

REMEDIAL EXCAVATION REPORT

THOMPSON D20-31D FACILITY

ECMC SPILL TRACKING # 483566

ECMC REMEDIATION # 26337

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLES

**TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - THOMPSON D20-31D FAC**

	Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
Production Tank Excavation	SS01@2.5'	02/14/23	0.2	No Staining	No Odor	Lab	40.218595	-104.583958	1.1
	SS02@2.5'	02/14/23	0.3	No Staining	No Odor	Lab	40.218535	-104.583928	0.9
	SS03@2.5'	02/14/23	0.0	No Staining	No Odor	Lab	40.218453	-104.583934	0.9
	SS04@2.5'	02/14/23	0.0	No Staining	No Odor	Lab	40.218375	-104.583974	0.9
	SS05@2.5'	02/14/23	0.2	No Staining	No Odor	Lab	40.218459	-104.584004	0.9
	SS06@2.5'	02/14/23	0.5	No Staining	No Odor	Lab	40.218548	-104.584004	NC
	FS01@5.5'	02/14/23	1.3	No Staining	No Odor	Lab	40.218516	-104.583965	0.9
	FS02@6'	02/14/23	0.3	No Staining	No Odor	Lab	40.218429	-104.583963	0.9
	AST01@0.5'	02/14/23	0.1	No Staining	No Odor	Lab	40.218445	-104.584150	1.1
	AST02@0.5'	02/14/23	0.3	No Staining	No Odor	Lab	40.218440	-104.584030	NC
	AST03@0.5'	02/14/23	0.7	No Staining	No Odor	Lab	40.218501	-104.584122	1.0
	AST04@0.5'	02/14/23	3.3	No Staining	No Odor	Lab	40.218523	-104.584029	NC
	BH01@6'	05/31/23	0.1	No Staining	No Odor	Lab	40.218442	-104.583973	NC
BH01@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218442	-104.583973	NC	
BH02@6'	05/31/23	0.3	No Staining	No Odor	Lab	40.218437	-104.583899	NC	
BH02@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218437	-104.583899	NC	
BH03@6'	05/31/23	0.2	No Staining	No Odor	Lab	40.218394	-104.583964	NC	
BH03@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218394	-104.583964	NC	
BH04@6'	05/31/23	0.5	No Staining	No Odor	Lab	40.218435	-104.584032	NC	
BH04@14-15'	05/31/23	0.2	No Staining	No Odor	Lab	40.218435	-104.584032	NC	
BH05@6'	05/31/23	32.3	No Staining	No Odor	Lab	40.218524	-104.583972	NC	
BH05@14-15'	05/31/23	0.3	No Staining	No Odor	Lab	40.218524	-104.583972	NC	
BH06@6'	05/31/23	2.4	No Staining	No Odor	Lab	40.218524	-104.584030	NC	
BH06@14-15'	05/31/23	0.8	No Staining	No Odor	Lab	40.218524	-104.584030	NC	
BH07@6'	05/31/23	12.5	No Staining	No Odor	Lab	40.218574	-104.583974	NC	
BH07@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218574	-104.583974	NC	
BH08@6'	05/31/23	0.2	No Staining	No Odor	Lab	40.218522	-104.583905	NC	
BH08@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218522	-104.583905	NC	
BH09@1-2'	05/31/23	70.4	No Staining	No Odor	Lab	40.218391	-104.583619	NC	
BH09@4'	05/31/23	1.4	No Staining	No Odor	Lab	40.218391	-104.583619	NC	
BH09@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218391	-104.583619	NC	
BH10@4'	05/31/23	0.0	No Staining	No Odor	Lab	40.218424	-104.583622	NC	
BH10@14-15'	05/31/23	0.4	No Staining	No Odor	Lab	40.218424	-104.583622	NC	
BH11@4'	05/31/23	0.9	No Staining	No Odor	Lab	40.218380	-104.583559	NC	
BH11@14-15'	05/31/23	0.0	No Staining	No Odor	Lab	40.218380	-104.583559	NC	
BH12@4'	05/31/23	0.1	No Staining	No Odor	Lab	40.218367	-104.583616	NC	
BH12@14-15'	05/31/23	0.2	No Staining	No Odor	Lab	40.218367	-104.583616	NC	
BH13@4'	05/31/23	0.5	No Staining	No Odor	Lab	40.218386	-104.583678	NC	
BH13@14-15'	05/31/23	0.1	No Staining	No Odor	Lab	40.218386	-104.583678	NC	
Separator Excavation	SEP01-FL@4'	02/14/23	0.1	No Staining	No Odor	Lab	40.218368	-104.583613	NC
	SEP01-DL@4'	02/14/23	0.2	No Staining	No Odor	Lab	40.218407	-104.583677	NC
	FS01@8'	02/15/24	0.0	No Staining	No Odor	Lab	40.218413	-104.583672	0.8
	SS01@7'	02/15/24	0.0	No Staining	No Odor	Lab	40.218414	-104.583713	0.7
	SS02@7'	02/15/24	0.0	No Staining	No Odor	Lab	40.218428	-104.583690	0.8
	SS03@7'	02/15/24	0.1	No Staining	No Odor	Lab	40.218428	-104.583662	0.8
	SS04@7'	02/15/24	0.1	No Staining	No Odor	Lab	40.218410	-104.583645	0.8
	FS02@8'	02/16/24	0.0	No Staining	No Odor	Lab	40.218388	-104.583685	NC
	SS05@7'	02/16/24	0.0	No Staining	No Odor	Lab	40.218382	-104.583648	1.0
	SS06@7'	02/16/24	0.0	No Staining	No Odor	Lab	40.218369	-104.583662	0.8
SS07@7'	02/16/24	0.0	No Staining	No Odor	Lab	40.218374	-104.583691	0.8	
SS08@7'	02/16/24	0.0	No Staining	No Odor	Lab	40.218392	-104.583717	0.8	

Notes:

PID = Photo-ionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

NC = Not Collected - Coordinates should be considered approximate

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. - THOMPSON D20-31D FACILITY

	Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
	Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
Production Tank Excavation	SS01@2.5'	02/14/23	7.63	0.0582	0.236	0.0704
	SS02@2.5'	02/14/23	7.68	0.0934	0.184	0.0849
	SS03@2.5'	02/14/23	7.68	0.116	0.266	0.119
	SS04@2.5'	02/14/23	7.96	0.107	0.184	0.0661
	SS05@2.5'	02/14/23	7.87	1.28	0.868	0.192
	SS06@2.5'	02/14/23	8.18	0.830	0.358	0.199
	FS01@5.5'	02/14/23	7.95	0.105	0.257	0.0908
	FS02@6'	02/14/23	9.75	1.24	0.444	0.659
	AST01@0.5'	02/14/23	8.08	0.210	0.331	0.343
	AST02@0.5'	02/14/23	7.71	0.819	0.913	0.209
	AST03@0.5'	02/14/23	7.96	0.437	0.407	0.214
	AST04@0.5'	02/14/23	7.88	1.05	1.60	0.346
	BH01@6'	05/31/23	7.92	2.40	1.31	0.238
	BH01@14-15'	05/31/23	8.03	3.89	1.58	0.0889
	BH02@6'	05/31/23	8.06	4.42	0.754	0.136
	BH02@14-15'	05/31/23	7.96	3.68	1.61	0.0686
	BH03@6'	05/31/23	7.72	0.550	0.528	0.165
	BH03@14-15'	05/31/23	7.96	4.45	1.49	0.0936
	BH04@6'	05/31/23	8.14	4.95	0.667	0.194
	BH04@14-15'	05/31/23	8.11	3.90	1.71	0.0662
	BH05@6'	05/31/23	8.05	0.613	0.533	0.115
	BH05@14-15'	05/31/23	8.13	4.50	2.24	0.0945
	BH06@6'	05/31/23	8.08	5.04	0.783	0.120
	BH06@14-15'	05/31/23	8.14	3.88	1.68	0.0801
	BH07@6'	05/31/23	7.77	0.635	0.434	0.166
BH07@14-15'	05/31/23	8.08	4.01	1.88	0.0775	
BH08@6'	05/31/23	8.13	3.35	0.532	0.170	
BH08@14-15'	05/31/23	8.12	4.43	2.22	0.0907	
BH09@1-2'	05/31/23	7.84	0.655	0.417	0.101	
BH09@4'	05/31/23	7.80	0.428	0.379	0.120	
BH09@14-15'	05/31/23	8.00	3.85	1.69	0.210	
BH10@4'	05/31/23	7.79	0.544	0.370	0.135	
BH10@14-15'	05/31/23	7.96	4.15	1.83	0.0488	
BH11@4'	05/31/23	7.84	0.257	0.335	0.236	
BH11@14-15'	05/31/23	7.74	2.54	2.24	0.0739	
BH12@4'	05/31/23	7.86	0.173	0.341	0.122	
BH12@14-15'	05/31/23	7.99	4.47	1.66	0.0605	
BH13@4'	05/31/23	7.28	0.392	0.471	0.132	
BH13@14-15'	05/31/23	8.03	4.66	2.09	0.0543	
FL-SS-01@3'	12/16/22	7.60	0.821	0.436	0.224	
Separator Excavation	SEP01-FL@4'	02/14/23	8.01	0.243	0.256	0.126
	SEP01-DL@4'	02/14/23	7.87	3.11	1.08	0.158
	FS01@8'	02/15/24	7.97	4.28	1.15	<2.00
	SS01@7'	02/15/24	8.03	0.282	0.216	<2.00
	SS02@7'	02/15/24	8.19	0.696	0.247	<2.00
	SS03@7'	02/15/24	8.00	3.60	0.930	<2.00
	SS04@7'	02/15/24	8.36	3.15	0.399	<2.00
	FS02@8'	02/16/24	8.25	0.840	0.621	<2.00
	SS05@7'	02/16/24	8.22	2.84	0.570	<2.00
	SS06@7'	02/16/24	8.25	1.68	0.465	<2.00
	SS07@7'	02/16/24	8.27	1.44	0.325	<2.00
SS08@7'	02/16/24	8.26	1.76	0.439	<2.00	

