



SITE NAME: Sater CC18-18							DATE: 4/8/2024	REM. PROJECT #: 31874	WEATHER: CLEAR, 40S		
SITE DIRECTIONS: CR 46//61 0.5MI E 0.3SE INTO							CLIENT: Noble				
LEGALS AND LAT/LONG: 40.316668, -104.475266							TASMAN PERSONNEL: MW, KS				
SOIL TYPES: Well Graded Sand - SW							SURFACE GRADIENT: South				
SOIL SAMPLING							FACILITY INFRASTRUCTURE				
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT		Quantity		
							Above Ground Storage Tank (AST)		2		
4/8/2024 11:39	AST01@0.5'	0.1	HC Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel		1		
4/8/2024 11:48	AST02@0.5'	0.1	No Staining	No Odor	Yes	Lab	Separator		2		
4/9/2024 12:58	SEP01-FL@3'	1.2	No Staining	No Odor	Yes	Lab	Emission Control Device (ECD)				
4/9/2024 13:00	SEP01-DL@3'	1.3	No Staining	No Odor	Yes	Lab	Dump Line				
4/9/2024 13:10	SEP02-FL@3'	0.8	No Staining	No Odor	Yes	Lab	Wellhead				
4/9/2024 13:12	SEP02-DL@3'	1.2	No Staining	No Odor	Yes	Lab	Flowline				
4/8/2024 13:40	FS01@4'	0.6	No Staining	No Odor	Yes	Lab	Other:				
4/8/2024 13:31	SS01@3'	0.2	No Staining	No Odor	Yes	On-Hold	Soil Loads Removed				
4/8/2024 13:34	SS02@3'	0.6	No Staining	No Odor	Yes	Lab	IMPACTED SOIL IDENTIFIED?				
4/8/2024 13:35	SS03@3'	0.3	No Staining	No Odor	Yes	On-Hold	ESTIMATED VOLUME OF IMPACTS:				
4/8/2024 13:37	SS04@3'	0.1	No Staining	No Odor	Yes	On-Hold	Date		Number		CY
4/8/2024 13:10	MH01@0.5'	0.0	No Staining	No Odor	Yes	Grab					
4/8/2024 13:17	MH02@0.5'	0.1	No Staining	No Odor	Yes	Grab					
4/8/2024 13:08	FLARE01@0.5'	0.1	No Staining	No Odor	Yes	Grab					
4/9/2024 13:21	BG01 @ 0.5'	0.4	No Staining	No Odor	Yes	Lab					
4/9/2024 13:23	BG01 @ 3'	0.5	No Staining	No Odor	Yes	Lab	Total Removed		0		0
4/9/2024 13:25	BG01 @ 4'	0.7	No Staining	No Odor	Yes	Lab	Disposal Facility:				
							Groundwater Recovery				
							DATE GW ENCOUNTERED:			DEPTH:	
							GROUNDWATER IN CONTACT WITH IMPACTED SOIL?				
							LNAPL OR SHEEN OBSERVED ON GW?				
GROUNDWATER SAMPLING							Date		BBLS		
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?					
							Total Removed		0		
							Disposal Facility:				



GENERAL OBSERVATION FORM

Client: Noble

Site Area/AOC: Sater CC 18-17D TB

Date: 4/8/2024

Task/Location Description: Decommissioning soil sampling





Daily Forecast/Weather: Sunny, 40s

Personnel: MW, KS

Description of Activities:

Time	Description
09:30	Arrived on site began JSA
10:56	Completed JSA reviewed with crew
10:57	Waited for crew activities
14:05	Completed sampling activities
14:39	Departed site
	SEP01-FL, SEP01-DL, SEP02-FL, & SEP-02-DL SAMPLED WITH FLOWLINE ON 4/8/24 DUE TO ASPESTOS CONCERN
	SEP01-FL IS FL01-B for Sater CC18-18 FL
	PROXIMITY OF BG01 TO FLOWLINES IS DUE TO MULTIPLE OTHER GAS AND WATER LINES IN AREA

Photographic Log

					
Equipment ID: AST01@0.5'		Equipment Type:			
Material:	Volume:	Contents:			
Notes/Conditions: N facing					
					
Equipment ID: AST02@0.5'		Equipment Type:			
Material:	Volume:	Contents:			
Notes/Conditions: N facing					

Photographic Log



Equipment ID: FLARE01 @0.5'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: S Facing			

Equipment ID: MH01 @0.5'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: E facing			

Photographic Log



Equipment ID: MH02@0.5'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: N Facing			

Equipment ID: SS01@3'		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: N Facing			

Photographic Log





Equipment ID: SS02@3'		Equipment Type:		Equipment ID: SS03@3'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: E facing				Notes/Conditions: S facing			

Photographic Log



Equipment ID: SS04@3'		Equipment Type:		Equipment ID: FS01@4'		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: W facing				Notes/Conditions: E facing			

Photographic Log

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions:			Notes/Conditions:		

Photographic Log

					
<p>Material:</p>	<p>Volume:</p>	<p>Contents:</p>	<p>Equipment ID:SEP02-DL@3' Equipment Type:</p>		
<p>Material:</p>	<p>Volume:</p>	<p>Contents:</p>	<p>Material:</p>	<p>Volume:</p>	<p>Contents:</p>
<p>Notes/Conditions:</p>			<p>Notes/Conditions:</p>		

Photographic Log



Equipment ID: BG01		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions:				Notes/Conditions:			

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. (100322) - SATER CC18-18

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
AST01@0.5'	04/08/24	0.1	HC Staining	No Odor	Lab	40.316622	-104.474874	NC
AST02@0.5'	04/08/24	0.1	No Staining	No Odor	Lab	40.316607	-104.474824	NC
FLARE01@0.5'	04/08/24	0.1	No Staining	No Odor	Grab	40.316661	-104.475341	NC
FS01@4'	04/08/24	0.6	No Staining	No Odor	Lab	40.316614	-104.474982	NC
MH01@0.5'	04/08/24	0.0	No Staining	No Odor	Grab	40.316707	-104.475313	NC
MH02@0.5'	04/08/24	0.1	No Staining	No Odor	Grab	40.316577	-104.475233	NC
SS01@3'	04/08/24	0.2	No Staining	No Odor	Grab	40.316627	-104.474974	NC
SS02@3'	04/08/24	0.6	No Staining	No Odor	Lab	40.316603	-104.474929	NC
SS03@3'	04/08/24	0.3	No Staining	No Odor	Grab	40.316595	-104.474976	NC
SS04@3'	04/08/24	0.1	No Staining	No Odor	Grab	40.316618	-104.475011	NC
SEP01-DL@3'	04/09/24	1.3	No Staining	No Odor	Lab	40.316679	-104.475244	1.0
SEP01-FL@3'	04/09/24	1.2	No Staining	No Odor	Lab	40.316670	-104.475275	1.0
SEP02-DL@3'	04/09/24	1.2	No Staining	No Odor	Lab	40.316627	-104.475223	0.9
SEP02-FL@3'	04/09/24	0.8	No Staining	No Odor	Lab	40.316621	-104.475271	0.9
BG01@0.5'	04/09/24	0.4	No Staining	No Odor	Lab	40.316001	-104.480058	0.9
BG01@3'	04/09/24	0.5	No Staining	No Odor	Lab	40.316001	-104.480058	0.9
BG01@4'	04/09/24	0.7	No Staining	No Odor	Lab	40.316001	-104.480058	0.9

Notes:

PID = Photoionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

NC = Not Collected

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 6 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. (100322) - SATER CC18-18

