

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - SLW RANCH B12-65-1HN

Soil Sample ID	Date	PID Reading (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude	Longitude	PDOP
SS01@2"	02/06/23	7.2	No Staining	HC Odor	Lab	40.4113460	-104.5022810	3.6
SS02@2"	02/06/23	5.1	No Staining	HC Odor	Lab	40.4113670	-104.5022920	2.2
FS01@8"	02/07/23	11.9	No Staining	Slight HC Odor	Lab	40.4113520	-104.5022810	1.2
SS03@6"	02/09/23	2.9	No Staining	No Odor	Lab	40.41135934	-104.5022893	1.0
SS04@6"	02/09/23	0.0	No Staining	No Odor	Lab	40.41136143	-104.5022712	0.9
SS05@6"	02/09/23	4.3	No Staining	No Odor	Lab	40.41134611	-104.5022674	1.0
SS06@6"	02/09/23	2.3	No Staining	No Odor	Lab	40.41134479	-104.5022877	1.0

Notes:

PID = Photo-ionization detector

ppm = parts per million

PDOP = Position dilution of precision

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. - SLW RANCH B12-65-1HN

Soil Sample ID	Date	¹ 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)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2"	02/06/23	0.074	0.24	0.044	0.44	0.20	0.077	0.028	12	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00847	<0.00500	<0.00500	0.0103	<0.00500	<0.00500	0.0398	0.0973
SS02@2"	02/06/23	0.057	0.11	0.011	0.12	0.036	0.013	0.0094	1.3	<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	0.00574	0.0146
FS01@8"	02/07/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	170	<50	<0.00500	<0.00500	<0.00500	<0.00500	0.00573	<0.00500	0.0216	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0159	0.00949
SS03@6"	02/09/23	<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
SS04@6"	02/09/23	<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
SS05@6"	02/09/23	<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
SS06@6"	02/09/23	<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)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
SS01@2"	02/06/23	7.82	8.01	2.54	1.66
SS02@2"	02/06/23	8.35	44.3	3.58	1.72
FS01@8"	02/07/23	8.21	39.6	2.95	0.733
SS03@6"	02/09/23	8.04	16.0	2.82	0.935
SS04@6"	02/09/23	8.02	10.9	1.59	0.771
SS05@6"	02/09/23	8.90	4.71	1.16	0.779
SS06@6"	02/09/23	7.90	8.84	1.58	1.14

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
rotection of Groundwater SSL		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SS01@2"	02/06/23	1.94	106	0.173	<0.30	4.42	3.65	2.96	<0.260	0.0242	16.6
SS02@2"	02/06/23	4.87	75.8	0.302	<0.30	4.88	7.61	3.11	<0.260	0.0163	11.1
FS01@8"	02/07/23	2.15	57.5	0.0616	<0.30	5.74	2.84	4.03	0.426	0.0114	15.3
SS03@6"	02/09/23	1.80	44.0	0.0474	<0.30	5.21	2.38	3.59	0.396	0.0118	13.3
SS04@6"	02/09/23	1.55	39.7	0.0441	<0.30	4.89	2.23	3.28	0.363	0.0120	13.2
SS05@6"	02/09/23	1.97	42.8	0.0592	<0.30	5.58	2.85	3.96	0.449	0.0136	16.2
SS06@6"	02/09/23	1.86	47.7	0.0612	<0.30	5.58	2.85	3.94	0.296	0.0165	15.9

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. 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 = Millmhos per centimeter

mg/L = Milligrams per liter

< = Analytical result is less than the indicated laboratory reporting limit

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzanthracene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

Benzo(a) = Benzopyrene

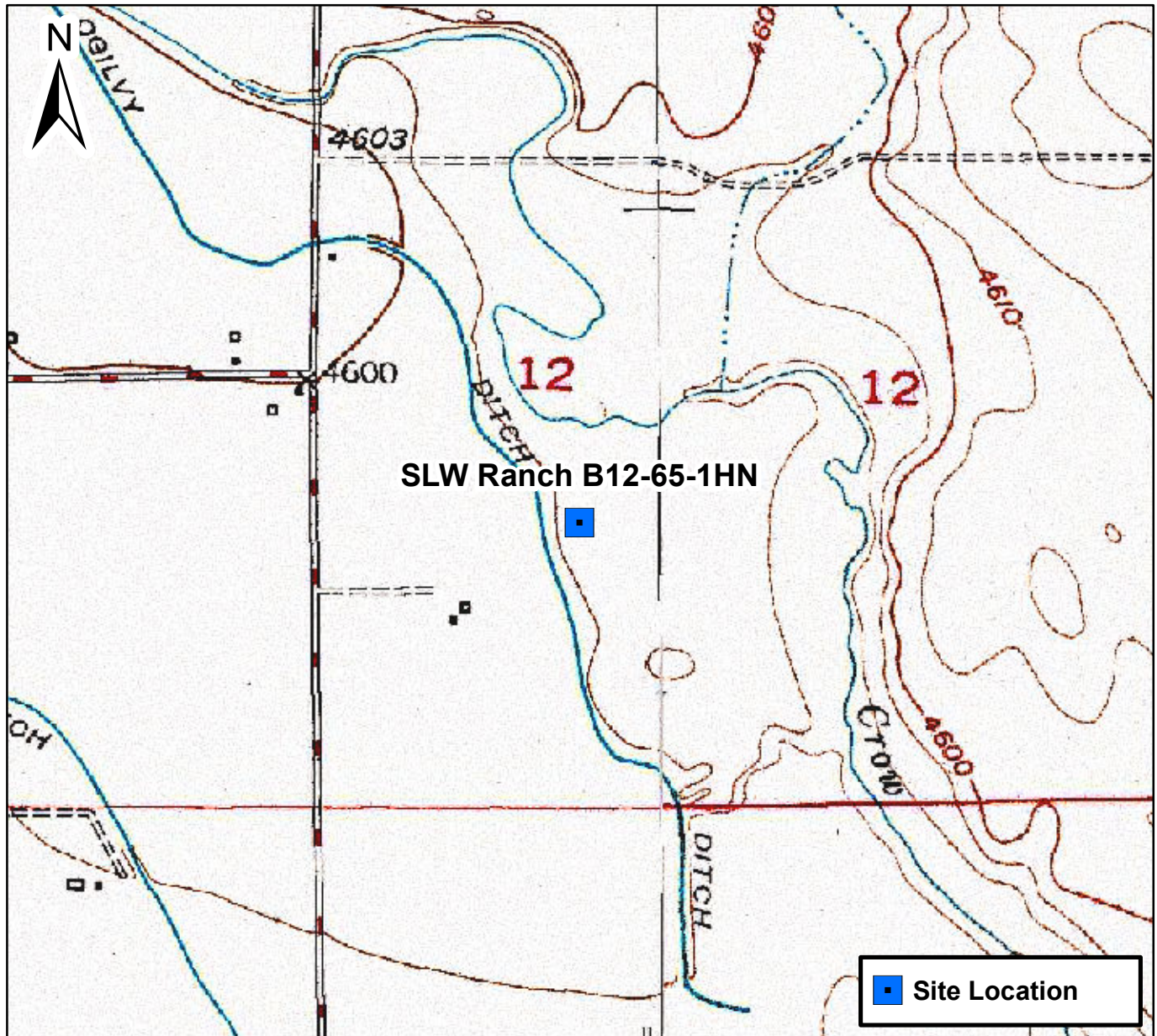
A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

