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	45.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.23	0.400	"	"	"	"	"	"	
Lead	10.6	0.200	"	"	"	"	"	"	
Nickel	6.22	0.400	"	"	"	"	"	"	
Silver	0.129	0.0200	"	"	"	"	"	"	
Zinc	26.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	54.7	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	12.2	0.0500	"	"	"	"	"	"	
Sodium	3.18	0.0500	"	"	"	"	"	"	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@0-6''
2501084-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.101	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.2		%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.456	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.96		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@1'
2501084-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.58	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	34.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.46	0.400	"	"	"	"	"	"	
Lead	13.5	0.200	"	"	"	"	"	"	
Nickel	7.06	0.400	"	"	"	"	"	"	
Silver	0.146	0.0200	"	"	"	"	"	"	
Zinc	30.9	0.400	"	"	"	"	"	"	
Selenium	0.267	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	51.4	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	18.2	0.0500	"	"	"	"	"	"	
Sodium	7.94	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@1'
2501084-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.242	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.548	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@2'
2501084-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	22.6	0.227	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	33.4	0.455	"	"	"	"	"	"	
Cadmium	0.328	0.227	"	"	"	"	"	"	
Copper	8.01	0.455	"	"	"	"	"	"	
Lead	20.1	0.227	"	"	"	"	"	"	
Nickel	8.31	0.455	"	"	"	"	"	"	
Silver	0.204	0.0227	"	"	"	"	"	"	
Zinc	42.5	0.455	"	"	"	"	"	"	
Selenium	0.335	0.295	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	37.5	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	16.8	0.0500	"	"	"	"	"	"	
Sodium	18.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@2'
2501084-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.627	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.454	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.36		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@3'
2501084-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.53	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	15.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.48	0.400	"	"	"	"	"	"	
Lead	11.6	0.200	"	"	"	"	"	"	
Nickel	6.27	0.400	"	"	"	"	"	"	
Silver	0.139	0.0200	"	"	"	"	"	"	
Zinc	30.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	531	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	154	0.0500	"	"	"	"	"	"	
Sodium	60.9	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@3'
2501084-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.599	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.5		%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.50	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.78		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@4'
2501084-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIA0401	01/10/25	01/10/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	10.4	0.200	mg/kg dry	1	BIA0417	01/10/25	01/10/25	EPA 6020B	
Barium	15.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.98	0.400	"	"	"	"	"	"	
Lead	11.4	0.200	"	"	"	"	"	"	
Nickel	6.62	0.400	"	"	"	"	"	"	
Silver	0.128	0.0200	"	"	"	"	"	"	
Zinc	31.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0399	01/10/25	01/10/25	EPA 7196A	

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

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	259	0.0500	mg/L dry	1	BIA0383	01/09/25	01/10/25	EPA 6020B	
Magnesium	186	0.0500	"	"	"	"	"	"	
Sodium	92.6	0.0500	"	"	"	"	"	"	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

BKG01@4'
2501084-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.07	0.00100	units	1	BIA0502	01/13/25	01/13/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BIA0400	01/10/25	01/13/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.09	0.0100	mmhos/cm	1	BIA0388	01/09/25	01/10/25	EPA 120.1	

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

Date Sampled: **01/09/25 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.89		pH Units	1	BIA0387	01/09/25	01/10/25	EPA 9045D	

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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 BIA0380 - EPA 5030 Soil MS

Blank (BIA0380-BLK1)

Prepared: 01/09/25 Analyzed: 01/10/25

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0347		"	0.0400		86.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0399		"	0.0400		99.7	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0376		"	0.0400		93.9	50-150			

LCS (BIA0380-BS1)

