

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
Separator Excavation	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
	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

[illegible]

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:

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

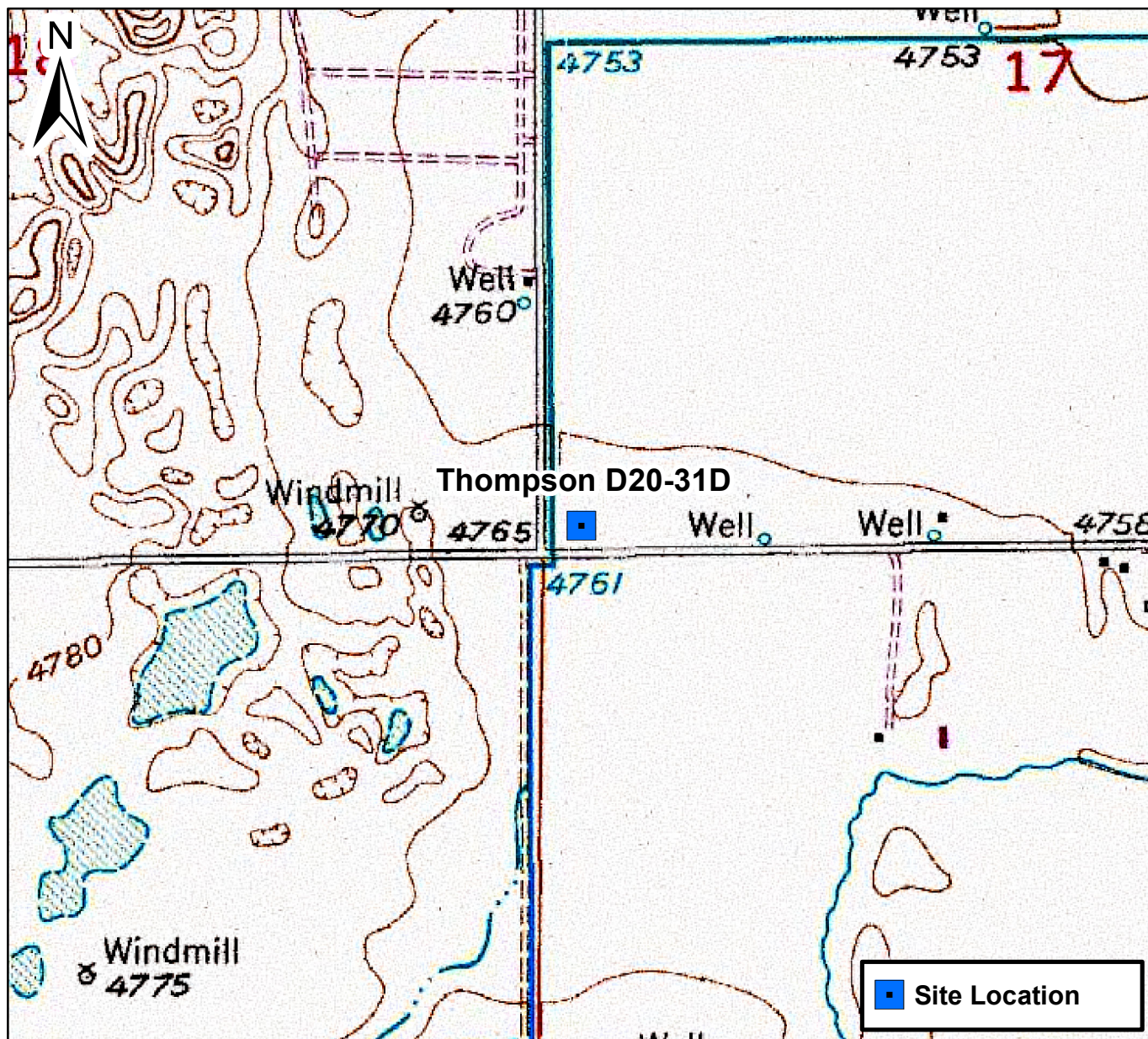
Definitions:

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

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
Benz(a) = Benzanthracene
Benzo(b) = Benzo(a)fluoranthene
Benzo(k) = Benzo(a)fluoranthene
Benzo(a) = Benzopyrene
A,H = Dibenzo(a,h)anthracene
1,2,3-CD = Indenopyrene
1-M = 1-methylnaphthalene
2-M = 2-methylnaphthalene
NA = Not analyzed