RP = Results Pending



0 1,000 2,000 Feet



Figure 1

Site Location Map
SLW Ranch B12-65-1HN
NESW S12 T5N R64W
Weld County, Colorado





Photographic Log



											
Equipment ID: SS01 @2'		Equipment Type: Separator		Equipment ID:		Equipment Type: Separator					
Material:		Volume:		Contents:		Material:		Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:					

Photographic Log





Equipment ID: FS01 @8"		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

Photographic Log

							
Equipment ID: SS03		Equipment Type:		Equipment ID: SS04		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

Photographic Log

							
Equipment ID: SS05		Equipment Type:		Equipment ID: SS06		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 07, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - SLW Ranch B12-65-1HN

Work Order #2302085

Enclosed are the results of analyses for samples received by Summit Scientific on 02/06/23 17:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

02/07/23 06:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2"	2302085-01	Soil	02/06/23 11:05	02/06/23 17:56
SS02@2"	2302085-02	Soil	02/06/23 11:10	02/06/23 17:56

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

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

2302085

Page | of |

Client: Noble / Tasman Project Manager: Jacob Whritenour
Address: 6855 W. 119th Ave E-Mail: Jwhritenour@tasman-geo.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 503-915-3046 Project Name: SLW Ranch B12-65-1HN
Sampler Name: Martin Medeiros Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC-915	TPH-915	PAH-915	Metals-915	Boron-HWS	PH, EC, SAR			
1	SS01@2"	2/6/23	11:05	2			X			X			+	+	+	+	+	+		PH, EC, SAR by Saturated probe	
2	SS02@2"	2/6/23	11:10	2			X			X			+	+	+	+	+	+			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Martin Medeiros</u> <u>Martin Medeiros</u>	Date/Time: <u>2/6/23</u> <u>14:30</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: _____	Turn Around Time (Check) Same Day <u>X</u> 72 hours _____ 24 hours _____ Standard _____ 48 hours _____	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>2/6/23</u> <u>1756</u>	Received by: <u>[Signature]</u>	Date/Time: <u>2/6/23</u> <u>1756</u>	Sample Integrity: Temperature Upon Receipt: <u>6.9</u>	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Samples Intact: <u>Yes</u> No _____	

S₂

Sample Receipt Checklist

S2 Work Order# 2302085Client: Noble HarsmanClient Project ID: SLW Ranch B12-GS-1HNShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

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

Matrix (Check all that apply)

Air ☐Soil/Solid ☒Water ☐Other ☐

Temp (°C)

6.9

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>on ice</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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 type="checkbox"/>	<input checked="" 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"/>	<u>1</u>
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 type="checkbox"/>	
Additional Comments (if any):				

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

Custodian Printed Name

2-6-23
Date/Time



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

SS01@2"
2302085-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/06/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	0.074	0.0020		mg/kg	1	BGB0144	02/06/23	02/06/23	EPA 8260B	
Toluene	0.24	0.0050		"	"	"	"	"	"	
Ethylbenzene	0.044	0.0050		"	"	"	"	"	"	
Xylenes (total)	0.44	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.20	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.077	0.0050		"	"	"	"	"	"	
Naphthalene	0.028	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	12	0.50		"	"	"	"	"	"	

Date Sampled: **02/06/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0436	109 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0521	130 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/06/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGB0145	02/06/23	02/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/06/23 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.7	101 %		30-150		"	"	"	"	

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

SS02@2"
2302085-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/06/23 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.057	0.0020	mg/kg	1	BGB0144	02/06/23	02/06/23	EPA 8260B	
Toluene	0.11	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.011	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.12	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.036	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.013	0.0050	"	"	"	"	"	"	
Naphthalene	0.0094	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.3	0.50	"	"	"	"	"	"	