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^{1,2}		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{1,2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01@0.5'	04/08/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST02@0.5'	04/08/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@4'	04/08/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS02@3'	04/08/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL@3'	04/09/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL@3'	04/09/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP02-DL@3'	04/09/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP02-FL@3'	04/09/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
SSR ^{1,2}		6 - 8.3	<6	<4mmhos/cm	2
AST01@0.5'	04/08/24	7.61	0.0148	0.0270	<2.00
AST02@0.5'	04/08/24	8.77	0.112	0.134	<2.00
FS01@4'	04/08/24	8.85	0.0997	0.0970	<2.00
SS02@3'	04/08/24	8.05	0.0285	0.0650	<2.00
SEP01-DL@3'	04/09/24	8.16	0.0407	0.0549	<2.00
SEP01-FL@3'	04/09/24	8.19	0.0635	0.108	<2.00
SEP02-DL@3'	04/09/24	8.40	0.147	0.252	<2.00
SEP02-FL@3'	04/09/24	8.60	0.0250	0.107	<2.00
BG01@0.5'	04/09/24	7.65	NA	NA	NA
BG01@3'	04/09/24	8.37	NA	NA	NA
BG01@4'	04/09/24	8.71	NA	NA	NA
Highest Background		8.71	-	-	-

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 ^{1,2}		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{1,2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST01@0.5'	04/08/24	2.17	79.9	0.358	<0.30	5.48	10.6	4.72	<0.260	0.0559	18.0
AST02@0.5'	04/08/24	2.38	45.9	<0.200	<0.30	4.06	6.71	4.11	<0.260	0.0376	15.0
FS01@4'	04/08/24	1.82	56.7	<0.200	<0.30	3.98	5.01	3.87	<0.260	0.0408	14.7
SS02@3'	04/08/24	2.09	67.2	0.272	<0.30	5.45	7.19	4.31	<0.234	0.0481	17.5
SEP01-DL@3'	04/09/24	1.46	55.0	<0.179	<0.30	3.80	3.72	2.86	<0.232	0.0240	16.7
SEP01-FL@3'	04/09/24	1.61	63.2	0.200	<0.30	5.82	5.05	3.54	<0.260	0.0278	23.1
SEP02-DL@3'	04/09/24	1.66	61.0	<0.200	<0.30	5.54	4.95	3.48	<0.260	0.0253	22.6
SEP02-FL@3'	04/09/24	1.74	68.1	0.220	<0.30	6.88	6.01	3.81	<0.260	0.0310	26.0
BG01@0.5'	04/09/24	1.64	78.5	0.205	<0.30	7.95	6.52	3.94	<0.260	0.0290	26.7
BG01@3'	04/09/24	1.67	62.1	<0.200	<0.30	4.92	4.51	3.47	<0.260	0.0349	22.3
BG01@4'	04/09/24	1.71	59.7	<0.181	<0.30	5.04	4.56	3.18	<0.236	0.0224	19.5
Mean Background Concentration		1.67	-	-	-	-	-	-	-	-	-
Mean Background x1.25		2.09	-	-	-	-	-	-	-	-	-
Highest Background		1.71	-	-	-	-	-	-	-	-	-
Highest Background x1.25		2.14	-	-	-	-	-	-	-	-	-

Notes:

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

Definitions:

ECMC = Energy and Carbon Management Commission

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) = Benzo(a)anthracene

Benzo(b) = Benzo(b)fluoranthene

Benzo(k) = Benzo(k)fluoranthene

Benzo(a) = Benzo(a)pyrene

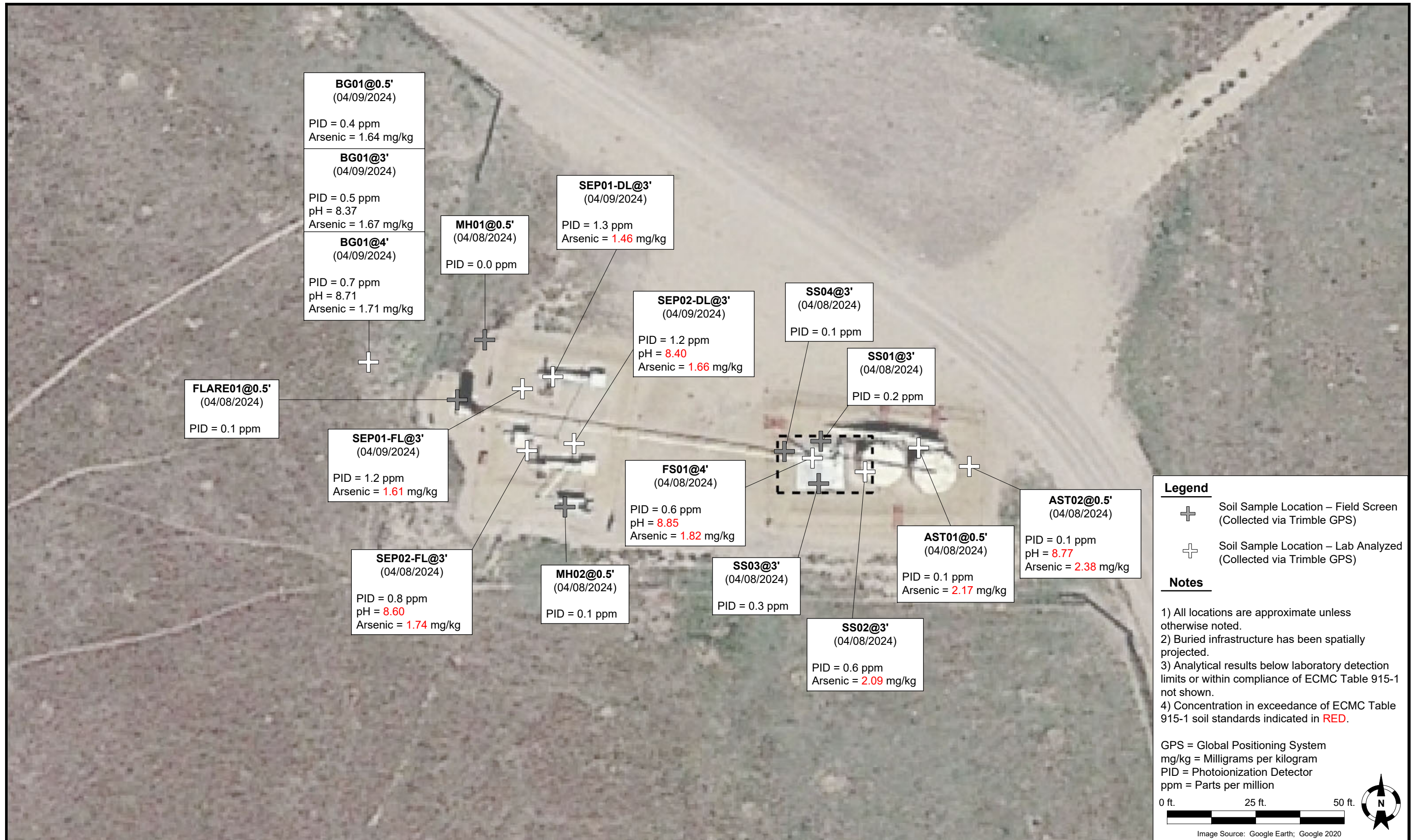
A,H = Dibenzo(a,h)anthracene

1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

NA = Not analyzed



DATE: 06/05/2024

DESIGNED BY: JW

DRAWN BY: PK



TASMAN
GEOSCIENCES

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

Noble Energy, Inc. (100322) – DJ Basin
Sater CC18-18
 NENE, Section 18, Township 4 North, Range 63 West
 Weld County, Colorado

Tank Battery Closure & Soil
 Analytical Results Map
 (04/08/2024 and 04/09/2024)

FIGURE
1

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 15, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Sater CC18-18 TB
Work Order #2404124

Enclosed are the results of analyses for samples received by Summit Scientific on 04/08/24 17:39. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury
President



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

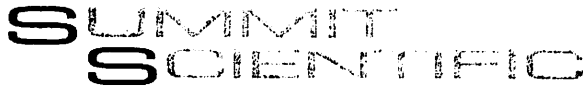
Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0.5'	2404124-01	Soil	04/08/24 11:39	04/08/24 17:39
AST02@0.5'	2404124-02	Soil	04/08/24 11:48	04/08/24 17:39
FS01@4'	2404124-03	Soil	04/08/24 13:40	04/08/24 17:39
SS02@3'	2404124-05	Soil	04/08/24 13:34	04/08/24 17:39



