

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 09, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Ulrich 19-29,2,14-29

Work Order #2304653

Enclosed are the results of analyses for samples received by Summit Scientific on 04/28/23 17:43. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury

President



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0.5'	2304653-01	Soil	04/28/23 12:27	04/28/23 17:43
SEP01-DL@3'	2304653-02	Soil	04/28/23 13:33	04/28/23 17:43

Summit Scientific

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

# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2304653	

	<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Uhrich 19-29, 2, 14-29
City/State/Zip: Broomfield/CO/ 80020		AFE#:
Phone: 602-881-5716	Project Name: Uhrich 19-29, 2, 14-29	PO/Billing Codes:
Sampler Name: Dennis Gray	Project Number:	Contact: Wade Firestein

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	HOLD
1	ASTO1 @ 0.5'	4-28-23	1227	2			X			X				X	X	X	X	X		SAR, EC, pH by saturated paste
2	SE901-DL @ 3'	4-28-23	1333	2			X			X				X	X	X	X	X		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Dennis Gray</i>	Date/Time: 4-28-23 1530	Received by: Tasman Lock Box	Date/Time: 4-28-23 1530	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 4-28-23 1743	Received by: <i>[Signature]</i>	Date/Time: 4-28-23 1743	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: 10.1	Corrected Temperature: <i>⊖</i>	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2304653

Client: Noble Fasmann Client Project ID: Uhrich 19-29, 1, 14-29

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? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>on ice</i>
If custody seals are present, are they intact? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input 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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<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)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):

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

As

Custodian Printed Name

4/28/23

Date/Time



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**AST01@0.5'**  
**2304653-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0076	05/02/23	05/04/23	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: **04/28/23 12:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0430	108 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0077	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.5	91.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**AST01@0.5'**  
**2304653-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0003	05/01/23	05/03/23	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: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0184	55.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0278	83.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.304</b>	0.0100	mg/L	1	BGE0091	05/03/23	05/08/23	EPA 6020B	

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

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**AST01@0.5'**  
**2304653-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.4	0.0539	mg/L dry	1	BGE0166	05/04/23	05/08/23	EPA 6020B	
Magnesium	12.0	0.0539	"	"	"	"	"	"	
Sodium	10.4	0.0539	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.342	0.00100	units	1	BGE0239	05/08/23	05/08/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.7		%	1	BGE0104	05/03/23	05/03/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.657	0.0100	mmhos/cm	1	BGE0202	05/05/23	05/05/23	EPA 120.1	

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

Date Sampled: **04/28/23 12:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.74		pH Units	1	BGE0203	05/05/23	05/05/23	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**SEP01-DL@3'**  
**2304653-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0076	05/02/23	05/04/23	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: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0415	104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0077	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.8	86.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**SEP01-DL@3'**  
**2304653-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0003	05/01/23	05/03/23	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: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0199	59.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0277	83.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.499</b>	0.0100	mg/L	1	BGE0091	05/03/23	05/08/23	EPA 6020B	

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

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**SEP01-DL@3'**  
**2304653-02 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	103	0.0570	mg/L dry	1	BGE0166	05/04/23	05/08/23	EPA 6020B	
Magnesium	9.17	0.0570	"	"	"	"	"	"	
Sodium	5.90	0.0570	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.149	0.00100	units	1	BGE0239	05/08/23	05/08/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.7		%	1	BGE0104	05/03/23	05/03/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.348	0.0100	mmhos/cm	1	BGE0202	05/05/23	05/05/23	EPA 120.1	

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

Date Sampled: **04/28/23 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.89		pH Units	1	BGE0203	05/05/23	05/05/23	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

### 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 BGE0076 - EPA 5030 Soil MS

##### Blank (BGE0076-BLK1)

Prepared: 05/02/23 Analyzed: 05/03/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0408		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

##### LCS (BGE0076-BS1)

Prepared: 05/02/23 Analyzed: 05/03/23

Benzene	0.0823	0.0020	mg/kg	0.100		82.3	70-130			
Toluene	0.0939	0.0050	"	0.100		93.9	70-130			
Ethylbenzene	0.110	0.0050	"	0.100		110	70-130			
m,p-Xylene	0.222	0.010	"	0.200		111	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100		115	70-130			
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100		116	70-130			
Naphthalene	0.0851	0.0038	"	0.100		85.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0330		"	0.0400		82.4	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.4	50-150			

