

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 29, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

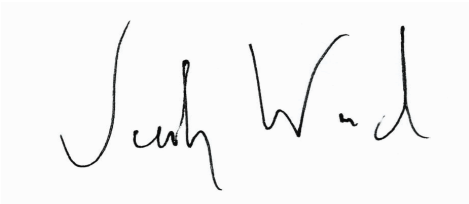
Broomfield, CO 80020

RE: Noble - Todd 20-02

Work Order #2408279

Enclosed are the results of analyses for samples received by Summit Scientific on 08/22/24 17:37. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-S@2.5'	2408279-01	Soil	08/22/24 09:35	08/22/24 17:37
FL01R-W@3'	2408279-02	Soil	08/22/24 12:38	08/22/24 17:37
FL01-02@3'	2408279-03	Soil	08/22/24 12:43	08/22/24 17:37
FL01-03@3'	2408279-04	Soil	08/22/24 13:08	08/22/24 17:37
FL01-06@2.5'	2408279-05	Soil	08/22/24 13:25	08/22/24 17:37

Summit Scientific

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Send Data To:		Send Invoice To:	
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Noble	
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Todd 20-02	
City/State/Zip: Broomfield/CO/ 80020		AFE#: UWRWE - A1896-ABN	
Phone:	Project Name: Todd 20-02	PO/Billing Codes:	
Sampler Name: Ryan Yavinsky	Project Number:	Contact: Miguel Barron	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	Metals - 915	pH, EC, SAR	Boron - HWS		HOLD	
1	FLOIR-5e 2.5'	8/22/24	0935	2			X			X				X	X	X	X	X	X		
2	FLOIR-we 3'	I	1238	I										I	I	I	I	I	I		
3	FLOI-02e 3'	I	1243	I										I	I	I	I	I	I		
4	FV01-03e 3'	I	1308	I										I	I	I	I	I	I		
5	FV01-06e 2.5'	I	1325	I										I	I	I	I	I	I		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>MS</i>	Date/Time: 8/22/24 1600	Received by: Tasman Lock Box	Date/Time: 8/22/24 1600	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 8/22/24 1737	Received by: <i>[Signature]</i>	Date/Time: 8/22/24 1737	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: 14.9	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2408279

Client: Nodelt Casman Client Project ID: Todd 2002

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

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

Temp (°C) 14.9 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>outside</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

AS
Custodian Printed Name

8/22/24
Date/Time



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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01R-S@2.5'
2408279-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHH0720	08/23/24	08/25/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHH0721	08/23/24	08/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.56	68.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0716	08/23/24	08/24/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0765	08/26/24	08/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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FL01R-S@2.5'
2408279-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.31	0.200	mg/kg dry	1	BHH0693	08/23/24	08/28/24	EPA 6020B	
Barium	51.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.23	0.400	"	"	"	"	"	"	
Lead	4.50	0.200	"	"	"	"	"	"	
Nickel	3.43	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0764	08/26/24	08/26/24	EPA 7196A	

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

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.9	0.0500	mg/L dry	1	BHH0794	08/26/24	08/28/24	EPA 6020B	
Magnesium	8.48	0.0500	"	"	"	"	"	"	
Sodium	3.36	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.124	0.00100	units	1	BHH0897	08/29/24	08/29/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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2408279-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHH0754	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.257	0.0100	mmhos/cm	1	BHH0795	08/26/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BHH0796	08/26/24	08/29/24	EPA 9045D	

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08/29/24 13:47

FL01R-W@3'
2408279-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHH0720	08/23/24	08/25/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0413	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHH0721	08/23/24	08/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.1	88.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2408279-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0716	08/23/24	08/24/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00938	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00914	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0175	52.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0765	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01R-W@3'
2408279-02 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.44	0.200	mg/kg dry	1	BHH0693	08/23/24	08/28/24	EPA 6020B	
Barium	34.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.00	0.400	"	"	"	"	"	"	
Lead	8.38	0.200	"	"	"	"	"	"	
Nickel	2.79	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0764	08/26/24	08/26/24	EPA 7196A	

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

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	58.4	0.0500	mg/L dry	1	BHH0794	08/26/24	08/28/24	EPA 6020B	
Magnesium	21.0	0.0500	"	"	"	"	"	"	
Sodium	19.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.545	0.00100	units	1	BHH0897	08/29/24	08/29/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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08/29/24 13:47

FL01R-W@3'
2408279-02 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	98.0			%	1	BHH0754	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.19	0.0100		mmhos/cm	1	BHH0795	08/26/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 12:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.79			pH Units	1	BHH0796	08/26/24	08/29/24	EPA 9045D	

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-02@3'
2408279-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHH0720	08/23/24	08/25/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0446	111 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	95.9 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHH0721	08/23/24	08/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.38	67.0 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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08/29/24 13:47

FL01-02@3'
2408279-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0716	08/23/24	08/24/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Chrysene	ND	0.00500	"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	"
Fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Fluorene	ND	0.00500	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	"
Pyrene	ND	0.00500	"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0206	61.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0765	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
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Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-02@3'
2408279-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.34	0.200	mg/kg dry	1	BHH0693	08/23/24	08/28/24	EPA 6020B	
Barium	41.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.41	0.400	"	"	"	"	"	"	
Lead	3.94	0.200	"	"	"	"	"	"	
Nickel	2.70	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0764	08/26/24	08/26/24	EPA 7196A	

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

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	61.8	0.0500	mg/L dry	1	BHH0794	08/26/24	08/28/24	EPA 6020B	
Magnesium	50.4	0.0500	"	"	"	"	"	"	
Sodium	198	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.53	0.00100	units	1	BHH0897	08/29/24	08/29/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-02@3'
2408279-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.0		%	1	BHH0754	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.39	0.0100	mmhos/cm	1	BHH0795	08/26/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		pH Units	1	BHH0796	08/26/24	08/29/24	EPA 9045D	

Summit Scientific

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Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
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Reported:
08/29/24 13:47

FL01-03@3'
2408279-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHH0720	08/23/24	08/25/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.1 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHH0721	08/23/24	08/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	5.26	42.1 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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FL01-03@3'
2408279-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0716	08/23/24	08/24/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0203	60.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0765	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
08/29/24 13:47

FL01-03@3'
2408279-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.72	0.200	mg/kg dry	1	BHH0693	08/23/24	08/28/24	EPA 6020B
Barium	48.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.34	0.400	"	"	"	"	"	"
Lead	4.33	0.200	"	"	"	"	"	"
Nickel	3.49	0.400	"	"	"	"	"	"
Silver	0.0252	0.0200	"	"	"	"	"	"
Zinc	12.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0764	08/26/24	08/26/24	EPA 7196A	

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

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	393	0.0500	mg/L dry	1	BHH0794	08/26/24	08/28/24	EPA 6020B	
Magnesium	135	0.0500	"	"	"	"	"	"	
Sodium	491	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.45	0.00100	units	1	BHH0897	08/29/24	08/29/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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FL01-03@3'
2408279-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.6			%	1	BHH0754	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	5.69	0.0100		mmhos/cm	1	BHH0795	08/26/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.81			pH Units	1	BHH0796	08/26/24	08/29/24	EPA 9045D	

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Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-06@2.5'
2408279-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHH0720	08/23/24	08/25/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0410	103 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHH0721	08/23/24	08/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	10.3	82.6 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

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FL01-06@2.5'
2408279-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0716	08/23/24	08/24/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0209	62.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0765	08/26/24	08/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/22/24 13:25**

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-06@2.5'
2408279-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.50	0.200	mg/kg dry	1	BHH0695	08/23/24	08/28/24	EPA 6020B	
Barium	44.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.32	0.400	"	"	"	"	"	"	
Lead	4.81	0.200	"	"	"	"	"	"	
Nickel	3.20	0.400	"	"	"	"	"	"	
Silver	0.0203	0.0200	"	"	"	"	"	"	
Zinc	13.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHH0764	08/26/24	08/26/24	EPA 7196A	

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

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	58.7	0.0500	mg/L dry	1	BHH0794	08/26/24	08/28/24	EPA 6020B	
Magnesium	21.0	0.0500	"	"	"	"	"	"	
Sodium	70.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.01	0.00100	units	1	BHH0897	08/29/24	08/29/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

FL01-06@2.5'
2408279-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.2			%	1	BHH0754	08/26/24	08/26/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/22/24 13:25**

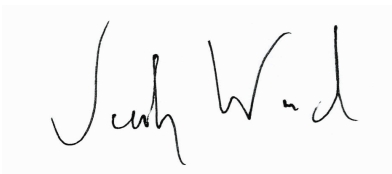
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.10	0.0100		mmhos/cm	1	BHH0795	08/26/24	08/29/24	EPA 120.1	

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

Date Sampled: **08/22/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.04			pH Units	1	BHH0796	08/26/24	08/29/24	EPA 9045D	

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHH0720 - EPA 5030 Soil MS

Blank (BHH0720-BLK1)

Prepared: 08/23/24 Analyzed: 08/24/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0409		"	0.0400		102	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0398		"	0.0400		99.4	50-150			

LCS (BHH0720-BS1)

Prepared: 08/23/24 Analyzed: 08/24/24

Benzene	0.0996	0.0020	mg/kg	0.100		99.6	70-130			
Toluene	0.0985	0.0050	"	0.100		98.5	70-130			
Ethylbenzene	0.0977	0.0050	"	0.100		97.7	70-130			
m,p-Xylene	0.187	0.010	"	0.200		93.4	70-130			
o-Xylene	0.0935	0.0050	"	0.100		93.5	70-130			
1,2,4-Trimethylbenzene	0.0902	0.0050	"	0.100		90.2	70-130			
1,3,5-Trimethylbenzene	0.0883	0.0050	"	0.100		88.3	70-130			
Naphthalene	0.0900	0.0038	"	0.100		90.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0433		"	0.0400		108	50-150			
<i>Surrogate: Toluene-d8</i>	0.0405		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0382		"	0.0400		95.6	50-150			

Matrix Spike (BHH0720-MS1)

Source: 2408246-02

Prepared: 08/23/24 Analyzed: 08/24/24

Benzene	0.0954	0.0020	mg/kg	0.100	ND	95.4	70-130			
Toluene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
Ethylbenzene	0.0880	0.0050	"	0.100	ND	88.0	70-130			
m,p-Xylene	0.168	0.010	"	0.200	ND	83.8	70-130			
o-Xylene	0.0847	0.0050	"	0.100	ND	84.7	70-130			
1,2,4-Trimethylbenzene	0.0747	0.0050	"	0.100	ND	74.7	70-130			
1,3,5-Trimethylbenzene	0.0779	0.0050	"	0.100	ND	77.9	70-130			
Naphthalene	0.0674	0.0038	"	0.100	ND	67.4	70-130			QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0459		"	0.0400		115	50-150			
<i>Surrogate: Toluene-d8</i>	0.0409		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0395		"	0.0400		98.8	50-150			

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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

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

Batch BHH0720 - EPA 5030 Soil MS

Matrix Spike Dup (BHH0720-MSD1)	Source: 2408246-02			Prepared: 08/23/24 Analyzed: 08/24/24						
Benzene	0.0879	0.0020	mg/kg	0.100	ND	87.9	70-130	8.15	30	
Toluene	0.0855	0.0050	"	0.100	ND	85.5	70-130	7.37	30	
Ethylbenzene	0.0871	0.0050	"	0.100	ND	87.1	70-130	1.13	30	
m,p-Xylene	0.166	0.010	"	0.200	ND	82.9	70-130	1.13	30	
o-Xylene	0.0838	0.0050	"	0.100	ND	83.8	70-130	0.997	30	
1,2,4-Trimethylbenzene	0.0726	0.0050	"	0.100	ND	72.6	70-130	2.89	30	
1,3,5-Trimethylbenzene	0.0773	0.0050	"	0.100	ND	77.3	70-130	0.735	30	
Naphthalene	0.0657	0.0038	"	0.100	ND	65.7	70-130	2.66	30	QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0423</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>	<i>50-150</i>			

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Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHH0721 - EPA 3550A

Blank (BHH0721-BLK1)

Prepared: 08/23/24 Analyzed: 08/24/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.1		"	12.5		89.0			30-150	

LCS (BHH0721-BS1)

Prepared: 08/23/24 Analyzed: 08/24/24

C10-C28 (DRO)	482	50	mg/kg	500		96.3			70-130	
Surrogate: <i>o</i> -Terphenyl	10.9		"	12.5		86.9			30-150	

Matrix Spike (BHH0721-MS1)

Source: 2408279-01

Prepared: 08/23/24 Analyzed: 08/24/24

C10-C28 (DRO)	471	50	mg/kg	500	15.1	91.1			70-130	
Surrogate: <i>o</i> -Terphenyl	9.63		"	12.5		77.0			30-150	

Matrix Spike Dup (BHH0721-MSD1)

Source: 2408279-01

Prepared: 08/23/24 Analyzed: 08/24/24

C10-C28 (DRO)	442	50	mg/kg	500	15.1	85.5		6.18	70-130	20
Surrogate: <i>o</i> -Terphenyl	9.09		"	12.5		72.8			30-150	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0716 - EPA 5030 Soil MS

Blank (BHH0716-BLK1)

Prepared: 08/23/24 Analyzed: 08/24/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0213</i>		"	<i>0.0333</i>		<i>64.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0235</i>		"	<i>0.0333</i>		<i>70.5</i>	<i>40-150</i>			

LCS (BHH0716-BS1)

Prepared: 08/23/24 Analyzed: 08/24/24

Acenaphthene	0.0235	0.00500	mg/kg	0.0333		70.5	31-137			
Anthracene	0.0236	0.00500	"	0.0333		70.9	30-120			
Benzo (a) anthracene	0.0251	0.00500	"	0.0333		75.3	30-120			
Benzo (a) pyrene	0.0183	0.00500	"	0.0333		54.9	30-120			
Benzo (b) fluoranthene	0.0169	0.00500	"	0.0333		50.7	30-120			
Benzo (k) fluoranthene	0.0168	0.00500	"	0.0333		50.4	30-120			
Chrysene	0.0237	0.00500	"	0.0333		71.2	30-120			
Dibenz (a,h) anthracene	0.0214	0.00500	"	0.0333		64.1	30-120			
Fluoranthene	0.0230	0.00500	"	0.0333		69.1	30-120			
Fluorene	0.0236	0.00500	"	0.0333		70.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0148	0.00500	"	0.0333		44.4	30-120			
Pyrene	0.0282	0.00500	"	0.0333		84.6	35-142			
1-Methylnaphthalene	0.0218	0.00500	"	0.0333		65.5	35-142			
2-Methylnaphthalene	0.0213	0.00500	"	0.0333		63.8	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0218</i>		"	<i>0.0333</i>		<i>65.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0231</i>		"	<i>0.0333</i>		<i>69.4</i>	<i>40-150</i>			

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0716 - EPA 5030 Soil MS

Matrix Spike (BHH0716-MS1)

Source: 2408279-01

Prepared: 08/23/24 Analyzed: 08/24/24

Acenaphthene	0.0201	0.00500	mg/kg	0.0333	ND	60.2	31-137			
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120			
Benzo (a) anthracene	0.0216	0.00500	"	0.0333	ND	64.7	30-120			
Benzo (a) pyrene	0.0154	0.00500	"	0.0333	ND	46.2	30-120			
Benzo (b) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.6	30-120			
Benzo (k) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.5	30-120			
Chrysene	0.0208	0.00500	"	0.0333	ND	62.5	30-120			
Dibenz (a,h) anthracene	0.0168	0.00500	"	0.0333	ND	50.5	30-120			
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.0	30-120			
Fluorene	0.0202	0.00500	"	0.0333	ND	60.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0176	0.00500	"	0.0333	ND	52.9	30-120			
Pyrene	0.0239	0.00500	"	0.0333	ND	71.6	35-142			
1-Methylnaphthalene	0.0178	0.00500	"	0.0333	ND	53.3	15-130			
2-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0185		"	0.0333		55.6	40-150			
Surrogate: Fluoranthene-d10	0.0196		"	0.0333		58.7	40-150			

