

**)ORZOLQH &ORVXUH &KHFNOI**

**&2\* && 5XOH D (QYLURQPHQWDO 6LWH &ORV**

\$GGLWLRQDO	DQN %DWWHU\	&ORVXUH	:HOOK HDG
\$SWDFKPHQWV			

6LWH 1DPH &2* && )DFLHDLW\ 1XPEHU 165 'RXJHU\ 4/25/23	5HPHGLDWRQ 3URMHFW
--	-----------------------

\$VVRFLDWHG :HOOV \$JH RI 6LWH	1XPEHU RI 3KRWRV \$SWDFKHG
--------------------------------	-------------------------------

6WDUWLQJ SRLOV QDWHV DQG GHVFULSWLRQV

(QG SRLOV WRUGLQDWHV DQG GHVFULSWLRQV

86&6 6RLO 7\SH	(VWLPDWHG 'HSWK WR *URXQGZDWH
----------------	-------------------------------

+ \GURFDUERQ ,PSDFWHG RLOV DSSHDUV WR EH VXUILFLDO R  
None Observed

6DOW &UXVWHG 6RLOV RLOV DSSHDUV WR EH VXUILFLDO R  
None Observed

**)ORZOLQHV**

)ORZOLQH	W250	*DV	:DWHU						
'HSWK									
\$JH									
/HQJWK									
&RQVWUXFWLRQ	1093ft.								
:HUH IORZOLQHV	Steel								
9LVXDO ,QWHJULW\ RI OLQHV	No								
9LVXDO LPSDFWV	Good								
3,' 5HDGLQJV	None								
6DPSOH WDNHQ "	0.0								
/RFDWLRQ 6DPSOH	HV								
3KRWR 1XPEHU	V								

2WKHU REVHUYDWLRQV UHJDUGLQJ RQ ORFWLRQ IORZOLQHV  
Flowline was ABIP due to common trench with Shable 41-20

**6XPPDU\**

:DV LPSDFWHG VRLO LGHQWLILHG"  
R <HV OHVV WKDQ FXELF \DUGV

7RWDO QXPEHU RI VDP SOHV ILHOG VFUHV	7RWDO QXPEHU RI VDP SOHV FROOHFW
--------------------------------------	----------------------------------

+LJKHVW 3,' 5HDGLQJ 0.0	7RWDO QXPEHU RI VDP SOHV VXEPLW
-------------------------	---------------------------------

,I PRUH WKDQ FXELF \DUGV RI LPSDFWHG VRLO ZHUH REVHUYHG	(VWLPDWHG VSLOO YROXP
---	-----------------------

9HUWLFDO H[WHQW	9ROXP RI VRLO UHPRYHG
-----------------	-----------------------

,V DGGLWLRQDO LQYHVWLJDWLRQ UHTXLHG"

:DV JURXQGZDWHU HQFRXQWHUHG GXULQJ WKH LQYHVWLJDWLRQ"  
1R <HV QRW LPSDFWHG RU LQ FRQWDFW ZLWK LPSDFWHG VRLOV

0HDVXUHG GHSWK WR JURXQGZDWHU	:DV UHPHGLDO JURXQGZDWHU UHPRY
-------------------------------	--------------------------------

'DWH *URXQGZDWHU ZDV HQFRXQWHUHG	&RPPHQFHPHQW GDWH RI UHPRYDO
----------------------------------	------------------------------

6KHHQ RQ JURXQGZDWHU " 1R	9ROXP RI JURXQGZDWHU UHPRYHG
---------------------------	------------------------------

)UHH SURGXFW REVHUYHG " 1R	9ROXP RI JURXQGZDWHU UHPRYHG
----------------------------	------------------------------

7RWDO QXPEHU RI VDP SOHV FROOHFWHG	7RWDO 9ROXP RI JURXQGZDWHU UH
------------------------------------	-------------------------------