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

Lab ID	Page	of
2404124		

Send Data To:		Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Noble
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Sater CC 1B-1B TB
City/State/Zip: Broomfield/CO/ 80020		AFE#: UW/RWE-3547-ABN
Phone: 978-857-4408	Project Location: Sater CC 1B-1B TB	PO/Billing Codes:
Sampler Name: Matthew Wentzel <i>Kaitlin Steinfart</i>	Project Number:	Contact: <i>Miguel Barron</i>

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS	HOLD
1	AST01 @ 0.5'	04-08-24	1139	3			X			X										SAR, EC, pH by saturated paste
2	AST02 @ 0.5'		1148				X			X										
3	FS01 @ 4'		1347				X			X										
4	SS01 @ 3'		1331				X			X										
5	SS02 @ 3'		1334				X			X										
6	SS03 @ 3'		1335				X			X										
7	SS04 @ 3'		1337				X			X										
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Kaitlin Steinfart</i>	Date/Time: 04-08-24 1537	Received by: Tasman Lock Box	Date/Time: 04-08-24 1537	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 4824 1739	Received by: <i>[Signature]</i>	Date/Time: 4824 1739	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 8.7	Corrected Temperature: 8	IR gun #:	HNO3 lot #:	Standard	<input checked="" type="checkbox"/> Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2404124

Client: Noble Gasman Client Project ID: Sater CC 18-18 TB

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

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

Temp (°C) 8.7 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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>ADJE</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Sample #1 + #2 time stamps did not match</u>
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

4/8/24
Date/Time



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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST01@0.5'
2404124-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/08/24 11:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0336	84.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0345	86.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0373	93.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHD0314	04/10/24	04/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.54	60.3 %		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 - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST01@0.5'
2404124-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0265	04/09/24	04/10/24	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: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	64.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0164	49.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0519	04/16/24	04/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/08/24 11:39**

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 - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST01@0.5'
2404124-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.17	0.200	mg/kg dry	1	BHD0833	04/23/24	04/26/24	EPA 6020B
Barium	79.9	0.400	"	"	"	"	"	"
Cadmium	0.358	0.200	"	"	"	"	"	"
Copper	5.48	0.400	"	"	"	"	"	"
Lead	10.6	0.200	"	"	"	"	"	"
Nickel	4.72	0.400	"	"	"	"	"	"
Silver	0.0559	0.0200	"	"	"	"	"	"
Zinc	18.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0567	04/17/24	04/18/24	EPA 7196A	

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

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	43.3	0.0500	mg/L dry	1	BHD0851	04/23/24	05/14/24	EPA 6020B	
Magnesium	9.11	0.0500	"	"	"	"	"	"	
Sodium	0.411	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0148	0.00100	units	1	BHE0470	05/15/24	05/15/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/24 11:39**

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 - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST01@0.5'
2404124-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.1	%	1	BHD0447	04/15/24	04/16/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0270	0.0100	mmhos/cm	1	BHD0853	04/23/24	04/25/24	EPA 120.1	

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

Date Sampled: **04/08/24 11:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.61		pH Units	1	BHD0852	04/23/24	04/25/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST02@0.5'
2404124-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0310	77.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0342	85.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0361	90.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.84	62.7 %	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 - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST02@0.5'
2404124-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0265	04/09/24	04/10/24	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: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0220	66.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0163	49.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0519	04/16/24	04/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/08/24 11:48**

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 - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST02@0.5'
2404124-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.38	0.200	mg/kg dry	1	BHD0833	04/23/24	04/26/24	EPA 6020B	
Barium	45.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.06	0.400	"	"	"	"	"	"	
Lead	6.71	0.200	"	"	"	"	"	"	
Nickel	4.11	0.400	"	"	"	"	"	"	
Silver	0.0376	0.0200	"	"	"	"	"	"	
Zinc	15.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0567	04/17/24	04/18/24	EPA 7196A	

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

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	90.2	0.0500	mg/L dry	1	BHD0851	04/23/24	05/14/24	EPA 6020B	
Magnesium	8.33	0.0500	"	"	"	"	"	"	
Sodium	4.14	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.112	0.00100	units	1	BHE0470	05/15/24	05/15/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

AST02@0.5'
2404124-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.2			%	1	BHD0447	04/15/24	04/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.134	0.0100		mmhos/cm	1	BHD0853	04/23/24	04/25/24	EPA 120.1	

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

Date Sampled: **04/08/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.77			pH Units	1	BHD0852	04/23/24	04/25/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

FS01@4'
2404124-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/08/24 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0317	79.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0347	86.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0363	90.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHD0314	04/10/24	04/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.82	62.6 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

FS01@4'
2404124-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0265	04/09/24	04/10/24	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: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0281	84.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0519	04/16/24	04/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/08/24 13:40**

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 - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

FS01@4'
2404124-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.82	0.200	mg/kg dry	1	BHD0833	04/23/24	04/26/24	EPA 6020B
Barium	56.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.98	0.400	"	"	"	"	"	"
Lead	5.01	0.200	"	"	"	"	"	"
Nickel	3.87	0.400	"	"	"	"	"	"
Silver	0.0408	0.0200	"	"	"	"	"	"
Zinc	14.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0567	04/17/24	04/18/24	EPA 7196A	

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

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	179	0.0500	mg/L dry	1	BHD0851	04/23/24	05/14/24	EPA 6020B	
Magnesium	17.6	0.0500	"	"	"	"	"	"	
Sodium	5.22	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0997	0.00100	units	1	BHE0470	05/15/24	05/15/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

FS01@4'
2404124-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.2		%	1	BHD0447	04/15/24	04/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0970	0.0100	mmhos/cm	1	BHD0853	04/23/24	04/25/24	EPA 120.1	

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

Date Sampled: **04/08/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.85		pH Units	1	BHD0852	04/23/24	04/25/24	EPA 9045D	

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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

SS02@3'
2404124-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0310	77.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0341	85.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.91	63.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

SS02@3'
2404124-05 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0265	04/09/24	04/10/24	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: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0242	72.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0519	04/16/24	04/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/08/24 13:34**

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 - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

SS02@3'
2404124-05 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.09	0.180	mg/kg dry	1	BHD0833	04/23/24	04/26/24	EPA 6020B
Barium	67.2	0.360	"	"	"	"	"	"
Cadmium	0.272	0.180	"	"	"	"	"	"
Copper	5.45	0.360	"	"	"	"	"	"
Lead	7.19	0.180	"	"	"	"	"	"
Nickel	4.31	0.360	"	"	"	"	"	"
Silver	0.0481	0.0180	"	"	"	"	"	"
Zinc	17.5	0.360	"	"	"	"	"	"
Selenium	ND	0.234	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0567	04/17/24	04/18/24	EPA 7196A	

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

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	76.7	0.0500	mg/L dry	1	BHD0851	04/23/24	05/14/24	EPA 6020B	
Magnesium	11.2	0.0500	"	"	"	"	"	"	
Sodium	1.01	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0285	0.00100	units	1	BHE0470	05/15/24	05/15/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

SS02@3'
2404124-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.3	%	1	BHD0447	04/15/24	04/16/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0650	0.0100	mmhos/cm	1	BHD0853	04/23/24	04/25/24	EPA 120.1	

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

Date Sampled: **04/08/24 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BHD0852	04/23/24	04/25/24	EPA 9045D	

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Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0310 - EPA 5030 Soil MS

Blank (BHD0310-BLK1)

Prepared: 04/10/24 Analyzed: 04/12/24

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	0.0322		"	0.0400		80.4		50-150		
Surrogate: Toluene-d8	0.0342		"	0.0400		85.5		50-150		
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.4		50-150		

LCS (BHD0310-BS1)

Prepared: 04/10/24 Analyzed: 04/12/24

Benzene	0.0851	0.0020	mg/kg	0.100		85.1		70-130		
Toluene	0.0835	0.0050	"	0.100		83.5		70-130		
Ethylbenzene	0.120	0.0050	"	0.100		120		70-130		
m,p-Xylene	0.238	0.010	"	0.200		119		70-130		
o-Xylene	0.114	0.0050	"	0.100		114		70-130		
1,2,4-Trimethylbenzene	0.129	0.0050	"	0.100		129		70-130		
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100		127		70-130		
Naphthalene	0.112	0.0038	"	0.100		112		70-130		
Surrogate: 1,2-Dichloroethane-d4	0.0336		"	0.0400		84.1		50-150		
Surrogate: Toluene-d8	0.0348		"	0.0400		87.0		50-150		
Surrogate: 4-Bromofluorobenzene	0.0363		"	0.0400		90.7		50-150		

Matrix Spike (BHD0310-MS1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/12/24

Benzene	0.0869	0.0020	mg/kg	0.100	ND	86.9		70-130		
Toluene	0.0854	0.0050	"	0.100	ND	85.4		70-130		
Ethylbenzene	0.125	0.0050	"	0.100	ND	125		70-130		
m,p-Xylene	0.247	0.010	"	0.200	ND	124		70-130		
o-Xylene	0.117	0.0050	"	0.100	ND	117		70-130		
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103		70-130		
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	ND	130		70-130		
Naphthalene	0.109	0.0038	"	0.100	ND	109		70-130		
Surrogate: 1,2-Dichloroethane-d4	0.0342		"	0.0400		85.4		50-150		
Surrogate: Toluene-d8	0.0351		"	0.0400		87.7		50-150		
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2		50-150		

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6855 W. 119th Ave.
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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0310 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0310-MSD1)	Source: 2404117-01			Prepared: 04/10/24 Analyzed: 04/12/24						
Benzene	0.0881	0.0020	mg/kg	0.100	ND	88.1	70-130	1.44	30	
Toluene	0.0873	0.0050	"	0.100	ND	87.3	70-130	2.12	30	
Ethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	0.915	30	
m,p-Xylene	0.245	0.010	"	0.200	ND	122	70-130	1.17	30	
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130	2.44	30	
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	1.76	30	
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	ND	130	70-130	0.138	30	
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130	5.04	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0345</i>		<i>"</i>	<i>0.0400</i>		<i>86.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0350</i>		<i>"</i>	<i>0.0400</i>		<i>87.4</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0363</i>		<i>"</i>	<i>0.0400</i>		<i>90.8</i>	<i>50-150</i>			

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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0314 - EPA 3550A

Blank (BHD0314-BLK1)

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		86.0		30-150			

LCS (BHD0314-BS1)

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	449	50	mg/kg	500		89.9		70-130			
Surrogate: <i>o</i> -Terphenyl	10.0		"	12.5		80.2		30-150			

Matrix Spike (BHD0314-MS1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	432	50	mg/kg	500	17.2	83.0		70-130			
Surrogate: <i>o</i> -Terphenyl	7.02		"	12.5		56.2		30-150			

Matrix Spike Dup (BHD0314-MSD1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	406	50	mg/kg	500	17.2	77.7		70-130	6.24	20	
Surrogate: <i>o</i> -Terphenyl	8.08		"	12.5		64.6		30-150			

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

PAH by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch BHD0265 - EPA 5030 Soil MS

Blank (BHD0265-BLK1)

Prepared: 04/09/24 Analyzed: 04/10/24

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	0.0441		"	0.0333		132	40-150			
Surrogate: Fluoranthene-d10	0.0283		"	0.0333		84.8	40-150			

LCS (BHD0265-BS1)

Prepared: 04/09/24 Analyzed: 04/10/24

Acenaphthene	0.0294	0.00500	mg/kg	0.0333		88.2	31-137			
Anthracene	0.0263	0.00500	"	0.0333		78.9	30-120			
Benzo (a) anthracene	0.0293	0.00500	"	0.0333		87.9	30-120			
Benzo (a) pyrene	0.0266	0.00500	"	0.0333		79.8	30-120			
Benzo (b) fluoranthene	0.0296	0.00500	"	0.0333		88.8	30-120			
Benzo (k) fluoranthene	0.0319	0.00500	"	0.0333		95.6	30-120			
Chrysene	0.0299	0.00500	"	0.0333		89.8	30-120			
Dibenz (a,h) anthracene	0.0198	0.00500	"	0.0333		59.5	30-120			
Fluoranthene	0.0280	0.00500	"	0.0333		84.1	30-120			
Fluorene	0.0291	0.00500	"	0.0333		87.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0200	0.00500	"	0.0333		60.1	30-120			
Pyrene	0.0333	0.00500	"	0.0333		100	35-142			
1-Methylnaphthalene	0.0319	0.00500	"	0.0333		95.7	35-142			
2-Methylnaphthalene	0.0308	0.00500	"	0.0333		92.5	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0383		"	0.0333		115	40-150			
Surrogate: Fluoranthene-d10	0.0282		"	0.0333		84.5	40-150			

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0265 - EPA 5030 Soil MS

Matrix Spike (BHD0265-MS1)	Source: 2404103-01			Prepared: 04/09/24 Analyzed: 04/10/24						
Acenaphthene	0.0221	0.00500	mg/kg	0.0333	ND	66.3	31-137			
Anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120			
Benzo (a) anthracene	0.0241	0.00500	"	0.0333	ND	72.2	30-120			
Benzo (a) pyrene	0.0223	0.00500	"	0.0333	ND	66.9	30-120			
Benzo (b) fluoranthene	0.0218	0.00500	"	0.0333	ND	65.3	30-120			
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333	ND	64.6	30-120			
Chrysene	0.0231	0.00500	"	0.0333	ND	69.3	30-120			
Dibenz (a,h) anthracene	0.0218	0.00500	"	0.0333	ND	65.4	30-120			
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.6	30-120			
Fluorene	0.0218	0.00500	"	0.0333	ND	65.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0215	0.00500	"	0.0333	ND	64.6	30-120			
Pyrene	0.0256	0.00500	"	0.0333	ND	76.7	35-142			
1-Methylnaphthalene	0.0224	0.00500	"	0.0333	ND	67.2	15-130			
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.3	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0250</i>		<i>"</i>	<i>0.0333</i>		<i>75.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0213</i>		<i>"</i>	<i>0.0333</i>		<i>63.9</i>	<i>40-150</i>			

Matrix Spike Dup (BHD0265-MSD1)	Source: 2404103-01			Prepared: 04/09/24 Analyzed: 04/10/24						
Acenaphthene	0.0186	0.00500	mg/kg	0.0333	ND	55.8	31-137	17.2	30	
Anthracene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	12.1	30	
Benzo (a) anthracene	0.0215	0.00500	"	0.0333	ND	64.4	30-120	11.4	30	
Benzo (a) pyrene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	9.39	30	
Benzo (b) fluoranthene	0.0198	0.00500	"	0.0333	ND	59.4	30-120	9.54	30	
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.5	30-120	13.4	30	
Chrysene	0.0202	0.00500	"	0.0333	ND	60.5	30-120	13.5	30	
Dibenz (a,h) anthracene	0.0206	0.00500	"	0.0333	ND	61.7	30-120	5.81	30	
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.7	30-120	15.5	30	
Fluorene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	14.2	30	
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	6.87	30	
Pyrene	0.0222	0.00500	"	0.0333	ND	66.5	35-142	14.3	30	
1-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.9	15-130	4.98	50	
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130	3.78	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0228</i>		<i>"</i>	<i>0.0333</i>		<i>68.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0185</i>		<i>"</i>	<i>0.0333</i>		<i>55.6</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

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

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

Batch BHD0519 - EPA 3050B

Blank (BHD0519-BLK1)

Prepared: 04/16/24 Analyzed: 04/18/24

Boron ND 2.00 mg/L

LCS (BHD0519-BS1)

Prepared: 04/16/24 Analyzed: 04/18/24

Boron 5.12 2.00 mg/L 5.00 102 80-120

Duplicate (BHD0519-DUP1)

Source: 2404116-01

Prepared: 04/16/24 Analyzed: 04/18/24

Boron 0.206 2.00 mg/L 0.268 26.0 20 QR-01

Matrix Spike (BHD0519-MS1)