Matrix Spike Dup (BHH0716-MSD1)

Source: 2408279-01

Prepared: 08/23/24 Analyzed: 08/24/24

Acenaphthene	0.0216	0.00500	mg/kg	0.0333	ND	64.9	31-137	7.61	30
Anthracene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	4.76	30
Benzo (a) anthracene	0.0221	0.00500	"	0.0333	ND	66.2	30-120	2.31	30
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	48.0	30-120	3.84	30
Benzo (b) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	6.19	30
Benzo (k) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.5	30-120	8.92	30
Chrysene	0.0214	0.00500	"	0.0333	ND	64.1	30-120	2.62	30
Dibenz (a,h) anthracene	0.0166	0.00500	"	0.0333	ND	49.8	30-120	1.49	30
Fluoranthene	0.0207	0.00500	"	0.0333	ND	62.1	30-120	5.17	30
Fluorene	0.0212	0.00500	"	0.0333	ND	63.7	30-120	5.18	30
Indeno (1,2,3-cd) pyrene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	0.453	30
Pyrene	0.0233	0.00500	"	0.0333	ND	69.8	35-142	2.58	30
1-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.4	15-130	14.1	50
2-Methylnaphthalene	0.0202	0.00500	"	0.0333	ND	60.5	15-130	8.45	50
Surrogate: 2-Methylnaphthalene-d10	0.0201		"	0.0333		60.2	40-150		
Surrogate: Fluoranthene-d10	0.0207		"	0.0333		62.1	40-150		

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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

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

Batch BHH0765 - EPA 3050B

Blank (BHH0765-BLK1)

Prepared: 08/26/24 Analyzed: 08/28/24

Boron ND 2.00 mg/L

LCS (BHH0765-BS1)

Prepared: 08/26/24 Analyzed: 08/28/24

Boron 5.20 2.00 mg/L 5.00 104 80-120

Duplicate (BHH0765-DUP1)

Source: 2408279-01

Prepared: 08/26/24 Analyzed: 08/28/24

Boron 0.194 2.00 mg/L 0.268 32.1 20 QR-01

Matrix Spike (BHH0765-MS1)

Source: 2408279-01

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 5.13 2.00 mg/L 5.00 0.268 97.2 75-125

Matrix Spike Dup (BHH0765-MSD1)

Source: 2408279-01

Prepared: 08/26/24 Analyzed: 08/29/24

Boron 5.42 2.00 mg/L 5.00 0.268 103 75-125 5.58 25

Summit Scientific

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHH0693 - EPA 3050B

Blank (BHH0693-BLK1)

Prepared: 08/23/24 Analyzed: 08/28/24

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

LCS (BHH0693-BS1)

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	34.6	0.200	mg/kg wet	37.6	92.0	80-120
Barium	33.4	0.400	"	37.6	88.8	80-120
Cadmium	1.70	0.200	"	1.88	90.3	80-120
Copper	36.6	0.400	"	37.6	97.3	80-120
Lead	16.9	0.200	"	18.8	90.1	80-120
Nickel	36.2	0.400	"	37.6	96.3	80-120
Silver	1.70	0.0200	"	1.88	90.5	80-120
Zinc	35.7	0.400	"	37.6	95.0	80-120
Selenium	3.80	0.260	"	3.76	101	80-120

Duplicate (BHH0693-DUP1)

Source: 2408276-10

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	1.95	0.200	mg/kg dry	1.87	4.31	20
Barium	45.5	0.400	"	50.2	9.97	20
Cadmium	0.164	0.200	"	0.161	1.83	20
Copper	3.81	0.400	"	3.90	2.33	20
Lead	7.88	0.200	"	9.00	13.2	20
Nickel	3.33	0.400	"	3.47	4.08	20
Silver	0.0194	0.0200	"	0.0208	6.67	20
Zinc	15.0	0.400	"	14.5	3.37	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0693 - EPA 3050B

Matrix Spike (BHH0693-MS1)