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	
Protection of Groundwater SSL ^{2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370	
FS02@6'	02/14/23	2.41	77.2	0.156	<0.30	5.65	6.53	5.23	<0.260	0.0189	19.2	
BH01@6'	05/31/23	0.604	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH01@14-15'	05/31/23	0.202	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH02@6'	05/31/23	0.556	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH02@14-15'	05/31/23	0.329	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH03@6'	05/31/23	0.571	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH03@14-15'	05/31/23	0.307	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH04@6'	05/31/23	0.551	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH04@14-15'	05/31/23	0.273	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH05@6'	05/31/23	0.596	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH05@14-15'	05/31/23	0.252	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH06@6'	05/31/23	0.750	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH06@14-15'	05/31/23	0.308	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH07@6'	05/31/23	0.719	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH07@14-15'	05/31/23	0.230	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH08@6'	05/31/23	0.607	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH08@14-15'	05/31/23	0.258	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH09@1-2'	05/31/23	0.567	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH09@4'	05/31/23	1.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH09@14-15'	05/31/23	0.799	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH10@4'	05/31/23	1.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH10@14-15'	05/31/23	0.915	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH11@4'	05/31/23	2.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH11@14-15'	05/31/23	0.639	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH12@4'	05/31/23	1.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH12@14-15'	05/31/23	0.336	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH13@4'	05/31/23	1.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BH13@14-15'	05/31/23	0.357	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Separator Excavation	FS01@8'	02/15/24	1.20	46.7	<0.200	<0.30	4.63	4.41	3.90	<0.260	<0.0200	12.4
	SS01@7'	02/15/24	1.34	73.7	<0.200	<0.30	7.55	6.75	6.98	<0.260	0.0300	19.5
	SS02@7'	02/15/24	1.49	75.1	<0.200	<0.30	7.47	6.56	6.67	<0.260	0.0281	17.7
	SS03@7'	02/15/24	1.39	96.8	<0.181	<0.30	7.43	6.00	6.09	<0.236	0.0286	15.9
	SS04@7'	02/15/24	2.01	190	0.252	<0.30	14.2	10.2	11.9	<0.260	0.0647	22.8
	FS02@8'	02/16/24	3.69	60.0	0.300	<0.30	7.08	11.1	6.04	<0.260	0.0527	23.8
	SS05@7'	02/16/24	1.60	46.0	<0.200	<0.30	3.66	5.48	3.40	<0.260	<0.0200	13.8
	SS06@7'	02/16/24	1.51	51.6	<0.200	<0.30	3.53	5.14	3.17	<0.260	<0.0200	13.2
SS07@7'	02/16/24	2.82	135	0.227	<0.30	5.58	8.24	5.05	<0.260	0.0382	19.8	
SS08@7'	02/16/24	2.15	61.4	<0.200	<0.30	4.44	6.76	4.39	<0.260	0.0245	16.9	

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:

ECMC = Energy and Carbon Management Commission	1,2,4 - TMB = 1,2,4 Trimethylbenzene
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics	1,3,5 - TMB = 1,3,5 Trimethylbenzene
TPH-DRO = Total petroleum hydrocarbons - diesel range organics	Benz(a) = Benzanthracene
TPH-ORO = Total petroleum hydrocarbons - oil range organics	Benzo(b) = Benzofluoranthene
mg/kg = Milligrams per kilogram	Benzo(k) = Benzofluoranthene
SAR = Sodium Adsorption Ratio	Benzo(a) = Benzopyrene
EC = Electrical Conductivity	A,H = Dibenzanthracene
mmhos/cm = Millimhos per centimeter	1,2,3-CD = Indenopyrene
mg/L = Milligrams per liter	1-M = 1-methylnaphthalene
< = Analytical result is less than the indicated laboratory reporting limit	2-M = 2-methylnaphthalene
Highlighted results are equal to or exceed the ECMC Table 915-1 standard	NA = Not analyzed

FIGURES

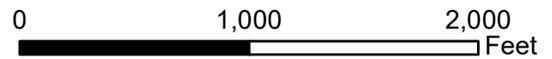
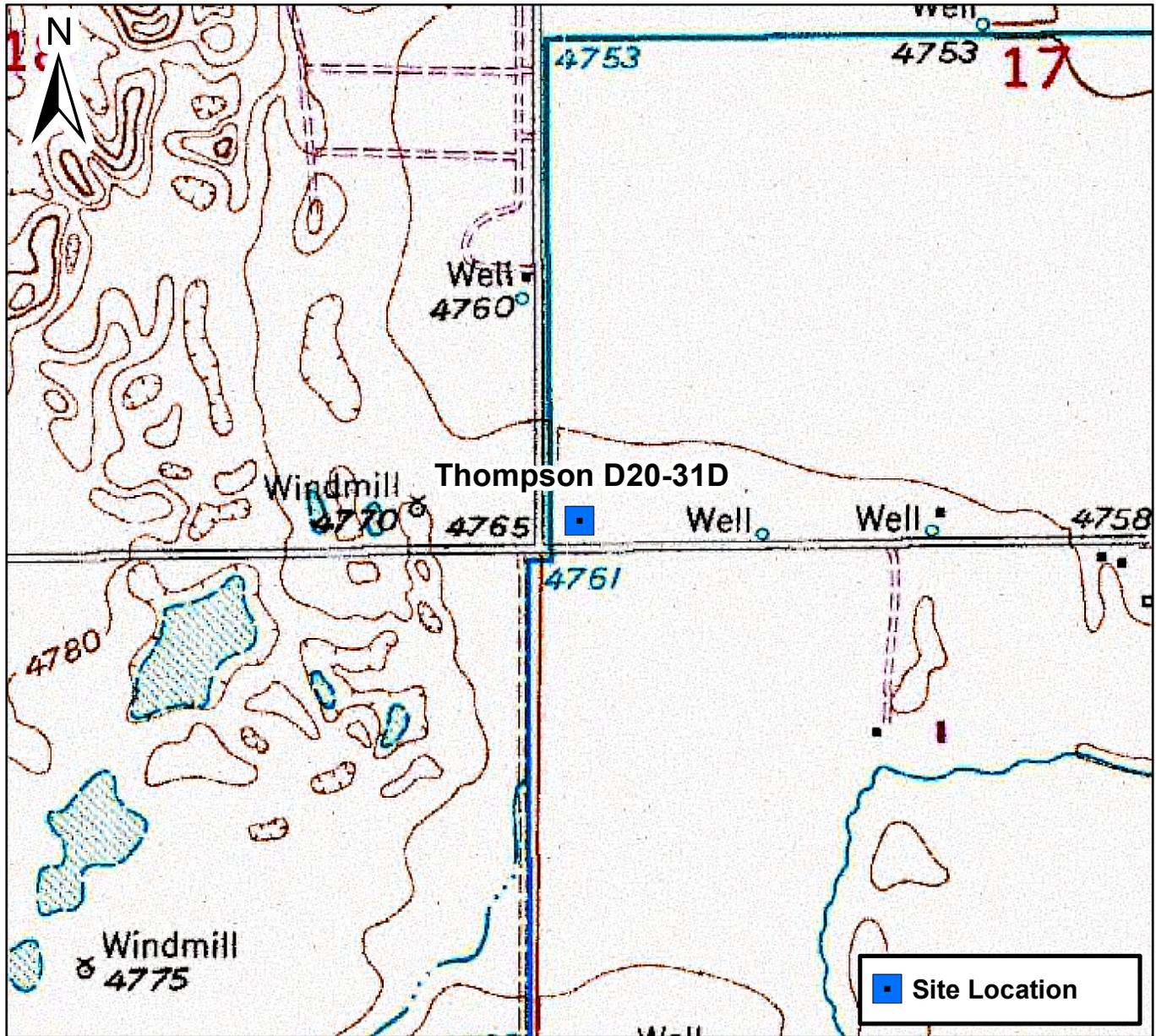
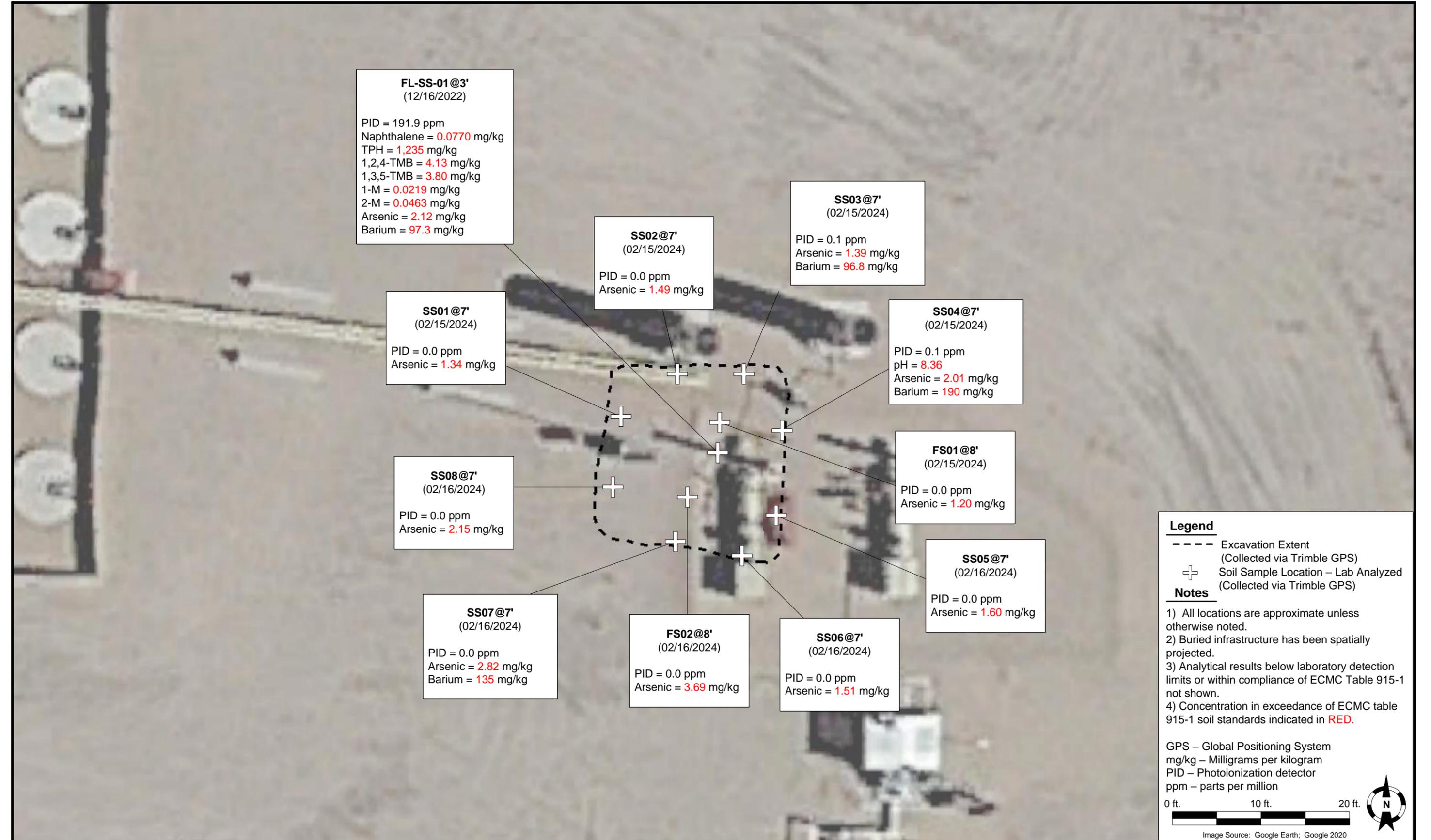