Date Sampled: **02/06/23 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0412	103 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0442	111 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0466	117 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/06/23 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGB0145	02/06/23	02/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/06/23 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	10.1	81.1 %	30-150		"	"	"	"	

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGB0144 - EPA 5030 Soil MS

Blank (BGB0144-BLK1)

Prepared & Analyzed: 02/06/23

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	0.0411		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0449		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0478		"	0.0400		119	50-150			

LCS (BGB0144-BS1)

Prepared & Analyzed: 02/06/23

Benzene	0.0882	0.0020	mg/kg	0.100		88.2	70-130			
Toluene	0.114	0.0050	"	0.100		114	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.219	0.010	"	0.200		109	70-130			
o-Xylene	0.0946	0.0050	"	0.100		94.6	70-130			
1,2,4-Trimethylbenzene	0.116	0.0050	"	0.100		116	70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100		115	70-130			
Naphthalene	0.117	0.0038	"	0.100		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0449		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0448		"	0.0400		112	50-150			

Matrix Spike (BGB0144-MS1)

Source: 2302074-01

Prepared & Analyzed: 02/06/23

Benzene	0.0855	0.0020	mg/kg	0.100	ND	85.5	70-130			
Toluene	0.113	0.0050	"	0.100	ND	113	70-130			
Ethylbenzene	0.0986	0.0050	"	0.100	ND	98.6	70-130			
m,p-Xylene	0.216	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.0942	0.0050	"	0.100	ND	94.2	70-130			
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130			
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
Naphthalene	0.105	0.0038	"	0.100	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0454		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0448		"	0.0400		112	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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

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

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

Batch BGB0144 - EPA 5030 Soil MS

Matrix Spike Dup (BGB0144-MSD1)	Source: 2302074-01			Prepared & Analyzed: 02/06/23						
Benzene	0.0845	0.0020	mg/kg	0.100	ND	84.5	70-130	1.24	30	
Toluene	0.114	0.0050	"	0.100	ND	114	70-130	0.953	30	
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	4.20	30	
m,p-Xylene	0.221	0.010	"	0.200	ND	110	70-130	2.24	30	
o-Xylene	0.0947	0.0050	"	0.100	ND	94.7	70-130	0.540	30	
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130	0.102	30	
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130	1.89	30	
Naphthalene	0.0976	0.0038	"	0.100	ND	97.6	70-130	7.17	30	
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0455		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0451		"	0.0400		113	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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGB0145 - EPA 3550A

Blank (BGB0145-BLK1)

Prepared: 02/06/23 Analyzed: 02/07/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.8		"	12.5	111		30-150			

LCS (BGB0145-BS1)

Prepared: 02/06/23 Analyzed: 02/07/23

C10-C28 (DRO)	512	50	mg/kg	500	102		70-130			
Surrogate: o-Terphenyl	12.4		"	12.5	99.0		30-150			

Matrix Spike (BGB0145-MS1)

Source: 2302074-01

Prepared: 02/06/23 Analyzed: 02/07/23

C10-C28 (DRO)	486	50	mg/kg	500	20.5	93.1	70-130			
Surrogate: o-Terphenyl	11.8		"	12.5	94.5		30-150			

Matrix Spike Dup (BGB0145-MSD1)

Source: 2302074-01

Prepared: 02/06/23 Analyzed: 02/07/23

C10-C28 (DRO)	474	50	mg/kg	500	20.5	90.7	70-130	2.46	20	
Surrogate: o-Terphenyl	12.2		"	12.5	98.0		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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/07/23 06:32

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 08, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - SLW Ranch B12-65-1HN

Work Order #2302112

Enclosed are the results of analyses for samples received by Summit Scientific on 02/07/23 17:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

DRAFT REPORT

DATA SUBJECT TO CHANGE



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/08/23 06:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@8"	2302112-01	Soil	02/07/23 13:13	02/07/23 17:57

DRAFT REPORT

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.

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: Chevron	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: SLW Ranch B12-65-1HN	
Phone: 602-881-5716		Project Name: SLW Ranch B12-65-1HN		AFE#:	
Sampler Name: Dennis Gray		Project Number:		PO/Billing Codes:	
				Contact: Dan Peterson	

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD			SAR, EC, pH by saturated paste
1	F501 @ 8"	2-7-23	1313	3			X			X			X	X	X	X	X	X				
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <i>Dennis Gray</i>	Date/Time: 2-7-23 1530	Received by: Tasman Lock Box	Date/Time: 2-7-23 1530	TAT Business Days	Field DO	Notes:
				Same Day X	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 2723 1757	Received by: <i>[Signature]</i>	Date/Time: 2723 1757	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 83		Corrected Temperature: <i>[Signature]</i>		IR gun #: 1	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2302112Client: Noble/Tosman Client Project ID: SLW RanchShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.3Thermometer # 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"/>	on ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 type="checkbox"/>	<input checked="" 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.

