

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 06, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Stroh H 63N65W 12SESE

Work Order #2408388

Enclosed are the results of analyses for samples received by Summit Scientific on 08/29/24 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2408388-01	Soil	08/29/24 10:06	08/29/24 17:40
SEP01-FL@2'	2408388-02	Soil	08/29/24 09:52	08/29/24 17:40
SEP01-DL@2'	2408388-03	Soil	08/29/24 09:54	08/29/24 17:40
PWV01-W@2'	2408388-07	Soil	08/29/24 09:36	08/29/24 17:40
PWV01-B@4'	2408388-08	Soil	08/29/24 09:39	08/29/24 17:40
BKG01@0-6"	2408388-09	Soil	08/29/24 11:19	08/29/24 17:40
BKG01@2'	2408388-10	Soil	08/29/24 11:20	08/29/24 17:40
BKG01@4'	2408388-11	Soil	08/29/24 11:21	08/29/24 17:40

Summit Scientific

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# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2408388	

Client: Noble / Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave		Project Manager: Jake Whritenour		Company: Chevron	
City/State/Zip: Broomfield, CO 80020		E-Mail: jwhritenour@tasman-geo.com		Project Name/Location: <u>Stroh H-63N65W 12SESE</u>	
Phone: <u>978-857-4408</u>		Project Name: <u>Stroh H-63N65W 12SESE</u>		AFE#: <u>UWRWE-A3133-ABN</u>	
Sampler Name: <u>Matthew Wentzel</u>		Project Number:		PO/Billing Codes:	
				Contact: <u>Miguel Barron</u>	

					Preservative				Matrix			Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH,EC,SAR	Boron - HWS	Metals - 915	HOLD		
1	ASTOI @ 0-6"	8-29-24	1006	3			X			X			X	X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	SEPOL-FL @ 2'		0952	1																	
3	SEPOL-DL @ 2'		0954	1																	
4	PWVOI-N @ 2'		0927	1																X	
5	PWVOI-F @ 2'		0930	1																X	
6	PWVOI-S @ 2'		0933	1																X	
7	PWVOI-W @ 2'		0936	1									X	X	X	X	X	X			
8	PWVOI-B @ 4'		0939	1									X	X	X	X	X	X			
9	BKGOI @ 0-6"		1119	2												X	X	X			
10	BKGOI @ 2'		1120	1												X	X	X			
11	BKGOI @ 4'		1121	1												X	X	X			
12																					
13																					
14																					
15																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>8-29-24 1430</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>8-29-24 1430</u>	TAT Business Days	Field DO	Notes:
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: <u>8-29-24 1740</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8-29-24 1740</u>	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: <u>9.0</u>	Corrected Temperature: <u>9</u>	IR gun #:		Standard	<u>X</u> Field Turb.	
			HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2408388Client: Noble GasmanClient Project ID: Stroh H-UBN USW 12SESE

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

Airbill #: \_\_\_\_\_

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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

9.0

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<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)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.
AS  
Custodian Printed Name

8/29/24  
Date/Time



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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**AST01@0-6"**  
**2408388-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHI0012	09/03/24	09/05/24	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: **08/29/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0375	93.7 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHI0013	09/03/24	09/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.5	132 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
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Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**AST01@0-6"**  
**2408388-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0954	08/30/24	08/31/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0197	59.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Reported:**  
09/06/24 09:14

**AST01@0-6"**  
**2408388-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.666	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B
Barium	34.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.50	0.400	"	"	"	"	"	"
Lead	3.84	0.200	"	"	"	"	"	"
Nickel	1.38	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.55	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.6	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	5.87	0.0500	"	"	"	"	"	"	
Sodium	1.95	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0879	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**Reported:**  
09/06/24 09:14

**AST01@0-6"**  
**2408388-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	99.1		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.215	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.14		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

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Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-FL@2'**  
**2408388-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0012	09/03/24	09/05/24	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: **08/29/24 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0382	95.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0013	09/03/24	09/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**Reported:**  
09/06/24 09:14

**SEP01-FL@2'**  
**2408388-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0954	08/30/24	08/31/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.2 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-FL@2'**  
**2408388-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.508	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B
Barium	28.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.23	0.400	"	"	"	"	"	"
Lead	3.91	0.200	"	"	"	"	"	"
Nickel	1.14	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.97	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	113	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	12.6	0.0500	"	"	"	"	"	"	
Sodium	0.486	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0116	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-FL@2'**  
**2408388-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.150	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-DL@2'**  
**2408388-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0012	09/03/24	09/05/24	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: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0013	09/03/24	09/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	89.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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6855 W. 119th Ave.  
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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-DL@2'**  
**2408388-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHH0954	08/30/24	08/31/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.5 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-DL@2'**  
**2408388-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.513	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B
Barium	26.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.30	0.400	"	"	"	"	"	"
Lead	4.26	0.200	"	"	"	"	"	"
Nickel	1.08	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.29	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	85.5	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	13.6	0.0500	"	"	"	"	"	"	
Sodium	0.830	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0220	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**SEP01-DL@2'**  
**2408388-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.2		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0919	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.39		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-W@2'**  
**2408388-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0012	09/03/24	09/05/24	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: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0404	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0013	09/03/24	09/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	95.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-W@2'**  
**2408388-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHH0954	08/30/24	08/31/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.  
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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-W@2'**  
**2408388-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.642	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B
Barium	27.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.63	0.400	"	"	"	"	"	"
Lead	6.10	0.200	"	"	"	"	"	"
Nickel	1.30	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	6.55	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.0	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	9.24	0.0500	"	"	"	"	"	"	
Sodium	2.71	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0917	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-W@2'**  
**2408388-07 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	66.4		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0626	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.88		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

Summit Scientific

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-B@4'**  
**2408388-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0012	09/03/24	09/05/24	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: **08/29/24 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0379	94.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0013	09/03/24	09/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	83.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-B@4'**  
**2408388-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHH0954	08/30/24	08/31/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 09:39**

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-B@4'**  
**2408388-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.459	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B
Barium	34.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.17	0.400	"	"	"	"	"	"
Lead	4.67	0.200	"	"	"	"	"	"
Nickel	0.945	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.58	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	66.2	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	12.1	0.0500	"	"	"	"	"	"	
Sodium	0.576	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0171	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**PWV01-B@4'**  
**2408388-08 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0741	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@0-6"**  
**2408388-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.32	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B	
Barium	87.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.26	0.400	"	"	"	"	"	"	
Lead	8.52	0.200	"	"	"	"	"	"	
Nickel	2.72	0.400	"	"	"	"	"	"	
Silver	0.0914	0.0200	"	"	"	"	"	"	
Zinc	9.16	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	30.3	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	6.16	0.0500	"	"	"	"	"	"	
Sodium	1.01	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@0-6"**  
**2408388-09 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0437	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.297	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.21		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@2'**  
**2408388-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	<b>0.952</b>	0.200	mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B	
Barium	<b>50.3</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	<b>1.77</b>	0.400	"	"	"	"	"	"	
Lead	<b>5.30</b>	0.200	"	"	"	"	"	"	
Nickel	<b>2.08</b>	0.400	"	"	"	"	"	"	
Silver	<b>0.0407</b>	0.0200	"	"	"	"	"	"	
Zinc	<b>7.11</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Calcium	<b>27.8</b>	0.0500	mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	<b>6.92</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>13.4</b>	0.0500	"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@2'**  
**2408388-10 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.589</b>	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.4</b>		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.235</b>	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.49</b>		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@4'**  
**2408388-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHH0960	08/30/24	08/31/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	<b>0.532</b>	0.200		mg/kg dry	1	BHH0975	08/30/24	09/04/24	EPA 6020B	
Barium	<b>23.4</b>	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	<b>1.06</b>	0.400		"	"	"	"	"	"	
Lead	<b>3.81</b>	0.200		"	"	"	"	"	"	
Nickel	<b>0.916</b>	0.400		"	"	"	"	"	"	
Silver	ND	0.0200		"	"	"	"	"	"	
Zinc	<b>4.12</b>	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHI0006	09/03/24	09/03/24	EPA 7196A	

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

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	<b>149</b>	0.0500		mg/L dry	1	BHI0024	09/03/24	09/05/24	EPA 6020B	
Magnesium	<b>14.0</b>	0.0500		"	"	"	"	"	"	
Sodium	<b>1.51</b>	0.0500		"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**BKG01@4'**  
**2408388-11 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0317	0.00100	units	1	BHI0171	09/06/24	09/06/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BHH0961	08/30/24	08/30/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.127	0.0100	mmhos/cm	1	BHI0028	09/03/24	09/04/24	EPA 120.1	

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

Date Sampled: **08/29/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.87		pH Units	1	BHI0029	09/03/24	09/04/24	EPA 9045D	

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6855 W. 119th Ave.  
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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch BHI0012 - EPA 5030 Soil MS

##### Blank (BHI0012-BLK1)

Prepared: 09/03/24 Analyzed: 09/04/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

##### LCS (BHI0012-BS1)

Prepared: 09/03/24 Analyzed: 09/04/24

Benzene	0.145	0.0020	mg/kg	0.150		96.8	70-130			
Toluene	0.144	0.0050	"	0.150		96.2	70-130			
Ethylbenzene	0.145	0.0050	"	0.150		96.5	70-130			
m,p-Xylene	0.289	0.010	"	0.300		96.3	70-130			
o-Xylene	0.147	0.0050	"	0.150		97.7	70-130			
1,2,4-Trimethylbenzene	0.145	0.0050	"	0.150		96.7	70-130			
1,3,5-Trimethylbenzene	0.147	0.0050	"	0.150		98.2	70-130			
Naphthalene	0.137	0.0038	"	0.150		91.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

##### Matrix Spike (BHI0012-MS1)

Source: 2408355-01

Prepared: 09/03/24 Analyzed: 09/04/24

Benzene	0.131	0.0020	mg/kg	0.150	ND	87.6	70-130			
Toluene	0.130	0.0050	"	0.150	ND	86.8	70-130			
Ethylbenzene	0.123	0.0050	"	0.150	ND	81.8	70-130			
m,p-Xylene	0.242	0.010	"	0.300	ND	80.5	70-130			
o-Xylene	0.121	0.0050	"	0.150	ND	80.8	70-130			
1,2,4-Trimethylbenzene	0.121	0.0050	"	0.150	ND	80.7	70-130			
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.150	ND	82.3	70-130			
Naphthalene	0.112	0.0038	"	0.150	ND	74.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.5	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

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

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

**Batch BHI0012 - EPA 5030 Soil MS**

Matrix Spike Dup (BHI0012-MSD1)		Source: 2408355-01			Prepared: 09/03/24 Analyzed: 09/04/24					
Benzene	0.125	0.0020	mg/kg	0.150	ND	83.4	70-130	4.87	30	
Toluene	0.124	0.0050	"	0.150	ND	82.9	70-130	4.62	30	
Ethylbenzene	0.119	0.0050	"	0.150	ND	79.2	70-130	3.18	30	
m,p-Xylene	0.235	0.010	"	0.300	ND	78.3	70-130	2.74	30	
o-Xylene	0.119	0.0050	"	0.150	ND	79.3	70-130	1.92	30	
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.150	ND	74.4	70-130	8.09	30	
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.150	ND	76.1	70-130	7.86	30	
Naphthalene	0.103	0.0038	"	0.150	ND	68.5	70-130	8.60	30	QM-05
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	50-150			

Summit Scientific

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BHI0013 - EPA 3550A**

**Blank (BHI0013-BLK1)**

Prepared: 09/03/24 Analyzed: 09/04/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	15.6		"	12.5		125	30-150			

**LCS (BHI0013-BS1)**

Prepared: 09/03/24 Analyzed: 09/04/24

C10-C28 (DRO)	490	50	mg/kg	500		98.0	70-130			
Surrogate: o-Terphenyl	15.4		"	12.5		123	30-150			

**Matrix Spike (BHI0013-MS1)**

Source: 2408384-01

Prepared: 09/03/24 Analyzed: 09/04/24

C10-C28 (DRO)	414	50	mg/kg	500	12.2	80.4	70-130			
Surrogate: o-Terphenyl	9.95		"	12.5		79.6	30-150			

**Matrix Spike Dup (BHI0013-MSD1)**

Source: 2408384-01

Prepared: 09/03/24 Analyzed: 09/04/24

C10-C28 (DRO)	459	50	mg/kg	500	12.2	89.3	70-130	10.2	20	
Surrogate: o-Terphenyl	10.2		"	12.5		81.5	30-150			

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

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

### PAH by EPA Method 8270D SIM - Quality Control

#### Summit Scientific

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

#### Batch BHH0954 - EPA 5030 Soil MS

##### Blank (BHH0954-BLK1)

Prepared & Analyzed: 08/30/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0162		"	0.0333		48.6	40-150			
Surrogate: Fluoranthene-d10	0.0193		"	0.0333		57.9	40-150			

##### LCS (BHH0954-BS1)

Prepared & Analyzed: 08/30/24

Acenaphthene	0.0233	0.00500	mg/kg	0.0333		69.8	31-137			
Anthracene	0.0247	0.00500	"	0.0333		74.0	30-120			
Benzo (a) anthracene	0.0241	0.00500	"	0.0333		72.2	30-120			
Benzo (a) pyrene	0.0224	0.00500	"	0.0333		67.2	30-120			
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333		75.2	30-120			
Benzo (k) fluoranthene	0.0334	0.00500	"	0.0333		100	30-120			
Chrysene	0.0164	0.00500	"	0.0333		49.1	30-120			
Dibenz (a,h) anthracene	0.0209	0.00500	"	0.0333		62.6	30-120			
Fluoranthene	0.0229	0.00500	"	0.0333		68.6	30-120			
Fluorene	0.0230	0.00500	"	0.0333		68.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333		45.5	30-120			
Pyrene	0.0284	0.00500	"	0.0333		85.2	35-142			
1-Methylnaphthalene	0.0213	0.00500	"	0.0333		63.9	35-142			
2-Methylnaphthalene	0.0211	0.00500	"	0.0333		63.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0214		"	0.0333		64.3	40-150			
Surrogate: Fluoranthene-d10	0.0243		"	0.0333		72.9	40-150			

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**Reported:**  
09/06/24 09:14

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BHH0954 - EPA 5030 Soil MS

##### Matrix Spike (BHH0954-MS1)

Source: 2408380-01

Prepared & Analyzed: 08/30/24

Acenaphthene	0.0180	0.00500	mg/kg	0.0333	ND	54.1	31-137		
Anthracene	0.0198	0.00500	"	0.0333	0.00231	52.5	30-120		
Benzo (a) anthracene	0.0228	0.00500	"	0.0333	ND	68.5	30-120		
Benzo (a) pyrene	0.0142	0.00500	"	0.0333	ND	42.7	30-120		
Benzo (b) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.9	30-120		
Benzo (k) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	30-120		
Chrysene	0.0134	0.00500	"	0.0333	ND	40.3	30-120		
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	ND	71.9	30-120		
Fluoranthene	0.0189	0.00500	"	0.0333	ND	56.6	30-120		
Fluorene	0.0182	0.00500	"	0.0333	0.000936	51.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0204	0.00500	"	0.0333	ND	61.1	30-120		
Pyrene	0.0184	0.00500	"	0.0333	ND	55.2	35-142		
1-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.5	15-130		
2-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.6	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0158		"	0.0333		47.4	40-150		
Surrogate: Fluoranthene-d10	0.0206		"	0.0333		61.7	40-150		

##### Matrix Spike Dup (BHH0954-MSD1)

Source: 2408380-01

Prepared & Analyzed: 08/30/24

Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.3	31-137	5.76	30
Anthracene	0.0217	0.00500	"	0.0333	0.00231	58.2	30-120	9.15	30
Benzo (a) anthracene	0.0259	0.00500	"	0.0333	ND	77.7	30-120	12.6	30
Benzo (a) pyrene	0.0159	0.00500	"	0.0333	ND	47.6	30-120	10.9	30
Benzo (b) fluoranthene	0.0208	0.00500	"	0.0333	ND	62.3	30-120	4.16	30
Benzo (k) fluoranthene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	14.1	30
Chrysene	0.0143	0.00500	"	0.0333	ND	43.0	30-120	6.57	30
Dibenz (a,h) anthracene	0.0189	0.00500	"	0.0333	ND	56.6	30-120	23.8	30
Fluoranthene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	7.33	30
Fluorene	0.0198	0.00500	"	0.0333	0.000936	56.7	30-120	8.78	30
Indeno (1,2,3-cd) pyrene	0.0178	0.00500	"	0.0333	ND	53.4	30-120	13.3	30
Pyrene	0.0201	0.00500	"	0.0333	ND	60.4	35-142	9.01	30
1-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	48.1	15-130	5.58	50
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.7	15-130	4.47	50
Surrogate: 2-Methylnaphthalene-d10	0.0163		"	0.0333		48.8	40-150		
Surrogate: Fluoranthene-d10	0.0219		"	0.0333		65.7	40-150		

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6855 W. 119th Ave.  
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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

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

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

**Batch BHH0960 - EPA 3050B**

**Blank (BHH0960-BLK1)**

Prepared: 08/30/24 Analyzed: 08/31/24

Boron ND 2.00 mg/L

**LCS (BHH0960-BS1)**

Prepared: 08/30/24 Analyzed: 08/31/24

Boron 4.50 2.00 mg/L 5.00 89.9 80-120

**Duplicate (BHH0960-DUP1)**

Source: 2408383-01

Prepared: 08/30/24 Analyzed: 08/31/24

Boron 0.238 2.00 mg/L 0.167 34.8 20 QR-04

**Matrix Spike (BHH0960-MS1)**

Source: 2408383-01

Prepared: 08/30/24 Analyzed: 08/31/24

Boron 4.72 2.00 mg/L 5.00 0.167 91.2 75-125

**Matrix Spike Dup (BHH0960-MSD1)**

Source: 2408383-01

Prepared: 08/30/24 Analyzed: 08/31/24

Boron 4.89 2.00 mg/L 5.00 0.167 94.5 75-125 3.51 25

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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHH0975 - EPA 3050B**

**Blank (BHH0975-BLK1)**

Prepared: 08/30/24 Analyzed: 09/04/24

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 (BHH0975-BS1)**

Prepared: 08/30/24 Analyzed: 09/04/24

Arsenic	41.3	0.200	mg/kg wet	40.0	103	80-120
Barium	37.1	0.400	"	40.0	92.7	80-120
Cadmium	1.88	0.200	"	2.00	94.1	80-120
Copper	41.4	0.400	"	40.0	103	80-120
Lead	19.1	0.200	"	20.0	95.5	80-120
Nickel	41.3	0.400	"	40.0	103	80-120
Silver	1.91	0.0200	"	2.00	95.5	80-120
Zinc	39.8	0.400	"	40.0	99.5	80-120
Selenium	4.16	0.260	"	4.00	104	80-120

**Duplicate (BHH0975-DUP1)**

Source: 2408376-01

Prepared: 08/30/24 Analyzed: 09/04/24

Arsenic	1.32	0.200	mg/kg dry	1.32	0.403	20
Barium	139	0.400	"	163	15.7	20
Cadmium	1.04	0.200	"	1.03	1.13	20
Copper	8.24	0.400	"	8.35	1.32	20
Lead	128	0.200	"	119	7.24	20
Nickel	2.09	0.400	"	2.30	9.85	20
Silver	0.266	0.0200	"	0.260	2.22	20
Zinc	52.3	0.400	"	49.9	4.63	20
Selenium	0.185	0.260	"	0.186	0.0831	20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHH0975 - EPA 3050B**

Matrix Spike (BHH0975-MS1)		Source: 2408376-01			Prepared: 08/30/24 Analyzed: 09/04/24						
Arsenic	12.8	0.200	mg/kg dry	42.0	1.32	27.5	75-125				QM-05
Barium	180	0.400	"	42.0	163	41.6	75-125				QM-05
Cadmium	3.11	0.200	"	2.10	1.03	99.0	75-125				
Copper	19.8	0.400	"	42.0	8.35	27.3	75-125				QM-05
Lead	145	0.200	"	21.0	119	120	75-125				
Nickel	13.8	0.400	"	42.0	2.30	27.4	75-125				QM-05
Silver	2.25	0.0200	"	2.10	0.260	94.8	75-125				
Zinc	66.6	0.400	"	42.0	49.9	39.7	75-125				QM-05
Selenium	3.61	0.260	"	4.20	0.186	81.5	75-125				