Source: 2408276-10

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	35.6	0.179	mg/kg dry	37.4	1.87	90.2	75-125			
Barium	85.1	0.357	"	37.4	50.2	93.3	75-125			
Cadmium	1.85	0.179	"	1.87	0.161	90.2	75-125			
Copper	27.8	0.357	"	37.4	3.90	64.0	75-125			QM-05
Lead	24.6	0.179	"	18.7	9.00	83.6	75-125			
Nickel	27.6	0.357	"	37.4	3.47	64.7	75-125			QM-05
Silver	1.68	0.0179	"	1.87	0.0208	88.7	75-125			
Zinc	39.3	0.357	"	37.4	14.5	66.2	75-125			QM-05
Selenium	3.63	0.232	"	3.74	ND	97.2	75-125			

Matrix Spike Dup (BHH0693-MSD1)

Source: 2408276-10

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	36.1	0.200	mg/kg dry	38.4	1.87	89.1	75-125	1.58	25	
Barium	90.1	0.400	"	38.4	50.2	104	75-125	5.75	25	
Cadmium	1.92	0.200	"	1.92	0.161	91.7	75-125	4.10	25	
Copper	29.3	0.400	"	38.4	3.90	66.1	75-125	5.24	25	QM-05
Lead	25.0	0.200	"	19.2	9.00	83.4	75-125	1.69	25	
Nickel	28.9	0.400	"	38.4	3.47	66.1	75-125	4.53	25	QM-05
Silver	1.75	0.0200	"	1.92	0.0208	90.1	75-125	4.45	25	
Zinc	40.5	0.400	"	38.4	14.5	67.4	75-125	3.00	25	QM-05
Selenium	3.78	0.260	"	3.84	ND	98.4	75-125	4.06	25	

Batch BHH0695 - EPA 3050B

Blank (BHH0695-BLK1)

Prepared: 08/23/24 Analyzed: 08/28/24

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

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

Project: Noble - Todd 20-02

Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0695 - EPA 3050B

LCS (BHH0695-BS1)

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	34.8	0.200	mg/kg wet	37.6		92.6	80-120			
Barium	34.4	0.400	"	37.6		91.5	80-120			
Cadmium	1.73	0.200	"	1.88		92.1	80-120			
Copper	37.0	0.400	"	37.6		98.5	80-120			
Lead	17.3	0.200	"	18.8		91.9	80-120			
Nickel	36.6	0.400	"	37.6		97.3	80-120			
Silver	1.73	0.0200	"	1.88		92.2	80-120			
Zinc	36.2	0.400	"	37.6		96.2	80-120			
Selenium	3.93	0.260	"	3.76		104	80-120			

Duplicate (BHH0695-DUP1)

Source: 2408279-05

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	1.62	0.200	mg/kg dry		1.50			8.16	20	
Barium	45.8	0.400	"		44.2			3.49	20	
Cadmium	0.172	0.200	"		0.171			0.703	20	
Copper	3.50	0.400	"		3.32			5.00	20	
Lead	4.77	0.200	"		4.81			0.888	20	
Nickel	3.30	0.400	"		3.20			3.30	20	
Silver	0.0188	0.0200	"		0.0203			7.60	20	
Zinc	13.9	0.400	"		13.1			6.03	20	
Selenium	ND	0.260	"		ND				20	

Matrix Spike (BHH0695-MS1)

Source: 2408279-05

Prepared: 08/23/24 Analyzed: 08/28/24

Arsenic	38.0	0.200	mg/kg dry	39.3	1.50	92.8	75-125			
Barium	80.4	0.400	"	39.3	44.2	92.2	75-125			
Cadmium	2.00	0.200	"	1.96	0.171	93.0	75-125			
Copper	29.8	0.400	"	39.3	3.32	67.5	75-125			QM-05
Lead	22.8	0.200	"	19.6	4.81	91.6	75-125			
Nickel	29.7	0.400	"	39.3	3.20	67.5	75-125			QM-05
Silver	1.81	0.0200	"	1.96	0.0203	91.3	75-125			
Zinc	40.1	0.400	"	39.3	13.1	68.7	75-125			QM-05
Selenium	3.97	0.260	"	3.93	ND	101	75-125			

