

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 10, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Wells Ranch AA35-69-1HNB

Work Order #2406464

Enclosed are the results of analyses for samples received by Summit Scientific on 06/28/24 17:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Wells Ranch AA35-69-1HNB

Project Number: UWRWE-A4003-ABN 35408

Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-W@4'	2406464-01	Soil	06/28/24 13:26	06/28/24 17:56
FL01R-S@4'	2406464-02	Soil	06/28/24 10:56	06/28/24 17:56
GL01R-W@4'	2406464-03	Soil	06/28/24 14:50	06/28/24 17:56
GL01R-01@5'	2406464-04	Soil	06/28/24 11:22	06/28/24 17:56

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

Lab ID: 2406464 Page 1 of 1

Client: Noble / Tasman	Send Data To: Project Manager: Jake Whritenour	Send Invoice To: Company: Chevron
Address: 6855 W. 119th Ave	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Wells Ranch AAS5-69-1403
City/State/Zip: Broomfield, CO 80020	Project Name: Wells Ranch AAS5-69-1403	AFE#: 6WRWZ-A4003-ABW
Phone:	Project Number: 35408	PO/Billing Codes:
Sampler Name: Molly Parks + Loren Bohannon		Contact: Wade Firestien

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Metals - 915		HOLD		
1	FLOIR-W@4'	6/28/24	1326	3			X							X	X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	FLOIR-S@4'		1056	1										X	X	X	X	X	X	X		
3	GLOIR-W@4'		1450	1										X	X	X	X	X	X	X		
4	GLOIR-OIES'		1122	1										X	X	X	X	X	X	X		
5														X	X	X	X	X	X	X		
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <u>Loren Bohannon</u> Date/Time: <u>6/28/24 1641</u>	Received by: <u>Tasman Lock Box</u> Date/Time: <u>6/28/24 1641</u>	TAT Business Days	Field DO	Notes:
Relinquished by: <u>Tasman Lock Box</u> Date/Time: <u>6/28/24 1750</u>	Received by: <u>[Signature]</u> Date/Time: <u>6/28/24 1750</u>	Same Day	Field EC	
Relinquished by:	Received by:	1 Day	Field ORP	
Relinquished by:	Received by:	2 Days	Field pH	
Relinquished by:	Received by:	3 Days	Field Temp.	
Temperature Upon Receipt: <u>9.1</u>	Corrected Temperature: <u>9</u>	Standard	Field Turb. <input checked="" type="checkbox"/>	
	IR gun #: <u>1</u>		HNO3 lot #: _____	

S₂

Sample Receipt Checklist

S2 Work Order# 2406464

Client: Nadel Casman Client Project ID: Wells Ranch AA35-C9-1HNB

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

[] [] [] [] []

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

Temp (°C) 9.1 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
If custody seals are present, are they intact? ⁽¹⁾	-			
Are samples due within 48 hours present?		-		
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		-		
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	-			
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	-			
Were all samples received intact? ⁽¹⁾	✓			
Was adequate sample volume provided? ⁽¹⁾	✓			
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	✓			
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
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.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

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

AS
Custodian Printed Name

6/25/24
Date/Time



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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

FL01R-W@4'
2406464-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0077	07/02/24	07/03/24	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: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0343	85.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0415	104 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0078	07/02/24	07/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.73	53.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
07/10/24 09:31

FL01R-W@4'
2406464-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0054	07/02/24	07/02/24	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: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0249	74.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0276	82.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0064	07/02/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

FL01R-W@4'
2406464-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.97	0.200	mg/kg dry	1	BHG0026	07/01/24	07/04/24	EPA 6020B	
Barium	119	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.74	0.400	"	"	"	"	"	"	
Lead	5.11	0.200	"	"	"	"	"	"	
Nickel	4.22	0.400	"	"	"	"	"	"	
Silver	0.0233	0.0200	"	"	"	"	"	"	
Zinc	19.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0061	07/02/24	07/02/24	EPA 7196A	

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

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	208	0.0500	mg/L dry	1	BHG0122	07/03/24	07/09/24	EPA 6020B	
Magnesium	12.9	0.0500	"	"	"	"	"	"	
Sodium	2.67	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0486	0.00100	units	1	BHG0209	07/09/24	07/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
07/10/24 09:31