Source: 2404116-01

Prepared: 04/16/24 Analyzed: 04/18/24

Boron 5.85 2.00 mg/L 5.04 0.268 111 75-125

Matrix Spike Dup (BHD0519-MSD1)

Source: 2404116-01

Prepared: 04/16/24 Analyzed: 04/18/24

Boron 6.08 2.00 mg/L 5.04 0.268 115 75-125 3.71 25

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0833 - EPA 3050B

Blank (BHD0833-BLK1)

Prepared: 04/23/24 Analyzed: 04/26/24

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 (BHD0833-BS1)

Prepared: 04/23/24 Analyzed: 04/26/24

Arsenic	37.5	0.200	mg/kg wet	40.0		93.8	80-120
Barium	39.1	0.400	"	40.0		97.7	80-120
Cadmium	1.89	0.200	"	2.00		94.4	80-120
Copper	39.8	0.400	"	40.0		99.5	80-120
Lead	18.8	0.200	"	20.0		94.1	80-120
Nickel	39.8	0.400	"	40.0		99.6	80-120
Silver	1.93	0.0200	"	2.00		96.4	80-120
Zinc	38.8	0.400	"	40.0		96.9	80-120
Selenium	4.08	0.260	"	4.00		102	80-120

Duplicate (BHD0833-DUP1)

Source: 2404124-01

Prepared: 04/23/24 Analyzed: 04/26/24

Arsenic	2.29	0.200	mg/kg dry	2.17		5.10	20
Barium	84.9	0.400	"	79.9		6.02	20
Cadmium	0.372	0.200	"	0.358		3.69	20
Copper	5.96	0.400	"	5.48		8.35	20
Lead	11.5	0.200	"	10.6		7.86	20
Nickel	4.92	0.400	"	4.72		4.10	20
Silver	0.0572	0.0200	"	0.0559		2.25	20
Zinc	19.7	0.400	"	18.0		8.95	20
Selenium	ND	0.260	"	ND			20

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0833 - EPA 3050B

Matrix Spike (BHD0833-MS1)

Source: 2404124-01

Prepared: 04/23/24 Analyzed: 04/26/24

Arsenic	47.3	0.200	mg/kg dry	45.0	2.17	100	75-125				
Barium	129	0.400	"	45.0	79.9	108	75-125				
Cadmium	2.66	0.200	"	2.25	0.358	102	75-125				
Copper	32.6	0.400	"	45.0	5.48	60.2	75-125				QM-05
Lead	33.6	0.200	"	22.5	10.6	102	75-125				
Nickel	31.7	0.400	"	45.0	4.72	60.0	75-125				QM-05
Silver	2.28	0.0200	"	2.25	0.0559	98.7	75-125				
Zinc	47.0	0.400	"	45.0	18.0	64.3	75-125				QM-05
Selenium	3.88	0.260	"	4.50	ND	86.2	75-125				

Matrix Spike Dup (BHD0833-MSD1)

Source: 2404124-01

Prepared: 04/23/24 Analyzed: 04/26/24

Arsenic	46.0	0.200	mg/kg dry	45.0	2.17	97.3	75-125	2.83	25		
Barium	126	0.400	"	45.0	79.9	103	75-125	1.97	25		
Cadmium	2.62	0.200	"	2.25	0.358	100	75-125	1.47	25		
Copper	31.8	0.400	"	45.0	5.48	58.3	75-125	2.55	25		QM-05
Lead	33.3	0.200	"	22.5	10.6	101	75-125	1.03	25		
Nickel	31.3	0.400	"	45.0	4.72	58.9	75-125	1.52	25		QM-05
Silver	2.22	0.0200	"	2.25	0.0559	95.9	75-125	2.81	25		
Zinc	45.8	0.400	"	45.0	18.0	61.6	75-125	2.63	25		QM-05
Selenium	3.86	0.260	"	4.50	ND	85.8	75-125	0.535	25		

Post Spike (BHD0833-PS1)

Source: 2404124-01

Prepared: 04/23/24 Analyzed: 04/26/24

Arsenic	110		ug/l	100	4.79	105	75-125				
Barium	284		"	100	176	108	75-125				
Cadmium	5.78		"	5.00	0.790	99.7	75-125				
Copper	78.6		"	100	12.1	66.5	75-125				QM-01
Lead	74.1		"	50.0	23.4	101	75-125				
Nickel	75.7		"	100	10.4	65.3	75-125				QM-01
Silver	5.16		"	5.00	0.123	101	75-125				
Zinc	109		"	100	39.7	69.7	75-125				QM-01
Selenium	10.0		"	10.0	0.312	97.1	75-125				

Summit Scientific

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0567 - 3060A Mod

Blank (BHD0567-BLK1)

Prepared: 04/17/24 Analyzed: 04/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0567-BS1)

Prepared: 04/17/24 Analyzed: 04/18/24

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BHD0567-DUP1)

Source: 2404116-01

Prepared: 04/17/24 Analyzed: 04/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0567-MS1)

Source: 2404116-01

Prepared: 04/17/24 Analyzed: 04/18/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 29.2 ND 96.2 75-125

Matrix Spike Dup (BHD0567-MSD1)

Source: 2404116-01

Prepared: 04/17/24 Analyzed: 04/18/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 29.2 ND 96.4 75-125 0.208 20

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

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

Summit Scientific

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

Batch BHD0851 - General Preparation

Blank (BHD0851-BLK1)

Prepared: 04/23/24 Analyzed: 05/14/24

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

LCS (BHD0851-BS1)

Prepared: 04/23/24 Analyzed: 05/14/24

Calcium	5.05	0.0500	mg/L wet	5.00	101	70-130				
Magnesium	5.35	0.0500	"	5.00	107	70-130				
Sodium	5.33	0.0500	"	5.00	107	70-130				

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

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

Summit Scientific

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

Batch BHD0447 - General Preparation

Duplicate (BHD0447-DUP1)	Source: 2404117-01		Prepared: 04/15/24 Analyzed: 04/16/24			
% Solids	93.0	%		94.0	1.13	20

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

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

Summit Scientific

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

Batch BHD0853 - General Preparation

Blank (BHD0853-BLK1)

Prepared: 04/23/24 Analyzed: 04/25/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD0853-BS1)

Prepared: 04/23/24 Analyzed: 04/25/24

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHD0853-DUP1)

Source: 2404117-01

Prepared: 04/23/24 Analyzed: 04/25/24

Specific Conductance (EC) 0.103 0.0100 mmhos/cm 0.103 0.00 20

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

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

Summit Scientific

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

Batch BHD0852 - General Preparation

LCS (BHD0852-BS1)

Prepared: 04/23/24 Analyzed: 04/25/24

pH	9.18	pH Units	9.18	100	95-105
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Duplicate (BHD0852-DUP1)

Source: 2404117-01

Prepared: 04/23/24 Analyzed: 04/25/24

pH	9.03	pH Units	9.11	0.882	20
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Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/15/24 11:00

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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

May 20, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Sater CC18-18 TB

Work Order #2404150

Enclosed are the results of analyses for samples received by Summit Scientific on 04/09/24 17:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN

Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-FL@3'	2404150-01	Soil	04/09/24 12:58	04/09/24 17:36
SEP01-DL@3'	2404150-02	Soil	04/09/24 13:00	04/09/24 17:36
SEP02-FL@3'	2404150-03	Soil	04/09/24 13:10	04/09/24 17:36
SEP02-DL@3'	2404150-04	Soil	04/09/24 13:12	04/09/24 17:36
BG01@0.5	2404150-05	Soil	04/09/24 13:21	04/09/24 17:36
BG01@3'	2404150-06	Soil	04/09/24 13:23	04/09/24 17:36
BG01@4'	2404150-07	Soil	04/09/24 13:25	04/09/24 17:36

Case Narrative

Hunter Merlo requested pH be added to BG01@0.5', BG01@3' and BG01@4' on 5/16/24.
This report includes those results.