7RWDO QXPEHU RI VDP SOHV VXEPLW	WR ODE IRU DQDO\VLV
---------------------------------	---------------------



TABLE 1  
SOIL SAMPLE LOCATIONS  
NOBLE ENERGY INC.- HSR-DOUGERY 1-20

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
FL01-A@5'	04/25/23	0.0	No Staining	No Odor	Lab	40.30315864	-104.6796457	1.6
FL01-B@4'	04/25/23	0.0	No Staining	No Odor	Lab	40.30027606	-104.6806552	1.0

Notes:

PID = Photoionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

**TABLE 2**  
**SOIL ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - HSR-DOUGERY 1-20**

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
<b>Residential SSL<sup>2</sup></b>		<b>1.2</b>	<b>490</b>	<b>5.8</b>	<b>58</b>	<b>30</b>	<b>27</b>	<b>2</b>	<b>500</b>			<b>360</b>	<b>1,800</b>	<b>1.1</b>	<b>0.11</b>	<b>1.1</b>	<b>11</b>	<b>110</b>	<b>0.11</b>	<b>240</b>	<b>240</b>	<b>1.1</b>	<b>180</b>	<b>18</b>	<b>24</b>
<b>Protection of Groundwater SSL<sup>2,3</sup></b>		<b>0.0026</b>	<b>0.69</b>	<b>0.78</b>	<b>9.9</b>	<b>0.0081</b>	<b>0.0087</b>	<b>0.0038</b>	<b>500</b>			<b>0.55</b>	<b>6</b>	<b>0.011</b>	<b>0.24</b>	<b>0.3</b>	<b>2.9</b>	<b>9</b>	<b>0.096</b>	<b>8.9</b>	<b>0.54</b>	<b>0.98</b>	<b>1.3</b>	<b>0.006</b>	<b>0.019</b>
FL01-A@5'	04/25/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-B@4'	04/25/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
<b>Residential SSL<sup>2</sup></b>		<b>6 - 8.3</b>	<b>&lt;6</b>	<b>&lt;4mmhos/cm</b>	<b>2</b>
FL01-A@5'	04/25/23	7.88	0.180	0.549	0.275
FL01-B@4'	04/25/23	8.14	1.37	0.997	0.300

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission  
 TPH-GRO = Total petroleum hydrocarbons - gasoline range organics  
 TPH-DRO = Total petroleum hydrocarbons - diesel range organics  
 TPH-ORO = Total petroleum hydrocarbons - oil range organics  
 mg/kg = Milligrams per kilogram  
 SAR = Sodium Adsorption Ratio  
 EC = Electrical Conductivity  
 mmhos/cm = Millimhos per centimeter  
 mg/L = Milligrams per liter  
 < = Analytical result is less than the indicated laboratory reporting limit

1,2,4 - TMB = 1,2,4 Trimethylbenzene  
 1,3,5 - TMB = 1,3,5 Trimethylbenzene  
 Benz(a) = Benzantracene  
 Benzo(b) = Benzo(a)fluoranthene  
 Benzo(k) = Benzo(k)fluoranthene  
 Benzo(a) = Benzopyrene  
 A,H = Dibenzoanthracene  
 1,2,3-CD = Indenopyrene  
 1-M = 1-methylnaphthalene  
 2-M = 2-methylnaphthalene

**Highlighted results are equal to or exceed the COGCC Table 915-1 standard**



FL01-A@5'  
(04/25/2023)  
PID = 0.0 ppm

FL01-B@4'  
(04/25/2023)  
PID = 0.0 ppm

**Legend**  
 --- Flowline Location  
 + Soil Sample Location – Lab Analyzed  
 (Collected via Trimble GPS)

**Notes**  
 1) All locations are approximate unless otherwise noted.  
 2) Buried infrastructure has been spatially projected.  
 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.  
 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System  
 mg/kg – Milligrams per kilogram  
 PID – Photoionization Detector  
 ppm – parts per million

0 ft. 125 ft. 250 ft.