FL01R-W@4'
2406464-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.7			%	1	BHG0033	07/01/24	07/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.154	0.0100		mmhos/cm	1	BHG0132	07/03/24	07/08/24	EPA 120.1	

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

Date Sampled: **06/28/24 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.66			pH Units	1	BHG0131	07/03/24	07/08/24	EPA 9045D	

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Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

FL01R-S@4'
2406464-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0077	07/02/24	07/03/24	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: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0326	81.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0422	105 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0078	07/02/24	07/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/28/24 10:56**

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

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Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

FL01R-S@4'
2406464-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0054	07/02/24	07/02/24	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: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0228	68.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0271	81.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0064	07/02/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A4003-ABN 35408
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Reported:
07/10/24 09:31

FL01R-S@4'
2406464-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.21	0.180	mg/kg dry	1	BHG0026	07/01/24	07/04/24	EPA 6020B	
Barium	56.8	0.360	"	"	"	"	"	"	
Cadmium	ND	0.180	"	"	"	"	"	"	
Copper	2.91	0.360	"	"	"	"	"	"	
Lead	5.45	0.180	"	"	"	"	"	"	
Nickel	3.20	0.360	"	"	"	"	"	"	
Silver	ND	0.0180	"	"	"	"	"	"	
Zinc	13.1	0.360	"	"	"	"	"	"	
Selenium	ND	0.234	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0061	07/02/24	07/02/24	EPA 7196A	

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

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	262	0.0500	mg/L dry	1	BHG0122	07/03/24	07/09/24	EPA 6020B	
Magnesium	18.4	0.0500	"	"	"	"	"	"	
Sodium	3.19	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0514	0.00100	units	1	BHG0209	07/09/24	07/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

FL01R-S@4'
2406464-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.8			%	1	BHG0033	07/01/24	07/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0925	0.0100		mmhos/cm	1	BHG0132	07/03/24	07/08/24	EPA 120.1	

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

Date Sampled: **06/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.17			pH Units	1	BHG0131	07/03/24	07/08/24	EPA 9045D	

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Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-W@4'
2406464-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0077	07/02/24	07/03/24	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: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0345	86.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0078	07/02/24	07/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.25	58.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-W@4'
2406464-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0054	07/02/24	07/02/24	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: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0217	65.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0064	07/02/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/28/24 14:50**

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-W@4'
2406464-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.90	0.200	mg/kg dry	1	BHG0026	07/01/24	07/04/24	EPA 6020B	
Barium	198	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.92	0.400	"	"	"	"	"	"	
Lead	5.15	0.200	"	"	"	"	"	"	
Nickel	3.61	0.400	"	"	"	"	"	"	
Silver	0.0276	0.0200	"	"	"	"	"	"	
Zinc	16.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0061	07/02/24	07/02/24	EPA 7196A	

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

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	166	0.0500	mg/L dry	1	BHG0122	07/03/24	07/09/24	EPA 6020B	
Magnesium	17.2	0.0500	"	"	"	"	"	"	
Sodium	0.618	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0122	0.00100	units	1	BHG0209	07/09/24	07/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Reported:
07/10/24 09:31

GL01R-W@4'
2406464-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.3		%	1	BHG0033	07/01/24	07/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0732	0.0100	mmhos/cm	1	BHG0132	07/03/24	07/08/24	EPA 120.1	

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

Date Sampled: **06/28/24 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.12		pH Units	1	BHG0131	07/03/24	07/08/24	EPA 9045D	

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Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-01@5'
2406464-04 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0077	07/02/24	07/03/24	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: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0355	88.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0414	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0078	07/02/24	07/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.47	51.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-01@5'
2406464-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0054	07/02/24	07/02/24	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: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0191	57.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0064	07/02/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/28/24 11:22**

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-01@5'
2406464-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.38	0.200	mg/kg dry	1	BHG0026	07/01/24	07/04/24	EPA 6020B	
Barium	289	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.69	0.400	"	"	"	"	"	"	
Lead	3.77	0.200	"	"	"	"	"	"	
Nickel	2.81	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0061	07/02/24	07/02/24	EPA 7196A	

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

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	74.9	0.0500	mg/L dry	1	BHG0122	07/03/24	07/09/24	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	2.54	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0728	0.00100	units	1	BHG0209	07/09/24	07/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

GL01R-01@5'
2406464-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.1			%	1	BHG0033	07/01/24	07/02/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.107	0.0100		mmhos/cm	1	BHG0132	07/03/24	07/08/24	EPA 120.1	