Figure 1

Site Location Map
 Thompson D20-31D
 SWSW S17 T3N R64W
 Weld County, Colorado





Legend

- Excavation Extent (Collected via Trimble GPS)
- ⊕ 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 ECMC Table 915-1 not shown.
- 4) Concentration in exceedance of ECMC 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. 10 ft. 20 ft.

Image Source: Google Earth; Google 2020

DATE: 04/24/2024

DESIGNED BY: JW

DRAWN BY: SB



TASMAN Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Thompson D20-31D FAC
 SWSW, Section 17, Township 3 North, Range 64 West
 Weld County, Colorado

Excavation Soil Analytical
 Results Map
 (12/16/2022, 02/15/2024
 & 02/16/2024)

FIGURE
 2



Legend

-  Proposed Soil Boring
-  Excavation Extent (Collected via Trimble GPS)
-  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.

GPS – Global Positioning System

0 ft. 30 ft. 60 ft.

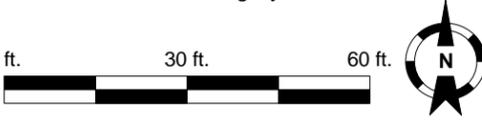


Image Source: Google Earth; Google 2020

DATE:	4/10/2024
DESIGNED BY:	JW
DRAWN BY:	JG



Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Thompson D20-31D FAC
 SWSW, Section 17, Township 3 North, Range 64 West
 Weld County, Colorado

Proposed Soil
 Boring Locations

FIGURE
 3

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 11, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

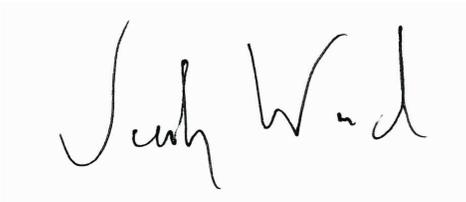
Broomfield, CO 80020

RE: Noble - Thompson D20-31D

Work Order #2402315

Enclosed are the results of analyses for samples received by Summit Scientific on 02/16/24 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS02@8'	2402315-01	Soil	02/16/24 10:00	02/16/24 16:30
SS08@7'	2402315-02	Soil	02/16/24 10:05	02/16/24 16:30
SS07@7'	2402315-03	Soil	02/16/24 10:10	02/16/24 16:30
SS06@7'	2402315-04	Soil	02/16/24 10:15	02/16/24 16:30
SS05@7'	2402315-05	Soil	02/16/24 10:20	02/16/24 16:30

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.



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

Lab ID	Page 1 of 1
2402315	

Send Data To:		Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Noble Energy, Inc.
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Thompson 020-310
City/State/Zip: Broomfield/CO/ 80020		AFE#:
Phone: 602-881-5716	Project Name: Thompson 020-310	PO/Billing Codes:
Sampler Name: McKenzie Reynolds	Project Number:	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS	HOLD		
1	FS02@8'	2/16/24	1000	2			X			X			X	X	X	X	X				SAR, EC, pH by saturated paste	
2	SS08@7'	I	1005	I																		
3	SS07@7'	I	1010	I																		
4	SS06@7'	I	1015	I																		
5	SS05@7'	I	1020	I																		
6	STOMP																					
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <i>AMK</i>	Date/Time: 2/16/24 1200	Received by: Tasman Lock Box Summit North	Date/Time: 2/16/24 1200	TAT Business Days	Field DO	Notes:
Relinquished by: <i>SR</i>	Date/Time: 2/16/24 1630	Received by: <i>[Signature]</i>	Date/Time: 2/16/24 1630	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 8.2	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2402315

Client: Noble Gasman Client Project ID: Thompson D20-310

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on 20E
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sameday
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS
Custodian Printed Name
2/16/24
Date/Time



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

Project: Noble - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

FS02@8'
2402315-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0567	02/16/24	02/17/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0379	94.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0566	02/16/24	02/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.12	64.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

FS02@8'
2402315-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0575	02/19/24	02/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00579	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	0.00832	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0221	66.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0177	53.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0888	02/28/24	03/01/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/16/24 10:00**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

FS02@8'
2402315-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.69	0.200	mg/kg dry	1	BHD0290	04/10/24	04/10/24	EPA 6020B	
Barium	60.0	0.400	"	"	"	"	"	"	
Cadmium	0.300	0.200	"	"	"	"	"	"	
Copper	7.08	0.400	"	"	"	"	"	"	
Lead	11.1	0.200	"	"	"	"	"	"	
Nickel	6.04	0.400	"	"	"	"	"	"	
Silver	0.0527	0.0200	"	"	"	"	"	"	
Zinc	23.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	986	0.0500	mg/L dry	1	BHB0569	02/16/24	02/22/24	EPA 6020B	
Magnesium	205	0.0500	"	"	"	"	"	"	
Sodium	111	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.840	0.00100	units	1	BHB0741	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.0		%	1	BHB0719	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/16/24 10:00**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
 Project Manager: Jacob Whritenour

Reported:
 04/11/24 12:14

FS02@8'
2402315-01 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Specific Conductance (EC)	0.621	0.0100	mmhos/cm	1	BHB0584	02/19/24	02/20/24	EPA 120.1
---------------------------	-------	--------	----------	---	---------	----------	----------	-----------

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

Date Sampled: **02/16/24 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.25			pH Units	1	BHB0583	02/19/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS08@7'
2402315-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0567	02/16/24	02/17/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0372	92.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0410	103 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0566	02/16/24	02/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.52	68.2 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS08@7'
2402315-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0575	02/19/24	02/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0262	78.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0888	02/28/24	03/01/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/16/24 10:05**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS08@7'
2402315-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.15	0.200	mg/kg dry	1	BHD0290	04/10/24	04/10/24	EPA 6020B	
Barium	61.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.44	0.400	"	"	"	"	"	"	
Lead	6.76	0.200	"	"	"	"	"	"	
Nickel	4.39	0.400	"	"	"	"	"	"	
Silver	0.0245	0.0200	"	"	"	"	"	"	
Zinc	16.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.9	0.0500	mg/L dry	1	BHB0569	02/16/24	02/22/24	EPA 6020B	
Magnesium	3.98	0.0500	"	"	"	"	"	"	
Sodium	37.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.76	0.00100	units	1	BHB0741	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.1		%	1	BHB0719	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/16/24 10:05**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS08@7'
2402315-02 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

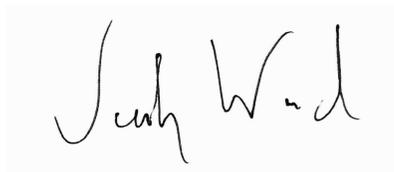
Specific Conductance (EC)	0.439	0.0100	mmhos/cm	1	BHB0584	02/19/24	02/20/24	EPA 120.1
---------------------------	--------------	--------	----------	---	---------	----------	----------	-----------