S₂

Sample Receipt Checklist

S2 Work Order# 2404150

Client: Nobol Gasman Client Project ID: Sater C18-18 Tank Battery

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on 2 CE
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe 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

4/9/24
Date/Time



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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-FL@3'
2404150-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0316	79.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0343	85.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.90	71.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-FL@3'
2404150-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0306	04/10/24	04/12/24	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: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0265	79.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	57.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0547	04/17/24	05/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/09/24 12:58**

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 - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-FL@3'
2404150-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.61	0.200	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B
Barium	63.2	0.400	"	"	"	"	"	"
Cadmium	0.200	0.200	"	"	"	"	"	"
Copper	5.82	0.400	"	"	"	"	"	"
Lead	5.05	0.200	"	"	"	"	"	"
Nickel	3.54	0.400	"	"	"	"	"	"
Silver	0.0278	0.0200	"	"	"	"	"	"
Zinc	23.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	181	0.0500	mg/L dry	1	BHD0906	04/24/24	05/10/24	EPA 6020B	
Magnesium	47.4	0.0500	"	"	"	"	"	"	
Sodium	3.71	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0635	0.00100	units	1	BHE0334	05/10/24	05/10/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-FL@3'
2404150-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.2	%	1	BHD0476	04/16/24	04/16/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.108	0.0100	mmhos/cm	1	BHD0908	04/24/24	04/26/24	EPA 120.1	

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

Date Sampled: **04/09/24 12:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19		pH Units	1	BHD0907	04/24/24	04/26/24	EPA 9045D	

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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-DL@3'
2404150-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0315	78.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0342	85.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0359	89.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.53	60.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-DL@3'
2404150-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0306	04/10/24	04/12/24	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: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0281	84.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0547	04/17/24	05/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-DL@3'
2404150-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.46	0.179	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B	
Barium	55.0	0.357	"	"	"	"	"	"	
Cadmium	ND	0.179	"	"	"	"	"	"	
Copper	3.80	0.357	"	"	"	"	"	"	
Lead	3.72	0.179	"	"	"	"	"	"	
Nickel	2.86	0.357	"	"	"	"	"	"	
Silver	0.0240	0.0179	"	"	"	"	"	"	
Zinc	16.7	0.357	"	"	"	"	"	"	
Selenium	ND	0.232	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	151	0.0500	mg/L dry	1	BHD0906	04/24/24	05/10/24	EPA 6020B	
Magnesium	29.7	0.0500	"	"	"	"	"	"	
Sodium	2.09	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0407	0.00100	units	1	BHE0334	05/10/24	05/10/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP01-DL@3'
2404150-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.4			%	1	BHD0476	04/16/24	04/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0549	0.0100		mmhos/cm	1	BHD0908	04/24/24	04/26/24	EPA 120.1	

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

Date Sampled: **04/09/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.16			pH Units	1	BHD0907	04/24/24	04/26/24	EPA 9045D	

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Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-FL@3'
2404150-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0341	85.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0347	86.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.12	65.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-FL@3'
2404150-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0306	04/10/24	04/12/24	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: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0331	99.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0547	04/17/24	05/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:10**

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-FL@3'
2404150-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.74	0.200	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B
Barium	68.1	0.400	"	"	"	"	"	"
Cadmium	0.220	0.200	"	"	"	"	"	"
Copper	6.88	0.400	"	"	"	"	"	"
Lead	6.01	0.200	"	"	"	"	"	"
Nickel	3.81	0.400	"	"	"	"	"	"
Silver	0.0310	0.0200	"	"	"	"	"	"
Zinc	26.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	85.2	0.0500	mg/L dry	1	BHD0906	04/24/24	05/10/24	EPA 6020B	
Magnesium	18.8	0.0500	"	"	"	"	"	"	
Sodium	0.978	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0250	0.00100	units	1	BHE0334	05/10/24	05/10/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:10**

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 - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-FL@3'
2404150-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.6	%	1	BHD0476	04/16/24	04/16/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.107	0.0100	mmhos/cm	1	BHD0908	04/24/24	04/26/24	EPA 120.1	

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

Date Sampled: **04/09/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.60		pH Units	1	BHD0907	04/24/24	04/26/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-DL@3'
2404150-04 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHD0310	04/10/24	04/13/24	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: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0596	149 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0340	84.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0314	04/10/24	04/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.07	64.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-DL@3'
2404150-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0306	04/10/24	04/12/24	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: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0321	96.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0213	63.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0547	04/17/24	05/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:12**

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 - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-DL@3'
2404150-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.66	0.200	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B
Barium	61.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.54	0.400	"	"	"	"	"	"
Lead	4.95	0.200	"	"	"	"	"	"
Nickel	3.48	0.400	"	"	"	"	"	"
Silver	0.0253	0.0200	"	"	"	"	"	"
Zinc	22.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.6	0.0500	mg/L dry	1	BHD0906	04/24/24	05/10/24	EPA 6020B	
Magnesium	4.94	0.0500	"	"	"	"	"	"	
Sodium	3.52	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.147	0.00100	units	1	BHE0334	05/10/24	05/10/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

SEP02-DL@3'
2404150-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	90.9			%	1	BHD0476	04/16/24	04/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.252	0.0100		mmhos/cm	1	BHD0908	04/24/24	04/26/24	EPA 120.1	

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

Date Sampled: **04/09/24 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.40			pH Units	1	BHD0907	04/24/24	04/26/24	EPA 9045D	

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Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

BG01@0.5
2404150-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.64	0.200	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B	
Barium	78.5	0.400	"	"	"	"	"	"	"
Cadmium	0.205	0.200	"	"	"	"	"	"	"
Copper	7.95	0.400	"	"	"	"	"	"	"
Lead	6.52	0.200	"	"	"	"	"	"	"
Nickel	3.94	0.400	"	"	"	"	"	"	"
Silver	0.0290	0.0200	"	"	"	"	"	"	"
Zinc	26.7	0.400	"	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	92.1		%	1	BHD0476	04/16/24	04/16/24	Calculation	

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

I-04

Date Sampled: **04/09/24 13:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.65		pH Units	1	BHE0559	05/17/24	05/17/24	EPA 9045D	

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

BG01@3'
2404150-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.67	0.200	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B	
Barium	62.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.92	0.400	"	"	"	"	"	"	
Lead	4.51	0.200	"	"	"	"	"	"	
Nickel	3.47	0.400	"	"	"	"	"	"	
Silver	0.0349	0.0200	"	"	"	"	"	"	
Zinc	22.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.5		%	1	BHD0476	04/16/24	04/16/24	Calculation	

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

I-04

Date Sampled: **04/09/24 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.37		pH Units	1	BHE0559	05/17/24	05/17/24	EPA 9045D	

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

BG01@4'
2404150-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/09/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.71	0.181	mg/kg dry	1	BHD0846	04/23/24	05/04/24	EPA 6020B	
Barium	59.7	0.362	"	"	"	"	"	"	
Cadmium	ND	0.181	"	"	"	"	"	"	
Copper	5.04	0.362	"	"	"	"	"	"	
Lead	4.56	0.181	"	"	"	"	"	"	
Nickel	3.18	0.362	"	"	"	"	"	"	
Silver	0.0224	0.0181	"	"	"	"	"	"	
Zinc	19.5	0.362	"	"	"	"	"	"	
Selenium	ND	0.236	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/09/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0669	04/19/24	04/19/24	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/09/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	95.3		%	1	BHD0476	04/16/24	04/16/24	Calculation	

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

I-04

Date Sampled: **04/09/24 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.71		pH Units	1	BHE0559	05/17/24	05/17/24	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0310 - EPA 5030 Soil MS

Blank (BHD0310-BLK1)

Prepared: 04/10/24 Analyzed: 04/12/24

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	0.0322		"	0.0400		80.4	50-150			
Surrogate: Toluene-d8	0.0342		"	0.0400		85.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.4	50-150			

LCS (BHD0310-BS1)