Image Source: Google Earth; Google 2020

DATE:	08/15/2023
DESIGNED BY:	JW
DRAWN BY:	HM



**TASMAN**  
GEOSCIENCES

Tasman Geosciences, Inc.  
6855 W 119<sup>th</sup> Avenue  
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin  
 HSR-Dougery 1-20  
 NENE, Section 20, Township 4 North, Range 65 West  
 Weld County, Colorado

Flowline Closure & Soil  
 Analytical Results Map  
 (04/25/2023)

FIGURE  
 1

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 08, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - HSR Doughery 1-20

Work Order #2304553

Enclosed are the results of analyses for samples received by Summit Scientific on 04/25/23 17:51. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Ben Shrewsbury

Laboratory Manager



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

Project: Noble - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**ANALYTICAL REPORT FOR SAMPLES**

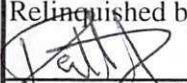


Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-A@5'	2304553-01	Soil	04/25/23 11:55	04/25/23 17:51
FL01-B@4'	2304553-02	Soil	04/25/23 12:35	04/25/23 17:51

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.*

<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: HSR-Dougherty 1-20	
City/State/Zip: Broomfield, CO 80020		AFE#: UWRWE-AR452-ABN	
Phone: 303-903-5168	Project Name: HSR-Dougherty 1-20	PO/Billing Codes:	
Sampler Name: Dalton Hagen	Project Number:	Contact: Jeff White	

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	pH, EC, SAR	Boron - HWS		Metals - 915	HOLD
1	FLØ1-A@5'	4/25/23	1155	2			X			X			X	X	X	X	X			pH, EC, SAR by saturated paste
2	FLØ1-B@4'	+	1235	+			+			+			+	+	+	+	+			
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: 	Date/Time: 4/25/23 1645	Received by: Tasman Lockbox	Date/Time: 4/25/23 1645	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 4/25/23 1751	Received by: 	Date/Time: 4/25/23 1751	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: 9.8	Corrected Temperature: 	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2304553

Client: Noble Frisman Client Project ID: MSR-Daugherty 1-20

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<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 <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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" 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 checked="" 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

4/25/23  
Date/Time



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

Project: Noble - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-A@5'**  
**2304553-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGD0990	04/29/23	04/30/23	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: **04/25/23 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0314	78.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0455	114 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0992	04/29/23	04/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.10	56.8 %		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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-A@5'**  
**2304553-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGD0953	04/28/23	05/02/23	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: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0175	52.4 %	40-150		"	"	"	"	

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

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.275</b>	0.0100	mg/L	1	BGD1022	04/30/23	05/05/23	EPA 6020B	

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

Date Sampled: **04/25/23 11:55**

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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-A@5'**  
**2304553-01 (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	27.8	0.0582	mg/L dry	1	BGE0032	05/01/23	05/06/23	EPA 6020B	
Magnesium	10.0	0.0582	"	"	"	"	"	"	
Sodium	4.35	0.0582	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.180	0.00100	units	1	BGE0216	05/07/23	05/07/23	Calculation	

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

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.9		%	1	BGE0014	05/01/23	05/01/23	Calculation	

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

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.549	0.0100	mmhos/cm	1	BGE0068	05/02/23	05/02/23	EPA 120.1	

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

Date Sampled: **04/25/23 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BGE0067	05/02/23	05/02/23	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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-B@4'**  
**2304553-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGD0990	04/29/23	04/30/23	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: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0278	69.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGD0992	04/29/23	04/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.02	64.1 %	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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-B@4'**  
**2304553-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGD0953	04/28/23	05/02/23	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: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0236	70.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	71.9 %	40-150		"	"	"	"	

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

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.300</b>	0.0100	mg/L	1	BGD1022	04/30/23	05/05/23	EPA 6020B	

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

Date Sampled: **04/25/23 12:35**

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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**FL01-B@4'**  
**2304553-02 (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	38.7	0.0558	mg/L dry	1	BGE0032	05/01/23	05/06/23	EPA 6020B	
Magnesium	8.41	0.0558	"	"	"	"	"	"	
Sodium	36.0	0.0558	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.37	0.00100	units	1	BGE0216	05/07/23	05/07/23	Calculation	

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

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BGE0014	05/01/23	05/01/23	Calculation	