##### Matrix Spike (BGE0076-MS1)

Source: 2304617-01

Prepared: 05/02/23 Analyzed: 05/03/23

Benzene	0.0796	0.0020	mg/kg	0.100	ND	79.6	70-130			
Toluene	0.0915	0.0050	"	0.100	ND	91.5	70-130			
Ethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130			
m,p-Xylene	0.215	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
Naphthalene	0.0917	0.0038	"	0.100	ND	91.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0349		"	0.0400		87.3	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	50-150			

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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		

**Batch BGE0076 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGE0076-MSD1)</b>	<b>Source: 2304617-01</b>			<b>Prepared: 05/02/23 Analyzed: 05/03/23</b>						
Benzene	0.0785	0.0020	mg/kg	0.100	ND	78.5	70-130	1.44	30	
Toluene	0.0907	0.0050	"	0.100	ND	90.7	70-130	0.955	30	
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	2.45	30	
m,p-Xylene	0.211	0.010	"	0.200	ND	106	70-130	1.98	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	1.53	30	
1,2,4-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	1.82	30	
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130	2.62	30	
Naphthalene	0.0936	0.0038	"	0.100	ND	93.6	70-130	2.01	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0354</i>		<i>"</i>	<i>0.0400</i>		<i>88.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.1</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BGE0077 - EPA 3550A**

**Blank (BGE0077-BLK1)**

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		83.2	30-150			

**LCS (BGE0077-BS1)**

Prepared: 05/02/23 Analyzed: 05/03/23

C10-C28 (DRO)	643	50	mg/kg	500		129	70-130			
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		85.2	30-150			

**Matrix Spike (BGE0077-MS1)**

Source: 2304617-01

Prepared: 05/02/23 Analyzed: 05/03/23

C10-C28 (DRO)	629	50	mg/kg	500	14.1	123	70-130			
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		92.1	30-150			

**Matrix Spike Dup (BGE0077-MSD1)**

Source: 2304617-01

Prepared: 05/02/23 Analyzed: 05/03/23

C10-C28 (DRO)	523	50	mg/kg	500	14.1	102	70-130	18.4	20	
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		83.5	30-150			

Summit Scientific

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



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0003 - EPA 5030 Soil MS**

**Blank (BGE0003-BLK1)**

Prepared: 05/01/23 Analyzed: 05/02/23

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	0.0242		"	0.0333		72.6	40-150			
Surrogate: Fluoranthene-d10	0.0292		"	0.0333		87.7	40-150			

**LCS (BGE0003-BS1)**

Prepared: 05/01/23 Analyzed: 05/02/23

Acenaphthene	0.0272	0.00500	mg/kg	0.0333		81.6	31-137			
Anthracene	0.0262	0.00500	"	0.0333		78.7	30-120			
Benzo (a) anthracene	0.0261	0.00500	"	0.0333		78.3	30-120			
Benzo (a) pyrene	0.0225	0.00500	"	0.0333		67.6	30-120			
Benzo (b) fluoranthene	0.0165	0.00500	"	0.0333		49.6	30-120			
Benzo (k) fluoranthene	0.0245	0.00500	"	0.0333		73.6	30-120			
Chrysene	0.0322	0.00500	"	0.0333		96.6	30-120			
Dibenz (a,h) anthracene	0.0204	0.00500	"	0.0333		61.3	30-120			
Fluoranthene	0.0262	0.00500	"	0.0333		78.6	30-120			
Fluorene	0.0267	0.00500	"	0.0333		80.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333		65.0	30-120			
Pyrene	0.0297	0.00500	"	0.0333		89.0	35-142			
1-Methylnaphthalene	0.0225	0.00500	"	0.0333		67.6	35-142			
2-Methylnaphthalene	0.0289	0.00500	"	0.0333		86.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0241		"	0.0333		72.4	40-150			
Surrogate: Fluoranthene-d10	0.0271		"	0.0333		81.3	40-150			

Summit Scientific

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



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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0003 - EPA 5030 Soil MS**