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

Date Sampled: **02/16/24 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.26			pH Units	1	BHB0583	02/19/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS07@7'
2402315-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0567	02/16/24	02/17/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0369	92.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0566	02/16/24	02/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	5.70	45.6 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS07@7'
2402315-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0575	02/19/24	02/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0203	60.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0888	02/28/24	03/01/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/16/24 10:10**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS07@7'
2402315-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.82	0.200	mg/kg dry	1	BHD0290	04/10/24	04/10/24	EPA 6020B	
Barium	135	0.400	"	"	"	"	"	"	
Cadmium	0.227	0.200	"	"	"	"	"	"	
Copper	5.58	0.400	"	"	"	"	"	"	
Lead	8.24	0.200	"	"	"	"	"	"	
Nickel	5.05	0.400	"	"	"	"	"	"	
Silver	0.0382	0.0200	"	"	"	"	"	"	
Zinc	19.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.9	0.0500	mg/L dry	1	BHB0569	02/16/24	02/22/24	EPA 6020B	
Magnesium	5.23	0.0500	"	"	"	"	"	"	
Sodium	39.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.44	0.00100	units	1	BHB0741	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.7		%	1	BHB0719	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/16/24 10:10**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS07@7'
2402315-03 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Specific Conductance (EC)	0.325	0.0100	mmhos/cm	1	BHB0584	02/19/24	02/20/24	EPA 120.1
---------------------------	-------	--------	----------	---	---------	----------	----------	-----------

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

Date Sampled: **02/16/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.27			pH Units	1	BHB0583	02/19/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS06@7'
2402315-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0567	02/16/24	02/17/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0356	89.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0566	02/16/24	02/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	5.72	45.8 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS06@7'
2402315-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0575	02/19/24	02/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0262	78.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0251	75.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0888	02/28/24	03/01/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/16/24 10:15**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS06@7'
2402315-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.51	0.200	mg/kg dry	1	BHD0290	04/10/24	04/10/24	EPA 6020B	
Barium	51.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.53	0.400	"	"	"	"	"	"	
Lead	5.14	0.200	"	"	"	"	"	"	
Nickel	3.17	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.3	0.0500	mg/L dry	1	BHB0569	02/16/24	02/22/24	EPA 6020B	
Magnesium	5.55	0.0500	"	"	"	"	"	"	
Sodium	42.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.68	0.00100	units	1	BHB0741	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.9		%	1	BHB0719	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS06@7'
2402315-04 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/16/24 10:15**

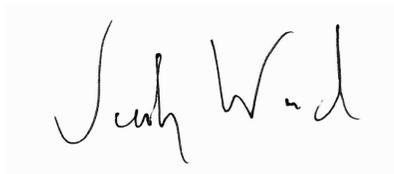
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.465	0.0100		mmhos/cm	1	BHB0584	02/19/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/16/24 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.25			pH Units	1	BHB0583	02/19/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS05@7'
2402315-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0567	02/16/24	02/17/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0354	88.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0566	02/16/24	02/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.80	54.4 %		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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS05@7'
2402315-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0575	02/19/24	02/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0240	72.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0205	61.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0888	02/28/24	03/01/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/16/24 10:20**

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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS05@7'
2402315-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.60	0.200	mg/kg dry	1	BHD0290	04/10/24	04/10/24	EPA 6020B	
Barium	46.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.66	0.400	"	"	"	"	"	"	
Lead	5.48	0.200	"	"	"	"	"	"	
Nickel	3.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.2	0.0500	mg/L dry	1	BHB0569	02/16/24	02/22/24	EPA 6020B	
Magnesium	7.45	0.0500	"	"	"	"	"	"	
Sodium	78.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.84	0.00100	units	1	BHB0741	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BHB0719	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

SS05@7'
2402315-05 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.570	0.0100		mmhos/cm	1	BHB0584	02/19/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/16/24 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.22			pH Units	1	BHB0583	02/19/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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 BHB0567 - EPA 5030 Soil MS

Blank (BHB0567-BLK1)

Prepared: 02/16/24 Analyzed: 02/17/24

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0342		"	0.0400		85.6	50-150				
Surrogate: Toluene-d8	0.0395		"	0.0400		98.7	50-150				
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150				

LCS (BHB0567-BS1)

Prepared: 02/16/24 Analyzed: 02/17/24

Benzene	0.0998	0.0020	mg/kg	0.100		99.8	70-130				
Toluene	0.0942	0.0050	"	0.100		94.2	70-130				
Ethylbenzene	0.0930	0.0050	"	0.100		93.0	70-130				
m,p-Xylene	0.177	0.010	"	0.200		88.6	70-130				
o-Xylene	0.0906	0.0050	"	0.100		90.6	70-130				
1,2,4-Trimethylbenzene	0.0894	0.0050	"	0.100		89.4	70-130				
1,3,5-Trimethylbenzene	0.0869	0.0050	"	0.100		86.9	70-130				
Naphthalene	0.0900	0.0038	"	0.100		90.0	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.8	50-150				
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150				
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150				

Matrix Spike (BHB0567-MS1)

Source: 2402312-01

Prepared: 02/16/24 Analyzed: 02/17/24

Benzene	0.0780	0.0020	mg/kg	0.100	ND	78.0	70-130				
Toluene	0.0572	0.0050	"	0.100	ND	57.2	70-130				QM-07
Ethylbenzene	0.0280	0.0050	"	0.100	ND	28.0	70-130				QM-07
m,p-Xylene	0.132	0.010	"	0.200	ND	65.9	70-130				QM-07
o-Xylene	0.0692	0.0050	"	0.100	ND	69.2	70-130				QM-07
1,2,4-Trimethylbenzene	0.0588	0.0050	"	0.100	ND	58.8	70-130				QM-07
1,3,5-Trimethylbenzene	0.0604	0.0050	"	0.100	ND	60.4	70-130				QM-07
Naphthalene	0.0467	0.0038	"	0.100	ND	46.7	70-130				QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0379		"	0.0400		94.7	50-150				
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	50-150				
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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

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

Batch BHB0567 - EPA 5030 Soil MS

Matrix Spike Dup (BHB0567-MSD1)	Source: 2402312-01			Prepared: 02/16/24 Analyzed: 02/17/24						
Benzene	0.0802	0.0020	mg/kg	0.100	ND	80.2	70-130	2.77	30	
Toluene	0.0599	0.0050	"	0.100	ND	59.9	70-130	4.56	30	QM-07
Ethylbenzene	0.0302	0.0050	"	0.100	ND	30.2	70-130	7.42	30	QM-07
m,p-Xylene	0.128	0.010	"	0.200	ND	64.0	70-130	2.91	30	QM-07
o-Xylene	0.0687	0.0050	"	0.100	ND	68.7	70-130	0.740	30	QM-07
1,2,4-Trimethylbenzene	0.0573	0.0050	"	0.100	ND	57.3	70-130	2.64	30	QM-07
1,3,5-Trimethylbenzene	0.0590	0.0050	"	0.100	ND	59.0	70-130	2.41	30	QM-07
Naphthalene	0.0247	0.0038	"	0.100	ND	24.7	70-130	61.6	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0375</i>		<i>"</i>	<i>0.0400</i>		<i>93.8</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>99.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHB0566 - EPA 3550A

Blank (BHB0566-BLK1)

Prepared: 02/16/24 Analyzed: 02/17/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	8.94		"	12.5		71.5			30-150	

LCS (BHB0566-BS1)

Prepared: 02/16/24 Analyzed: 02/17/24

C10-C28 (DRO)	419	50	mg/kg	500		83.8			70-130	
Surrogate: <i>o</i> -Terphenyl	9.50		"	12.5		76.0			30-150	

Matrix Spike (BHB0566-MS1)

Source: 2402312-01

Prepared: 02/16/24 Analyzed: 02/17/24

C10-C28 (DRO)	436	50	mg/kg	500	13.8	84.5			70-130	
Surrogate: <i>o</i> -Terphenyl	8.28		"	12.5		66.2			30-150	

Matrix Spike Dup (BHB0566-MSD1)

Source: 2402312-01

Prepared: 02/16/24 Analyzed: 02/17/24

C10-C28 (DRO)	405	50	mg/kg	500	13.8	78.3		7.33	20	
Surrogate: <i>o</i> -Terphenyl	8.08		"	12.5		64.6			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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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 BHB0575 - EPA 5030 Soil MS

Blank (BHB0575-BLK1)

Prepared: 02/19/24 Analyzed: 02/20/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0449</i>		"	<i>0.0333</i>		<i>135</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0311</i>		"	<i>0.0333</i>		<i>93.2</i>	<i>40-150</i>			

LCS (BHB0575-BS1)

Prepared: 02/19/24 Analyzed: 02/20/24

Acenaphthene	0.0301	0.00500	mg/kg	0.0333		90.2	31-137			
Anthracene	0.0307	0.00500	"	0.0333		92.1	30-120			
Benzo (a) anthracene	0.0315	0.00500	"	0.0333		94.4	30-120			
Benzo (a) pyrene	0.0293	0.00500	"	0.0333		88.0	30-120			
Benzo (b) fluoranthene	0.0284	0.00500	"	0.0333		85.2	30-120			
Benzo (k) fluoranthene	0.0295	0.00500	"	0.0333		88.6	30-120			
Chrysene	0.0318	0.00500	"	0.0333		95.5	30-120			
Dibenz (a,h) anthracene	0.0296	0.00500	"	0.0333		88.7	30-120			
Fluoranthene	0.0301	0.00500	"	0.0333		90.2	30-120			
Fluorene	0.0309	0.00500	"	0.0333		92.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0275	0.00500	"	0.0333		82.5	30-120			
Pyrene	0.0338	0.00500	"	0.0333		101	35-142			
1-Methylnaphthalene	0.0398	0.00500	"	0.0333		119	35-142			
2-Methylnaphthalene	0.0391	0.00500	"	0.0333		117	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0332</i>		"	<i>0.0333</i>		<i>99.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0304</i>		"	<i>0.0333</i>		<i>91.3</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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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		