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

Date Sampled: **06/28/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.01			pH Units	1	BHG0131	07/03/24	07/08/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0077 - EPA 5030 Soil MS

Blank (BHG0077-BLK1)

Prepared & Analyzed: 07/02/24

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>0.0360</i>		<i>"</i>	<i>0.0400</i>		<i>90.0</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>98.9</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>		<i>50-150</i>		

LCS (BHG0077-BS1)

Prepared & Analyzed: 07/02/24

Benzene	0.0877	0.0020	mg/kg	0.100		87.7		70-130		
Toluene	0.0993	0.0050	"	0.100		99.3		70-130		
Ethylbenzene	0.0959	0.0050	"	0.100		95.9		70-130		
m,p-Xylene	0.189	0.010	"	0.200		94.5		70-130		
o-Xylene	0.0921	0.0050	"	0.100		92.1		70-130		
1,2,4-Trimethylbenzene	0.0884	0.0050	"	0.100		88.4		70-130		
1,3,5-Trimethylbenzene	0.0892	0.0050	"	0.100		89.2		70-130		
Naphthalene	0.0852	0.0038	"	0.100		85.2		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0366</i>		<i>"</i>	<i>0.0400</i>		<i>91.6</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0423</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0378</i>		<i>"</i>	<i>0.0400</i>		<i>94.5</i>		<i>50-150</i>		

Matrix Spike (BHG0077-MS1)

Source: 2406462-01

Prepared & Analyzed: 07/02/24

Benzene	0.0960	0.0020	mg/kg	0.100	ND	96.0		70-130		
Toluene	0.106	0.0050	"	0.100	ND	106		70-130		
Ethylbenzene	0.107	0.0050	"	0.100	ND	107		70-130		
m,p-Xylene	0.212	0.010	"	0.200	ND	106		70-130		
o-Xylene	0.0998	0.0050	"	0.100	ND	99.8		70-130		
1,2,4-Trimethylbenzene	0.0973	0.0050	"	0.100	ND	97.3		70-130		
1,3,5-Trimethylbenzene	0.0982	0.0050	"	0.100	ND	98.2		70-130		
Naphthalene	0.0958	0.0038	"	0.100	ND	95.8		70-130		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>		<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0422</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>		<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>		<i>50-150</i>		

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Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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

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

Batch BHG0077 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0077-MSD1)	Source: 2406462-01			Prepared & Analyzed: 07/02/24						
Benzene	0.0936	0.0020	mg/kg	0.100	ND	93.6	70-130	2.56	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	1.13	30	
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	5.26	30	
m,p-Xylene	0.202	0.010	"	0.200	ND	101	70-130	4.48	30	
o-Xylene	0.0985	0.0050	"	0.100	ND	98.5	70-130	1.36	30	
1,2,4-Trimethylbenzene	0.0929	0.0050	"	0.100	ND	92.9	70-130	4.67	30	
1,3,5-Trimethylbenzene	0.0935	0.0050	"	0.100	ND	93.5	70-130	4.88	30	
Naphthalene	0.100	0.0038	"	0.100	ND	100	70-130	4.41	30	
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	50-150			

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Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0078 - EPA 3550A

Blank (BHG0078-BLK1)

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.4		"	12.5		124		30-150			

LCS (BHG0078-BS1)

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	413	50	mg/kg	500		82.6		70-130			
Surrogate: <i>o</i> -Terphenyl	11.6		"	12.5		93.2		30-150			

Matrix Spike (BHG0078-MS1)

Source: 2406462-01

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	396	50	mg/kg	500	ND	79.1		70-130			
Surrogate: <i>o</i> -Terphenyl	9.62		"	12.5		77.0		30-150			

Matrix Spike Dup (BHG0078-MSD1)

Source: 2406462-01

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	441	50	mg/kg	500	ND	88.2		70-130	10.8	20	
Surrogate: <i>o</i> -Terphenyl	9.92		"	12.5		79.3		30-150			

Summit Scientific

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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

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

Batch BHG0054 - EPA 5030 Soil MS

Blank (BHG0054-BLK1)

Prepared & Analyzed: 07/02/24

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	0.0281		"	0.0333		84.3	40-150			
Surrogate: Fluoranthene-d10	0.0275		"	0.0333		82.6	40-150			