Custodian Printed Name

Date/Time

2-7-23



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/08/23 06:53

FS01@8"
2302112-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/07/23 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGB0182	02/07/23	02/08/23	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: **02/07/23 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0384	95.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0433	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/07/23 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	170	50	mg/kg	1	BGB0183	02/07/23	02/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/07/23 13:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	16.7	133 %	30-150		"	"	"	"	

DRAFT REPORT

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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/08/23 06:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGB0182 - EPA 5030 Soil MS

Blank (BGB0182-BLK1)

Prepared: 02/07/23 Analyzed: 02/08/23

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	0.0447		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0470		"	0.0400		118	50-150			
Surrogate: 4-Bromofluorobenzene	0.0494		"	0.0400		123	50-150			

LCS (BGB0182-BS1)

Prepared: 02/07/23 Analyzed: 02/08/23

Benzene	0.0869	0.0020	mg/kg	0.100		86.9	70-130			
Toluene	0.0869	0.0050	"	0.100		86.9	70-130			
Ethylbenzene	0.108	0.0050	"	0.100		108	70-130			
m,p-Xylene	0.221	0.010	"	0.200		110	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.0972	0.0050	"	0.100		97.2	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
Naphthalene	0.0911	0.0038	"	0.100		91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0246		"	0.0400		61.4	50-150			
Surrogate: Toluene-d8	0.0354		"	0.0400		88.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	50-150			

Matrix Spike (BGB0182-MS1)

Source: 2302104-01

Prepared: 02/07/23 Analyzed: 02/08/23

Benzene	0.0809	0.0020	mg/kg	0.100	ND	80.9	70-130			
Toluene	0.0727	0.0050	"	0.100	ND	72.7	70-130			
Ethylbenzene	0.0992	0.0050	"	0.100	ND	99.2	70-130			
m,p-Xylene	0.199	0.010	"	0.200	ND	99.4	70-130			
o-Xylene	0.0929	0.0050	"	0.100	ND	92.9	70-130			
1,2,4-Trimethylbenzene	0.0862	0.0050	"	0.100	ND	86.2	70-130			
1,3,5-Trimethylbenzene	0.0889	0.0050	"	0.100	ND	88.9	70-130			
Naphthalene	0.0933	0.0038	"	0.100	ND	93.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0238		"	0.0400		59.4	50-150			
Surrogate: Toluene-d8	0.0324		"	0.0400		81.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0366		"	0.0400		91.5	50-150			

DRAFT REPORT

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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/08/23 06:53

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

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

Batch BGB0182 - EPA 5030 Soil MS

Matrix Spike Dup (BGB0182-MSD1)	Source: 2302104-01			Prepared: 02/07/23 Analyzed: 02/08/23						
Benzene	0.0796	0.0020	mg/kg	0.100	ND	79.6	70-130	1.53	30	
Toluene	0.0718	0.0050	"	0.100	ND	71.8	70-130	1.16	30	
Ethylbenzene	0.0979	0.0050	"	0.100	ND	97.9	70-130	1.31	30	
m,p-Xylene	0.195	0.010	"	0.200	ND	97.4	70-130	2.07	30	
o-Xylene	0.0916	0.0050	"	0.100	ND	91.6	70-130	1.40	30	
1,2,4-Trimethylbenzene	0.0849	0.0050	"	0.100	ND	84.9	70-130	1.51	30	
1,3,5-Trimethylbenzene	0.0883	0.0050	"	0.100	ND	88.3	70-130	0.643	30	
Naphthalene	0.0923	0.0038	"	0.100	ND	92.3	70-130	1.03	30	
Surrogate: 1,2-Dichloroethane-d4	0.0239		"	0.0400		59.8	50-150			
Surrogate: Toluene-d8	0.0326		"	0.0400		81.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.4	50-150			

DRAFT REPORT

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 - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/08/23 06:53

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

DRAFT REPORT

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, Colorado 80401

303.277.9310

February 13, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - SLW Ranch B12-65-1HN

Work Order # 2302194

Enclosed are the results of analyses for samples received by Summit Scientific on 02/09/23 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely". The signature is fluid and cursive, with the first name "Scott" and last name "Sheely" clearly distinguishable.

Scott Sheely For Paul Shrewsbury

President



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03@6"	2302194-01	Soil	02/09/23 12:05	02/09/23 18:00
SS04@6"	2302194-02	Soil	02/09/23 12:10	02/09/23 18:00
SS05@6"	2302194-03	Soil	02/09/23 12:15	02/09/23 18:00
SS06@6"	2302194-04	Soil	02/09/23 12:20	02/09/23 18:00

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
2302194	

Client: PDC / Tasman		Send Data To: Project Manager: <u>CJ Mark Longhurst Jake Whitenour</u>		Send Invoice To: Company: <u>CJ PDC Energy Noble Energy</u>	
Address: 6855 W 119th Ave		E-Mail: <u>CJ mark.longhurst@PDC.com</u>		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220		E-Mail: <u>JWhitenour@Tasman-Geo.com</u>		AFE#:	
Phone: 303-487-1228		Project Name: <u>SLW Ranch B12-55-1HN</u>		PO/Billing Codes:	
Sampler Name: Chase Jonjak		Project Number:		Contact: <u>CJ Mark Longhurst Dan Peterson</u>	

					Preservative				Matrix			Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	Metals - 915	PAH - 915		
1	SS03@5"	2/9/23	1205	3			X			X			X	X	X	X	X	X	X		
2	SS04@5"	I	1210	I			I			I			I	I	I	I	I	I	I		
3	SS05@5"	I	1215	I			I			I			I	I	I	I	I	I	I		
4	SS06@5"	I	1220	I			I			I			I	I	I	I	I	I	I		
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <u>Chase J</u> Date/Time: <u>2/9/23 1446</u>	Received by: <u>Tasman Lockbox</u> Date/Time: <u>2/9/23 1445</u>	TAT Business Days	Field DO	Notes:
		Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <u>Tasman Lockbox</u> Date/Time: <u>2/9/23 1800</u>	Received by: <u>[Signature]</u> Date/Time: <u>2/9/23 1800</u>	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	3 Days	Field Temp.	
		Standard	Field Turb.	
Temperature Upon Receipt: <u>8.3</u>	Corrected Temperature: <u>0</u>	IR gun #: _____	HNO3 lot #: _____	

S₂

Sample Receipt Checklist

S2 Work Order# 2302194Client: Doc Trisman Client Project ID: SLW RanchShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

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

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.3Thermometer # 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"/>	on ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 type="checkbox"/>	<input checked="" 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.