Batch BHB0575 - EPA 5030 Soil MS

Matrix Spike (BHB0575-MS1)	Source: 2402301-01			Prepared: 02/19/24 Analyzed: 02/20/24						
Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.6	31-137			
Anthracene	0.0235	0.00500	"	0.0333	ND	70.5	30-120			
Benzo (a) anthracene	0.0254	0.00500	"	0.0333	ND	76.2	30-120			
Benzo (a) pyrene	0.0221	0.00500	"	0.0333	ND	66.2	30-120			
Benzo (b) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.1	30-120			
Benzo (k) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.9	30-120			
Chrysene	0.0219	0.00500	"	0.0333	ND	65.7	30-120			
Dibenz (a,h) anthracene	0.0288	0.00500	"	0.0333	ND	86.5	30-120			
Fluoranthene	0.0242	0.00500	"	0.0333	ND	72.7	30-120			
Fluorene	0.0222	0.00500	"	0.0333	ND	66.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0263	0.00500	"	0.0333	ND	78.9	30-120			
Pyrene	0.0267	0.00500	"	0.0333	ND	80.2	35-142			
1-Methylnaphthalene	0.0319	0.00500	"	0.0333	0.00501	80.6	15-130			
2-Methylnaphthalene	0.0342	0.00500	"	0.0333	ND	103	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0204</i>		<i>"</i>	<i>0.0333</i>		<i>61.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.4</i>	<i>40-150</i>			

Matrix Spike Dup (BHB0575-MSD1)	Source: 2402301-01			Prepared: 02/19/24 Analyzed: 02/20/24						
Acenaphthene	0.0237	0.00500	mg/kg	0.0333	ND	71.2	31-137	8.24	30	
Anthracene	0.0234	0.00500	"	0.0333	ND	70.2	30-120	0.449	30	
Benzo (a) anthracene	0.0267	0.00500	"	0.0333	ND	80.2	30-120	5.08	30	
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	5.21	30	
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.7	30-120	0.928	30	
Benzo (k) fluoranthene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	2.32	30	
Chrysene	0.0224	0.00500	"	0.0333	ND	67.1	30-120	2.07	30	
Dibenz (a,h) anthracene	0.0296	0.00500	"	0.0333	ND	88.8	30-120	2.60	30	
Fluoranthene	0.0248	0.00500	"	0.0333	ND	74.5	30-120	2.46	30	
Fluorene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	6.43	30	
Indeno (1,2,3-cd) pyrene	0.0267	0.00500	"	0.0333	ND	80.0	30-120	1.43	30	
Pyrene	0.0288	0.00500	"	0.0333	ND	86.5	35-142	7.56	30	
1-Methylnaphthalene	0.0350	0.00500	"	0.0333	0.00501	89.9	15-130	9.30	50	
2-Methylnaphthalene	0.0402	0.00500	"	0.0333	ND	121	15-130	16.1	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0209</i>		<i>"</i>	<i>0.0333</i>		<i>62.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0236</i>		<i>"</i>	<i>0.0333</i>		<i>70.9</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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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

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

Batch BHB0888 - EPA 3050B

Blank (BHB0888-BLK1)

Prepared: 02/28/24 Analyzed: 03/01/24

Boron ND 2.00 mg/L

LCS (BHB0888-BS1)

Prepared: 02/28/24 Analyzed: 03/01/24

Boron 4.75 2.00 mg/L 5.00 94.9 80-120

Duplicate (BHB0888-DUP1)

Source: 2402222-01

Prepared: 02/28/24 Analyzed: 03/01/24

Boron 0.270 2.00 mg/L 0.274 1.43 20

Matrix Spike (BHB0888-MS1)

Source: 2402222-01

Prepared: 02/28/24 Analyzed: 03/01/24

Boron 4.98 2.00 mg/L 5.00 0.274 94.1 75-125

Matrix Spike Dup (BHB0888-MSD1)

Source: 2402222-01

Prepared: 02/28/24 Analyzed: 03/01/24

Boron 4.91 2.00 mg/L 5.00 0.274 92.7 75-125 1.45 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0290 - EPA 3050B

Blank (BHD0290-BLK1)

Prepared & Analyzed: 04/10/24

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

LCS (BHD0290-BS1)

Prepared & Analyzed: 04/10/24

Arsenic	38.5	0.200	mg/kg wet	40.0	96.2	80-120
Barium	39.1	0.400	"	40.0	97.8	80-120
Cadmium	1.91	0.200	"	2.00	95.5	80-120
Copper	41.3	0.400	"	40.0	103	80-120
Lead	19.0	0.200	"	20.0	95.2	80-120
Nickel	40.8	0.400	"	40.0	102	80-120
Silver	1.91	0.0200	"	2.00	95.7	80-120
Zinc	40.3	0.400	"	40.0	101	80-120
Selenium	4.12	0.260	"	4.00	103	80-120

Duplicate (BHD0290-DUP1)

Source: 2402306-01

Prepared & Analyzed: 04/10/24

Arsenic	4.75	0.200	mg/kg dry	4.98	4.67	20
Barium	150	0.400	"	163	8.19	20
Cadmium	0.413	0.200	"	0.413	0.122	20
Copper	6.67	0.400	"	6.57	1.59	20
Lead	12.1	0.200	"	12.2	0.744	20
Nickel	5.97	0.400	"	5.90	1.12	20
Silver	0.0636	0.0200	"	0.0667	4.65	20
Zinc	24.5	0.400	"	24.3	0.913	20
Selenium	ND	0.260	"	ND		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0290 - EPA 3050B

Matrix Spike (BHD0290-MS1)

Source: 2402306-01

Prepared & Analyzed: 04/10/24

Arsenic	51.4	0.200	mg/kg dry	50.5	4.98	91.9	75-125				
Barium	192	0.400	"	50.5	163	57.6	75-125				QM-07
Cadmium	2.93	0.200	"	2.53	0.413	99.6	75-125				
Copper	34.0	0.400	"	50.5	6.57	54.3	75-125				QM-07
Lead	35.0	0.200	"	25.3	12.2	90.3	75-125				
Nickel	33.6	0.400	"	50.5	5.90	54.9	75-125				QM-07
Silver	2.52	0.0200	"	2.53	0.0667	97.2	75-125				
Zinc	52.9	0.400	"	50.5	24.3	56.8	75-125				QM-07
Selenium	3.60	0.260	"	5.05	ND	71.3	75-125				QM-07

Matrix Spike Dup (BHD0290-MSD1)

Source: 2402306-01

Prepared & Analyzed: 04/10/24

Arsenic	51.0	0.200	mg/kg dry	50.5	4.98	91.2	75-125	0.709	25		
Barium	191	0.400	"	50.5	163	56.6	75-125	0.249	25		QM-07
Cadmium	2.93	0.200	"	2.53	0.413	99.7	75-125	0.0517	25		
Copper	34.6	0.400	"	50.5	6.57	55.5	75-125	1.75	25		QM-07
Lead	35.1	0.200	"	25.3	12.2	90.8	75-125	0.418	25		
Nickel	34.2	0.400	"	50.5	5.90	56.1	75-125	1.85	25		QM-07
Silver	2.51	0.0200	"	2.53	0.0667	96.7	75-125	0.482	25		
Zinc	54.2	0.400	"	50.5	24.3	59.2	75-125	2.28	25		QM-07
Selenium	3.52	0.260	"	5.05	ND	69.7	75-125	2.34	25		QM-07

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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 BHB0569 - General Preparation

Blank (BHB0569-BLK1)

Prepared: 02/16/24 Analyzed: 02/21/24

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

LCS (BHB0569-BS1)

Prepared: 02/16/24 Analyzed: 02/21/24

Calcium	5.71	0.0500	mg/L wet	5.00	114	70-130
Magnesium	4.87	0.0500	"	5.00	97.4	70-130
Sodium	4.96	0.0500	"	5.00	99.1	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
 Project Manager: Jacob Whritenour

Reported:
 04/11/24 12:14

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

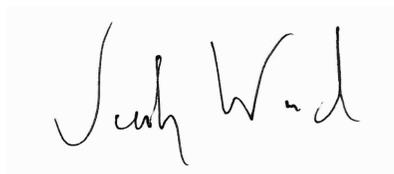
Summit Scientific

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

Batch BHB0719 - General Preparation

Duplicate (BHB0719-DUP1)		Source: 2402222-01			Prepared & Analyzed: 02/22/24			
% Solids	89.9		%		90.3		0.517	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

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

Summit Scientific

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

Batch BHB0584 - General Preparation

Blank (BHB0584-BLK1)

Prepared: 02/19/24 Analyzed: 02/20/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHB0584-BS1)

Prepared: 02/19/24 Analyzed: 02/20/24

Specific Conductance (EC) 0.146 0.0100 mmhos/cm 0.150 97.5 95-105

Duplicate (BHB0584-DUP1)

Source: 2402204-01

Prepared: 02/19/24 Analyzed: 02/20/24

Specific Conductance (EC) 0.252 0.0100 mmhos/cm 0.256 1.66 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
 Project Manager: Jacob Whritenour

Reported:
 04/11/24 12:14

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 BHB0583 - General Preparation

LCS (BHB0583-BS1)

Prepared: 02/19/24 Analyzed: 02/20/24

pH	9.15	pH Units	9.18	99.7	95-105
----	------	----------	------	------	--------

Duplicate (BHB0583-DUP1)

Source: 2402204-01

Prepared: 02/19/24 Analyzed: 02/20/24

pH	7.01	pH Units	6.98	0.429	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/11/24 12:14

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 19, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