FIGURES

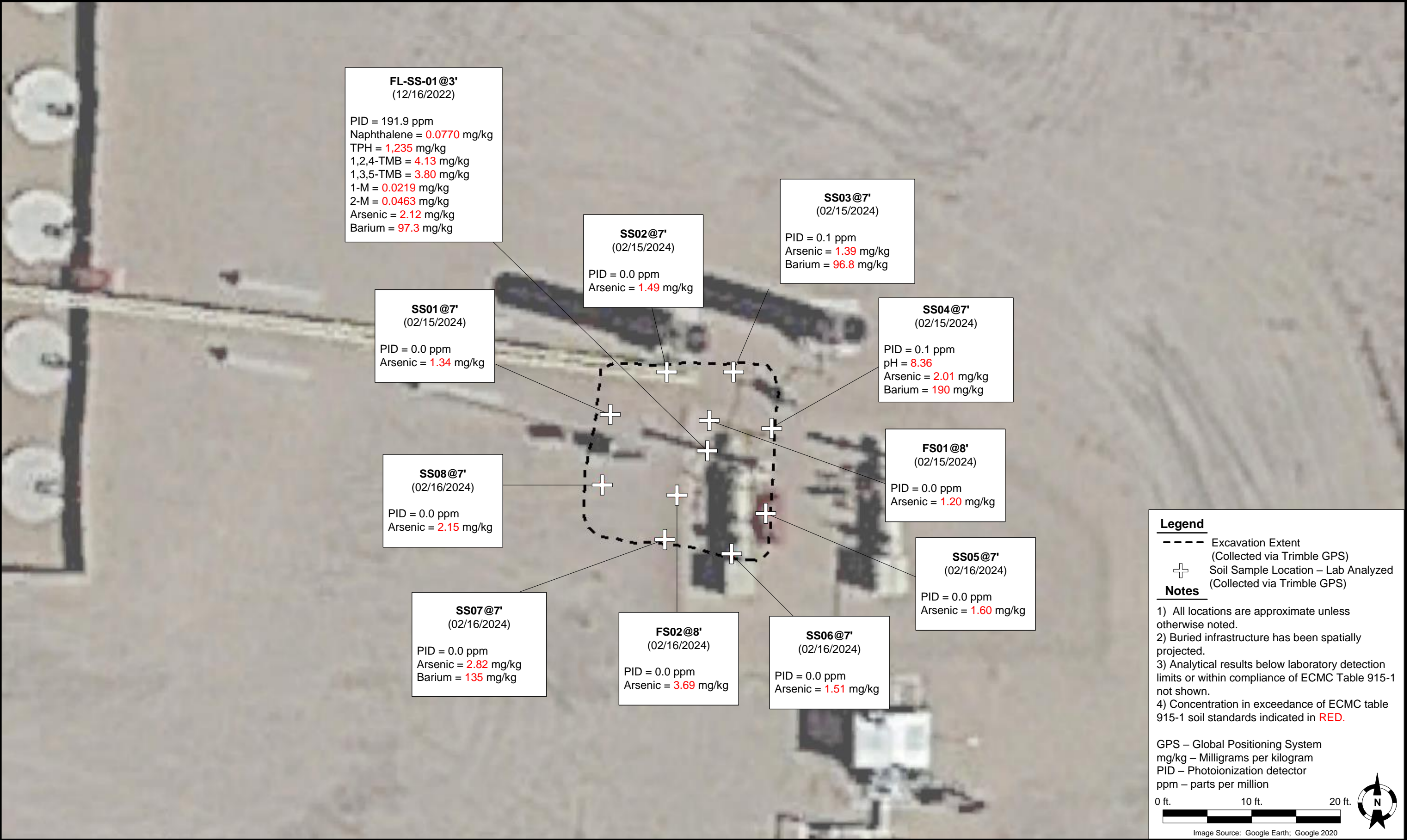


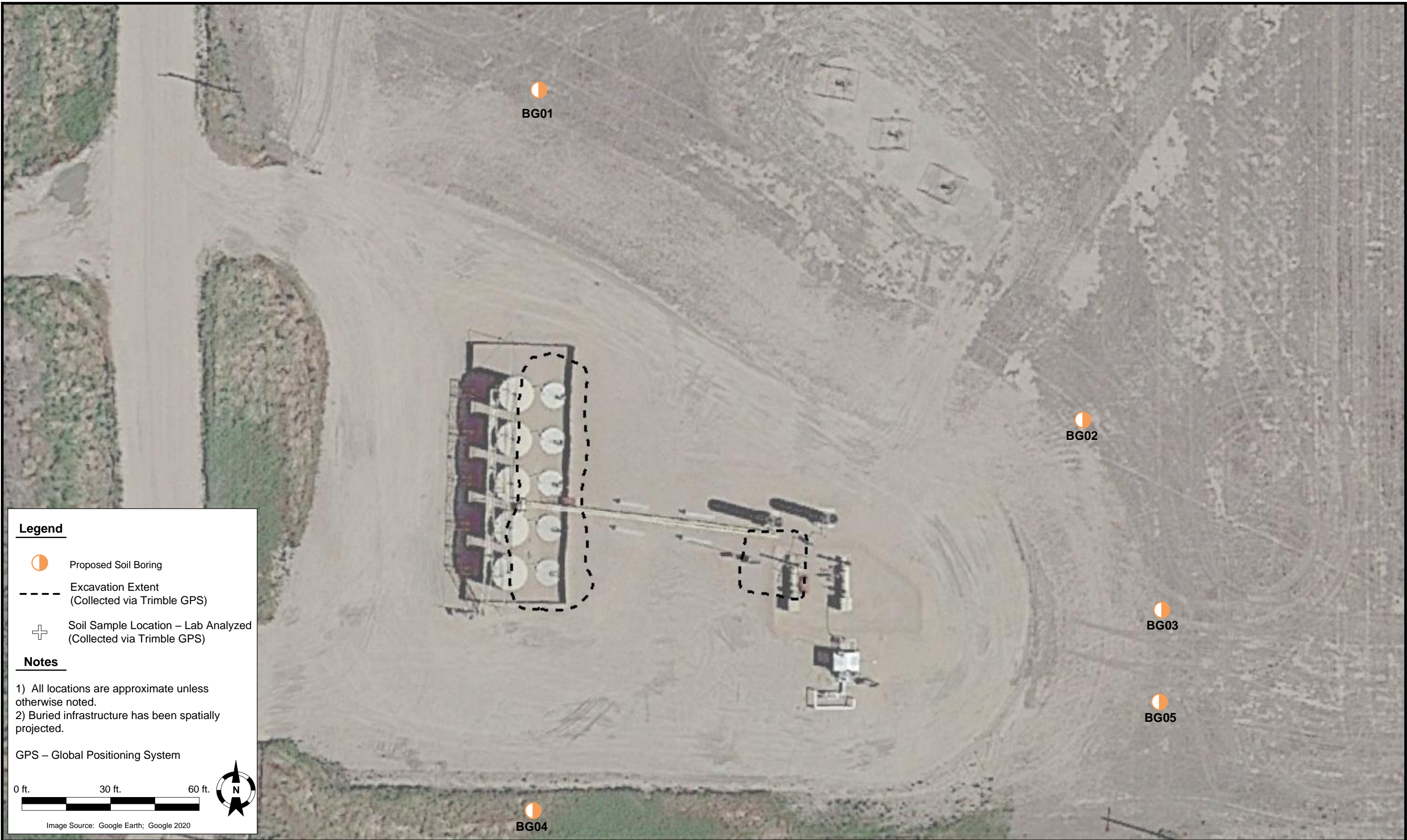
0 1,000 2,000 Feet


Figure 1

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







DATE:	4/10/2024	<div><div>Tasman, Inc. 6855 W 119th Avenue Broomfield, CO 80020</div></div>	<div>Noble Energy, Inc. – DJ Basin Thompson D20-31D FAC SWSW, Section 17, Township 3 North, Range 64 West Weld County, Colorado</div>	Proposed Soil Boring Locations	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	JG				

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.