Custodian Printed Name

Date/Time

2-9-23



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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS03@6"
2302194-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGB0281	02/09/23	02/10/23	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: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		76.7 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGB0282	02/09/23	02/10/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		114 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS03@6"
2302194-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGB0296	02/10/23	02/11/23	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: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		74.6 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.935	0.0100		mg/L	1	BGB0312	02/10/23	02/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/09/23 12:05**

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

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS03@6"
2302194-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.80	0.213	0.180	mg/kg dry	1	BGB0306	02/10/23	02/12/23	EPA 6020B
Barium	44.0	0.427	0.337	"	"	"	"	"	"
Cadmium	0.0474	0.213	0.00768	"	"	"	"	"	"
Copper	5.21	0.427	0.0223	"	"	"	"	"	"
Lead	2.38	0.213	0.0586	"	"	"	"	"	"
Nickel	3.59	0.427	0.0651	"	"	"	"	"	"
Selenium	0.396	0.260	0.175	"	"	"	"	"	"
Silver	0.0118	0.0213	0.00285	"	"	"	"	"	"
Zinc	13.3	0.427	0.284	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGB0315	02/10/23	02/10/23	EPA 7196A	

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

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.4	0.0534		mg/L dry	1	BGB0285	02/09/23	02/12/23	EPA 6020B	
Magnesium	11.1	0.0534		"	"	"	"	"	"	
Sodium	449	0.0534		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.0	0.00100		units	1	BGB0360	02/13/23	02/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS03@6"
2302194-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	93.7			%	1	BGB0334	02/12/23	02/12/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.82	0.0100		mmhos/cm	1	BGB0317	02/10/23	02/10/23	EPA 120.1	

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

Date Sampled: **02/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.04			pH Units	1	BGB0316	02/10/23	02/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS04@6"
2302194-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGB0281	02/09/23	02/10/23	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: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		80.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGB0282	02/09/23	02/10/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		115 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS04@6"
2302194-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGB0296	02/10/23	02/11/23	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: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.2 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.771	0.0100		mg/L	1	BGB0312	02/10/23	02/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/09/23 12:10**

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS04@6"
2302194-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.55	0.214	0.180	mg/kg dry	1	BGB0306	02/10/23	02/12/23	EPA 6020B
Barium	39.7	0.428	0.338	"	"	"	"	"	"
Cadmium	0.0441	0.214	0.00770	"	"	"	"	"	"
Copper	4.89	0.428	0.0224	"	"	"	"	"	"
Lead	2.23	0.214	0.0588	"	"	"	"	"	"
Nickel	3.28	0.428	0.0653	"	"	"	"	"	"
Selenium	0.363	0.260	0.175	"	"	"	"	"	"
Silver	0.0120	0.0214	0.00286	"	"	"	"	"	"
Zinc	13.2	0.428	0.285	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGB0315	02/10/23	02/10/23	EPA 7196A	

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

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.3	0.0535		mg/L dry	1	BGB0285	02/09/23	02/12/23	EPA 6020B	
Magnesium	7.07	0.0535		"	"	"	"	"	"	
Sodium	248	0.0535		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.9	0.00100		units	1	BGB0360	02/13/23	02/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS04@6"
2302194-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	93.5			%	1	BGB0334	02/12/23	02/12/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.59	0.0100		mmhos/cm	1	BGB0317	02/10/23	02/10/23	EPA 120.1	

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

Date Sampled: **02/09/23 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.02			pH Units	1	BGB0316	02/10/23	02/10/23	EPA 9045D	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS05@6"
2302194-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGB0281	02/09/23	02/10/23	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: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGB0282	02/09/23	02/10/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		110 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS05@6"
2302194-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGB0296	02/10/23	02/11/23	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: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		72.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.779	0.0100		mg/L	1	BGB0312	02/10/23	02/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/09/23 12:15**

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS05@6"
2302194-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.97	0.215	0.181	mg/kg dry	1	BGB0306	02/10/23	02/12/23	EPA 6020B
Barium	42.8	0.431	0.340	"	"	"	"	"	"
Cadmium	0.0592	0.215	0.00775	"	"	"	"	"	"
Copper	5.58	0.431	0.0225	"	"	"	"	"	"
Lead	2.85	0.215	0.0592	"	"	"	"	"	"
Nickel	3.96	0.431	0.0657	"	"	"	"	"	"
Selenium	0.449	0.260	0.175	"	"	"	"	"	"
Silver	0.0136	0.0215	0.00288	"	"	"	"	"	"
Zinc	16.2	0.431	0.286	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGB0315	02/10/23	02/10/23	EPA 7196A	

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

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	260	0.0539		mg/L dry	1	BGB0285	02/09/23	02/12/23	EPA 6020B	
Magnesium	22.5	0.0539		"	"	"	"	"	"	
Sodium	295	0.0539		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.71	0.00100		units	1	BGB0360	02/13/23	02/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS05@6"
2302194-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.8			%	1	BGB0334	02/12/23	02/12/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.16	0.0100		mmhos/cm	1	BGB0317	02/10/23	02/10/23	EPA 120.1	

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

Date Sampled: **02/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.90			pH Units	1	BGB0316	02/10/23	02/10/23	EPA 9045D	

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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS06@6"
2302194-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGB0281	02/09/23	02/10/23	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: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		78.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGB0282	02/09/23	02/10/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		114 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Broomfield CO, 80020

