



TANK BATTERY DECOMMISSIONING FORM

SITE NAME: Diller 42-13							DATE: 5/28/2024	REM. PROJECT #: 27091	WEATHER: Sunny 80s	
SITE DIRECTIONS: CR 34.5 and 47.5, S 1 mi, 1/10 E into site area							CLIENT: Noble			
LEGALS AND LAT/LONG: 40.22535338 / -104.60964424							TASMAN PERSONNEL: MR			
SOIL TYPES: Well Graded Sand - SW							SURFACE GRADIENT:			
SOIL SAMPLING							FACILITY INFRASTRUCTURE			
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?	
							Above Ground Storage Tank (AST)	1		
5/28/2024 10:45	AST01@0-6"	0.0	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel	1		
5/28/2024 10:50	FLARE01@0-6"	0.4	No Staining	No Odor	Yes	Grab	Separator	1		
5/28/2024 10:55	MH01@0-6"	0.3	No Staining	No Odor	Yes	Grab	Emission Control Device (ECD)			
5/28/2024 11:00	SEP01-DL@2.5'	12.9	No Staining	No Odor	Yes	Lab	Dump Line			
5/28/2024 11:05	PWV01-N@2.5	0.2	No Staining	No Odor	Yes	On-hold	Wellhead			
5/28/2024 11:10	PWV01-E@2.5'	0.5	No Staining	No Odor	Yes	On-hold	Flowline			
5/28/2024 11:15	PWV01-S@2.5'	14.7	No Staining	No Odor	Yes	Lab	Other: Flare/MH	1/1		
5/28/2024 11:20	PWV01-W@2.5'	0.8	No Staining	No Odor	Yes	On-hold	Soil Loads Removed			
5/28/2024 11:25	PWV01-B@5'	0.4	No Staining	No Odor	Yes	Lab	IMPACTED SOIL IDENTIFIED?			
5/28/2024 11:30	SEP01-FL@2.5'	0.0	No Staining	No Odor	Yes	Lab	ESTIMATED VOLUME OF IMPACTS:			
5/28/2024 11:35	BKG01@0-6'	0.0	No Staining	No Odor	Yes	Lab	Date	Number	CY	
5/28/2024 11:40	BKG01@2.5'	0.9	No Staining	No Odor	Yes	Lab				
5/28/2024 11:45	BKG01@5'	0.2	No Staining	No Odor	Yes	Lab				
							Total Removed	0	0	
							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:			

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE - 100322
DILLER 42-13 , WELD COUNTY, COLORADO
REM # 27091

Sample ID	Sample Date	Depth (ft.)	GPS Data		PDOP Value	VOC Concentration (ppm)
			Latitude/Longitude			
AST01@0-6"	5/28/2024	0.5	40.225301	-104.609605	0.9	0.0
FLARE01@0-6"	5/28/2024	0.5	40.225592	-104.609636	0.8	0.4
MH01@0-6"	5/28/2024	0.5	40.225552	-104.609569	0.9	0.3
PWV01-B@5'	5/28/2024	5	40.225346	-104.609582	0.8	0.4
PWV01-N@2.5'	5/28/2024	2.5	40.225368	-104.609577	0.8	0.2
PWV01-E@2.5'	5/28/2024	2.5	40.225343	-104.609553	0.8	0.5
PWV01-S@2.5'	5/28/2024	2.5	40.225325	-104.609583	0.9	14.7
PWV01-W@2.5'	5/28/2024	2.5	40.225348	-104.609614	0.8	0.8
SEP01-DL@2.5'	5/28/2024	2.5	40.225515	-104.609589	0.9	12.9
SEP01-FL@2.5'	5/28/2024	2.5	40.225569	-104.609607	0.8	0.0
BKG01@0-6"	5/28/2024	0.5	40.225611	-104.609826	1.0	0.0
BKG01@2.5'	5/28/2024	2.5	40.225611	-104.609826	1.0	0.9
BKG01@5'	5/28/2024	5	40.225611	-104.609826	1.0	0.2

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE - 100322
DILLER 42-13 , WELD COUNTY, COLORADO
REM # 27091

Sample ID	Sample Date	Depth (ft.)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
AST01@0-6"	5/28/2024	0.5	<0.0020	<0.0050	<0.0050	0.011	<0.0050	<0.0050	0.0040	<500	<0.50	<50	<50
PWV01-B@5'	5/28/2024	5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	850	<0.50	690	160
PWV01-S@2.5'	5/28/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
SEP01-DL@2.5'	5/28/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
SEP01-FL@2.5'	5/28/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
 2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
 3. * Indicates laboratory minimum detection limit in excess of SSL
 4. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg
- TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
ORO = Oil Range Organics
ft. = Feet
mg/kg = Milligrams per kilogram
< = Analytical result is less than the indicated laboratory reporting limit

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE - 100322
DILLER 42-13 , WELD COUNTY, COLORADO
REM # 27091

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST01@0-6"	5/28/2024	0.5	<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
PWV01-B@5'	5/28/2024	5	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00546	0.0103	<0.00500	<0.00500	<0.00500	<0.00500
PWV01-S@2.5'	5/28/2024	2.5	<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	0.00557
SEP01-DL@2.5'	5/28/2024	2.5	<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@2.5'	5/28/2024	2.5	<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

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. * Indicates laboratory minimum detection limit in excess of SSL
ft. = Feet
mg/kg = Milligrams per kilogram
< = Analytical result is less than the indicated laboratory reporting limit