Prepared: 01/09/25 Analyzed: 01/10/25

Benzene	0.105	0.0020	mg/kg	0.100		105	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.115	0.0050	"	0.100		115	70-130			
m,p-Xylene	0.222	0.010	"	0.200		111	70-130			
o-Xylene	0.105	0.0050	"	0.100		105	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.104	0.0050	"	0.100		104	70-130			
Naphthalene	0.0899	0.0038	"	0.100		89.9	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0344		"	0.0400		85.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		99.1	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0368		"	0.0400		92.0	50-150			

Matrix Spike (BIA0380-MS1)

Source: 2501084-01

Prepared: 01/09/25 Analyzed: 01/10/25

Benzene	0.0945	0.0020	mg/kg	0.100	ND	94.5	70-130			
Toluene	0.0916	0.0050	"	0.100	ND	91.6	70-130			
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
m,p-Xylene	0.197	0.010	"	0.200	ND	98.6	70-130			
o-Xylene	0.0946	0.0050	"	0.100	ND	94.6	70-130			
1,2,4-Trimethylbenzene	0.0898	0.0050	"	0.100	ND	89.8	70-130			
1,3,5-Trimethylbenzene	0.0908	0.0050	"	0.100	ND	90.8	70-130			
Naphthalene	0.0753	0.0038	"	0.100	ND	75.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0359		"	0.0400		89.7	50-150			
<i>Surrogate: Toluene-d8</i>	0.0399		"	0.0400		99.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0380		"	0.0400		94.9	50-150			

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BIA0380 - EPA 5030 Soil MS

Matrix Spike Dup (BIA0380-MSD1)	Source: 2501084-01			Prepared: 01/09/25 Analyzed: 01/10/25						
Benzene	0.0940	0.0020	mg/kg	0.100	ND	94.0	70-130	0.541	30	
Toluene	0.0919	0.0050	"	0.100	ND	91.9	70-130	0.229	30	
Ethylbenzene	0.0998	0.0050	"	0.100	ND	99.8	70-130	1.70	30	
m,p-Xylene	0.194	0.010	"	0.200	ND	96.8	70-130	1.84	30	
o-Xylene	0.0926	0.0050	"	0.100	ND	92.6	70-130	2.18	30	
1,2,4-Trimethylbenzene	0.0879	0.0050	"	0.100	ND	87.9	70-130	2.13	30	
1,3,5-Trimethylbenzene	0.0892	0.0050	"	0.100	ND	89.2	70-130	1.70	30	
Naphthalene	0.0776	0.0038	"	0.100	ND	77.6	70-130	2.94	30	
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.3	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.4	50-150			

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Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BIA0386 - EPA 3550A

Blank (BIA0386-BLK1)

Prepared: 01/09/25 Analyzed: 01/10/25

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5	100	30-150					

LCS (BIA0386-BS1)

Prepared: 01/09/25 Analyzed: 01/10/25

C10-C28 (DRO)	527	50	mg/kg	500	105	70-130					
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5	96.4	30-150					

Matrix Spike (BIA0386-MS1)

Source: 2501083-01

Prepared: 01/09/25 Analyzed: 01/10/25

C10-C28 (DRO)	508	50	mg/kg	500	22.1	97.3	70-130				
Surrogate: <i>o</i> -Terphenyl	8.44		"	12.5	67.5	30-150					

Matrix Spike Dup (BIA0386-MSD1)

Source: 2501083-01

Prepared: 01/09/25 Analyzed: 01/10/25

C10-C28 (DRO)	512	50	mg/kg	500	22.1	98.0	70-130	0.698	20		
Surrogate: <i>o</i> -Terphenyl	9.61		"	12.5	76.9	30-150					

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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BIA0395 - EPA 5030 Soil MS

Blank (BIA0395-BLK1)

Prepared: 01/10/25 Analyzed: 01/14/25

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	0.0210		"	0.0333	63.1	40-140				
Surrogate: Fluoranthene-d10	0.0277		"	0.0333	83.2	40-140				

LCS (BIA0395-BS1)