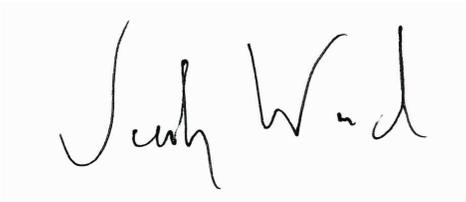
Broomfield, CO 80020

RE: Noble - Thompson D20-31D

Work Order #2402293

Enclosed are the results of analyses for samples received by Summit Scientific on 02/15/24 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@8'	2402293-01	Soil	02/15/24 11:50	02/15/24 17:40
SS01@7'	2402293-02	Soil	02/15/24 11:55	02/15/24 17:40
SS02@7'	2402293-03	Soil	02/15/24 12:00	02/15/24 17:40
SS03@7'	2402293-04	Soil	02/15/24 12:05	02/15/24 17:40
SS04@7'	2402293-05	Soil	02/15/24 12:10	02/15/24 17:40

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
2402293	

Client: Noble / Tasman, Inc.		Send Data To: Project Manager: Jake Whritenour		Send Invoice To: Company: <i>Chevron</i>	
Address: 6855 W. 119th Ave.		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: <i>Thompson D20-310</i>	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 970 - 402 - 0946		Project Name: <i>Thompson D20-310</i>		PO/Billing Codes:	
Sampler Name: Patrick Kline		Project Number: N/A		Contact: <i>Dan Peterson</i>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD		
1	F50108'	2/15/24	1150	2			X			X				X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	S50107'	I	1155	I										I	I	I	I	I	I		
3	S50207'	I	1200	I										I	I	I	I	I	I		
4	S50307'	I	1205	I										I	I	I	I	I	I		
5	S50407'	I	1210	I										I	I	I	I	I	I		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>Patrick Kline</i>	Date/Time: 2/15/2024 1500	Received by: <i>Tasman Lockbox</i>	Date/Time: 2/15/2024 1500	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 2/15/24 1740	Received by: <i>[Signature]</i>	Date/Time: 2/15/24 1740	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: 9.1	Corrected Temperature: 8	IR gun #:	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2402293

Client: Noble/Cosman Client Project ID: Thompson D26-31D

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

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

Temp (°C) 9.1 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>at 7:00</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>Sameday</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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? (1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC?(1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? (1) Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? (1) Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS
Custodian Printed Name

2/15/24
Date/Time



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

Project: Noble - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

FS01@8'
2402293-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0527	02/15/24	02/15/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0357	89.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0375	93.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0529	02/15/24	02/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/15/24 11:50**

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

PAH by EPA Method 8270D SIM

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

FS01@8'
2402293-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0535	02/16/24	02/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0886	02/28/24	02/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/15/24 11:50**

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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

FS01@8'
2402293-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.20	0.200	mg/kg dry	1	BHD0352	04/11/24	04/16/24	EPA 6020B
Barium	46.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.63	0.400	"	"	"	"	"	"
Lead	4.41	0.200	"	"	"	"	"	"
Nickel	3.90	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	12.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

I-04

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0616	04/18/24	04/18/24	EPA 7196A	

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

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	82.7	0.0500	mg/L dry	1	BHB0530	02/15/24	02/20/24	EPA 6020B	
Magnesium	19.8	0.0500	"	"	"	"	"	"	
Sodium	167	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.28	0.00100	units	1	BHB0743	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

FS01@8'
2402293-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.1			%	1	BHB0718	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.15	0.0100		mmhos/cm	1	BHB0537	02/16/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/15/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.97			pH Units	1	BHB0538	02/16/24	02/20/24	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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS01@7'
2402293-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0527	02/15/24	02/15/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	94.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0529	02/15/24	02/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.69	77.5 %	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS01@7'
2402293-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0535	02/16/24	02/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0886	02/28/24	02/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/15/24 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS01@7'
2402293-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.34	0.200	mg/kg dry	1	BHD0352	04/11/24	04/16/24	EPA 6020B
Barium	73.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.55	0.400	"	"	"	"	"	"
Lead	6.75	0.200	"	"	"	"	"	"
Nickel	6.98	0.400	"	"	"	"	"	"
Silver	0.0300	0.0200	"	"	"	"	"	"
Zinc	19.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

I-04

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0616	04/18/24	04/18/24	EPA 7196A	

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

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.3	0.0500	mg/L dry	1	BHB0530	02/15/24	02/20/24	EPA 6020B	
Magnesium	6.19	0.0500	"	"	"	"	"	"	
Sodium	7.07	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.282	0.00100	units	1	BHB0743	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS01@7'
2402293-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.7		%	1	BHB0718	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.216	0.0100	mmhos/cm	1	BHB0537	02/16/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/15/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BHB0538	02/16/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS02@7'
2402293-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0527	02/15/24	02/15/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0387	96.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0371	92.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0529	02/15/24	02/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.3	90.3 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS02@7'
2402293-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0535	02/16/24	02/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0150	45.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0136	40.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0886	02/28/24	02/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/15/24 12:00**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS02@7'
2402293-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.49	0.200	mg/kg dry	1	BHD0352	04/11/24	04/16/24	EPA 6020B
Barium	75.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.47	0.400	"	"	"	"	"	"
Lead	6.56	0.200	"	"	"	"	"	"
Nickel	6.67	0.400	"	"	"	"	"	"
Silver	0.0281	0.0200	"	"	"	"	"	"
Zinc	17.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

I-04

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0616	04/18/24	04/18/24	EPA 7196A	

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

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.1	0.0500	mg/L dry	1	BHB0530	02/15/24	02/20/24	EPA 6020B	
Magnesium	5.66	0.0500	"	"	"	"	"	"	
Sodium	17.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.696	0.00100	units	1	BHB0743	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS02@7'
2402293-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.9		%	1	BHB0718	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.247	0.0100	mmhos/cm	1	BHB0537	02/16/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/15/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19		pH Units	1	BHB0538	02/16/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS03@7'
2402293-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0527	02/15/24	02/15/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0529	02/15/24	02/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.85	78.8 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS03@7'
2402293-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0535	02/16/24	02/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0196	58.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0886	02/28/24	02/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/15/24 12:05**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS03@7'
2402293-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.39	0.181	mg/kg dry	1	BHD0352	04/11/24	04/16/24	EPA 6020B
Barium	96.8	0.362	"	"	"	"	"	"
Cadmium	ND	0.181	"	"	"	"	"	"
Copper	7.43	0.362	"	"	"	"	"	"
Lead	6.00	0.181	"	"	"	"	"	"
Nickel	6.09	0.362	"	"	"	"	"	"
Silver	0.0286	0.0181	"	"	"	"	"	"
Zinc	15.9	0.362	"	"	"	"	"	"
Selenium	ND	0.236	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

I-04

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0616	04/18/24	04/18/24	EPA 7196A	

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

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.3	0.0500	mg/L dry	1	BHB0530	02/15/24	02/20/24	EPA 6020B	
Magnesium	15.1	0.0500	"	"	"	"	"	"	
Sodium	131	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.60	0.00100	units	1	BHB0743	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS03@7'
2402293-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	81.0			%	1	BHB0718	02/22/24	02/22/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.930	0.0100		mmhos/cm	1	BHB0537	02/16/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/15/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.00			pH Units	1	BHB0538	02/16/24	02/20/24	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS04@7'
2402293-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0527	02/15/24	02/15/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0392	97.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0529	02/15/24	02/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.18	57.4 %		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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS04@7'
2402293-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0535	02/16/24	02/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0886	02/28/24	02/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **02/15/24 12:10**

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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS04@7'
2402293-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.01	0.200	mg/kg dry	1	BHD0352	04/11/24	04/16/24	EPA 6020B
Barium	190	0.400	"	"	"	"	"	"
Cadmium	0.252	0.200	"	"	"	"	"	"
Copper	14.2	0.400	"	"	"	"	"	"
Lead	10.2	0.200	"	"	"	"	"	"
Nickel	11.9	0.400	"	"	"	"	"	"
Silver	0.0647	0.0200	"	"	"	"	"	"
Zinc	22.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

I-04

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0616	04/18/24	04/18/24	EPA 7196A	

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

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.6	0.0500	mg/L dry	1	BHB0530	02/15/24	02/20/24	EPA 6020B	
Magnesium	4.55	0.0500	"	"	"	"	"	"	
Sodium	76.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.15	0.00100	units	1	BHB0743	02/22/24	02/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/15/24 12:10**

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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

SS04@7'
2402293-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.0	%	1	BHB0718	02/22/24	02/22/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.399	0.0100	mmhos/cm	1	BHB0537	02/16/24	02/20/24	EPA 120.1	

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

Date Sampled: **02/15/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.36		pH Units	1	BHB0538	02/16/24	02/20/24	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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0527 - EPA 5030 Soil MS

Blank (BHB0527-BLK1)

Prepared: 02/15/24 Analyzed: 02/16/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0346		"	0.0400		86.6	50-150			
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		99.9	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0400		"	0.0400		99.9	50-150			

LCS (BHB0527-BS1)

Prepared: 02/15/24 Analyzed: 02/16/24

Benzene	0.0998	0.0020	mg/kg	0.100		99.8	70-130			
Toluene	0.0922	0.0050	"	0.100		92.2	70-130			
Ethylbenzene	0.0919	0.0050	"	0.100		91.9	70-130			
m,p-Xylene	0.174	0.010	"	0.200		86.9	70-130			
o-Xylene	0.0879	0.0050	"	0.100		87.9	70-130			
1,2,4-Trimethylbenzene	0.0842	0.0050	"	0.100		84.2	70-130			
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100		81.8	70-130			
Naphthalene	0.0924	0.0038	"	0.100		92.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0365		"	0.0400		91.3	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		97.9	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		97.0	50-150			