Prepared: 04/10/24 Analyzed: 04/12/24

Benzene	0.0851	0.0020	mg/kg	0.100		85.1	70-130			
Toluene	0.0835	0.0050	"	0.100		83.5	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.238	0.010	"	0.200		119	70-130			
o-Xylene	0.114	0.0050	"	0.100		114	70-130			
1,2,4-Trimethylbenzene	0.129	0.0050	"	0.100		129	70-130			
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100		127	70-130			
Naphthalene	0.112	0.0038	"	0.100		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0336		"	0.0400		84.1	50-150			
Surrogate: Toluene-d8	0.0348		"	0.0400		87.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0363		"	0.0400		90.7	50-150			

Matrix Spike (BHD0310-MS1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/12/24

Benzene	0.0869	0.0020	mg/kg	0.100	ND	86.9	70-130			
Toluene	0.0854	0.0050	"	0.100	ND	85.4	70-130			
Ethylbenzene	0.125	0.0050	"	0.100	ND	125	70-130			
m,p-Xylene	0.247	0.010	"	0.200	ND	124	70-130			
o-Xylene	0.117	0.0050	"	0.100	ND	117	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	ND	130	70-130			
Naphthalene	0.109	0.0038	"	0.100	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0342		"	0.0400		85.4	50-150			
Surrogate: Toluene-d8	0.0351		"	0.0400		87.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	50-150			

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0310 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0310-MSD1)	Source: 2404117-01			Prepared: 04/10/24 Analyzed: 04/12/24						
Benzene	0.0881	0.0020	mg/kg	0.100	ND	88.1	70-130	1.44	30	
Toluene	0.0873	0.0050	"	0.100	ND	87.3	70-130	2.12	30	
Ethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	0.915	30	
m,p-Xylene	0.245	0.010	"	0.200	ND	122	70-130	1.17	30	
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130	2.44	30	
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	1.76	30	
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	ND	130	70-130	0.138	30	
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130	5.04	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0345</i>		<i>"</i>	<i>0.0400</i>		<i>86.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0350</i>		<i>"</i>	<i>0.0400</i>		<i>87.4</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0363</i>		<i>"</i>	<i>0.0400</i>		<i>90.8</i>	<i>50-150</i>			

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0314 - EPA 3550A

Blank (BHD0314-BLK1)

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		86.0			30-150	

LCS (BHD0314-BS1)

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	449	50	mg/kg	500		89.9			70-130	
Surrogate: <i>o</i> -Terphenyl	10.0		"	12.5		80.2			30-150	

Matrix Spike (BHD0314-MS1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	432	50	mg/kg	500	17.2	83.0			70-130	
Surrogate: <i>o</i> -Terphenyl	7.02		"	12.5		56.2			30-150	

Matrix Spike Dup (BHD0314-MSD1)

Source: 2404117-01

Prepared: 04/10/24 Analyzed: 04/11/24

C10-C28 (DRO)	406	50	mg/kg	500	17.2	77.7		6.24	70-130	20
Surrogate: <i>o</i> -Terphenyl	8.08		"	12.5		64.6			30-150	

Summit Scientific

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0306 - EPA 5030 Soil MS

Blank (BHD0306-BLK1)

Prepared: 04/10/24 Analyzed: 04/11/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0161</i>		"	<i>0.0333</i>		<i>48.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0313</i>		"	<i>0.0333</i>		<i>94.0</i>	<i>40-150</i>			

LCS (BHD0306-BS1)

Prepared: 04/10/24 Analyzed: 04/11/24

Acenaphthene	0.0323	0.00500	mg/kg	0.0333	96.9	31-137
Anthracene	0.0327	0.00500	"	0.0333	98.0	30-120
Benzo (a) anthracene	0.0276	0.00500	"	0.0333	82.9	30-120
Benzo (a) pyrene	0.0253	0.00500	"	0.0333	75.8	30-120
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	69.4	30-120
Benzo (k) fluoranthene	0.0276	0.00500	"	0.0333	82.7	30-120
Chrysene	0.0330	0.00500	"	0.0333	98.9	30-120
Dibenz (a,h) anthracene	0.0284	0.00500	"	0.0333	85.2	30-120
Fluoranthene	0.0316	0.00500	"	0.0333	94.7	30-120
Fluorene	0.0322	0.00500	"	0.0333	96.5	30-120
Indeno (1,2,3-cd) pyrene	0.0297	0.00500	"	0.0333	89.0	30-120
Pyrene	0.0363	0.00500	"	0.0333	109	35-142
1-Methylnaphthalene	0.0344	0.00500	"	0.0333	103	35-142
2-Methylnaphthalene	0.0352	0.00500	"	0.0333	105	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0394</i>		"	<i>0.0333</i>	<i>118</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0322</i>		"	<i>0.0333</i>	<i>96.5</i>	<i>40-150</i>

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0306 - EPA 5030 Soil MS

Matrix Spike (BHD0306-MS1)

Source: 2404128-01

Prepared: 04/10/24 Analyzed: 04/11/24

Acenaphthene	0.0237	0.00500	mg/kg	0.0333	ND	71.0	31-137			
Anthracene	0.0262	0.00500	"	0.0333	ND	78.7	30-120			
Benzo (a) anthracene	0.0274	0.00500	"	0.0333	ND	82.2	30-120			
Benzo (a) pyrene	0.0222	0.00500	"	0.0333	ND	66.5	30-120			
Benzo (b) fluoranthene	0.0208	0.00500	"	0.0333	ND	62.3	30-120			
Benzo (k) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.9	30-120			
Chrysene	0.0272	0.00500	"	0.0333	ND	81.5	30-120			
Dibenz (a,h) anthracene	0.0303	0.00500	"	0.0333	ND	90.8	30-120			
Fluoranthene	0.0272	0.00500	"	0.0333	ND	81.5	30-120			
Fluorene	0.0246	0.00500	"	0.0333	ND	73.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0325	0.00500	"	0.0333	ND	97.5	30-120			
Pyrene	0.0340	0.00500	"	0.0333	0.00510	86.8	35-142			
1-Methylnaphthalene	0.0331	0.00500	"	0.0333	ND	99.3	15-130			
2-Methylnaphthalene	0.0337	0.00500	"	0.0333	ND	101	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0355		"	0.0333		107	40-150			
Surrogate: Fluoranthene-d10	0.0260		"	0.0333		77.9	40-150			

Matrix Spike Dup (BHD0306-MSD1)

Source: 2404128-01

Prepared: 04/10/24 Analyzed: 04/11/24

Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	61.0	31-137	15.2	30
Anthracene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	19.5	30
Benzo (a) anthracene	0.0277	0.00500	"	0.0333	ND	83.0	30-120	1.06	30
Benzo (a) pyrene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	3.96	30
Benzo (b) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.2	30-120	1.79	30
Benzo (k) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	17.7	30
Chrysene	0.0260	0.00500	"	0.0333	ND	78.0	30-120	4.31	30
Dibenz (a,h) anthracene	0.0292	0.00500	"	0.0333	ND	87.6	30-120	3.55	30
Fluoranthene	0.0253	0.00500	"	0.0333	ND	75.8	30-120	7.31	30
Fluorene	0.0212	0.00500	"	0.0333	ND	63.7	30-120	14.4	30
Indeno (1,2,3-cd) pyrene	0.0307	0.00500	"	0.0333	ND	92.1	30-120	5.68	30
Pyrene	0.0377	0.00500	"	0.0333	0.00510	97.7	35-142	10.2	30
1-Methylnaphthalene	0.0266	0.00500	"	0.0333	ND	79.7	15-130	21.9	50
2-Methylnaphthalene	0.0266	0.00500	"	0.0333	ND	79.8	15-130	23.5	50
Surrogate: 2-Methylnaphthalene-d10	0.0247		"	0.0333		74.1	40-150		
Surrogate: Fluoranthene-d10	0.0204		"	0.0333		61.2	40-150		

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

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

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

Batch BHD0547 - EPA 3050B

Blank (BHD0547-BLK1)

Prepared: 04/17/24 Analyzed: 05/04/24

Boron ND 2.00 mg/L

LCS (BHD0547-BS1)

Prepared: 04/17/24 Analyzed: 05/04/24

Boron 5.06 2.00 mg/L 5.00 101 80-120

Duplicate (BHD0547-DUP1)