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

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHH0695 - EPA 3050B

Matrix Spike Dup (BHH0695-MSD1)	Source: 2408279-05			Prepared: 08/23/24		Analyzed: 08/28/24				
Arsenic	36.5	0.200	mg/kg dry	37.8	1.50	92.6	75-125	3.86	25	
Barium	80.4	0.400	"	37.8	44.2	95.6	75-125	0.0732	25	
Cadmium	1.96	0.200	"	1.89	0.171	94.8	75-125	1.72	25	
Copper	28.0	0.400	"	37.8	3.32	65.2	75-125	6.41	25	QM-05
Lead	22.0	0.200	"	18.9	4.81	90.9	75-125	3.55	25	
Nickel	27.9	0.400	"	37.8	3.20	65.2	75-125	6.38	25	QM-05
Silver	1.74	0.0200	"	1.89	0.0203	91.1	75-125	3.96	25	
Zinc	38.8	0.400	"	37.8	13.1	67.9	75-125	3.34	25	QM-05
Selenium	3.98	0.260	"	3.78	ND	105	75-125	0.0645	25	

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Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHH0764 - 3060A Mod

Blank (BHH0764-BLK1)

Prepared & Analyzed: 08/26/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHH0764-BS1)

Prepared & Analyzed: 08/26/24

Chromium, Hexavalent 5.70 0.30 mg/kg wet 5.00 114 80-120

Duplicate (BHH0764-DUP1)

Source: 2408275-01

Prepared & Analyzed: 08/26/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHH0764-MS1)

Source: 2408275-01

Prepared & Analyzed: 08/26/24

Chromium, Hexavalent 5.18 0.30 mg/kg dry 5.82 ND 89.0 75-125

Matrix Spike Dup (BHH0764-MSD1)

Source: 2408275-01

Prepared & Analyzed: 08/26/24

Chromium, Hexavalent 5.70 0.30 mg/kg dry 5.82 ND 98.0 75-125 9.63 20

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Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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

Summit Scientific

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

Batch BHH0794 - General Preparation

Blank (BHH0794-BLK1)

Prepared: 08/26/24 Analyzed: 08/28/24


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

LCS (BHH0794-BS1)

Prepared: 08/26/24 Analyzed: 08/28/24

Calcium	5.62	0.0500	mg/L wet	5.00	112	70-130
Magnesium	5.03	0.0500	"	5.00	101	70-130
Sodium	5.00	0.0500	"	5.00	100	70-130

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Tasman Geosciences
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Project: Noble - Todd 20-02

Project Number: UWRWE-A1896-ABN

Project Manager: Jacob Whritenour

Reported:
 08/29/24 13:47

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

Summit Scientific

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

Batch BHH0754 - General Preparation


Duplicate (BHH0754-DUP1)

Source: 2408275-01

Prepared & Analyzed: 08/26/24

% Solids	84.3		%		86.0			1.98	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Todd 20-02
Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0795 - General Preparation

Blank (BHH0795-BLK1)

Prepared: 08/26/24 Analyzed: 08/29/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHH0795-BS1)

Prepared: 08/26/24 Analyzed: 08/29/24

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

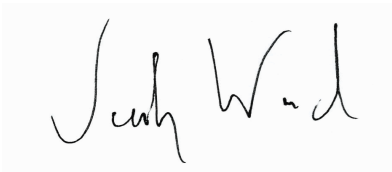
Duplicate (BHH0795-DUP1)

Source: 2408277-01

Prepared: 08/26/24 Analyzed: 08/29/24

Specific Conductance (EC) 2.97 0.0100 mmhos/cm 3.01 1.34 20

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Todd 20-02

Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

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 BHH0796 - General Preparation

LCS (BHH0796-BS1)

Prepared: 08/26/24 Analyzed: 08/29/24

pH	9.07	pH Units	9.18	98.8	95-105
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Duplicate (BHH0796-DUP1)

Source: 2408277-01

Prepared: 08/26/24 Analyzed: 08/29/24

pH	7.89	pH Units	7.89	0.00	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Todd 20-02

Project Number: UWRWE-A1896-ABN
Project Manager: Jacob Whritenour

Reported:
08/29/24 13:47

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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