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS06@6"
2302194-04 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGB0296	02/10/23	02/11/23	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: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		59.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		68.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	1.14	0.0100		mg/L	1	BGB0312	02/10/23	02/13/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/09/23 12:20**

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

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Broomfield CO, 80020

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS06@6"
2302194-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.86	0.216	0.182	mg/kg dry	1	BGB0306	02/10/23	02/13/23	EPA 6020B	
Barium	47.7	0.433	0.342	"	"	"	"	"	"	
Cadmium	0.0612	0.216	0.00779	"	"	"	"	"	"	
Copper	5.58	0.433	0.0226	"	"	"	"	"	"	
Lead	2.85	0.216	0.0594	"	"	"	"	"	"	
Nickel	3.94	0.433	0.0660	"	"	"	"	"	"	
Selenium	0.296	0.260	0.175	"	"	"	"	"	"	
Silver	0.0165	0.0216	0.00289	"	"	"	"	"	"	
Zinc	15.9	0.433	0.288	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGB0315	02/10/23	02/10/23	EPA 7196A	

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

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.7	0.0541		mg/L dry	1	BGB0285	02/09/23	02/12/23	EPA 6020B	
Magnesium	6.78	0.0541		"	"	"	"	"	"	
Sodium	229	0.0541		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.84	0.00100		units	1	BGB0360	02/13/23	02/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Broomfield CO, 80020

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

SS06@6"
2302194-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.5			%	1	BGB0334	02/12/23	02/12/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.58	0.0100		mmhos/cm	1	BGB0317	02/10/23	02/10/23	EPA 120.1	

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

Date Sampled: **02/09/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.90			pH Units	1	BGB0316	02/10/23	02/10/23	EPA 9045D	

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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGB0281 - EPA 5030 Soil MS

Blank (BGB0281-BLK1)

Prepared: 02/09/23 Analyzed: 02/10/23

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	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0366		"	0.0400		91.5	50-150			

LCS (BGB0281-BS1)

Prepared: 02/09/23 Analyzed: 02/10/23

Benzene	0.0835	0.0020	mg/kg	0.100		83.5	70-130			
Toluene	0.0800	0.0050	"	0.100		80.0	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.207	0.010	"	0.200		103	70-130			
o-Xylene	0.0969	0.0050	"	0.100		96.9	70-130			
1,2,4-Trimethylbenzene	0.0941	0.0050	"	0.100		94.1	70-130			
1,3,5-Trimethylbenzene	0.0970	0.0050	"	0.100		97.0	70-130			
Naphthalene	0.0821	0.0038	"	0.100		82.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0236		"	0.0400		58.9	50-150			
Surrogate: Toluene-d8	0.0326		"	0.0400		81.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0241		"	0.0400		60.2	50-150			

Matrix Spike (BGB0281-MS1)

Source: 2302168-01

Prepared: 02/09/23 Analyzed: 02/10/23

Benzene	0.0746	0.0020	mg/kg	0.100	ND	74.6	70-130			
Toluene	0.100	0.0050	"	0.100	ND	100	70-130			
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130			
o-Xylene	0.0960	0.0050	"	0.100	ND	96.0	70-130			
1,2,4-Trimethylbenzene	0.0948	0.0050	"	0.100	ND	94.8	70-130			
1,3,5-Trimethylbenzene	0.0983	0.0050	"	0.100	ND	98.3	70-130			
Naphthalene	0.0893	0.0038	"	0.100	ND	89.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0360		"	0.0400		90.1	50-150			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0440		"	0.0400		110	50-150			

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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

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

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

Batch BGB0281 - EPA 5030 Soil MS

Matrix Spike Dup (BGB0281-MSD1)	Source: 2302168-01			Prepared: 02/09/23 Analyzed: 02/10/23						
Benzene	0.0791	0.0020	mg/kg	0.100	ND	79.1	70-130	5.94	30	
Toluene	0.0952	0.0050	"	0.100	ND	95.2	70-130	5.04	30	
Ethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130	1.90	30	
m,p-Xylene	0.212	0.010	"	0.200	ND	106	70-130	1.87	30	
o-Xylene	0.0955	0.0050	"	0.100	ND	95.5	70-130	0.501	30	
1,2,4-Trimethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130	3.61	30	
1,3,5-Trimethylbenzene	0.0947	0.0050	"	0.100	ND	94.7	70-130	3.73	30	
Naphthalene	0.0857	0.0038	"	0.100	ND	85.7	70-130	4.11	30	
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	50-150			

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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGB0282 - EPA 3550A

Blank (BGB0282-BLK1)

Prepared: 02/09/23 Analyzed: 02/10/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	15.9		"	12.5		127	30-150			

LCS (BGB0282-BS1)

Prepared: 02/09/23 Analyzed: 02/10/23

C10-C28 (DRO)	503	50	mg/kg	500		101	70-130			
Surrogate: o-Terphenyl	15.8		"	12.5		126	30-150			

Matrix Spike (BGB0282-MS1)

Source: 2302167-01

Prepared: 02/09/23 Analyzed: 02/10/23

C10-C28 (DRO)	533	50	mg/kg	500	43.0	98.0	70-130			
Surrogate: o-Terphenyl	15.9		"	12.5		127	30-150			

Matrix Spike Dup (BGB0282-MSD1)

Source: 2302167-01

Prepared: 02/09/23 Analyzed: 02/10/23

C10-C28 (DRO)	540	50	mg/kg	500	43.0	99.4	70-130	1.36	20	
Surrogate: o-Terphenyl	16.0		"	12.5		128	30-150			

Summit Scientific

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Tasman Geosciences
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Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGB0296 - EPA 5030 Soil MS