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

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.997	0.0100	mmhos/cm	1	BGE0068	05/02/23	05/02/23	EPA 120.1	

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

Date Sampled: **04/25/23 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BGE0067	05/02/23	05/02/23	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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

### 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 BGD0990 - EPA 5030 Soil MS

##### Blank (BGD0990-BLK1)

Prepared: 04/29/23 Analyzed: 04/30/23

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	0.0340		"	0.0400		84.9	50-150			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0452		"	0.0400		113	50-150			

##### LCS (BGD0990-BS1)

Prepared: 04/29/23 Analyzed: 04/30/23

Benzene	0.0778	0.0020	mg/kg	0.100		77.8	70-130			
Toluene	0.0787	0.0050	"	0.100		78.7	70-130			
Ethylbenzene	0.0712	0.0050	"	0.100		71.2	70-130			
m,p-Xylene	0.141	0.010	"	0.200		70.3	70-130			
o-Xylene	0.0771	0.0050	"	0.100		77.1	70-130			
1,2,4-Trimethylbenzene	0.0863	0.0050	"	0.100		86.3	70-130			
1,3,5-Trimethylbenzene	0.0888	0.0050	"	0.100		88.8	70-130			
Naphthalene	0.0777	0.0038	"	0.100		77.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0307		"	0.0400		76.8	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0520		"	0.0400		130	50-150			

##### Matrix Spike (BGD0990-MS1)

Source: 2304552-01

Prepared: 04/29/23 Analyzed: 04/30/23

Benzene	0.0836	0.0020	mg/kg	0.100	ND	83.6	70-130			
Toluene	0.0854	0.0050	"	0.100	ND	85.4	70-130			
Ethylbenzene	0.0820	0.0050	"	0.100	ND	82.0	70-130			
m,p-Xylene	0.165	0.010	"	0.200	ND	82.7	70-130			
o-Xylene	0.0896	0.0050	"	0.100	ND	89.6	70-130			
1,2,4-Trimethylbenzene	0.0728	0.0050	"	0.100	ND	72.8	70-130			
1,3,5-Trimethylbenzene	0.0754	0.0050	"	0.100	ND	75.4	70-130			
Naphthalene	0.0898	0.0038	"	0.100	ND	89.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0318		"	0.0400		79.6	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0497		"	0.0400		124	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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGD0990 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGD0990-MSD1)</b>	<b>Source: 2304552-01</b>			Prepared: 04/29/23		Analyzed: 04/30/23				
Benzene	0.0847	0.0020	mg/kg	0.100	ND	84.7	70-130	1.32	30	
Toluene	0.0868	0.0050	"	0.100	ND	86.8	70-130	1.64	30	
Ethylbenzene	0.0847	0.0050	"	0.100	ND	84.7	70-130	3.24	30	
m,p-Xylene	0.169	0.010	"	0.200	ND	84.5	70-130	2.19	30	
o-Xylene	0.0893	0.0050	"	0.100	ND	89.3	70-130	0.235	30	
1,2,4-Trimethylbenzene	0.0731	0.0050	"	0.100	ND	73.1	70-130	0.329	30	
1,3,5-Trimethylbenzene	0.0760	0.0050	"	0.100	ND	76.0	70-130	0.753	30	
Naphthalene	0.0784	0.0038	"	0.100	ND	78.4	70-130	13.6	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0345</i>		<i>"</i>	<i>0.0400</i>		<i>86.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0465</i>		<i>"</i>	<i>0.0400</i>		<i>116</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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGD0992 - EPA 3550A**

**Blank (BGD0992-BLK1)**

Prepared: 04/29/23 Analyzed: 04/30/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	8.71		"	12.5		69.7	30-150				

**LCS (BGD0992-BS1)**

Prepared: 04/29/23 Analyzed: 04/30/23

C10-C28 (DRO)	465	50	mg/kg	500		93.1	70-130				
Surrogate: <i>o</i> -Terphenyl	9.11		"	12.5		72.9	30-150				