LCS (BHG0054-BS1)

Prepared & Analyzed: 07/02/24

Acenaphthene	0.0242	0.00500	mg/kg	0.0333		72.5	31-137			
Anthracene	0.0244	0.00500	"	0.0333		73.2	30-120			
Benzo (a) anthracene	0.0258	0.00500	"	0.0333		77.4	30-120			
Benzo (a) pyrene	0.0251	0.00500	"	0.0333		75.3	30-120			
Benzo (b) fluoranthene	0.0255	0.00500	"	0.0333		76.6	30-120			
Benzo (k) fluoranthene	0.0258	0.00500	"	0.0333		77.5	30-120			
Chrysene	0.0250	0.00500	"	0.0333		75.0	30-120			
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333		73.7	30-120			
Fluoranthene	0.0264	0.00500	"	0.0333		79.2	30-120			
Fluorene	0.0235	0.00500	"	0.0333		70.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0254	0.00500	"	0.0333		76.2	30-120			
Pyrene	0.0255	0.00500	"	0.0333		76.5	35-142			
1-Methylnaphthalene	0.0259	0.00500	"	0.0333		77.8	35-142			
2-Methylnaphthalene	0.0264	0.00500	"	0.0333		79.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0269		"	0.0333		80.8	40-150			
Surrogate: Fluoranthene-d10	0.0274		"	0.0333		82.0	40-150			

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Broomfield CO, 80020

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0054 - EPA 5030 Soil MS

Matrix Spike (BHG0054-MS1)	Source: 2406464-01			Prepared & Analyzed: 07/02/24							
Acenaphthene	0.0262	0.00500	mg/kg	0.0333	ND	78.6	31-137				
Anthracene	0.0271	0.00500	"	0.0333	ND	81.4	30-120				
Benzo (a) anthracene	0.0276	0.00500	"	0.0333	ND	82.9	30-120				
Benzo (a) pyrene	0.0268	0.00500	"	0.0333	ND	80.5	30-120				
Benzo (b) fluoranthene	0.0277	0.00500	"	0.0333	ND	83.1	30-120				
Benzo (k) fluoranthene	0.0275	0.00500	"	0.0333	ND	82.5	30-120				
Chrysene	0.0267	0.00500	"	0.0333	ND	80.2	30-120				
Dibenz (a,h) anthracene	0.0257	0.00500	"	0.0333	ND	77.1	30-120				
Fluoranthene	0.0295	0.00500	"	0.0333	ND	88.5	30-120				
Fluorene	0.0259	0.00500	"	0.0333	ND	77.8	30-120				
Indeno (1,2,3-cd) pyrene	0.0266	0.00500	"	0.0333	ND	79.8	30-120				
Pyrene	0.0279	0.00500	"	0.0333	ND	83.6	35-142				
1-Methylnaphthalene	0.0276	0.00500	"	0.0333	ND	82.7	15-130				
2-Methylnaphthalene	0.0269	0.00500	"	0.0333	ND	80.7	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>81.0</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0310</i>		<i>"</i>	<i>0.0333</i>		<i>93.0</i>	<i>40-150</i>				

Matrix Spike Dup (BHG0054-MSD1)	Source: 2406464-01			Prepared & Analyzed: 07/02/24							
Acenaphthene	0.0284	0.00500	mg/kg	0.0333	ND	85.2	31-137	8.04	30		
Anthracene	0.0286	0.00500	"	0.0333	ND	85.9	30-120	5.40	30		
Benzo (a) anthracene	0.0296	0.00500	"	0.0333	ND	88.9	30-120	6.92	30		
Benzo (a) pyrene	0.0289	0.00500	"	0.0333	ND	86.6	30-120	7.28	30		
Benzo (b) fluoranthene	0.0299	0.00500	"	0.0333	ND	89.8	30-120	7.79	30		
Benzo (k) fluoranthene	0.0296	0.00500	"	0.0333	ND	88.9	30-120	7.49	30		
Chrysene	0.0286	0.00500	"	0.0333	ND	85.8	30-120	6.68	30		
Dibenz (a,h) anthracene	0.0286	0.00500	"	0.0333	ND	85.7	30-120	10.6	30		
Fluoranthene	0.0303	0.00500	"	0.0333	ND	90.9	30-120	2.68	30		
Fluorene	0.0278	0.00500	"	0.0333	ND	83.4	30-120	6.90	30		
Indeno (1,2,3-cd) pyrene	0.0293	0.00500	"	0.0333	ND	87.9	30-120	9.69	30		
Pyrene	0.0294	0.00500	"	0.0333	ND	88.3	35-142	5.56	30		
1-Methylnaphthalene	0.0272	0.00500	"	0.0333	ND	81.7	15-130	1.13	50		
2-Methylnaphthalene	0.0283	0.00500	"	0.0333	ND	85.0	15-130	5.12	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0272</i>		<i>"</i>	<i>0.0333</i>		<i>81.7</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0315</i>		<i>"</i>	<i>0.0333</i>		<i>94.6</i>	<i>40-150</i>				