Blank (BGB0296-BLK1)

Prepared & Analyzed: 02/10/23

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	0.0237		"	0.0333		71.0	40-150			
Surrogate: Fluoranthene-d10	0.0304		"	0.0333		91.2	40-150			

LCS (BGB0296-BS1)

Prepared & Analyzed: 02/10/23

Acenaphthene	0.0314	0.00500	mg/kg	0.0333		94.2	31-137			
Anthracene	0.0329	0.00500	"	0.0333		98.6	30-120			
Benzo (a) anthracene	0.0299	0.00500	"	0.0333		89.7	30-120			
Benzo (a) pyrene	0.0268	0.00500	"	0.0333		80.4	30-120			
Benzo (b) fluoranthene	0.0278	0.00500	"	0.0333		83.3	30-120			
Benzo (k) fluoranthene	0.0272	0.00500	"	0.0333		81.5	30-120			
Chrysene	0.0302	0.00500	"	0.0333		90.7	30-120			
Dibenz (a,h) anthracene	0.0223	0.00500	"	0.0333		66.9	30-120			
Fluoranthene	0.0320	0.00500	"	0.0333		96.1	30-120			
Fluorene	0.0317	0.00500	"	0.0333		95.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0240	0.00500	"	0.0333		72.0	30-120			
Pyrene	0.0323	0.00500	"	0.0333		96.8	35-142			
1-Methylnaphthalene	0.0311	0.00500	"	0.0333		93.4	35-142			
2-Methylnaphthalene	0.0304	0.00500	"	0.0333		91.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0293		"	0.0333		88.0	40-150			
Surrogate: Fluoranthene-d10	0.0314		"	0.0333		94.2	40-150			

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGB0296 - EPA 5030 Soil MS

Matrix Spike (BGB0296-MS1)

Source: 2302163-01

Prepared & Analyzed: 02/10/23

Acenaphthene	0.0193	0.00500	mg/kg	0.0333	ND	57.9	31-137				
Anthracene	0.0192	0.00500	"	0.0333	ND	57.6	30-120				
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.1	30-120				
Benzo (a) pyrene	0.0164	0.00500	"	0.0333	ND	49.3	30-120				
Benzo (b) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.1	30-120				
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120				
Chrysene	0.0177	0.00500	"	0.0333	ND	53.0	30-120				
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.9	30-120				
Fluoranthene	0.0190	0.00500	"	0.0333	ND	57.0	30-120				
Fluorene	0.0191	0.00500	"	0.0333	ND	57.4	30-120				
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.2	30-120				
Pyrene	0.0193	0.00500	"	0.0333	ND	57.9	35-142				
1-Methylnaphthalene	0.0204	0.00500	"	0.0333	ND	61.3	15-130				
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.8	40-150				
Surrogate: Fluoranthene-d10	0.0201		"	0.0333		60.2	40-150				

Matrix Spike Dup (BGB0296-MSD1)

Source: 2302163-01

Prepared & Analyzed: 02/10/23

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.2	31-137	2.33	30
Anthracene	0.0203	0.00500	"	0.0333	ND	61.0	30-120	5.73	30
Benzo (a) anthracene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	2.53	30
Benzo (a) pyrene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	5.13	30
Benzo (b) fluoranthene	0.0154	0.00500	"	0.0333	ND	46.3	30-120	5.81	30
Benzo (k) fluoranthene	0.0153	0.00500	"	0.0333	ND	46.0	30-120	5.06	30
Chrysene	0.0174	0.00500	"	0.0333	ND	52.1	30-120	1.72	30
Dibenz (a,h) anthracene	0.0158	0.00500	"	0.0333	ND	47.4	30-120	1.17	30
Fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	2.74	30
Fluorene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	2.16	30
Indeno (1,2,3-cd) pyrene	0.0141	0.00500	"	0.0333	ND	42.2	30-120	2.49	30
Pyrene	0.0190	0.00500	"	0.0333	ND	57.1	35-142	1.44	30
1-Methylnaphthalene	0.0208	0.00500	"	0.0333	ND	62.5	15-130	1.83	50
2-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.7	15-130	13.8	50
Surrogate: 2-Methylnaphthalene-d10	0.0171		"	0.0333		51.4	40-150		
Surrogate: Fluoranthene-d10	0.0188		"	0.0333		56.5	40-150		

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

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

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

Batch BGB0312 - EPA 3050B

Blank (BGB0312-BLK1)

Prepared: 02/10/23 Analyzed: 02/12/23

Boron ND 0.0100 mg/L

LCS (BGB0312-BS1)

Prepared: 02/10/23 Analyzed: 02/12/23

Boron 5.75 0.0100 mg/L 5.00 115 80-120

Duplicate (BGB0312-DUP1)

Source: 2302124-01

Prepared: 02/10/23 Analyzed: 02/12/23

Boron 0.146 0.0100 mg/L 0.183 22.1 20 QR-03

Matrix Spike (BGB0312-MS1)

Source: 2302124-01

Prepared: 02/10/23 Analyzed: 02/12/23

Boron 6.22 0.0100 mg/L 5.00 0.183 121 75-125

Matrix Spike Dup (BGB0312-MSD1)

Source: 2302124-01

Prepared: 02/10/23 Analyzed: 02/12/23

Boron 6.59 0.0100 mg/L 5.00 0.183 128 75-125 5.79 25 QM-07

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGB0306 - EPA 3050B

Blank (BGB0306-BLK1)

Prepared: 02/10/23 Analyzed: 02/12/23

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	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BGB0306-BS1)