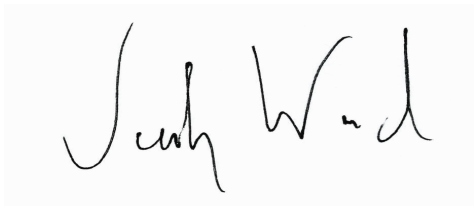
Broomfield, CO 80020

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, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

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

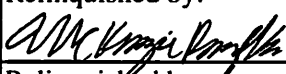


Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS02@8'	2402315-01	Soil	02/16/24 10:00	02/16/24 16:30
SS08@7'	2402315-02	Soil	02/16/24 10:05	02/16/24 16:30
SS07@7'	2402315-03	Soil	02/16/24 10:10	02/16/24 16:30
SS06@7'	2402315-04	Soil	02/16/24 10:15	02/16/24 16:30
SS05@7'	2402315-05	Soil	02/16/24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

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 D20-310
City/State/Zip: Broomfield/CO/ 80020		AFE#:
Phone: 602-881-5716	Project Name: Thompson D20-310	PO/Billing Codes:
Sampler Name: McKenzie Reynolds	Project Number:	Contact: Dan Peterson

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

Relinquished by: 	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: 	Date/Time: 2/16/24 1630	Received by: 	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# 2402315Client: Noble Gasman Client Project ID: Thompson D20-31DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply) Air ☐ Soil ☒ Solid ☐ Water ☐ Other ☐Temp (°C) 8.2 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"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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

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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
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Summit Scientific

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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

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
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Summit Scientific

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BHB0583	02/19/24	02/20/24	EPA 9045D	

Summit Scientific

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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

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Tasman Geosciences
6855 W. 119th Ave.
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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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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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

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
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Summit Scientific

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26		pH Units	1	BHB0583	02/19/24	02/20/24	EPA 9045D	

Summit Scientific

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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

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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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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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

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BHB0583	02/19/24	02/20/24	EPA 9045D	

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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

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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
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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

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

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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	

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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

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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
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Summit Scientific

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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

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

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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

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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			

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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
Surrogate: 1,2-Dichloroethane-d4		0.0375	"	0.0400		93.8	50-150			
Surrogate: Toluene-d8		0.0400	"	0.0400		99.9	50-150			
Surrogate: 4-Bromofluorobenzene		0.0413	"	0.0400		103	50-150			

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

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: o-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: o-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: o-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	70-130	7.33	20	
Surrogate: o-Terphenyl	8.08		"	12.5		64.6	30-150			

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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

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

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0449		"	0.0333		135	40-150			
Surrogate: Fluoranthene-d10	0.0311		"	0.0333		93.2	40-150			

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
Surrogate: 2-Methylnaphthalene-d10	0.0332		"	0.0333	99.7	40-150
Surrogate: Fluoranthene-d10	0.0304		"	0.0333	91.3	40-150

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Tasman Geosciences
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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

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

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		
Surrogate: 2-Methylnaphthalene-d10	0.0204		"	0.0333		61.3	40-150		
Surrogate: Fluoranthene-d10	0.0231		"	0.0333		69.4	40-150		

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
Surrogate: 2-Methylnaphthalene-d10	0.0209		"	0.0333		62.6	40-150		
Surrogate: Fluoranthene-d10	0.0236		"	0.0333		70.9	40-150		

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

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

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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

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

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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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BHB0719 - General Preparation

Duplicate (BHB0719-DUP1)		Source: 2402222-01			Prepared & Analyzed: 02/22/24					
% Solids	89.9		%		90.3			0.517	20	

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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		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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
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Duplicate (BHB0583-DUP1)

Source: 2402204-01

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

pH	7.01	pH Units	6.98	0.429	20
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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.

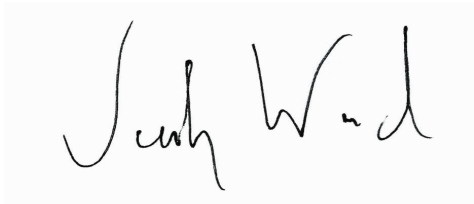
Broomfield, CO 80020

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, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

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.