Prepared: 01/10/25 Analyzed: 01/14/25

Acenaphthene	0.0272	0.00500	mg/kg	0.0333	81.7	40-140				
Anthracene	0.0281	0.00500	"	0.0333	84.3	40-140				
Benzo (a) anthracene	0.0281	0.00500	"	0.0333	84.3	40-140				
Benzo (a) pyrene	0.0253	0.00500	"	0.0333	75.9	40-140				
Benzo (b) fluoranthene	0.0252	0.00500	"	0.0333	75.5	40-140				
Benzo (k) fluoranthene	0.0239	0.00500	"	0.0333	71.7	40-140				
Chrysene	0.0279	0.00500	"	0.0333	83.6	40-140				
Dibenz (a,h) anthracene	0.0281	0.00500	"	0.0333	84.4	40-140				
Fluoranthene	0.0273	0.00500	"	0.0333	82.0	40-140				
Fluorene	0.0273	0.00500	"	0.0333	82.0	40-140				
Indeno (1,2,3-cd) pyrene	0.0136	0.00500	"	0.0333	40.9	40-140				
Pyrene	0.0281	0.00500	"	0.0333	84.3	40-140				
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	69.7	40-140				
2-Methylnaphthalene	0.0261	0.00500	"	0.0333	78.2	40-140				
Surrogate: 2-Methylnaphthalene-d10	0.0226		"	0.0333	67.8	40-140				
Surrogate: Fluoranthene-d10	0.0280		"	0.0333	84.0	40-140				

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BIA0395 - EPA 5030 Soil MS

Matrix Spike (BIA0395-MS1)	Source: 2501083-01			Prepared: 01/10/25 Analyzed: 01/14/25					
Acenaphthene	0.0206	0.00500	mg/kg	0.0333	ND	61.7	40-140		
Anthracene	0.0208	0.00500	"	0.0333	ND	62.5	40-140		
Benzo (a) anthracene	0.0216	0.00500	"	0.0333	ND	64.8	40-140		
Benzo (a) pyrene	0.0192	0.00500	"	0.0333	ND	57.6	40-140		
Benzo (b) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	40-140		
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	40-140		
Chrysene	0.0208	0.00500	"	0.0333	ND	62.5	40-140		
Dibenz (a,h) anthracene	0.0196	0.00500	"	0.0333	ND	58.7	40-140		
Fluoranthene	0.0208	0.00500	"	0.0333	ND	62.5	40-140		
Fluorene	0.0212	0.00500	"	0.0333	ND	63.5	40-140		
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.1	40-140		
Pyrene	0.0216	0.00500	"	0.0333	ND	64.9	40-140		
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	60.0	40-140		
2-Methylnaphthalene	0.0223	0.00500	"	0.0333	0.00551	50.4	40-140		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0189</i>		<i>"</i>	<i>0.0333</i>		<i>56.8</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0216</i>		<i>"</i>	<i>0.0333</i>		<i>64.7</i>	<i>40-140</i>		

Matrix Spike Dup (BIA0395-MSD1)	Source: 2501083-01			Prepared: 01/10/25 Analyzed: 01/14/25					
Acenaphthene	0.0231	0.00500	mg/kg	0.0333	ND	69.2	40-140	11.4	30
Anthracene	0.0234	0.00500	"	0.0333	ND	70.1	40-140	11.5	30
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.5	40-140	9.83	30
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.6	40-140	8.31	30
Benzo (b) fluoranthene	0.0212	0.00500	"	0.0333	ND	63.7	40-140	6.03	30
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.1	40-140	5.50	30
Chrysene	0.0230	0.00500	"	0.0333	ND	69.1	40-140	10.1	30
Dibenz (a,h) anthracene	0.0236	0.00500	"	0.0333	ND	70.7	40-140	18.5	30
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	40-140	10.1	30
Fluorene	0.0234	0.00500	"	0.0333	ND	70.1	40-140	9.97	30
Indeno (1,2,3-cd) pyrene	0.0195	0.00500	"	0.0333	ND	58.6	40-140	15.6	30
Pyrene	0.0256	0.00500	"	0.0333	ND	76.7	40-140	16.7	30
1-Methylnaphthalene	0.0222	0.00500	"	0.0333	ND	66.5	40-140	10.3	30
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	0.00551	54.1	40-140	5.34	30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0209</i>		<i>"</i>	<i>0.0333</i>		<i>62.8</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0241</i>		<i>"</i>	<i>0.0333</i>		<i>72.2</i>	<i>40-140</i>		