Prepared: 02/10/23 Analyzed: 02/12/23

Arsenic	45.2	0.200	mg/kg wet	40.0	113	80-120
Barium	47.3	0.400	"	40.0	118	80-120
Cadmium	2.38	0.200	"	2.00	119	80-120
Copper	47.3	0.400	"	40.0	118	80-120
Lead	22.8	0.200	"	20.0	114	80-120
Nickel	46.9	0.400	"	40.0	117	80-120
Selenium	4.55	0.260	"	4.00	114	80-120
Silver	2.21	0.0200	"	2.00	110	80-120
Zinc	45.0	0.400	"	40.0	112	80-120

Duplicate (BGB0306-DUP1)

Source: 2301163-02

Prepared: 02/10/23 Analyzed: 02/12/23

Arsenic	1.44	0.200	mg/kg wet	1.40	2.25	20	
Barium	30.6	0.400	"	22.5	30.4	20	QR-03
Cadmium	0.0808	0.200	"	0.0473	52.3	20	QR-01
Copper	2.59	0.400	"	2.22	15.8	20	
Lead	3.09	0.200	"	2.52	20.3	20	QR-03
Nickel	3.41	0.400	"	2.51	30.3	20	QR-03
Selenium	0.422	0.260	"	0.267	45.1	20	QR-03
Silver	0.0165	0.0200	"	0.0122	29.7	20	QR-01
Zinc	15.7	0.400	"	11.5	30.8	20	QR-03

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGB0306 - EPA 3050B

Matrix Spike (BGB0306-MS1)		Source: 2301163-02			Prepared: 02/10/23 Analyzed: 02/12/23					
Arsenic	44.7	0.200	mg/kg wet	40.0	1.40	108	75-125			
Barium	62.4	0.400	"	40.0	22.5	99.8	75-125			
Cadmium	2.09	0.200	"	2.00	0.0473	102	75-125			
Copper	42.7	0.400	"	40.0	2.22	101	75-125			
Lead	21.3	0.200	"	20.0	2.52	93.9	75-125			
Nickel	43.4	0.400	"	40.0	2.51	102	75-125			
Selenium	4.02	0.260	"	4.00	0.267	93.7	75-125			
Silver	1.97	0.0200	"	2.00	0.0122	97.9	75-125			
Zinc	55.8	0.400	"	40.0	11.5	111	75-125			

Matrix Spike Dup (BGB0306-MSD1)		Source: 2301163-02			Prepared: 02/10/23 Analyzed: 02/12/23					
Arsenic	46.6	0.200	mg/kg wet	40.0	1.40	113	75-125	4.25	25	
Barium	66.3	0.400	"	40.0	22.5	109	75-125	6.01	25	
Cadmium	2.22	0.200	"	2.00	0.0473	108	75-125	5.89	25	
Copper	44.8	0.400	"	40.0	2.22	106	75-125	4.80	25	
Lead	22.6	0.200	"	20.0	2.52	101	75-125	6.08	25	
Nickel	45.1	0.400	"	40.0	2.51	107	75-125	3.99	25	
Selenium	4.59	0.260	"	4.00	0.267	108	75-125	13.3	25	
Silver	2.06	0.0200	"	2.00	0.0122	102	75-125	4.41	25	
Zinc	58.7	0.400	"	40.0	11.5	118	75-125	5.09	25	

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGB0315 - 3060A Mod

Blank (BGB0315-BLK1)

Prepared & Analyzed: 02/10/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGB0315-BS1)

Prepared & Analyzed: 02/10/23

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BGB0315-DUP1)

Source: 2302190-01

Prepared & Analyzed: 02/10/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGB0315-MS1)

Source: 2302190-01

Prepared & Analyzed: 02/10/23

Chromium, Hexavalent 31.1 0.30 mg/kg dry 29.8 ND 104 75-125

Matrix Spike Dup (BGB0315-MSD1)

Source: 2302190-01

Prepared & Analyzed: 02/10/23

Chromium, Hexavalent 31.2 0.30 mg/kg dry 29.8 ND 105 75-125 0.383 20

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

02/13/23 16:30

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

Summit Scientific

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

Batch BGB0285 - General Preparation

Blank (BGB0285-BLK1)

Prepared: 02/09/23 Analyzed: 02/12/23

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

LCS (BGB0285-BS1)

Prepared: 02/09/23 Analyzed: 02/12/23

Calcium	5.10	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.19	0.0500	"	5.00	104	70-130
Sodium	5.47	0.0500	"	5.00	109	70-130

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

02/13/23 16:30

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

Summit Scientific

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

Batch BGB0334 - General Preparation

Duplicate (BGB0334-DUP1)

Source: 2302188-01

Prepared & Analyzed: 02/12/23

% Solids	88.7	%		89.5		0.965	20
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Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

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

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

Batch BGB0317 - General Preparation

Blank (BGB0317-BLK1)

Prepared & Analyzed: 02/10/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGB0317-BS1)

Prepared & Analyzed: 02/10/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BGB0317-DUP1)

Source: 2302184-01

Prepared & Analyzed: 02/10/23

Specific Conductance (EC) 1.22 0.0100 mmhos/cm 1.24 1.71 20

Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

02/13/23 16:30

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

Summit Scientific

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

Batch BGB0316 - General Preparation

LCS (BGB0316-BS1)

Prepared & Analyzed: 02/10/23

pH	9.00	pH Units	9.18	98.0	95-105
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Duplicate (BGB0316-DUP1)

Source: 2302184-01

Prepared & Analyzed: 02/10/23

pH	7.70	pH Units	7.60	1.31	20
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Summit Scientific

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

Project: Noble - SLW Ranch B12-65-1HN

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
02/13/23 16:30

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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