Source: 2404146-01

Prepared: 04/17/24 Analyzed: 05/07/24

Boron 0.330 2.00 mg/L 0.375 12.7 20

Matrix Spike (BHD0547-MS1)

Source: 2404146-01

Prepared: 04/17/24 Analyzed: 05/07/24

Boron 5.47 2.00 mg/L 5.00 0.375 102 75-125

Matrix Spike Dup (BHD0547-MSD1)

Source: 2404146-01

Prepared: 04/17/24 Analyzed: 05/07/24

Boron 5.29 2.00 mg/L 5.00 0.375 98.4 75-125 3.26 25

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0846 - EPA 3050B

Blank (BHD0846-BLK1)

Prepared: 04/23/24 Analyzed: 05/03/24

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 (BHD0846-BS1)

Prepared: 04/23/24 Analyzed: 05/03/24

Arsenic	38.9	0.200	mg/kg wet	40.0	97.1	80-120
Barium	39.5	0.400	"	40.0	98.8	80-120
Cadmium	1.91	0.200	"	2.00	95.3	80-120
Copper	37.2	0.400	"	40.0	93.0	80-120
Lead	18.5	0.200	"	20.0	92.6	80-120
Nickel	40.1	0.400	"	40.0	100	80-120
Silver	1.93	0.0200	"	2.00	96.7	80-120
Zinc	37.7	0.400	"	40.0	94.2	80-120
Selenium	3.92	0.260	"	4.00	98.1	80-120

Duplicate (BHD0846-DUP1)

Source: 2404150-01

Prepared: 04/23/24 Analyzed: 05/04/24

Arsenic	1.62	0.200	mg/kg dry	1.61	0.582	20
Barium	62.8	0.400	"	63.2	0.617	20
Cadmium	0.176	0.200	"	0.200	12.7	20
Copper	5.70	0.400	"	5.82	2.17	20
Lead	5.04	0.200	"	5.05	0.314	20
Nickel	3.56	0.400	"	3.54	0.688	20
Silver	0.0283	0.0200	"	0.0278	1.53	20
Zinc	23.0	0.400	"	23.1	0.646	20
Selenium	ND	0.260	"	ND		20

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0846 - EPA 3050B

Matrix Spike (BHD0846-MS1)

Source: 2404150-01

Prepared: 04/23/24 Analyzed: 05/04/24

Arsenic	40.6	0.200	mg/kg dry	43.2	1.61	90.3	75-125				
Barium	105	0.400	"	43.2	63.2	96.0	75-125				
Cadmium	2.31	0.200	"	2.16	0.200	97.8	75-125				
Copper	47.7	0.400	"	43.2	5.82	97.0	75-125				
Lead	25.6	0.200	"	21.6	5.05	95.4	75-125				
Nickel	30.7	0.400	"	43.2	3.54	62.9	75-125				QM-07
Silver	2.10	0.0200	"	2.16	0.0278	96.0	75-125				
Zinc	67.4	0.400	"	43.2	23.1	103	75-125				
Selenium	3.91	0.260	"	4.32	ND	90.6	75-125				

Matrix Spike Dup (BHD0846-MSD1)

Source: 2404150-01

Prepared: 04/23/24 Analyzed: 05/04/24

Arsenic	40.0	0.200	mg/kg dry	43.2	1.61	89.0	75-125	1.36	25		
Barium	104	0.400	"	43.2	63.2	94.7	75-125	0.534	25		
Cadmium	2.31	0.200	"	2.16	0.200	98.0	75-125	0.112	25		
Copper	47.1	0.400	"	43.2	5.82	95.7	75-125	1.17	25		
Lead	25.6	0.200	"	21.6	5.05	95.2	75-125	0.142	25		
Nickel	31.3	0.400	"	43.2	3.54	64.3	75-125	2.01	25		QM-07
Silver	2.07	0.0200	"	2.16	0.0278	94.5	75-125	1.47	25		
Zinc	67.0	0.400	"	43.2	23.1	102	75-125	0.606	25		
Selenium	3.84	0.260	"	4.32	ND	89.0	75-125	1.75	25		

Post Spike (BHD0846-PS1)

Source: 2404150-01

Prepared: 04/23/24 Analyzed: 05/04/24

Arsenic	99.0		ug/l	100	3.68	95.3	75-125				
Barium	246		"	100	144	102	75-125				
Cadmium	5.56		"	5.00	0.457	102	75-125				
Copper	113		"	100	13.3	100	75-125				
Lead	60.7		"	50.0	11.5	98.4	75-125				
Nickel	75.8		"	100	8.06	67.7	75-125				QM-07
Silver	5.25		"	5.00	0.0635	104	75-125				
Zinc	156		"	100	52.8	103	75-125				
Selenium	10.0		"	10.0	0.161	98.6	75-125				

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

Project: Noble - Sater CC18-18 TB
Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0669 - 3060A Mod

Blank (BHD0669-BLK1)		Prepared & Analyzed: 04/19/24									
Chromium, Hexavalent	ND	0.30	mg/kg wet								
LCS (BHD0669-BS1)		Prepared & Analyzed: 04/19/24									
Chromium, Hexavalent	25.0	0.30	mg/kg wet	25.0	99.8	80-120					
Duplicate (BHD0669-DUP1)		Source: 2404150-01		Prepared & Analyzed: 04/19/24							
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND					20	
Matrix Spike (BHD0669-MS1)		Source: 2404150-01		Prepared & Analyzed: 04/19/24							
Chromium, Hexavalent	26.3	0.30	mg/kg dry	27.4	ND	96.0	75-125				
Matrix Spike Dup (BHD0669-MSD1)		Source: 2404150-01		Prepared & Analyzed: 04/19/24							
Chromium, Hexavalent	26.3	0.30	mg/kg dry	27.4	ND	96.0	75-125	0.00		20	

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

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

Summit Scientific

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

Batch BHD0906 - General Preparation

Blank (BHD0906-BLK1)

Prepared: 04/24/24 Analyzed: 05/09/24

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

LCS (BHD0906-BS1)

Prepared: 04/24/24 Analyzed: 05/09/24

Calcium	5.40	0.0500	mg/L wet	5.00		108	70-130			
Magnesium	5.33	0.0500	"	5.00		107	70-130			
Sodium	4.92	0.0500	"	5.00		98.4	70-130			

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
 Project Manager: Jacob Whritenour

Reported:
 05/20/24 12:07

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

Summit Scientific

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

Batch BHD0476 - General Preparation

Duplicate (BHD0476-DUP1)

Source: 2404130-01

Prepared & Analyzed: 04/16/24

% Solids	87.8		%		87.6			0.283	20	
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Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

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

Summit Scientific

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

Batch BHD0908 - General Preparation

Blank (BHD0908-BLK1)

Prepared: 04/24/24 Analyzed: 04/26/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD0908-BS1)

Prepared: 04/24/24 Analyzed: 04/26/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHD0908-DUP1)

Source: 2404144-01

Prepared: 04/24/24 Analyzed: 04/26/24

Specific Conductance (EC) 0.0659 0.0100 mmhos/cm 0.0666 1.10 20

Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN
Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

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

Summit Scientific

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

Batch BHD0907 - General Preparation

LCS (BHD0907-BS1)

Prepared: 04/24/24 Analyzed: 04/26/24

pH	9.23		pH Units	9.18		101	95-105			
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Duplicate (BHD0907-DUP1)

Source: 2404144-01

Prepared: 04/24/24 Analyzed: 04/26/24

pH	6.80		pH Units			6.89		1.31	20	
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Batch BHE0559 - General Preparation

LCS (BHE0559-BS1)

Prepared & Analyzed: 05/17/24

pH	9.22		pH Units	9.18		100	95-105			
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Duplicate (BHE0559-DUP1)

Source: 2403201-01

Prepared & Analyzed: 05/17/24

pH	9.05		pH Units			9.04		0.111	20	
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Summit Scientific

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

Project: Noble - Sater CC18-18 TB

Project Number: UWRWE-3547-ABN

Project Manager: Jacob Whritenour

Reported:
05/20/24 12:07

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