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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

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

Batch BHG0064 - EPA 3050B

Blank (BHG0064-BLK1)				Prepared: 07/02/24 Analyzed: 07/04/24							
Boron	ND	2.00	mg/L								
LCS (BHG0064-BS1)				Prepared: 07/02/24 Analyzed: 07/04/24							
Boron	5.33	2.00	mg/L	5.00		107	80-120				
Duplicate (BHG0064-DUP1)				Source: 2406447-01		Prepared: 07/02/24 Analyzed: 07/04/24					
Boron	0.401	2.00	mg/L		0.426			6.13	20		
Matrix Spike (BHG0064-MS1)				Source: 2406447-01		Prepared: 07/02/24 Analyzed: 07/04/24					
Boron	5.62	2.00	mg/L	4.97	0.426	105	75-125				
Matrix Spike Dup (BHG0064-MSD1)				Source: 2406447-01		Prepared: 07/02/24 Analyzed: 07/04/24					
Boron	6.17	2.00	mg/L	4.97	0.426	116	75-125	9.31	25		

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Broomfield CO, 80020

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0026 - EPA 3050B

Blank (BHG0026-BLK1)

Prepared: 07/01/24 Analyzed: 07/03/24

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

LCS (BHG0026-BS1)

Prepared: 07/01/24 Analyzed: 07/03/24

Arsenic	39.6	0.200	mg/kg wet	40.0	99.1	80-120
Barium	39.7	0.400	"	40.0	99.3	80-120
Cadmium	1.98	0.200	"	2.00	99.2	80-120
Copper	41.4	0.400	"	40.0	104	80-120
Lead	20.2	0.200	"	20.0	101	80-120
Nickel	41.0	0.400	"	40.0	102	80-120
Silver	1.97	0.0200	"	2.00	98.5	80-120
Zinc	40.2	0.400	"	40.0	101	80-120
Selenium	3.76	0.260	"	4.00	94.0	80-120

Duplicate (BHG0026-DUP1)

Source: 2406463-01

Prepared: 07/01/24 Analyzed: 07/03/24

Arsenic	1.56	0.200	mg/kg dry	1.83	16.2	20
Barium	46.7	0.400	"	47.0	0.598	20
Cadmium	0.192	0.200	"	0.182	5.59	20
Copper	4.03	0.400	"	3.92	2.63	20
Lead	8.08	0.200	"	7.81	3.44	20
Nickel	3.44	0.400	"	3.52	2.33	20
Silver	0.0203	0.0200	"	0.0236	15.0	20
Zinc	18.0	0.400	"	17.7	1.83	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0026 - EPA 3050B

Matrix Spike (BHG0026-MS1)

Source: 2406463-01

Prepared: 07/01/24 Analyzed: 07/03/24

Arsenic	27.9	0.181	mg/kg dry	40.5	1.83	64.2	75-125				QM-05
Barium	87.5	0.362	"	40.5	47.0	99.7	75-125				
Cadmium	2.16	0.181	"	2.03	0.182	97.4	75-125				
Copper	30.1	0.362	"	40.5	3.92	64.7	75-125				QM-05
Lead	25.8	0.181	"	20.3	7.81	89.0	75-125				
Nickel	29.9	0.362	"	40.5	3.52	65.0	75-125				QM-05
Silver	1.92	0.0181	"	2.03	0.0236	93.8	75-125				
Zinc	43.8	0.362	"	40.5	17.7	64.5	75-125				QM-05
Selenium	3.03	0.236	"	4.05	ND	74.9	75-125				QM-07

Matrix Spike Dup (BHG0026-MSD1)

Source: 2406463-01

Prepared: 07/01/24 Analyzed: 07/03/24

Arsenic	27.8	0.200	mg/kg dry	41.4	1.83	62.6	75-125	0.261	25		QM-05
Barium	85.4	0.400	"	41.4	47.0	92.6	75-125	2.41	25		
Cadmium	2.19	0.200	"	2.07	0.182	96.7	75-125	1.37	25		
Copper	30.6	0.400	"	41.4	3.92	64.4	75-125	1.56	25		QM-05
Lead	25.9	0.200	"	20.7	7.81	87.1	75-125	0.0134	25		
Nickel	30.3	0.400	"	41.4	3.52	64.6	75-125	1.36	25		QM-05
Silver	1.96	0.0200	"	2.07	0.0236	93.7	75-125	2.07	25		
Zinc	44.0	0.400	"	41.4	17.7	63.4	75-125	0.313	25		QM-05
Selenium	3.18	0.260	"	4.14	ND	76.8	75-125	4.74	25		

Post Spike (BHG0026-PS1)

Source: 2406463-01

Prepared: 07/01/24 Analyzed: 07/04/24

Arsenic	75.4		ug/l	100	4.10	71.3	75-125				QM-01
Barium	200		"	100	105	95.3	75-125				
Cadmium	5.36		"	5.00	0.406	99.0	75-125				
Copper	78.9		"	100	8.77	70.1	75-125				QM-01
Lead	66.2		"	50.0	17.4	97.5	75-125				
Nickel	78.5		"	100	7.87	70.6	75-125				QM-01
Silver	5.00		"	5.00	0.0527	99.0	75-125				
Zinc	112		"	100	39.5	72.6	75-125				QM-01
Selenium	8.96		"	10.0	0.216	87.5	75-125				

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHG0061 - 3060A Mod

Blank (BHG0061-BLK1)

Prepared & Analyzed: 07/02/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHG0061-BS1)

Prepared & Analyzed: 07/02/24

Chromium, Hexavalent 23.2 0.30 mg/kg wet 25.0 92.8 80-120

Duplicate (BHG0061-DUP1)

Source: 2406462-01

Prepared & Analyzed: 07/02/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHG0061-MS1)

Source: 2406462-01

Prepared & Analyzed: 07/02/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 28.4 ND 97.4 75-125

Matrix Spike Dup (BHG0061-MSD1)

Source: 2406462-01

Prepared & Analyzed: 07/02/24

Chromium, Hexavalent 27.0 0.30 mg/kg dry 28.4 ND 95.4 75-125 2.07 20

Summit Scientific

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0122 - General Preparation

Blank (BHG0122-BLK1)

Prepared: 07/03/24 Analyzed: 07/08/24

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

LCS (BHG0122-BS1)

Prepared: 07/03/24 Analyzed: 07/08/24

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130				
Magnesium	5.29	0.0500	"	5.00	106	70-130				
Sodium	5.29	0.0500	"	5.00	106	70-130				

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Broomfield CO, 80020

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0033 - General Preparation

Duplicate (BHG0033-DUP2)

Source: 2406462-01

Prepared: 07/01/24 Analyzed: 07/02/24

% Solids	88.9		%		88.2			0.770		20	
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0132 - General Preparation

Blank (BHG0132-BLK1)

Prepared: 07/03/24 Analyzed: 07/08/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHG0132-BS1)

Prepared: 07/03/24 Analyzed: 07/08/24

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

Duplicate (BHG0132-DUP1)

Source: 2406239-19

Prepared: 07/03/24 Analyzed: 07/08/24

Specific Conductance (EC) 0.0288 0.0100 mmhos/cm 0.0290 0.588 20

Summit Scientific

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

Project: Noble - Wells Ranch AA35-69-1HNB
Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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 BHG0131 - General Preparation

LCS (BHG0131-BS1)

Prepared: 07/03/24 Analyzed: 07/08/24

pH	9.22		pH Units	9.18		100	95-105			
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Duplicate (BHG0131-DUP1)

Source: 2406239-19

Prepared: 07/03/24 Analyzed: 07/08/24

pH	7.43		pH Units			7.55		1.60	20	
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Summit Scientific

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

Project: Noble - Wells Ranch AA35-69-1HNB

Project Number: UWRWE-A4003-ABN 35408
Project Manager: Jacob Whritenour

Reported:
07/10/24 09:31

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