Matrix Spike (BHB0527-MS1)

Source: 2402292-01

Prepared: 02/15/24 Analyzed: 02/16/24

Benzene	0.0913	0.0020	mg/kg	0.100	ND	91.3	70-130			
Toluene	0.0820	0.0050	"	0.100	ND	82.0	70-130			
Ethylbenzene	0.0800	0.0050	"	0.100	ND	80.0	70-130			
m,p-Xylene	0.153	0.010	"	0.200	ND	76.4	70-130			
o-Xylene	0.0761	0.0050	"	0.100	ND	76.1	70-130			
1,2,4-Trimethylbenzene	0.0720	0.0050	"	0.100	ND	72.0	70-130			
1,3,5-Trimethylbenzene	0.0718	0.0050	"	0.100	ND	71.8	70-130			
Naphthalene	0.0776	0.0038	"	0.100	ND	77.6	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0375		"	0.0400		93.8	50-150			
<i>Surrogate: Toluene-d8</i>	0.0394		"	0.0400		98.4	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0540		"	0.0400		135	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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0527 - EPA 5030 Soil MS

Matrix Spike Dup (BHB0527-MSD1)	Source: 2402292-01			Prepared: 02/15/24 Analyzed: 02/16/24						
Benzene	0.0918	0.0020	mg/kg	0.100	ND	91.8	70-130	0.557	30	
Toluene	0.0845	0.0050	"	0.100	ND	84.5	70-130	3.03	30	
Ethylbenzene	0.0811	0.0050	"	0.100	ND	81.1	70-130	1.38	30	
m,p-Xylene	0.158	0.010	"	0.200	ND	78.8	70-130	3.13	30	
o-Xylene	0.0805	0.0050	"	0.100	ND	80.5	70-130	5.59	30	
1,2,4-Trimethylbenzene	0.0753	0.0050	"	0.100	ND	75.3	70-130	4.44	30	
1,3,5-Trimethylbenzene	0.0769	0.0050	"	0.100	ND	76.9	70-130	6.78	30	
Naphthalene	0.0731	0.0038	"	0.100	ND	73.1	70-130	5.97	30	
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.0	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0599		"	0.0400		150	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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0529 - EPA 3550A

Blank (BHB0529-BLK1)

Prepared: 02/15/24 Analyzed: 02/16/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.7		"	12.5		118		30-150			

LCS (BHB0529-BS1)

Prepared: 02/15/24 Analyzed: 02/16/24

C10-C28 (DRO)	525	50	mg/kg	500		105		70-130			
Surrogate: <i>o</i> -Terphenyl	15.8		"	12.5		126		30-150			

Matrix Spike (BHB0529-MS1)

Source: 2402292-01

Prepared: 02/15/24 Analyzed: 02/16/24

C10-C28 (DRO)	534	50	mg/kg	500	27.5	101		70-130			
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		92.0		30-150			

Matrix Spike Dup (BHB0529-MSD1)

Source: 2402292-01

Prepared: 02/15/24 Analyzed: 02/16/24

C10-C28 (DRO)	456	50	mg/kg	500	27.5	85.7		70-130	15.8	20	
Surrogate: <i>o</i> -Terphenyl	9.55		"	12.5		76.4		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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0535 - EPA 5030 Soil MS

Blank (BHB0535-BLK1)

Prepared & Analyzed: 02/16/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0327		"	0.0333		98.0	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0321		"	0.0333		96.2	40-150			

LCS (BHB0535-BS1)

Prepared & Analyzed: 02/16/24

Acenaphthene	0.0353	0.00500	mg/kg	0.0333		106	31-137			
Anthracene	0.0337	0.00500	"	0.0333		101	30-120			
Benzo (a) anthracene	0.0233	0.00500	"	0.0333		69.8	30-120			
Benzo (a) pyrene	0.0256	0.00500	"	0.0333		76.7	30-120			
Benzo (b) fluoranthene	0.0240	0.00500	"	0.0333		71.9	30-120			
Benzo (k) fluoranthene	0.0315	0.00500	"	0.0333		94.5	30-120			
Chrysene	0.0344	0.00500	"	0.0333		103	30-120			
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333		70.5	30-120			
Fluoranthene	0.0322	0.00500	"	0.0333		96.7	30-120			
Fluorene	0.0343	0.00500	"	0.0333		103	30-120			
Indeno (1,2,3-cd) pyrene	0.0232	0.00500	"	0.0333		69.6	30-120			
Pyrene	0.0356	0.00500	"	0.0333		107	35-142			
1-Methylnaphthalene	0.0409	0.00500	"	0.0333		123	35-142			
2-Methylnaphthalene	0.0329	0.00500	"	0.0333		98.8	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0361		"	0.0333		108	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0332		"	0.0333		99.6	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0535 - EPA 5030 Soil MS

Matrix Spike (BHB0535-MS1)	Source: 2402062-04			Prepared & Analyzed: 02/16/24						
Acenaphthene	0.0142	0.00500	mg/kg	0.0333	ND	42.6	31-137			
Anthracene	0.0207	0.00500	"	0.0333	ND	62.1	30-120			
Benzo (a) anthracene	0.0161	0.00500	"	0.0333	ND	48.4	30-120			
Benzo (a) pyrene	0.0188	0.00500	"	0.0333	ND	56.5	30-120			
Benzo (b) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	30-120			
Benzo (k) fluoranthene	0.0137	0.00500	"	0.0333	ND	41.2	30-120			
Chrysene	0.0137	0.00500	"	0.0333	ND	41.0	30-120			
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.2	30-120			
Fluoranthene	0.0148	0.00500	"	0.0333	ND	44.5	30-120			
Fluorene	0.0149	0.00500	"	0.0333	ND	44.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	ND	43.7	30-120			
Pyrene	0.0166	0.00500	"	0.0333	ND	49.7	35-142			
1-Methylnaphthalene	0.0209	0.00500	"	0.0333	ND	62.7	15-130			
2-Methylnaphthalene	0.0135	0.00500	"	0.0333	ND	40.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0151</i>		<i>"</i>	<i>0.0333</i>		<i>45.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0134</i>		<i>"</i>	<i>0.0333</i>		<i>40.3</i>	<i>40-150</i>			

Matrix Spike Dup (BHB0535-MSD1)	Source: 2402062-04			Prepared & Analyzed: 02/16/24						
Acenaphthene	0.0171	0.00500	mg/kg	0.0333	ND	51.2	31-137	18.4	30	
Anthracene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	6.30	30	
Benzo (a) anthracene	0.0164	0.00500	"	0.0333	ND	49.1	30-120	1.54	30	
Benzo (a) pyrene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	2.52	30	
Benzo (b) fluoranthene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	3.70	30	
Benzo (k) fluoranthene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	14.3	30	
Chrysene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	22.8	30	
Dibenz (a,h) anthracene	0.0189	0.00500	"	0.0333	ND	56.7	30-120	22.6	30	
Fluoranthene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	25.2	30	
Fluorene	0.0182	0.00500	"	0.0333	ND	54.6	30-120	19.8	30	
Indeno (1,2,3-cd) pyrene	0.0172	0.00500	"	0.0333	ND	51.7	30-120	16.8	30	
Pyrene	0.0191	0.00500	"	0.0333	ND	57.2	35-142	14.2	30	
1-Methylnaphthalene	0.0203	0.00500	"	0.0333	ND	61.0	15-130	2.59	50	
2-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.4	15-130	18.0	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0170</i>		<i>"</i>	<i>0.0333</i>		<i>51.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0196</i>		<i>"</i>	<i>0.0333</i>		<i>58.9</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 - Thompson D20-31D
Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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

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

Batch BHB0886 - EPA 3050B

Blank (BHB0886-BLK1)

Prepared: 02/28/24 Analyzed: 02/29/24

Boron ND 2.00 mg/L

LCS (BHB0886-BS1)

Prepared: 02/28/24 Analyzed: 02/29/24

Boron 4.84 2.00 mg/L 5.00 96.9 80-120

Duplicate (BHB0886-DUP1)

Source: 2402210-21

Prepared: 02/28/24 Analyzed: 02/29/24

Boron 0.245 2.00 mg/L 0.242 1.05 20

Matrix Spike (BHB0886-MS1)

Source: 2402210-21

Prepared: 02/28/24 Analyzed: 02/29/24

Boron 4.79 2.00 mg/L 5.00 0.242 90.9 75-125

Matrix Spike Dup (BHB0886-MSD1)

Source: 2402210-21

Prepared: 02/28/24 Analyzed: 02/29/24

Boron 4.77 2.00 mg/L 5.00 0.242 90.6 75-125 0.281 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0352 - EPA 3050B

Blank (BHD0352-BLK1)

Prepared: 04/11/24 Analyzed: 04/16/24

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

LCS (BHD0352-BS1)

Prepared: 04/11/24 Analyzed: 04/16/24

Arsenic	42.0	0.200	mg/kg wet	40.0		105	80-120
Barium	39.5	0.400	"	40.0		98.7	80-120
Cadmium	1.96	0.200	"	2.00		98.2	80-120
Copper	40.3	0.400	"	40.0		101	80-120
Lead	19.2	0.200	"	20.0		95.8	80-120
Nickel	39.7	0.400	"	40.0		99.2	80-120
Silver	1.99	0.0200	"	2.00		99.4	80-120
Zinc	42.2	0.400	"	40.0		105	80-120
Selenium	3.93	0.260	"	4.00		98.2	80-120

Duplicate (BHD0352-DUP1)