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

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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

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

Batch BIA0401 - EPA 3050B

Blank (BIA0401-BLK1)

Prepared & Analyzed: 01/10/25

Boron ND 2.00 mg/L

LCS (BIA0401-BS1)

Prepared & Analyzed: 01/10/25

Boron 4.77 2.00 mg/L 5.00 95.4 80-120

Duplicate (BIA0401-DUP1)

Source: 2501083-01

Prepared & Analyzed: 01/10/25

Boron 1.15 2.00 mg/L 1.13 1.58 20

Matrix Spike (BIA0401-MS1)

Source: 2501083-01

Prepared & Analyzed: 01/10/25

Boron 4.96 2.00 mg/L 5.00 1.13 76.6 75-125

Matrix Spike Dup (BIA0401-MSD1)

Source: 2501083-01

Prepared & Analyzed: 01/10/25

Boron 5.27 2.00 mg/L 5.00 1.13 82.8 75-125 6.07 25

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Broomfield CO, 80020

Project: Noble - Spomer 65N66W 32ESE
Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIA0417 - EPA 3050B

Blank (BIA0417-BLK1)

Prepared & Analyzed: 01/10/25

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 (BIA0417-BS1)

Prepared & Analyzed: 01/10/25

Arsenic	40.5	0.200	mg/kg wet	41.7	97.2	80-120
Barium	40.5	0.400	"	41.7	97.2	80-120
Cadmium	2.05	0.200	"	2.08	98.4	80-120
Copper	42.2	0.400	"	41.7	101	80-120
Lead	20.1	0.200	"	20.8	96.3	80-120
Nickel	41.8	0.400	"	41.7	100	80-120
Silver	2.09	0.0200	"	2.08	100	80-120
Zinc	42.9	0.400	"	41.7	103	80-120
Selenium	4.40	0.260	"	4.17	106	80-120

Duplicate (BIA0417-DUP1)

Source: 2501083-01

Prepared & Analyzed: 01/10/25

Arsenic	4.94	0.200	mg/kg dry	2.94	51.0	20	QR-04
Barium	59.6	0.400	"	65.6	9.61	20	
Cadmium	0.212	0.200	"	0.221	4.55	20	
Copper	5.26	0.400	"	5.13	2.56	20	
Lead	6.19	0.200	"	8.15	27.2	20	QR-04
Nickel	3.55	0.400	"	4.30	19.2	20	
Silver	0.0866	0.0200	"	0.0918	5.81	20	
Zinc	18.4	0.400	"	19.4	5.63	20	
Selenium	ND	0.260	"	ND		20	

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Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIA0417 - EPA 3050B

Matrix Spike (BIA0417-MS1)	Source: 2501083-01			Prepared & Analyzed: 01/10/25								
Arsenic	48.3	0.200	mg/kg dry	48.2	2.94	94.0	75-125					
Barium	95.1	0.400	"	48.2	65.6	61.3	75-125					QM-05
Cadmium	2.51	0.200	"	2.41	0.221	94.9	75-125					
Copper	44.0	0.400	"	48.2	5.13	80.6	75-125					
Lead	27.5	0.200	"	24.1	8.15	80.2	75-125					
Nickel	42.3	0.400	"	48.2	4.30	78.9	75-125					
Silver	2.43	0.0200	"	2.41	0.0918	96.9	75-125					
Zinc	59.9	0.400	"	48.2	19.4	84.0	75-125					
Selenium	5.03	0.260	"	4.82	ND	104	75-125					