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
OPERATOR (NOBLE 100322)
DILLER 42-13 TANK BATTERY, WELD COUNTY, COLORADO
REM # 27091

Sample ID	Sample Date	Depth (ft)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
AST01@0-6"	5/28/2024	0.5	7.50	0.426	0.404	<2.00
PWV01-B@5'	5/28/2024	5	7.21	0.0343	0.0227	<2.00
PWV01-S@2.5'	5/28/2024	2.5	6.82	0.0350	0.0406	<2.00
SEP01-DL@2.5'	5/28/2024	2.5	6.18	0.0413	0.00629	<2.00
SEP01-FL@2.5'	5/28/2024	2.5	8.93	0.0790	0.0389	<2.00
BKG01@0-6"	5/28/2024	0.5	6.27	0.193	0.0236	NA
BKG01@2.5'	5/28/2024	2.5	6.94	0.0390	0.0233	NA
BKG01@5'	5/28/2024	5	7.10	0.0275	0.00933	NA
Maximum Root Background Concentration (0 - 3 ft)			6.94	-	-	-
Mean Root Background Concentration (0 - 3 ft)			6.61	-	-	-
Maximum Background Concentration			7.10	-	-	-
Mean Background Concentration			6.77	-	-	-

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s)

2. Brown highlighted soil analytical values indicate a regulatory exceedance, but below background concentration.

NA - Not analyzed

ft. = Feet

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/ cm = Millmhos per centimeter

mg/L = Milligrams per liter

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

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE - 100322
DILLER 42-13 , WELD COUNTY, COLORADO
REM # 27091

Sample ID	Sample Date	Depth (ft)	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)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST01@0-6"	5/28/2024	0.5	2.26	55.1	<0.200	<0.30	5.46	5.56	4.75	<0.260	0.0356	15.6
PWV01-B@5'	5/28/2024	5	1.30	45.6	<0.200	<0.30	2.01	3.33	2.52	<0.260	<0.0200	9.82
PWV01-S@2.5'	5/28/2024	2.5	1.48	38.7	<0.200	<0.30	3.45	4.16	3.07	<0.260	0.0209	12.4
SEP01-DL@2.5'	5/28/2024	2.5	1.21	33.2	<0.200	<0.30	2.28	3.78	2.24	<0.260	<0.0200	11.4
SEP01-FL@2.5'	5/28/2024	2.5	1.62	52.5	<0.200	<0.30	2.58	2.39	2.24	<0.260	<0.0200	8.52
BKG01@0-6"	5/28/2024	0.5	1.19	30.4	<0.200	<0.30	2.49	5.15	1.96	<0.260	<0.0200	11.2
BKG01@2.5'	5/28/2024	2.5	1.01	29.7	<0.200	<0.30	2.14	2.85	2.04	<0.260	<0.0200	8.69
BKG01@5'	5/28/2024	5	1.44	40.8	<0.200	<0.30	2.24	3.72	2.78	<0.260	0.0215	11.8
Maximum Root Zone Background Concentration (0 - 3 ft)			1.19	-	-	-	-	-	-	-	-	-
Mean Root Zone Background Concentration X 1.25 (0 - 3 ft)			1.10	-	-	-	-	-	-	-	-	-
Maximum Background Concentration			1.44	-	-	-	-	-	-	-	-	-
Mean Background Concentration X 1.25			1.52	-	-	-	-	-	-	-	-	-

1. **Bold** values exceed the ECMC Table 915-1 limit(s)

2. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)



* Indicates laboratory minimum detection limit in excess of SSL

ft. = Feet



mg/kg = Milligrams per kilogram

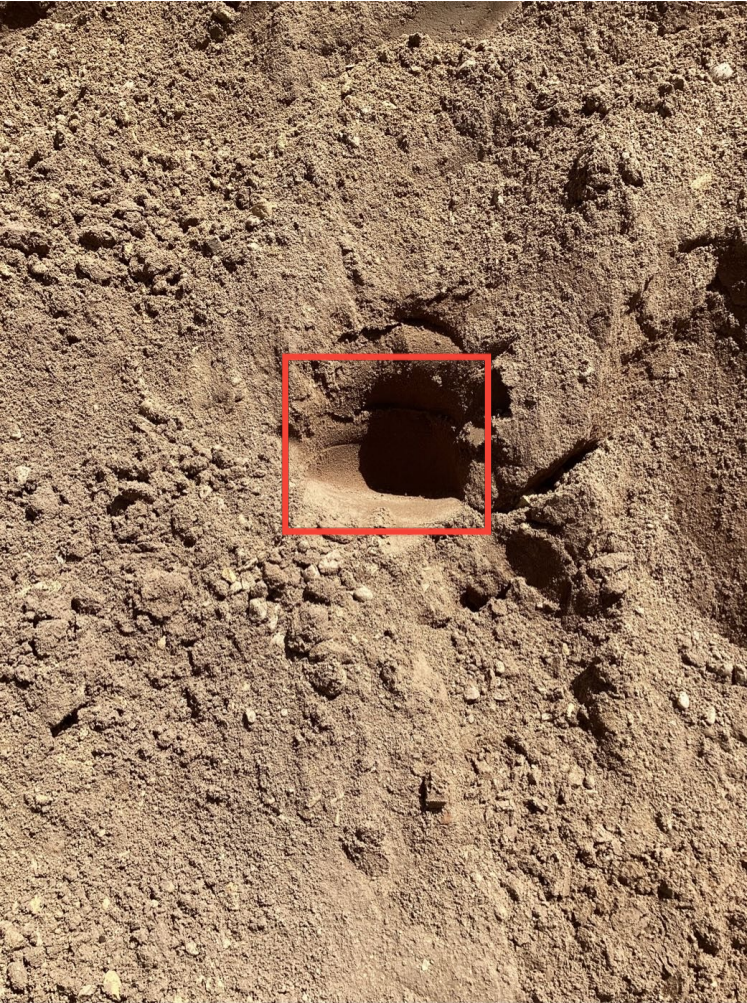

< = Analytical result is less than the indicated laboratory reporting limit

Photographic Log

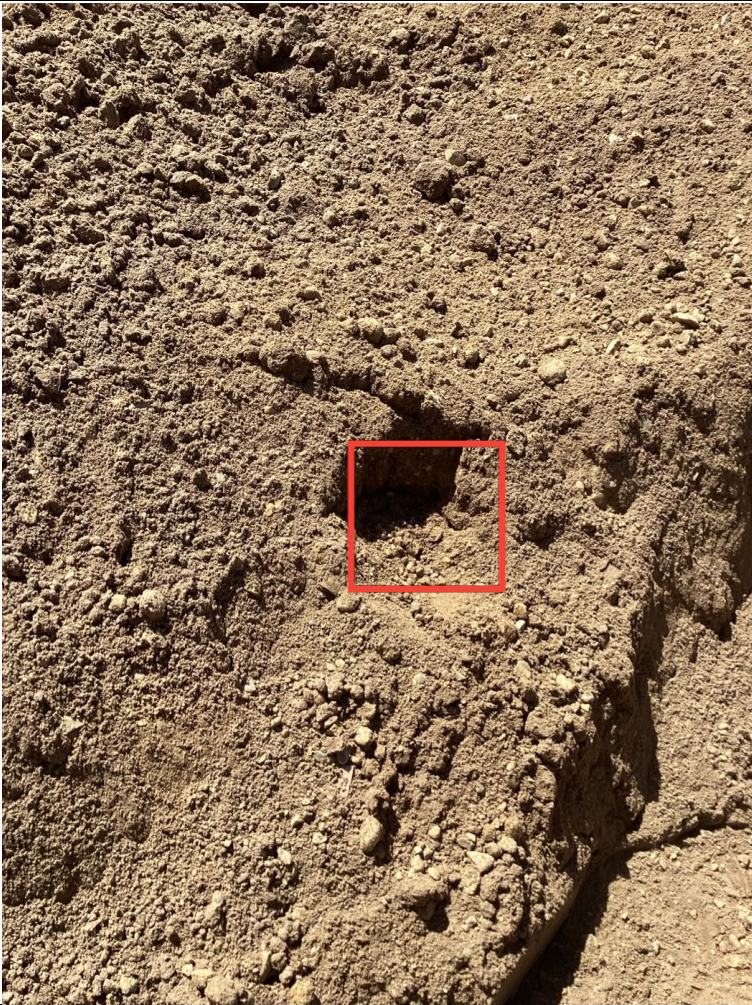

					
Equipment ID: AST01 @ 0-6"		Equipment Type: Above Ground Storage Tank			
Material: Steel	Volume:	Contents: Crude Oil			
Notes/Conditions: Facing north					
Equipment ID: FLARE01 @ 0-6"			Equipment Type: Flare		
Material: Steel	Volume:	Contents: Oil/Gas/Water			
Notes/Conditions: Facing south					

Photographic Log

							
Equipment ID: MH01@0-6"		Equipment Type: Meter House		Equipment ID: SEP01-DL@2.5'		Equipment Type: Separator	
Material: Steel		Volume:		Material: Steel		Volume:	
Contents:				Contents: Production Fluids			
Notes/Conditions: Facing east				Notes/Conditions: Facing south			

											
Equipment ID: PWV01-N@2.5'		Equipment Type: Partially Buried Vault		Equipment ID: PWV01-E@2.5'		Equipment Type: Partially Buried Vault					
Material: Fiberglass		Volume:		Contents: Produced Water		Material: Fiberglass		Volume:		Contents: Produced Water	
Notes/Conditions: Facing north						Notes/Conditions: Facing east					

Photographic Log

							
Equipment ID: PWV01-S@2.5'		Equipment Type: Partially Buried Vault		Equipment ID: PWV01-W@2.5'		Equipment Type: Partially Buried Vault	
Material: Fiberglass		Volume:		Material: Fiberglass		Volume:	
Notes/Conditions: Facing south		Contents: Produced Water		Notes/Conditions: Facing west		Contents: Produced Water	

Photographic Log



Equipment ID: PWV01-B@2.5'		Equipment Type: Partially Buried Vault	
Material: Fiberglass		Volume:	Contents: Produced Water
Notes/Conditions: Facing east			

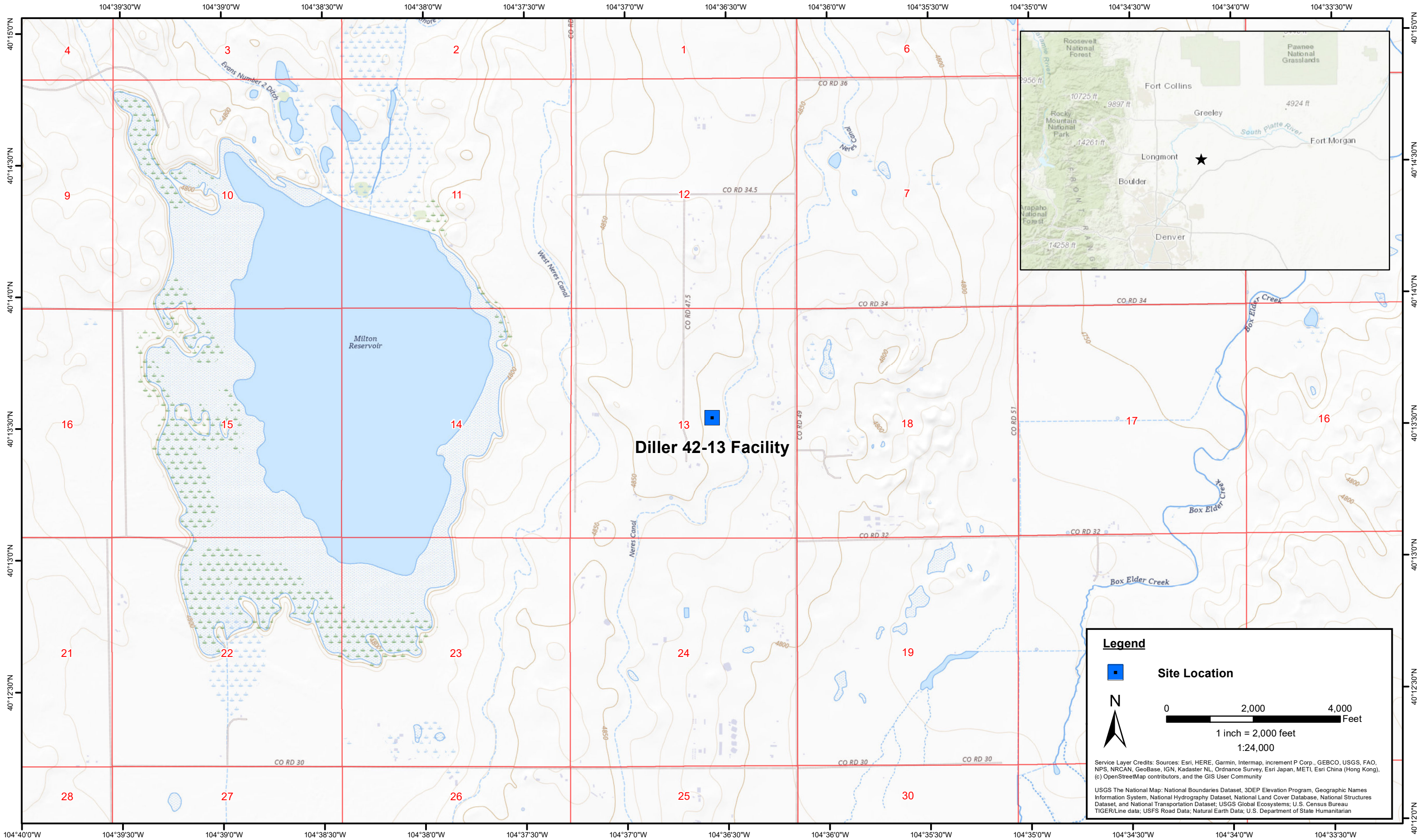


Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Dumplines being removed			

Photographic Log



Equipment ID: BKG01		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:		Contents:		Material:		Volume:	
Notes/Conditions: Facing east				Notes/Conditions:			



DATE:	June 2024
DESIGNED BY:	B. Nelson
DRAWN BY:	J. Clonts



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

Noble Energy, Inc. – DJ Basin
Diller 42-13 Facility
SWNE, Section 13, Township 3 North, Range 65 West
Weld County, Colorado

Site Location Map

Figure
1



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 25, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Diller 42-13 Facility

Work Order #2405411

Enclosed are the results of analyses for samples received by Summit Scientific on 05/28/24 17:34. 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 fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

ANALYTICAL REPORT FOR SAMPLES

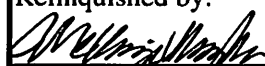

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2405411-01	Soil	05/28/24 10:45	05/28/24 17:34
SEP01-DL@2.5'	2405411-02	Soil	05/28/24 11:00	05/28/24 17:34
PWV01-S@2.5'	2405411-05	Soil	05/28/24 11:15	05/28/24 17:34
PWV01-B@5'	2405411-07	Soil	05/28/24 11:25	05/28/24 17:34
SEP01-FL@2.5'	2405411-08	Soil	05/28/24 11:30	05/28/24 17:34
BKG01@0-6"	2405411-09	Soil	05/28/24 11:35	05/28/24 17:34
BKG01@2.5'	2405411-10	Soil	05/28/24 11:40	05/28/24 17:34
BKG01@5'	2405411-11	Soil	05/28/24 11:45	05/28/24 17:34

Case Narrative

This project has been renamed per client request on 5/28/2024.

Send Data To:		Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Noble Energy, Inc.
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Diller 43-12 Facility
City/State/Zip: Broomfield/CO/ 80020		AFE#: 1XWROE - A3035 - ABN
Phone: 602-881-5716	Project Name: Diller 43-12 Facility	PO/Billing Codes:
Sampler Name: McKenzie Reynolds	Project Number: -	Contact: Miguel Barron

					Preservative				Matrix				Analysis Requested							Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD		SAR, EC, pH by saturated paste
1	ASTM 00-10"	5/28/24	1045	3			X			X			X	X	X	X	X	X			
2	SEPDI-PL@2.5'		1100										+	+	+	+	+	+			
3	PWV01-N@2.5'		1105																X		
4	PWV01-E@2.5'		1110																X		
5	PWV01-S@2.5'		1115										X	X	X	X	X	X			
6	PWV01-W@2.5'		1120																X		
7	PWV01-B@2.5' MK																				
8	PWV01-B@5'	5/28/24	1125	3			X			X			X	X	X	X	X	X			
9	SEPDI-FL@2.5'		1130											+	+	+	+	+			
10	BK401@0-10"		1135																		
11	BK401@2.5'		1140																		
12	BK401@5'		1145																		
13																					
14																					
15																					

Relinquished by: 	Date/Time: 5/28/2024 1100	Received by: Tasman Lock Box	Date/Time: 5/28/2024 1100	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lock Box	Date/Time: 5/28/24 1134	Received by: 	Date/Time: 5/28/24 1134	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 8.2	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2405411Client: Noble GasmanClient Project ID: Diller 43-12 facilityShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #: _____

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

8.2

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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

5/28/24
Date/Time



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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

AST01@0-6"
2405411-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHE0893	05/29/24	05/30/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.011	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.0040	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0390	97.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHE0895	05/29/24	05/30/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.7	85.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

AST01@0-6"
2405411-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHE0870	05/29/24	05/31/24	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: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0250	75.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0233	69.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHE0881	05/29/24	06/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

AST01@0-6"
2405411-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.26	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B
Barium	55.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.46	0.400	"	"	"	"	"	"
Lead	5.56	0.200	"	"	"	"	"	"
Nickel	4.75	0.400	"	"	"	"	"	"
Silver	0.0356	0.0200	"	"	"	"	"	"
Zinc	15.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.2	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	14.6	0.0500	"	"	"	"	"	"	
Sodium	10.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.404	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
06/25/24 09:35

AST01@0-6"
2405411-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.426	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.50		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-DL@2.5'
2405411-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHE0893	05/29/24	05/30/24	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: **05/28/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0356	89.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHE0895	05/29/24	05/31/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.85	62.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-DL@2.5'
2405411-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHE0870	05/29/24	05/31/24	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: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0205	61.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHE0881	05/29/24	06/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-DL@2.5'
2405411-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.21	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B
Barium	33.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.28	0.400	"	"	"	"	"	"
Lead	3.78	0.200	"	"	"	"	"	"
Nickel	2.24	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.6	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	9.65	0.0500	"	"	"	"	"	"	
Sodium	0.124	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.00629	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-DL@2.5'
2405411-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0413	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.18		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-S@2.5'
2405411-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHE0893	05/29/24	05/30/24	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: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0360	89.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHE0895	05/29/24	05/31/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.10	72.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
06/25/24 09:35

PWV01-S@2.5'
2405411-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHE0870	05/29/24	05/31/24	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	0.00557	0.00500	"	"	"	"	"	"	

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0203	61.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0203	60.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHE0881	05/29/24	06/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-S@2.5'
2405411-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.48	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B
Barium	38.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.45	0.400	"	"	"	"	"	"
Lead	4.16	0.200	"	"	"	"	"	"
Nickel	3.07	0.400	"	"	"	"	"	"
Silver	0.0209	0.0200	"	"	"	"	"	"
Zinc	12.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.9	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	17.0	0.0500	"	"	"	"	"	"	
Sodium	0.966	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0406	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-S@2.5'
2405411-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0350	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.82		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-B@5'
2405411-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHE0893	05/29/24	05/30/24	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: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0353	88.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	690	50	mg/kg	1	BHE0895	05/29/24	05/31/24	EPA 8015M	
C28-C36 (ORO)	160	50	"	"	"	"	"	"	

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.3	90.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-B@5'
2405411-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHE0870	05/29/24	05/31/24	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	0.00546	0.00500	"	"	"	"	"	"	
Fluorene	0.0103	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: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHE0881	05/29/24	06/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-B@5'
2405411-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.30	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B
Barium	45.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.01	0.400	"	"	"	"	"	"
Lead	3.33	0.200	"	"	"	"	"	"
Nickel	2.52	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.82	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.3	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	0.472	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0227	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PWV01-B@5'
2405411-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0343	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.21		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-FL@2.5'
2405411-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHE0893	05/29/24	05/30/24	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: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0341	85.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	97.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHE0895	05/29/24	05/31/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.88	71.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-FL@2.5'
2405411-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHE0870	05/29/24	05/31/24	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: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0215	64.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0201	60.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHE0881	05/29/24	06/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-FL@2.5'
2405411-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.62	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B
Barium	52.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.58	0.400	"	"	"	"	"	"
Lead	2.39	0.200	"	"	"	"	"	"
Nickel	2.24	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.52	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.7	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	11.3	0.0500	"	"	"	"	"	"	
Sodium	0.864	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0389	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

SEP01-FL@2.5'
2405411-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0790	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.93		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@0-6"
2405411-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.19	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B	
Barium	30.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.49	0.400	"	"	"	"	"	"	
Lead	5.15	0.200	"	"	"	"	"	"	
Nickel	1.96	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	7.83	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	3.27	0.0500	"	"	"	"	"	"	
Sodium	0.311	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.0236	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@0-6"
2405411-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	99.2		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.193	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.27		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@2.5'
2405411-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.01	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B	
Barium	29.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.14	0.400	"	"	"	"	"	"	
Lead	2.85	0.200	"	"	"	"	"	"	
Nickel	2.04	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.69	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	201	0.0500	mg/L dry	1	BHE0885	05/29/24	06/21/24	EPA 6020B	
Magnesium	34.4	0.0500	"	"	"	"	"	"	
Sodium	1.36	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.0233	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@2.5'
2405411-10 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.5		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0390	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.94		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@5'
2405411-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.44	0.200	mg/kg dry	1	BHE0874	05/29/24	05/29/24	EPA 6020B	
Barium	40.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.24	0.400	"	"	"	"	"	"	
Lead	3.72	0.200	"	"	"	"	"	"	
Nickel	2.78	0.400	"	"	"	"	"	"	
Silver	0.0215	0.0200	"	"	"	"	"	"	
Zinc	11.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHE0891	05/29/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	15.1	0.0500	mg/L dry	1	BHE0885	05/29/24	06/13/24	EPA 6020B	
Magnesium	8.55	0.0500	"	"	"	"	"	"	
Sodium	0.183	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.00933	0.00100	units	1	BHF0374	06/13/24	06/13/24	Calculation	

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

BKG01@5'
2405411-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BHE0882	05/29/24	05/31/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0275	0.0100	mmhos/cm	1	BHE0928	05/30/24	05/30/24	EPA 120.1	

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

Date Sampled: **05/28/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.10		pH Units	1	BHE0930	05/30/24	05/30/24	EPA 9045D	

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHE0893 - EPA 5030 Soil MS

Blank (BHE0893-BLK1)

Prepared & Analyzed: 05/29/24

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	0.0375		"	0.0400		93.8	50-150			
Surrogate: Toluene-d8	0.0379		"	0.0400		94.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	50-150			

LCS (BHE0893-BS1)

Prepared & Analyzed: 05/29/24

Benzene	0.0836	0.0020	mg/kg	0.100		83.6	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.203	0.010	"	0.200		102	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
1,3,5-Trimethylbenzene	0.0952	0.0050	"	0.100		95.2	70-130			
Naphthalene	0.0932	0.0038	"	0.100		93.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0384		"	0.0400		96.1	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

Matrix Spike (BHE0893-MS1)

Source: 2405401-01

Prepared & Analyzed: 05/29/24

Benzene	0.0858	0.0020	mg/kg	0.100	ND	85.8	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.0957	0.0050	"	0.100	ND	95.7	70-130			
1,3,5-Trimethylbenzene	0.0967	0.0050	"	0.100	ND	96.7	70-130			
Naphthalene	0.0965	0.0038	"	0.100	ND	96.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	50-150			

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

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

Batch BHE0893 - EPA 5030 Soil MS

Matrix Spike Dup (BHE0893-MSD1)	Source: 2405401-01			Prepared & Analyzed: 05/29/24						
Benzene	0.0961	0.0020	mg/kg	0.100	ND	96.1	70-130	11.2	30	
Toluene	0.117	0.0050	"	0.100	ND	117	70-130	10.3	30	
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	8.68	30	
m,p-Xylene	0.222	0.010	"	0.200	ND	111	70-130	7.75	30	
o-Xylene	0.108	0.0050	"	0.100	ND	108	70-130	5.75	30	
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	7.60	30	
1,3,5-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	7.87	30	
Naphthalene	0.107	0.0038	"	0.100	ND	107	70-130	10.1	30	
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHE0895 - EPA 3550A

Blank (BHE0895-BLK1)

Prepared: 05/29/24 Analyzed: 05/30/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	16.5		"	12.5		132	30-150			

LCS (BHE0895-BS1)

Prepared: 05/29/24 Analyzed: 05/30/24

C10-C28 (DRO)	464	50	mg/kg	500		92.8	70-130			
Surrogate: o-Terphenyl	13.1		"	12.5		105	30-150			

Matrix Spike (BHE0895-MS1)

Source: 2405401-01

Prepared: 05/29/24 Analyzed: 05/30/24

C10-C28 (DRO)	434	50	mg/kg	500	31.7	80.5	70-130			
Surrogate: o-Terphenyl	11.2		"	12.5		89.7	30-150			

Matrix Spike Dup (BHE0895-MSD1)

Source: 2405401-01

Prepared: 05/29/24 Analyzed: 05/30/24

C10-C28 (DRO)	444	50	mg/kg	500	31.7	82.4	70-130	2.18	20	
Surrogate: o-Terphenyl	11.3		"	12.5		90.2	30-150			

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHE0870 - EPA 5030 Soil MS

Blank (BHE0870-BLK1)

Prepared: 05/29/24 Analyzed: 05/30/24

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	0.0159		"	0.0333		47.8	40-150			
Surrogate: Fluoranthene-d10	0.0189		"	0.0333		56.6	40-150			

LCS (BHE0870-BS1)

Prepared: 05/29/24 Analyzed: 05/30/24

Acenaphthene	0.0143	0.00500	mg/kg	0.0333	42.9	31-137	
Anthracene	0.0152	0.00500	"	0.0333	45.7	30-120	
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	52.5	30-120	
Benzo (a) pyrene	0.0158	0.00500	"	0.0333	47.3	30-120	
Benzo (b) fluoranthene	0.0173	0.00500	"	0.0333	52.0	30-120	
Benzo (k) fluoranthene	0.0147	0.00500	"	0.0333	44.0	30-120	
Chrysene	0.0136	0.00500	"	0.0333	40.7	30-120	
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	43.4	30-120	
Fluoranthene	0.0151	0.00500	"	0.0333	45.3	30-120	
Fluorene	0.0154	0.00500	"	0.0333	46.1	30-120	
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	49.2	30-120	
Pyrene	0.0175	0.00500	"	0.0333	52.5	35-142	
1-Methylnaphthalene	0.0145	0.00500	"	0.0333	43.5	35-142	
2-Methylnaphthalene	0.0143	0.00500	"	0.0333	43.0	35-142	
Surrogate: 2-Methylnaphthalene-d10	0.0165		"	0.0333	49.4	40-150	
Surrogate: Fluoranthene-d10	0.0150		"	0.0333	44.9	40-150	

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHE0870 - EPA 5030 Soil MS

Matrix Spike (BHE0870-MS1)

Source: 2405338-02

Prepared: 05/29/24 Analyzed: 05/30/24

Acenaphthene	0.0152	0.00500	mg/kg	0.0333	ND	45.6	31-137		
Anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120		
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.2	30-120		
Benzo (a) pyrene	0.0170	0.00500	"	0.0333	ND	51.1	30-120		
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.6	30-120		
Benzo (k) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.4	30-120		
Chrysene	0.0154	0.00500	"	0.0333	ND	46.1	30-120		
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.8	30-120		
Fluoranthene	0.0162	0.00500	"	0.0333	ND	48.7	30-120		
Fluorene	0.0162	0.00500	"	0.0333	ND	48.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0143	0.00500	"	0.0333	ND	42.9	30-120		
Pyrene	0.0222	0.00500	"	0.0333	ND	66.7	35-142		
1-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.9	15-130		
2-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.7	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0135		"	0.0333		40.6	40-150		
Surrogate: Fluoranthene-d10	0.0162		"	0.0333		48.6	40-150		

Matrix Spike Dup (BHE0870-MSD1)

Source: 2405338-02

Prepared: 05/29/24 Analyzed: 05/30/24

Acenaphthene	0.0164	0.00500	mg/kg	0.0333	ND	49.1	31-137	7.46	30
Anthracene	0.0171	0.00500	"	0.0333	ND	51.4	30-120	2.34	30
Benzo (a) anthracene	0.0198	0.00500	"	0.0333	ND	59.5	30-120	4.05	30
Benzo (a) pyrene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	2.52	30
Benzo (b) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	8.63	30
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	30-120	7.60	30
Chrysene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	4.77	30
Dibenz (a,h) anthracene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	6.13	30
Fluoranthene	0.0165	0.00500	"	0.0333	ND	49.4	30-120	1.39	30
Fluorene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	6.38	30
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	15.7	30
Pyrene	0.0188	0.00500	"	0.0333	ND	56.4	35-142	16.7	30
1-Methylnaphthalene	0.0163	0.00500	"	0.0333	ND	48.9	15-130	10.6	50
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.8	15-130	9.07	50
Surrogate: 2-Methylnaphthalene-d10	0.0147		"	0.0333		44.2	40-150		
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.4	40-150		

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

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

Batch BHE0881 - EPA 3050B

Blank (BHE0881-BLK1)

Prepared: 05/29/24 Analyzed: 06/08/24

Boron ND 2.00 mg/L

LCS (BHE0881-BS1)

Prepared: 05/29/24 Analyzed: 06/08/24

Boron 4.91 2.00 mg/L 5.00 98.2 80-120

Duplicate (BHE0881-DUP1)

Source: 2405407-01

Prepared: 05/29/24 Analyzed: 06/08/24

Boron 0.200 2.00 mg/L 0.226 12.2 20

Matrix Spike (BHE0881-MS1)

Source: 2405407-01

Prepared: 05/29/24 Analyzed: 06/08/24

Boron 5.32 2.00 mg/L 4.96 0.226 103 75-125

Matrix Spike Dup (BHE0881-MSD1)

Source: 2405407-01

Prepared: 05/29/24 Analyzed: 06/08/24

Boron 5.33 2.00 mg/L 4.96 0.226 103 75-125 0.143 25

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHE0874 - EPA 3050B

Blank (BHE0874-BLK1)

Prepared & Analyzed: 05/29/24

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 (BHE0874-BS1)

Prepared & Analyzed: 05/29/24

Arsenic	37.7	0.200	mg/kg wet	39.7	94.9	80-120
Barium	36.8	0.400	"	39.7	92.7	80-120
Cadmium	1.82	0.200	"	1.98	91.9	80-120
Copper	37.9	0.400	"	39.7	95.6	80-120
Lead	18.4	0.200	"	19.8	92.8	80-120
Nickel	38.1	0.400	"	39.7	95.9	80-120
Silver	1.83	0.0200	"	1.98	92.3	80-120
Zinc	37.9	0.400	"	39.7	95.6	80-120
Selenium	4.05	0.260	"	3.97	102	80-120

Duplicate (BHE0874-DUP1)

Source: 2405384-01

Prepared & Analyzed: 05/29/24

Arsenic	1.94	0.200	mg/kg dry	2.06	5.99	20	
Barium	58.9	0.400	"	63.7	7.74	20	
Cadmium	0.308	0.200	"	0.497	46.9	20	QR-01
Copper	8.22	0.400	"	10.9	27.7	20	QR-04
Lead	101	0.200	"	234	79.1	20	QR-04
Nickel	3.26	0.400	"	3.45	5.46	20	
Silver	0.0680	0.0200	"	0.0829	19.7	20	
Zinc	60.6	0.400	"	55.0	9.84	20	
Selenium	ND	0.260	"	0.187	200	20	QR-01

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHE0874 - EPA 3050B

Matrix Spike (BHE0874-MS1)			Source: 2405384-01		Prepared & Analyzed: 05/29/24						
Arsenic	42.8	0.200	mg/kg dry	42.8	2.06	95.1	75-125				
Barium	93.2	0.400	"	42.8	63.7	68.9	75-125				QM-07
Cadmium	2.29	0.200	"	2.14	0.497	83.7	75-125				
Copper	37.5	0.400	"	42.8	10.9	62.1	75-125				QM-07
Lead	68.8	0.200	"	21.4	234	NR	75-125				QM-07
Nickel	33.0	0.400	"	42.8	3.45	69.0	75-125				QM-07
Silver	2.06	0.0200	"	2.14	0.0829	92.4	75-125				
Zinc	66.6	0.400	"	42.8	55.0	27.2	75-125				QM-07
Selenium	4.40	0.260	"	4.28	0.187	98.5	75-125				

Matrix Spike Dup (BHE0874-MSD1)			Source: 2405384-01		Prepared & Analyzed: 05/29/24						
Arsenic	43.3	0.200	mg/kg dry	42.8	2.06	96.2	75-125	1.12	25		
Barium	93.9	0.400	"	42.8	63.7	70.6	75-125	0.775	25		QM-07
Cadmium	2.34	0.200	"	2.14	0.497	86.1	75-125	2.17	25		
Copper	38.0	0.400	"	42.8	10.9	63.3	75-125	1.32	25		QM-07
Lead	69.8	0.200	"	21.4	234	NR	75-125	1.44	25		QM-07
Nickel	33.4	0.400	"	42.8	3.45	69.8	75-125	1.07	25		QM-07
Silver	2.08	0.0200	"	2.14	0.0829	93.1	75-125	0.703	25		
Zinc	67.4	0.400	"	42.8	55.0	29.0	75-125	1.11	25		QM-07
Selenium	4.35	0.260	"	4.28	0.187	97.1	75-125	1.29	25		

Post Spike (BHE0874-PS1)			Source: 2405384-01		Prepared & Analyzed: 05/29/24						
Arsenic	107		ug/l	100	4.52	103	75-125				
Barium	244		"	100	140	104	75-125				
Cadmium	6.19		"	5.00	1.09	102	75-125				
Copper	97.2		"	100	23.8	73.4	75-125				QM-01
Lead	604		"	50.0	514	180	75-125				QM-01
Nickel	79.0		"	100	7.56	71.4	75-125				QM-01, QR-01
Silver	5.09		"	5.00	0.182	98.2	75-125				
Zinc	205		"	100	121	84.1	75-125				
Selenium	10.6		"	10.0	0.410	102	75-125				

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHE0891 - 3060A Mod

Blank (BHE0891-BLK1)

Prepared: 05/29/24 Analyzed: 06/03/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHE0891-BS1)

Prepared: 05/29/24 Analyzed: 06/03/24

Chromium, Hexavalent 25.7 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHE0891-DUP1)

Source: 2405411-01

Prepared: 05/29/24 Analyzed: 06/03/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHE0891-MS1)

Source: 2405411-01

Prepared: 05/29/24 Analyzed: 06/03/24

Chromium, Hexavalent 25.3 0.30 mg/kg dry 25.8 ND 98.0 75-125

Matrix Spike Dup (BHE0891-MSD1)

Source: 2405411-01

Prepared: 05/29/24 Analyzed: 06/03/24

Chromium, Hexavalent 25.2 0.30 mg/kg dry 25.8 ND 97.8 75-125 0.204 20

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

Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

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

Batch BHE0885 - General Preparation

Blank (BHE0885-BLK1)

Prepared: 05/29/24 Analyzed: 06/13/24

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

LCS (BHE0885-BS1)

Prepared: 05/29/24 Analyzed: 06/13/24

Calcium	5.84	0.0500	mg/L wet	5.00	117	70-130
Magnesium	5.34	0.0500	"	5.00	107	70-130
Sodium	5.14	0.0500	"	5.00	103	70-130

Summit Scientific

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

Project: Noble - Diller 42-13 Facility

Project Number: UWRWE-A3035-ABN

Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

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

Batch BHE0882 - General Preparation

Duplicate (BHE0882-DUP1)		Source: 2405407-01			Prepared: 05/29/24 Analyzed: 05/31/24						
% Solids	90.0		%		89.8			0.233		20	

Summit Scientific

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Project: Noble - Diller 42-13 Facility
Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

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

Batch BHE0928 - General Preparation

Blank (BHE0928-BLK1)

Prepared & Analyzed: 05/30/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHE0928-BS1)

Prepared & Analyzed: 05/30/24

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHE0928-DUP1)

Source: 2405401-01

Prepared & Analyzed: 05/30/24

Specific Conductance (EC) 0.176 0.0100 mmhos/cm 0.177 0.567 20

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

Project: Noble - Diller 42-13 Facility

Project Number: UWRWE-A3035-ABN

Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

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

Summit Scientific

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

Batch BHE0930 - General Preparation

LCS (BHE0930-BS1)

Prepared & Analyzed: 05/30/24

pH	9.14	pH Units	9.18	99.6	95-105
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Duplicate (BHE0930-DUP1)

Source: 2405401-07

Prepared & Analyzed: 05/30/24

pH	8.98	pH Units	9.16	1.98	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Diller 42-13 Facility

Project Number: UWRWE-A3035-ABN
Project Manager: Jacob Whritenour

Reported:
06/25/24 09:35

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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