**Matrix Spike (BGD0992-MS1)**

Source: 2304552-01

Prepared: 04/29/23 Analyzed: 04/30/23

C10-C28 (DRO)	478	50	mg/kg	500	16.2	92.3	70-130				
Surrogate: <i>o</i> -Terphenyl	9.21		"	12.5		73.7	30-150				

**Matrix Spike Dup (BGD0992-MSD1)**

Source: 2304552-01

Prepared: 04/29/23 Analyzed: 04/30/23

C10-C28 (DRO)	430	50	mg/kg	500	16.2	82.7	70-130	10.6	20		
Surrogate: <i>o</i> -Terphenyl	8.61		"	12.5		68.9	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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGD0953 - EPA 5030 Soil MS**

**Blank (BGD0953-BLK1)**

Prepared: 04/28/23 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	0.0310		"	0.0333		92.9	40-150			
Surrogate: Fluoranthene-d10	0.0316		"	0.0333		94.7	40-150			

**LCS (BGD0953-BS1)**

Prepared: 04/28/23 Analyzed: 05/02/23

Acenaphthene	0.0264	0.00500	mg/kg	0.0333		79.1	31-137			
Anthracene	0.0263	0.00500	"	0.0333		78.8	30-120			
Benzo (a) anthracene	0.0287	0.00500	"	0.0333		86.1	30-120			
Benzo (a) pyrene	0.0264	0.00500	"	0.0333		79.3	30-120			
Benzo (b) fluoranthene	0.0261	0.00500	"	0.0333		78.2	30-120			
Benzo (k) fluoranthene	0.0290	0.00500	"	0.0333		87.0	30-120			
Chrysene	0.0307	0.00500	"	0.0333		92.0	30-120			
Dibenz (a,h) anthracene	0.0252	0.00500	"	0.0333		75.7	30-120			
Fluoranthene	0.0265	0.00500	"	0.0333		79.4	30-120			
Fluorene	0.0257	0.00500	"	0.0333		77.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0282	0.00500	"	0.0333		84.7	30-120			
Pyrene	0.0305	0.00500	"	0.0333		91.6	35-142			
1-Methylnaphthalene	0.0224	0.00500	"	0.0333		67.2	35-142			
2-Methylnaphthalene	0.0259	0.00500	"	0.0333		77.8	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0229		"	0.0333		68.6	40-150			
Surrogate: Fluoranthene-d10	0.0275		"	0.0333		82.5	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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGD0953 - EPA 5030 Soil MS**

<b>Matrix Spike (BGD0953-MS1)</b>	<b>Source: 2304553-01</b>			<b>Prepared: 04/28/23 Analyzed: 05/02/23</b>							
Acenaphthene	0.0169	0.00500	mg/kg	0.0333	ND	50.7	31-137				
Anthracene	0.0149	0.00500	"	0.0333	ND	44.8	30-120				
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.0	30-120				
Benzo (a) pyrene	0.0172	0.00500	"	0.0333	ND	51.6	30-120				
Benzo (b) fluoranthene	0.0177	0.00500	"	0.0333	ND	53.2	30-120				
Benzo (k) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.7	30-120				
Chrysene	0.0201	0.00500	"	0.0333	ND	60.2	30-120				
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	51.8	30-120				
Fluoranthene	0.0168	0.00500	"	0.0333	ND	50.3	30-120				
Fluorene	0.0156	0.00500	"	0.0333	ND	46.7	30-120				
Indeno (1,2,3-cd) pyrene	0.0197	0.00500	"	0.0333	ND	59.2	30-120				
Pyrene	0.0206	0.00500	"	0.0333	ND	61.9	35-142				
1-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.8	15-130				
2-Methylnaphthalene	0.0140	0.00500	"	0.0333	ND	42.0	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0137</i>		<i>"</i>	<i>0.0333</i>		<i>41.2</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0169</i>		<i>"</i>	<i>0.0333</i>		<i>50.6</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BGD0953-MSD1)</b>	<b>Source: 2304553-01</b>			<b>Prepared: 04/28/23 Analyzed: 05/02/23</b>							
Acenaphthene	0.0158	0.00500	mg/kg	0.0333	ND	47.5	31-137	6.56	30		
Anthracene	0.0171	0.00500	"	0.0333	ND	51.3	30-120	13.6	30		
Benzo (a) anthracene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	3.92	30		
Benzo (a) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	0.566	30		
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	3.12	30		
Benzo (k) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	10.2	30		
Chrysene	0.0209	0.00500	"	0.0333	ND	62.7	30-120	3.98	30		
Dibenz (a,h) anthracene	0.0157	0.00500	"	0.0333	ND	47.0	30-120	9.82	30		
Fluoranthene	0.0166	0.00500	"	0.0333	ND	49.9	30-120	0.865	30		
Fluorene	0.0146	0.00500	"	0.0333	ND	43.9	30-120	6.10	30		
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	11.0	30		
Pyrene	0.0228	0.00500	"	0.0333	ND	68.3	35-142	9.79	30		
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.8	15-130	6.52	50		
2-Methylnaphthalene	0.0144	0.00500	"	0.0333	ND	43.3	15-130	3.09	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0141</i>		<i>"</i>	<i>0.0333</i>		<i>42.2</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0149</i>		<i>"</i>	<i>0.0333</i>		<i>44.8</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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

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

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

**Batch BGD1022 - EPA 3050B**

**Blank (BGD1022-BLK1)**

Prepared: 04/30/23 Analyzed: 05/05/23

Boron ND 0.0100 mg/L

**LCS (BGD1022-BS1)**

Prepared: 04/30/23 Analyzed: 05/05/23

Boron 5.60 0.0100 mg/L 5.00 112 80-120

**Duplicate (BGD1022-DUP1)**

**Source: 2304549-01**

Prepared: 04/30/23 Analyzed: 05/05/23

Boron 0.166 0.0100 mg/L 0.166 0.151 20

**Matrix Spike (BGD1022-MS1)**

**Source: 2304549-01**

Prepared: 04/30/23 Analyzed: 05/05/23

Boron 5.68 0.0100 mg/L 5.00 0.166 110 75-125

**Matrix Spike Dup (BGD1022-MSD1)**

**Source: 2304549-01**

Prepared: 04/30/23 Analyzed: 05/05/23

Boron 5.66 0.0100 mg/L 5.00 0.166 110 75-125 0.388 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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGE0032 - General Preparation**

**Blank (BGE0032-BLK1)**

Prepared: 05/01/23 Analyzed: 05/06/23

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

**LCS (BGE0032-BS1)**

Prepared: 05/01/23 Analyzed: 05/06/23

Calcium	4.54	0.0500	mg/L wet	5.00	90.8	70-130
Magnesium	4.74	0.0500	"	5.00	94.8	70-130
Sodium	4.59	0.0500	"	5.00	91.8	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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/08/23 13:58

**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 BGE0014 - General Preparation**

Duplicate (BGE0014-DUP1)	Source: 2304551-01			Prepared & Analyzed: 05/01/23							
% Solids	89.2		%		89.2				0.0467	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 - HSR Doughery 1-20  
Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

**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 BGE0068 - General Preparation**

**Blank (BGE0068-BLK1)**

Prepared & Analyzed: 05/02/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGE0068-BS1)**

Prepared & Analyzed: 05/02/23

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

**Duplicate (BGE0068-DUP1)**

Source: 2304550-01

Prepared & Analyzed: 05/02/23

Specific Conductance (EC) 0.441 0.0100 mmhos/cm 0.443 0.543 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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/08/23 13:58

**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 BGE0067 - General Preparation**

**LCS (BGE0067-BS1)**

Prepared & Analyzed: 05/02/23

pH	9.18	pH Units	9.18	100	95-105
----	------	----------	------	-----	--------

**Duplicate (BGE0067-DUP1)**

Source: 2304550-01

Prepared & Analyzed: 05/02/23

pH	7.42	pH Units	7.47	0.672	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 - HSR Doughery 1-20

Project Number: UWRWE-A2452-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/08/23 13:58

### 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