Matrix Spike Dup (BIA0417-MSD1)	Source: 2501083-01			Prepared & Analyzed: 01/10/25								
Arsenic	50.1	0.200	mg/kg dry	49.0	2.94	96.3	75-125	3.77	25			
Barium	107	0.400	"	49.0	65.6	84.7	75-125	11.8	25			
Cadmium	2.59	0.200	"	2.45	0.221	96.7	75-125	3.24	25			
Copper	41.6	0.400	"	49.0	5.13	74.4	75-125	5.63	25			QM-05
Lead	29.0	0.200	"	24.5	8.15	84.9	75-125	5.21	25			
Nickel	41.7	0.400	"	49.0	4.30	76.2	75-125	1.64	25			
Silver	2.44	0.0200	"	2.45	0.0918	95.6	75-125	0.333	25			
Zinc	56.8	0.400	"	49.0	19.4	76.2	75-125	5.37	25			
Selenium	4.81	0.260	"	4.90	ND	98.2	75-125	4.45	25			

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BIA0399 - 3060A Mod

Blank (BIA0399-BLK1)

Prepared & Analyzed: 01/10/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIA0399-BS1)

Prepared & Analyzed: 01/10/25

Chromium, Hexavalent 24.8 0.30 mg/kg wet 25.0 99.0 80-120

Duplicate (BIA0399-DUP1)

Source: 2412303-01

Prepared & Analyzed: 01/10/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIA0399-MS1)

Source: 2412303-01

Prepared & Analyzed: 01/10/25

Chromium, Hexavalent 29.1 0.30 mg/kg dry 30.0 ND 96.8 75-125

Matrix Spike Dup (BIA0399-MSD1)

Source: 2412303-01

Prepared & Analyzed: 01/10/25

Chromium, Hexavalent 30.6 0.30 mg/kg dry 30.0 ND 102 75-125 5.23 20

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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

Summit Scientific

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

Batch BIA0383 - General Preparation

Blank (BIA0383-BLK1)

Prepared: 01/09/25 Analyzed: 01/10/25

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

LCS (BIA0383-BS1)

Prepared: 01/09/25 Analyzed: 01/10/25

Calcium	5.44	0.0500	mg/L wet	5.00		109	70-130			
Magnesium	5.12	0.0500	"	5.00		102	70-130			
Sodium	5.22	0.0500	"	5.00		104	70-130			

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
 Project Manager: Daniel Simpson

Reported:
 01/17/25 08:35

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

Summit Scientific

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

Batch BIA0400 - General Preparation

Duplicate (BIA0400-DUP1)

Source: 2501083-01

Prepared: 01/10/25 Analyzed: 01/13/25

% Solids	84.6		%		85.0			0.501	20	
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Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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

Summit Scientific

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

Batch BIA0388 - General Preparation

Blank (BIA0388-BLK1)

Prepared: 01/09/25 Analyzed: 01/10/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIA0388-BS1)

Prepared: 01/09/25 Analyzed: 01/10/25

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BIA0388-DUP1)

Source: 2501083-01

Prepared: 01/09/25 Analyzed: 01/10/25

Specific Conductance (EC) 5.09 0.0100 mmhos/cm 5.15 1.23 20

Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN
Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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

Summit Scientific

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

Batch BIA0387 - General Preparation

LCS (BIA0387-BS1)

Prepared: 01/09/25 Analyzed: 01/10/25

pH	9.13	pH Units	9.18	99.5	95-105
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Duplicate (BIA0387-DUP1)

Source: 2501083-01

Prepared: 01/09/25 Analyzed: 01/10/25

pH	7.87	pH Units	7.86	0.127	20
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Summit Scientific

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

Project: Noble - Spomer 65N66W 32ESE

Project Number: UWRWE-A3439-ABN

Project Manager: Daniel Simpson

Reported:
01/17/25 08:35

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.
- 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