Source: 2402189-01

Prepared: 04/11/24 Analyzed: 04/16/24

Arsenic	3.01	0.200	mg/kg dry		2.88		4.39	20
Barium	219	0.400	"		201		8.57	20
Cadmium	0.402	0.200	"		0.360		10.9	20
Copper	11.6	0.400	"		11.4		2.23	20
Lead	10.4	0.200	"		9.85		5.10	20
Nickel	12.8	0.400	"		12.6		1.17	20
Silver	0.0712	0.0200	"		0.0645		9.77	20
Zinc	22.4	0.400	"		21.8		2.42	20
Selenium	ND	0.260	"		ND			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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0352 - EPA 3050B

Matrix Spike (BHD0352-MS1)

Source: 2402189-01

Prepared: 04/11/24 Analyzed: 04/16/24

Arsenic	26.7	0.200	mg/kg dry	45.1	2.88	52.9	75-125				QM-07
Barium	268	0.400	"	45.1	201	149	75-125				QM-07
Cadmium	2.70	0.200	"	2.25	0.360	104	75-125				
Copper	57.8	0.400	"	45.1	11.4	103	75-125				
Lead	31.6	0.200	"	22.5	9.85	96.7	75-125				
Nickel	59.4	0.400	"	45.1	12.6	104	75-125				
Silver	2.31	0.0200	"	2.25	0.0645	99.8	75-125				
Zinc	45.9	0.400	"	45.1	21.8	53.5	75-125				QM-07
Selenium	3.58	0.260	"	4.51	ND	79.5	75-125				

Matrix Spike Dup (BHD0352-MSD1)

Source: 2402189-01

Prepared: 04/11/24 Analyzed: 04/16/24

Arsenic	26.8	0.200	mg/kg dry	45.1	2.88	53.0	75-125	0.152	25		QM-07
Barium	268	0.400	"	45.1	201	149	75-125	0.00619	25		QM-07
Cadmium	2.70	0.200	"	2.25	0.360	104	75-125	0.234	25		
Copper	56.9	0.400	"	45.1	11.4	101	75-125	1.63	25		
Lead	31.7	0.200	"	22.5	9.85	97.1	75-125	0.280	25		
Nickel	58.3	0.400	"	45.1	12.6	101	75-125	1.93	25		
Silver	2.33	0.0200	"	2.25	0.0645	100	75-125	0.544	25		
Zinc	46.4	0.400	"	45.1	21.8	54.4	75-125	0.895	25		QM-07
Selenium	3.60	0.260	"	4.51	ND	80.0	75-125	0.627	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0616 - 3060A Mod

Blank (BHD0616-BLK1)

Prepared & Analyzed: 04/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0616-BS1)

Prepared & Analyzed: 04/18/24

Chromium, Hexavalent 25.6 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHD0616-DUP1)

Source: 2402293-01

Prepared & Analyzed: 04/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0616-MS1)

Source: 2402293-01

Prepared & Analyzed: 04/18/24

Chromium, Hexavalent 29.8 0.30 mg/kg dry 29.4 ND 102 75-125

Matrix Spike Dup (BHD0616-MSD1)

Source: 2402293-01

Prepared & Analyzed: 04/18/24

Chromium, Hexavalent 29.8 0.30 mg/kg dry 29.4 ND 102 75-125 0.00 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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

Summit Scientific

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

Batch BHB0530 - General Preparation

Blank (BHB0530-BLK1)

Prepared: 02/15/24 Analyzed: 02/20/24

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

LCS (BHB0530-BS1)

Prepared: 02/15/24 Analyzed: 02/20/24

Calcium	5.97	0.0500	mg/L wet	5.00		119	70-130			
Magnesium	5.90	0.0500	"	5.00		118	70-130			
Sodium	6.31	0.0500	"	5.00		126	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
 Project Manager: Jacob Whritenour

Reported:
 04/19/24 09:51

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

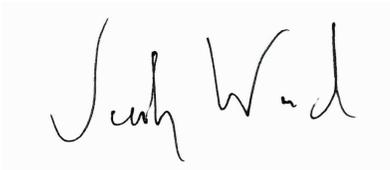
Summit Scientific

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

Batch BHB0718 - General Preparation

Duplicate (BHB0718-DUP1)	Source: 2402221-01			Prepared & Analyzed: 02/22/24							
% Solids	95.3		%		96.1				0.859	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0537 - General Preparation

Blank (BHB0537-BLK1)

Prepared: 02/16/24 Analyzed: 02/20/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHB0537-BS1)

Prepared: 02/16/24 Analyzed: 02/20/24

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHB0537-DUP1)

Source: 2402280-01

Prepared: 02/16/24 Analyzed: 02/20/24

Specific Conductance (EC) 2.61 0.0100 mmhos/cm 2.64 0.990 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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

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 BHB0538 - General Preparation

LCS (BHB0538-BS1)

Prepared: 02/16/24 Analyzed: 02/20/24

pH	9.29	pH Units	9.18	101	95-105
----	------	----------	------	-----	--------

Duplicate (BHB0538-DUP1)

Source: 2402280-01

Prepared: 02/16/24 Analyzed: 02/20/24

pH	8.23	pH Units	8.23	0.00	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 - Thompson D20-31D

Project Number: UWRWE-A2800-ABN
Project Manager: Jacob Whritenour

Reported:
04/19/24 09:51

Notes and Definitions

- 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.
- I-04 Sample was analyzed out of recommended holding time per clients request.
- 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

ATTACHMENT B
EXCAVATION FIELD FORM AND PHOTO LOG



EXCAVATION FIELD FORM

SITE NAME / API #: Thompson D20-31D					DATE: 2/15/2024	WEATHER: Foggy 40's																																
ACCOUNTING CODES:			LOCATION ID:		LAT/LONG: 40.218403, -104.583676																																	
SITE DIRECTIONS: CR51 & CR32, N 20ft on CR51, E into site					# OF WATER WELLS WITHIN 1/2 MILE:																																	
LEGALS					DIST./DIR. TO NEAREST WATER WELL (ft.):																																	
SOIL TYPES: Well Graded Sand					ESTIMATED DEPTH TO GROUNDWATER: 9																																	
LAND USE: Pasture					SURFACE WATER: None																																	
LIVESTOCK PRESENT: No			OCCUPIED BUILDING: No		CLIENT PERSONNEL: AO, BR																																	
Time	Soil Sample ID	PID ppm	Stain?	Odor?	Lab?	TASMAN PERSONNEL: PK, MR																																
11:55	SS01@7'	0.0	No	No	Yes	WHAT SPILLED:																																
12:00	SS02@7'	0.0	No	No	Yes	AMOUNT SPILLED:																																
12:05	SS03@7'	0.1	No	No	Yes	CAUSE OF SPILL:																																
12:10	SS04@7'	0.1	No	No	Yes																																	
11:50	FS01@8'	0.0	No	No	Yes	HOW WAS IT FOUND:																																
10:20	SS05@7'	0.0	No	No	Yes																																	
10:15	SS06@7'	0.0	No	No	Yes	HOW WAS IT STOPPED/CONTAINED:																																
10:10	SS07@7'	0.0	No	No	Yes																																	
10:05	SS08@7'	0.0	No	No	Yes	HOW WAS IT RECOVERED:																																
10:00	FS02@8'	0.0	No	No	Yes																																	
						Soil Disposal Facility: WM - Buffalo Ridge <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Soil Trucks In</th> <th colspan="2">Soil Trucks Out</th> </tr> <tr> <th>Company</th> <th>#</th> <th>Company</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Leo Trucking</td> <td>8</td> <td>Leo Trucking</td> <td>10</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Soil Trucks In		Soil Trucks Out		Company	#	Company	#	Leo Trucking	8	Leo Trucking	10																				
Soil Trucks In		Soil Trucks Out																																				
Company	#	Company	#																																			
Leo Trucking	8	Leo Trucking	10																																			

GROUNDWATER:

Time	Groundwater Sample ID	Sheen?	Color	Odor?	Lab?

PRODUCED WATER TANK/VAULT REMOVALS:

Soil sample with highest PID reading noted above submitted for SAR, pH, EC	SSID#

Measured Daily Yards Removed:	
120 cubic yards	
GW Disposal Facility:	
Company	BBLS Out

View Facing North



View Facing East



View Facing South



View Facing West



Thompson D20-31D

2/16/24
PK, MR

Pasture



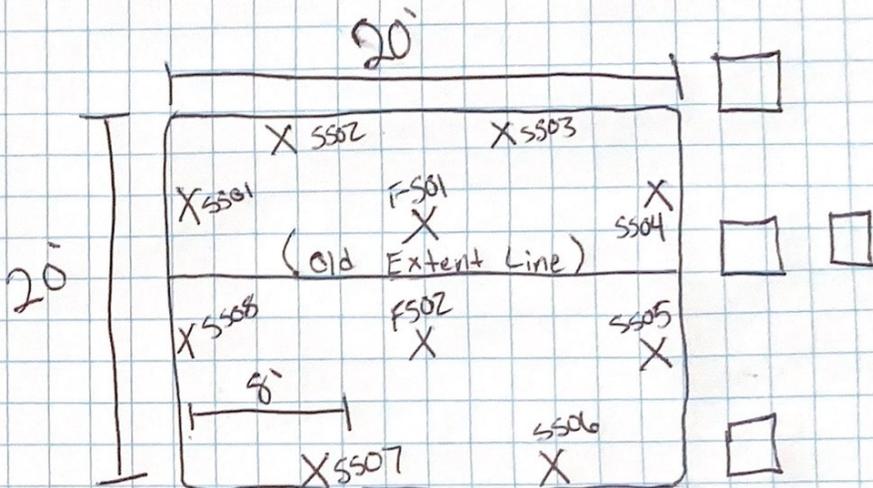
X = Sample Location
□ = Monitoring well location

Access Road

CR51

Pasture

Access Road



CR32

Pasture