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

				Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	
1	F80108'	2/15/24	1150	2			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	S80107'	I	1155	I			I			I			I	I	I	I	I	I		
3	S80207'	I	1200	I			I			I			I	I	I	I	I	I		
4	S80307'	I	1205	I			I			I			I	I	I	I	I	I		
5	S80407'	I	1210	I			I			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:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 2/15/24 1740	Received by: <i>[Signature]</i>	Date/Time: 2/15/24 1740	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				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# 2402293Client: Noble/TrismanClient Project ID: Thompson D26-31DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

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 70°F</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
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		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.56	68.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - 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
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Summit Scientific

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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

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

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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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% 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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BHB0538	02/16/24	02/20/24	EPA 9045D	

Summit Scientific

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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	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 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.69	77.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - 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
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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

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

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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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% 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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.03			pH Units	1	BHB0538	02/16/24	02/20/24	EPA 9045D	

Summit Scientific

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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

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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
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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

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

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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	

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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

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Project: Noble - Thompson D20-31D
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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
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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

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

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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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% 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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BHB0538	02/16/24	02/20/24	EPA 9045D	

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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

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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
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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

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
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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
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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	

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0346		"	0.0400		86.6	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.3	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0540		"	0.0400		135	50-150			

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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			

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

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: o-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: o-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: o-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: o-Terphenyl	9.55		"	12.5		76.4	30-150			

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6855 W. 119th Ave.
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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

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

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0327		"	0.0333		98.0	40-150			
Surrogate: Fluoranthene-d10	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
Surrogate: 2-Methylnaphthalene-d10	0.0361		"	0.0333	108	40-150
Surrogate: Fluoranthene-d10	0.0332		"	0.0333	99.6	40-150

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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	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	Notes

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		
Surrogate: 2-Methylnaphthalene-d10	0.0151		"	0.0333		45.2	40-150		
Surrogate: Fluoranthene-d10	0.0134		"	0.0333		40.3	40-150		

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
Surrogate: 2-Methylnaphthalene-d10	0.0170		"	0.0333		51.0	40-150		
Surrogate: Fluoranthene-d10	0.0196		"	0.0333		58.9	40-150		

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

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

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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 Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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
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Duplicate (BHB0538-DUP1)

Source: 2402280-01

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

pH	8.23	pH Units	8.23	0.00	20
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Summit Scientific

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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;"> <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> <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> </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

GENERAL OBSERVATION FORM

Client: Noble

Site Area/AOC: Thompson D20-31D

Date: 2/15/2024

Task/Location Description: Soil sampling via excavation

Daily Forecast/Weather: Foggy 40's

Personnel: PK, MR

Description of Activities:

[illegible]

View Facing North



View Facing East



View Facing South



View Facing West



Thompson D20-31 D

2/16/24
PK, MR

Pasture



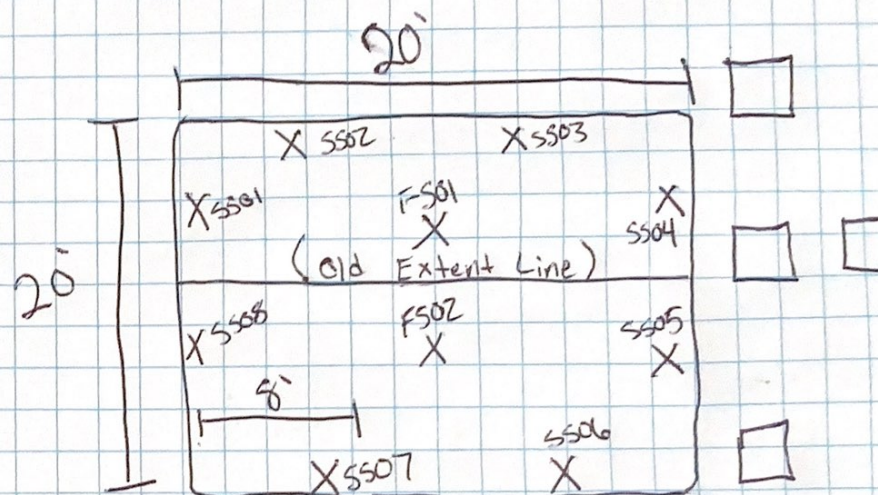
X = Sample Location
□ = Monitoring well location

Access Road

CR51

Pasture

Access Road



Pasture

CR32