<b>Matrix Spike (BGE0003-MS1)</b>	<b>Source: 2304643-01</b>			<b>Prepared: 05/01/23 Analyzed: 05/02/23</b>						
Acenaphthene	0.0246	0.00500	mg/kg	0.0333	ND	73.8	31-137			
Anthracene	0.0255	0.00500	"	0.0333	ND	76.5	30-120			
Benzo (a) anthracene	0.0303	0.00500	"	0.0333	0.000767	88.7	30-120			
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	66.0	30-120			
Benzo (b) fluoranthene	0.0165	0.00500	"	0.0333	ND	49.4	30-120			
Benzo (k) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.0	30-120			
Chrysene	0.0283	0.00500	"	0.0333	ND	84.9	30-120			
Dibenz (a,h) anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120			
Fluoranthene	0.0263	0.00500	"	0.0333	ND	78.8	30-120			
Fluorene	0.0246	0.00500	"	0.0333	ND	73.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0188	0.00500	"	0.0333	ND	56.4	30-120			
Pyrene	0.0257	0.00500	"	0.0333	ND	77.0	35-142			
1-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.2	15-130			
2-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0212</i>		<i>"</i>	<i>0.0333</i>		<i>63.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0297</i>		<i>"</i>	<i>0.0333</i>		<i>89.1</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BGE0003-MSD1)</b>	<b>Source: 2304643-01</b>			<b>Prepared: 05/01/23 Analyzed: 05/02/23</b>						
Acenaphthene	0.0236	0.00500	mg/kg	0.0333	ND	70.7	31-137	4.27	30	
Anthracene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	7.28	30	
Benzo (a) anthracene	0.0308	0.00500	"	0.0333	0.000767	90.2	30-120	1.63	30	
Benzo (a) pyrene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	2.05	30	
Benzo (b) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.4	30-120	7.93	30	
Benzo (k) fluoranthene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	2.54	30	
Chrysene	0.0269	0.00500	"	0.0333	ND	80.7	30-120	5.03	30	
Dibenz (a,h) anthracene	0.0203	0.00500	"	0.0333	ND	61.0	30-120	1.94	30	
Fluoranthene	0.0243	0.00500	"	0.0333	ND	72.8	30-120	7.95	30	
Fluorene	0.0243	0.00500	"	0.0333	ND	72.9	30-120	1.18	30	
Indeno (1,2,3-cd) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	1.74	30	
Pyrene	0.0259	0.00500	"	0.0333	ND	77.6	35-142	0.750	30	
1-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.2	15-130	6.28	50	
2-Methylnaphthalene	0.0259	0.00500	"	0.0333	ND	77.7	15-130	1.01	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0271</i>		<i>"</i>	<i>0.0333</i>		<i>81.2</i>	<i>40-150</i>			

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0091 - EPA 3050B**

**Blank (BGE0091-BLK1)**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron ND 0.0100 mg/L

**LCS (BGE0091-BS1)**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.43 0.0100 mg/L 5.00 109 80-120

**Duplicate (BGE0091-DUP1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 0.278 0.0100 mg/L 0.284 2.40 20

**Matrix Spike (BGE0091-MS1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.40 0.0100 mg/L 5.00 0.284 102 75-125

**Matrix Spike Dup (BGE0091-MSD1)**

**Source: 2304616-01**

Prepared: 05/03/23 Analyzed: 05/08/23

Boron 5.71 0.0100 mg/L 5.00 0.284 109 75-125 5.58 25

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0166 - General Preparation**

**Blank (BGE0166-BLK1)**

Prepared: 05/04/23 Analyzed: 05/08/23

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

**LCS (BGE0166-BS1)**

Prepared: 05/04/23 Analyzed: 05/08/23

Calcium	5.83	0.0500	mg/L wet	5.00	117	70-130				
Magnesium	5.64	0.0500	"	5.00	113	70-130				
Sodium	5.78	0.0500	"	5.00	116	70-130				

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/09/23 11:25

**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 BGE0104 - General Preparation**

<b>Duplicate (BGE0104-DUP1)</b>		<b>Source: 2304643-01</b>			<b>Prepared &amp; Analyzed: 05/03/23</b>				
% Solids	93.1		%		93.2		0.0853	20	

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0202 - General Preparation**

**Blank (BGE0202-BLK1)**

Prepared & Analyzed: 05/05/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGE0202-BS1)**

Prepared & Analyzed: 05/05/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BGE0202-DUP1)**

Source: 2304374-02

Prepared & Analyzed: 05/05/23

Specific Conductance (EC) 1.08 0.0100 mmhos/cm 1.08 0.0929 20

Summit Scientific

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



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

Project: Noble - Ulhrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

**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 BGE0203 - General Preparation**

**LCS (BGE0203-BS1)**

Prepared & Analyzed: 05/05/23

pH	9.08	pH Units	9.18	98.9	95-105
----	------	----------	------	------	--------

**Duplicate (BGE0203-DUP1)**

Source: 2304374-02

Prepared & Analyzed: 05/05/23

pH	7.53	pH Units	7.49	0.533	20
----	------	----------	------	-------	----

Summit Scientific

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





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

Project: Noble - Ulrich 19-29,2,14-29

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/09/23 11:25

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference