



Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Site photo facing north			

Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Site photo facing south			



Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Site photo facing east			

Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Site photo facing west			



Equipment ID: FL01R-W@4'		Equipment Type: Flowline		Equipment ID: FL01R-S@4'		Equipment Type: Flowline	
Material: Steel	Volume:	Contents: Oil/Gas/Water		Material: Steel	Volume:	Contents: Oil/Gas/Water	
Notes/Conditions:				Notes/Conditions: Moisture from the hydrovac. I had the crew use the hand auger and dig a little deeper and no groundwater was encountered.			



Equipment ID: GL01R-W@4'		Equipment Type:		Equipment ID: GL01R-01@4'		Equipment Type:	
Material: Steel	Volume:	Contents:		Material: Steel	Volume:	Contents:	
Notes/Conditions: Gas lift line near the wellhead				Notes/Conditions: Gas lift line at the meter house Line is on the west side			

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE ENERGY INC. 100322
WELLS RANCH AE32-635, WELD COUNTY, COLORADO
REM # 34950

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FL01R-S@4'	07/08/24	4	40.443225	-104.354918	0.8	4.6
FL01R-W@4'	07/08/24	4	40.441462	-104.354386	0.9	5.8
GL01R-01@4'	07/08/24	4	40.442088	-104.354482	0.9	3.9
GL01R-W@4'	07/08/24	4	40.441486	-104.354415	0.9	4.9

Notes:

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

in. = Inches

ft. = Feet

bgs = Below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC. 100322
WELLS RANCH AE32-635, WELD COUNTY, COLORADO
REM # 34950

Sample ID	Sample Date	Depth (ft. bgs)	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**		
FL01R-S@4'	07/08/24	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL01R-W@4'	07/08/24	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
GL01R-01@4'	07/08/24	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
GL01R-W@4'	07/08/24	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

Notes:

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

ECMC = Energy & Carbon Management Commission

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

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

ft. = Feet

bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY INC. 100322
WELLS RANCH AE32-635, WELD COUNTY, COLORADO
REM # 34950

Sample ID	Sample Date	Depth (ft. bgs)	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	1,800	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
FL01R-S@4'	07/08/24	4	<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
FL01R-W@4'	07/08/24	4	<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
GL01R-01@4'	07/08/24	4	<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
GL01R-W@4'	07/08/24	4	<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

Notes:

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

ECMC = Colorado Energy & Carbon Management Commission

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

ft. = Feet

bgs = Below ground surface

mg/kg = Milligrams per kilogram

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC. 100322
WELLS RANCH AE32-635, WELD COUNTY, COLORADO
REM # 34950

Sample ID	Sample Date	Depth (ft. bgs)	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
FL01R-S@4'	07/08/24	4	8.03	0.692	0.437	<2.00
FL01R-W@4'	07/08/24	4	8.23	0.408	0.454	<2.00
GL01R-01@4'	07/08/24	4	8.46	0.182	0.0176	<2.00
GL01R-W@4'	07/08/24	4	8.51	0.265	0.376	<2.00

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
3. Brown highlighted soil analytical values indicate a regulatory exceedance.

ECMC = Colorado Energy & Carbon Management Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

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

ft. = Feet

bgs = Below ground surface

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC. 100322
WELLS RANCH AE32-635, WELD COUNTY, COLORADO
REM # 34950

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (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	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01R-S@4'	07/08/24	4	1.77	43.0	<0.180	<0.30	2.30	3.96	2.67	<0.234	<0.0180	9.98
FL01R-W@4'	07/08/24	4	3.33	60.6	<0.200	<0.30	2.12	3.52	2.13	<0.260	<0.0200	8.60
GL01R-01@4'	07/08/24	4	1.36	94.4	<0.200	<0.30	1.69	2.43	2.09	<0.260	<0.0200	7.93
GL01R-W@4'	07/08/24	4	2.72	162	<0.200	<0.30	2.98	4.41	3.47	<0.260	0.0218	14.70

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Red** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
4. Compound falls within ECMC Table 915-1 Footnote 9.
5. Non-detect background results accounted for in the highest background concentration by using the reporting limit.

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

* Indicates laboratory minimum detection limit in excess of SSL



Legend

⊕ Soil Sample Location – No Exceedances (Collected via Trimble GPS)

Notes

1) All locations are approximate unless otherwise noted.
 2) Buried infrastructure has been spatially projected.

GPS – Global Positioning System
 mg/kg – Milligrams per kilogram
 PID – Photoionization Detector
 ppm – Parts per million

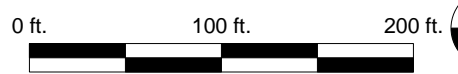


Image Source: Google Earth; Google 2020

DATE:	08/12/24
DESIGNED BY:	JW
DRAWN BY:	KS



TASMAN
 GEOSCIENCES

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

Noble Energy, Inc. – DJ Basin
Wells Ranch AE32-635
 NWSW, Section 32, Township 6 North, Range 62 West
 Weld County, Colorado

Flowline Closure & Soil
 Analytical Results Map
 (07/08/2024)

FIGURE
 1

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 12, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Wells Ranch AE 32-635

Work Order #2407089

Enclosed are the results of analyses for samples received by Summit Scientific on 07/08/24 17:37. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN

Project Manager: Jacob Whritenour

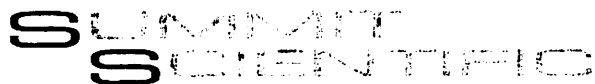
Reported:
07/12/24 08:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-W@4'	2407089-01	Soil	07/08/24 11:47	07/08/24 17:37
FL01R-S@4'	2407089-02	Soil	07/08/24 14:00	07/08/24 17:37
GL01R-W@4'	2407089-03	Soil	07/08/24 11:56	07/08/24 17:37
GL01R-01@4'	2407089-04	Soil	07/08/24 13:09	07/08/24 17:37

Summit Scientific

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



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

Lab ID	Page <u>1</u> of <u>1</u>
2407089	

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: wells ranch AE32-635	
City/State/Zip: Broomfield/CO/ 80020		AFE#: UWRWR - A4008 - ARN	
Phone: 937-554-5108	Project Name: wells ranch AE32-635	PO/Billing Codes:	
Sampler Name: Molly Parks	Project Number: 34950	Contact: Wade Firestein	

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	FL01R-W@4'	07-08-24	1147	3			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	FL01R-S@4'	I	1400	3			X			X			X	X	X	X	X	X		
3	GL01R-W@4'	I	1156	3			X			X			X	X	X	X	X	X		
4	GL01R-01@4'	I	1309	3			X			X			X	X	X	X	X	X		
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <u>MP</u>	Date/Time: <u>07-08-24 / 1600</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>07-08-24 / 1600</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman/Lockbox</u>	Date/Time: <u>7824 / 1737</u>	Received by: <u>[Signature]</u>	Date/Time: <u>7824 / 1737</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: <u>9.5</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:	Standard	<input checked="" type="checkbox"/>	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2407089

Client: Noble Gasman Client Project ID: Wells Ranch AE 32-639

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"/>	avg AE
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

7/8/24
Date/Time



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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-W@4'
2407089-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0232	07/09/24	07/10/24	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: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0435	109 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0230	07/09/24	07/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/08/24 11:47**

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

Summit Scientific

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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-W@4'
2407089-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0204	07/09/24	07/09/24	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: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	43.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0214	07/09/24	07/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/08/24 11:47**

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 - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-W@4'
2407089-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.33	0.200	mg/kg dry	1	BHG0202	07/09/24	07/11/24	EPA 6020B	
Barium	60.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.12	0.400	"	"	"	"	"	"	
Lead	3.52	0.200	"	"	"	"	"	"	
Nickel	2.13	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.60	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0220	07/09/24	07/09/24	EPA 7196A	

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

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1710	0.0500	mg/L dry	1	BHG0224	07/09/24	07/11/24	EPA 6020B	
Magnesium	122	0.0500	"	"	"	"	"	"	
Sodium	72.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.454	0.00100	units	1	BHG0317	07/11/24	07/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-W@4'
2407089-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.6			%	1	BHG0215	07/09/24	07/10/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.408	0.0100		mmhos/cm	1	BHG0234	07/09/24	07/10/24	EPA 120.1	

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

Date Sampled: **07/08/24 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.23			pH Units	1	BHG0233	07/09/24	07/10/24	EPA 9045D	

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-S@4'
2407089-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0232	07/09/24	07/10/24	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: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0375	93.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0424	106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0230	07/09/24	07/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.90	63.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-S@4'
2407089-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0204	07/09/24	07/09/24	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: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0214	07/09/24	07/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-S@4'
2407089-02 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.77	0.180	mg/kg dry	1	BHG0202	07/09/24	07/11/24	EPA 6020B	
Barium	43.0	0.360	"	"	"	"	"	"	
Cadmium	ND	0.180	"	"	"	"	"	"	
Copper	2.30	0.360	"	"	"	"	"	"	
Lead	3.96	0.180	"	"	"	"	"	"	
Nickel	2.67	0.360	"	"	"	"	"	"	
Silver	ND	0.0180	"	"	"	"	"	"	
Zinc	9.98	0.360	"	"	"	"	"	"	
Selenium	ND	0.234	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0220	07/09/24	07/09/24	EPA 7196A	

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

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	88.6	0.0500	mg/L dry	1	BHG0224	07/09/24	07/11/24	EPA 6020B	
Magnesium	21.8	0.0500	"	"	"	"	"	"	
Sodium	17.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.437	0.00100	units	1	BHG0317	07/11/24	07/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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6855 W. 119th Ave.
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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

FL01R-S@4'
2407089-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.1			%	1	BHG0215	07/09/24	07/10/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.692	0.0100		mmhos/cm	1	BHG0234	07/09/24	07/10/24	EPA 120.1	

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

Date Sampled: **07/08/24 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.03			pH Units	1	BHG0233	07/09/24	07/10/24	EPA 9045D	

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-W@4'
2407089-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0232	07/09/24	07/10/24	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: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0422	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0230	07/09/24	07/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.12	57.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-W@4'
2407089-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0204	07/09/24	07/10/24	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: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0206	61.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0214	07/09/24	07/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/08/24 11:56**

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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-W@4'
2407089-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.72	0.200	mg/kg dry	1	BHG0202	07/09/24	07/11/24	EPA 6020B	
Barium	162	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.98	0.400	"	"	"	"	"	"	
Lead	4.41	0.200	"	"	"	"	"	"	
Nickel	3.47	0.400	"	"	"	"	"	"	
Silver	0.0218	0.0200	"	"	"	"	"	"	
Zinc	14.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0220	07/09/24	07/09/24	EPA 7196A	

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

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1180	0.0500	mg/L dry	1	BHG0224	07/09/24	07/11/24	EPA 6020B	
Magnesium	105	0.0500	"	"	"	"	"	"	
Sodium	50.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.376	0.00100	units	1	BHG0317	07/11/24	07/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-W@4'
2407089-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.5			%	1	BHG0215	07/09/24	07/10/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.265	0.0100		mmhos/cm	1	BHG0234	07/09/24	07/10/24	EPA 120.1	

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

Date Sampled: **07/08/24 11:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.51			pH Units	1	BHG0233	07/09/24	07/10/24	EPA 9045D	

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-01@4'
2407089-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0232	07/09/24	07/10/24	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: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0424	106 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0230	07/09/24	07/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.07	56.6 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-01@4'
2407089-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0204	07/09/24	07/10/24	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: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0206	61.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0214	07/09/24	07/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/08/24 13:09**

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 - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-01@4'
2407089-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.36	0.200	mg/kg dry	1	BHG0202	07/09/24	07/11/24	EPA 6020B
Barium	94.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.69	0.400	"	"	"	"	"	"
Lead	2.43	0.200	"	"	"	"	"	"
Nickel	2.09	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	7.93	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0220	07/09/24	07/09/24	EPA 7196A	

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

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1670	0.0500	mg/L dry	1	BHG0224	07/09/24	07/11/24	EPA 6020B	
Magnesium	96.2	0.0500	"	"	"	"	"	"	
Sodium	2.73	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0176	0.00100	units	1	BHG0317	07/11/24	07/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

GL01R-01@4'
2407089-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.5			%	1	BHG0215	07/09/24	07/10/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.182	0.0100		mmhos/cm	1	BHG0234	07/09/24	07/10/24	EPA 120.1	

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

Date Sampled: **07/08/24 13:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.46			pH Units	1	BHG0233	07/09/24	07/10/24	EPA 9045D	

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0232 - EPA 5030 Soil MS

Blank (BHG0232-BLK1)

Prepared & Analyzed: 07/09/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0435</i>		<i>"</i>	<i>0.0400</i>		<i>109</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

LCS (BHG0232-BS1)

Prepared & Analyzed: 07/09/24

Benzene	0.213	0.0020	mg/kg	0.200		107	70-130			
Toluene	0.218	0.0050	"	0.200		109	70-130			
Ethylbenzene	0.216	0.0050	"	0.200		108	70-130			
m,p-Xylene	0.432	0.010	"	0.400		108	70-130			
o-Xylene	0.213	0.0050	"	0.200		106	70-130			
1,2,4-Trimethylbenzene	0.213	0.0050	"	0.200		106	70-130			
1,3,5-Trimethylbenzene	0.214	0.0050	"	0.200		107	70-130			
Naphthalene	0.201	0.0038	"	0.200		101	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0378</i>		<i>"</i>	<i>0.0400</i>		<i>94.6</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>50-150</i>			

Matrix Spike (BHG0232-MS1)

Source: 2407086-01

Prepared: 07/09/24 Analyzed: 07/10/24

Benzene	0.166	0.0020	mg/kg	0.200	ND	83.1	70-130			
Toluene	0.170	0.0050	"	0.200	ND	85.2	70-130			
Ethylbenzene	0.165	0.0050	"	0.200	ND	82.7	70-130			
m,p-Xylene	0.326	0.010	"	0.400	ND	81.6	70-130			
o-Xylene	0.169	0.0050	"	0.200	ND	84.4	70-130			
1,2,4-Trimethylbenzene	0.155	0.0050	"	0.200	ND	77.6	70-130			
1,3,5-Trimethylbenzene	0.158	0.0050	"	0.200	ND	78.8	70-130			
Naphthalene	0.135	0.0038	"	0.200	ND	67.6	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0338</i>		<i>"</i>	<i>0.0400</i>		<i>84.4</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.0</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0387</i>		<i>"</i>	<i>0.0400</i>		<i>96.7</i>	<i>50-150</i>			

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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0232 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0232-MSD1)	Source: 2407086-01			Prepared: 07/09/24 Analyzed: 07/10/24						
Benzene	0.196	0.0020	mg/kg	0.200	ND	98.2	70-130	16.6	30	
Toluene	0.203	0.0050	"	0.200	ND	101	70-130	17.4	30	
Ethylbenzene	0.185	0.0050	"	0.200	ND	92.6	70-130	11.2	30	
m,p-Xylene	0.364	0.010	"	0.400	ND	91.0	70-130	10.9	30	
o-Xylene	0.185	0.0050	"	0.200	ND	92.3	70-130	8.98	30	
1,2,4-Trimethylbenzene	0.165	0.0050	"	0.200	ND	82.3	70-130	5.91	30	
1,3,5-Trimethylbenzene	0.169	0.0050	"	0.200	ND	84.4	70-130	6.95	30	
Naphthalene	0.141	0.0038	"	0.200	ND	70.7	70-130	4.49	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0366</i>		<i>"</i>	<i>0.0400</i>		<i>91.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0230 - EPA 3550A

Blank (BHG0230-BLK1)

Prepared: 07/09/24 Analyzed: 07/10/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.9		"	12.5		103	30-150			

LCS (BHG0230-BS1)

Prepared: 07/09/24 Analyzed: 07/10/24

C10-C28 (DRO)	477	50	mg/kg	500	46.8	101	70-130			
Surrogate: <i>o</i> -Terphenyl	8.99		"	12.5		71.9	30-150			

Matrix Spike (BHG0230-MS1)

Source: 2407086-01

Prepared: 07/09/24 Analyzed: 07/10/24

C10-C28 (DRO)	552	50	mg/kg	500	46.8	101	70-130			
Surrogate: <i>o</i> -Terphenyl	8.39		"	12.5		67.1	30-150			

Matrix Spike Dup (BHG0230-MSD1)

Source: 2407086-01

Prepared: 07/09/24 Analyzed: 07/10/24

C10-C28 (DRO)	524	50	mg/kg	500	46.8	95.4	70-130	5.20	20	
Surrogate: <i>o</i> -Terphenyl	8.94		"	12.5		71.6	30-150			

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0204 - EPA 5030 Soil MS

Blank (BHG0204-BLK1)

Prepared & Analyzed: 07/09/24

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>0.0301</i>		"	<i>0.0333</i>		<i>90.3</i>		<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0339</i>		"	<i>0.0333</i>		<i>102</i>		<i>40-150</i>			

LCS (BHG0204-BS1)

Prepared & Analyzed: 07/09/24

Acenaphthene	0.0282	0.00500	mg/kg	0.0333	84.7	31-137
Anthracene	0.0287	0.00500	"	0.0333	86.1	30-120
Benzo (a) anthracene	0.0303	0.00500	"	0.0333	91.0	30-120
Benzo (a) pyrene	0.0271	0.00500	"	0.0333	81.2	30-120
Benzo (b) fluoranthene	0.0276	0.00500	"	0.0333	82.8	30-120
Benzo (k) fluoranthene	0.0283	0.00500	"	0.0333	85.0	30-120
Chrysene	0.0298	0.00500	"	0.0333	89.3	30-120
Dibenz (a,h) anthracene	0.0258	0.00500	"	0.0333	77.5	30-120
Fluoranthene	0.0297	0.00500	"	0.0333	89.2	30-120
Fluorene	0.0287	0.00500	"	0.0333	86.0	30-120
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	49.9	30-120
Pyrene	0.0330	0.00500	"	0.0333	98.9	35-142
1-Methylnaphthalene	0.0287	0.00500	"	0.0333	86.2	35-142
2-Methylnaphthalene	0.0263	0.00500	"	0.0333	79.0	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0268</i>		"	<i>0.0333</i>	<i>80.4</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0316</i>		"	<i>0.0333</i>	<i>94.7</i>	<i>40-150</i>

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0204 - EPA 5030 Soil MS

Matrix Spike (BHG0204-MS1)	Source: 2407067-01			Prepared & Analyzed: 07/09/24								
Acenaphthene	0.0260	0.00500	mg/kg	0.0333	ND	77.9	31-137					
Anthracene	0.0267	0.00500	"	0.0333	ND	80.0	30-120					
Benzo (a) anthracene	0.0290	0.00500	"	0.0333	ND	86.9	30-120					
Benzo (a) pyrene	0.0251	0.00500	"	0.0333	ND	75.3	30-120					
Benzo (b) fluoranthene	0.0254	0.00500	"	0.0333	ND	76.2	30-120					
Benzo (k) fluoranthene	0.0242	0.00500	"	0.0333	ND	72.5	30-120					
Chrysene	0.0272	0.00500	"	0.0333	ND	81.7	30-120					
Dibenz (a,h) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120					
Fluoranthene	0.0325	0.00500	"	0.0333	ND	97.5	30-120					
Fluorene	0.0263	0.00500	"	0.0333	ND	78.9	30-120					
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	ND	49.2	30-120					
Pyrene	0.0325	0.00500	"	0.0333	ND	97.6	35-142					
1-Methylnaphthalene	0.0271	0.00500	"	0.0333	ND	81.2	15-130					
2-Methylnaphthalene	0.0246	0.00500	"	0.0333	ND	73.8	15-130					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0266</i>		<i>"</i>	<i>0.0333</i>		<i>79.7</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.6</i>	<i>40-150</i>					

Matrix Spike Dup (BHG0204-MSD1)	Source: 2407067-01			Prepared & Analyzed: 07/09/24								
Acenaphthene	0.0249	0.00500	mg/kg	0.0333	ND	74.8	31-137	4.14	30			
Anthracene	0.0258	0.00500	"	0.0333	ND	77.4	30-120	3.27	30			
Benzo (a) anthracene	0.0282	0.00500	"	0.0333	ND	84.7	30-120	2.54	30			
Benzo (a) pyrene	0.0247	0.00500	"	0.0333	ND	74.1	30-120	1.59	30			
Benzo (b) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.6	30-120	0.737	30			
Benzo (k) fluoranthene	0.0228	0.00500	"	0.0333	ND	68.5	30-120	5.61	30			
Chrysene	0.0265	0.00500	"	0.0333	ND	79.4	30-120	2.81	30			
Dibenz (a,h) anthracene	0.0217	0.00500	"	0.0333	ND	65.1	30-120	6.08	30			
Fluoranthene	0.0336	0.00500	"	0.0333	ND	101	30-120	3.46	30			
Fluorene	0.0256	0.00500	"	0.0333	ND	76.8	30-120	2.79	30			
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333	ND	46.7	30-120	5.15	30			
Pyrene	0.0325	0.00500	"	0.0333	ND	97.6	35-142	0.0717	30			
1-Methylnaphthalene	0.0259	0.00500	"	0.0333	ND	77.8	15-130	4.31	50			
2-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.2	15-130	0.590	50			
<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>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>80.9</i>	<i>40-150</i>					

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0214 - EPA 3050B

Blank (BHG0214-BLK1)

Prepared: 07/09/24 Analyzed: 07/11/24

Boron ND 2.00 mg/L

LCS (BHG0214-BS1)

Prepared: 07/09/24 Analyzed: 07/11/24

Boron 5.04 2.00 mg/L 5.00 101 80-120

Duplicate (BHG0214-DUP1)

Source: 2406397-06

Prepared: 07/09/24 Analyzed: 07/11/24

Boron 3.38 2.00 mg/L 3.14 7.41 20

Matrix Spike (BHG0214-MS1)

Source: 2406397-06

Prepared: 07/09/24 Analyzed: 07/11/24

Boron 8.75 2.00 mg/L 5.00 3.14 112 75-125

Matrix Spike Dup (BHG0214-MSD1)

Source: 2406397-06

Prepared: 07/09/24 Analyzed: 07/11/24

Boron 8.77 2.00 mg/L 5.00 3.14 113 75-125 0.274 25

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0202 - EPA 3050B

Blank (BHG0202-BLK1)

Prepared: 07/09/24 Analyzed: 07/11/24

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 (BHG0202-BS1)

Prepared: 07/09/24 Analyzed: 07/11/24

Arsenic	36.2	0.200	mg/kg wet	40.0	90.6	80-120
Barium	38.1	0.400	"	40.0	95.2	80-120
Cadmium	1.91	0.200	"	2.00	95.5	80-120
Copper	39.6	0.400	"	40.0	99.1	80-120
Lead	19.2	0.200	"	20.0	95.9	80-120
Nickel	39.7	0.400	"	40.0	99.2	80-120
Silver	1.88	0.0200	"	2.00	93.9	80-120
Zinc	39.3	0.400	"	40.0	98.3	80-120
Selenium	4.19	0.260	"	4.00	105	80-120

Duplicate (BHG0202-DUP1)

Source: 2407082-01

Prepared: 07/09/24 Analyzed: 07/11/24

Arsenic	2.16	0.200	mg/kg dry	2.31	6.53	20
Barium	59.7	0.400	"	55.9	6.66	20
Cadmium	0.114	0.200	"	0.116	1.35	20
Copper	3.91	0.400	"	3.61	7.90	20
Lead	4.56	0.200	"	4.62	1.40	20
Nickel	4.04	0.400	"	4.03	0.253	20
Silver	0.0284	0.0200	"	0.0258	9.56	20
Zinc	14.3	0.400	"	13.9	2.80	20
Selenium	ND	0.260	"	ND		20

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

Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0202 - EPA 3050B

Matrix Spike (BHG0202-MS1)

Source: 2407082-01

Prepared: 07/09/24 Analyzed: 07/11/24

Arsenic	39.5	0.200	mg/kg dry	40.0	2.31	92.9	75-125			
Barium	97.0	0.400	"	40.0	55.9	103	75-125			
Cadmium	2.05	0.200	"	2.00	0.116	96.7	75-125			
Copper	28.6	0.400	"	40.0	3.61	62.3	75-125			QM-05
Lead	24.1	0.200	"	20.0	4.62	97.4	75-125			
Nickel	29.1	0.400	"	40.0	4.03	62.7	75-125			QM-05
Silver	1.97	0.0200	"	2.00	0.0258	97.2	75-125			
Zinc	39.5	0.400	"	40.0	13.9	63.9	75-125			QM-05
Selenium	4.25	0.260	"	4.00	ND	106	75-125			

Matrix Spike Dup (BHG0202-MSD1)

Source: 2407082-01

Prepared: 07/09/24 Analyzed: 07/11/24

Arsenic	38.9	0.200	mg/kg dry	39.7	2.31	92.2	75-125	1.46	25	
Barium	97.0	0.400	"	39.7	55.9	103	75-125	0.0651	25	
Cadmium	2.06	0.200	"	1.99	0.116	98.0	75-125	0.562	25	
Copper	30.0	0.400	"	39.7	3.61	66.3	75-125	4.75	25	QM-05
Lead	23.6	0.200	"	19.9	4.62	95.6	75-125	2.08	25	
Nickel	30.3	0.400	"	39.7	4.03	66.2	75-125	4.07	25	QM-05
Silver	1.93	0.0200	"	1.99	0.0258	95.9	75-125	2.07	25	
Zinc	40.7	0.400	"	39.7	13.9	67.3	75-125	2.91	25	QM-05
Selenium	3.72	0.260	"	3.97	ND	93.7	75-125	13.3	25	

Post Spike (BHG0202-PS1)

Source: 2407082-01

Prepared: 07/09/24 Analyzed: 07/11/24

Arsenic	95.5		ug/l	100	5.33	90.2	75-125			
Barium	180		"	100	129	50.4	75-125			QM-01
Cadmium	4.69		"	5.00	0.267	88.5	75-125			
Copper	80.0		"	100	8.36	71.6	75-125			QM-01
Lead	52.8		"	50.0	10.7	84.3	75-125			
Nickel	81.1		"	100	9.31	71.8	75-125			QM-01
Silver	4.49		"	5.00	0.0597	88.6	75-125			
Zinc	99.1		"	100	32.2	66.9	75-125			QM-01
Selenium	10.4		"	10.0	0.268	102	75-125			

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHG0220 - 3060A Mod

Blank (BHG0220-BLK1)

Prepared & Analyzed: 07/09/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHG0220-BS1)

Prepared & Analyzed: 07/09/24

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.6 80-120

Duplicate (BHG0220-DUP1)

Source: 2407061-01

Prepared & Analyzed: 07/09/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHG0220-MS1)

Source: 2407061-01

Prepared & Analyzed: 07/09/24

Chromium, Hexavalent 26.7 0.30 mg/kg dry 27.6 ND 96.8 75-125

Matrix Spike Dup (BHG0220-MSD1)

Source: 2407061-01

Prepared & Analyzed: 07/09/24

Chromium, Hexavalent 26.9 0.30 mg/kg dry 27.6 ND 97.6 75-125 0.823 20

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0224 - General Preparation

Blank (BHG0224-BLK1)

Prepared: 07/09/24 Analyzed: 07/11/24

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

LCS (BHG0224-BS1)

Prepared: 07/09/24 Analyzed: 07/11/24

Calcium	4.82	0.0500	mg/L wet	5.00		96.5	70-130			
Magnesium	4.82	0.0500	"	5.00		96.4	70-130			
Sodium	4.82	0.0500	"	5.00		96.5	70-130			

Summit Scientific

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0215 - General Preparation

Duplicate (BHG0215-DUP1)		Source: 2407082-01		Prepared: 07/09/24 Analyzed: 07/10/24	
% Solids	92.1		%	92.5	0.375 20

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0234 - General Preparation

Blank (BHG0234-BLK1)

Prepared: 07/09/24 Analyzed: 07/10/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHG0234-BS1)

Prepared: 07/09/24 Analyzed: 07/10/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BHG0234-DUP1)

Source: 2407086-01

Prepared: 07/09/24 Analyzed: 07/10/24

Specific Conductance (EC) 0.310 0.0100 mmhos/cm 0.311 0.322 20

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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 BHG0233 - General Preparation

LCS (BHG0233-BS1)

Prepared: 07/09/24 Analyzed: 07/10/24

pH	9.18	pH Units	9.18	100	95-105
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Duplicate (BHG0233-DUP1)

Source: 2407086-01

Prepared: 07/09/24 Analyzed: 07/10/24

pH	8.34	pH Units	8.34	0.00	20
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Summit Scientific

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Project: Noble - Wells Ranch AE 32-635

Project Number: UWRWR-A4008-ABN
Project Manager: Jacob Whritenour

Reported:
07/12/24 08:46

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.
- 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