Matrix Spike Dup (BHH0975-MSD1)		Source: 2408376-01			Prepared: 08/30/24 Analyzed: 09/04/24						
Arsenic	11.1	0.200	mg/kg dry	39.8	1.32	24.7	75-125	14.3	25		QM-05
Barium	183	0.400	"	39.8	163	49.5	75-125	1.23	25		QM-05
Cadmium	2.86	0.200	"	1.99	1.03	92.1	75-125	8.25	25		
Copper	18.2	0.400	"	39.8	8.35	24.7	75-125	8.52	25		QM-05
Lead	162	0.200	"	19.9	119	216	75-125	11.6	25		QM-05
Nickel	12.5	0.400	"	39.8	2.30	25.7	75-125	9.43	25		QM-05
Silver	2.10	0.0200	"	1.99	0.260	92.3	75-125	7.07	25		
Zinc	56.7	0.400	"	39.8	49.9	17.1	75-125	16.0	25		QM-05
Selenium	3.35	0.260	"	3.98	0.186	79.6	75-125	7.35	25		

Post Spike (BHH0975-PS1)		Source: 2408376-01			Prepared: 08/30/24 Analyzed: 09/04/24						
Arsenic	32.0		ug/l	100	3.10	28.9	75-125				QM-01
Barium	506		"	100	382	123	75-125				
Cadmium	7.46		"	5.00	2.42	101	75-125				
Copper	48.2		"	100	19.6	28.6	75-125				QM-01
Lead	338		"	50.0	280	117	75-125				
Nickel	33.8		"	100	5.40	28.4	75-125				QM-01
Silver	5.51		"	5.00	0.610	98.0	75-125				
Zinc	146		"	100	117	29.3	75-125				QM-01
Selenium	9.62		"	10.0	0.436	91.8	75-125				

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Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BHI0006 - 3060A Mod**

**Blank (BHI0006-BLK1)**

Prepared & Analyzed: 09/03/24

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHI0006-BS1)**

Prepared & Analyzed: 09/03/24

Chromium, Hexavalent 24.8 0.30 mg/kg wet 25.0 99.2 80-120

**Duplicate (BHI0006-DUP1)**

**Source: 2408388-01**

Prepared & Analyzed: 09/03/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHI0006-MS1)**

**Source: 2408388-01**

Prepared & Analyzed: 09/03/24

Chromium, Hexavalent 26.1 0.30 mg/kg dry 25.2 ND 103 75-125

**Matrix Spike Dup (BHI0006-MSD1)**

**Source: 2408388-01**

Prepared & Analyzed: 09/03/24

Chromium, Hexavalent 26.6 0.30 mg/kg dry 25.2 ND 105 75-125 1.92 20

Summit Scientific

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Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

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

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

**Batch BHI0024 - General Preparation**

**Blank (BHI0024-BLK1)**

Prepared: 09/03/24 Analyzed: 09/05/24

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

**LCS (BHI0024-BS1)**

Prepared: 09/03/24 Analyzed: 09/05/24

Calcium	5.10	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.25	0.0500	"	5.00	105	70-130
Sodium	5.35	0.0500	"	5.00	107	70-130

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Project: Noble - Stroh H 63N65W 12SESE

Project Number: UWRWE-A3133-ABN

Project Manager: Jacob Whritenour

**Reported:**

09/06/24 09:14

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

**Summit Scientific**

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

**Batch BHH0961 - General Preparation**

Duplicate (BHH0961-DUP1)		Source: 2408383-01			Prepared & Analyzed: 08/30/24					
% Solids	82.5		%		81.0			1.81	20	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE  
Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

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

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

**Batch BHI0028 - General Preparation**

**Blank (BHI0028-BLK1)**

Prepared: 09/03/24 Analyzed: 09/04/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHI0028-BS1)**

Prepared: 09/03/24 Analyzed: 09/04/24

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BHI0028-DUP1)**

**Source: 2408385-01**

Prepared: 09/03/24 Analyzed: 09/04/24

Specific Conductance (EC) 0.484 0.0100 mmhos/cm 0.504 3.95 20

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE

Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

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

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

**Batch BHI0029 - General Preparation**

**LCS (BHI0029-BS1)**

Prepared: 09/03/24 Analyzed: 09/04/24

pH	9.18	pH Units	9.18	100	95-105
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**Duplicate (BHI0029-DUP1)**

**Source: 2408385-01**

Prepared: 09/03/24 Analyzed: 09/04/24

pH	8.56	pH Units	8.62	0.698	20
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Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Stroh H 63N65W 12SESE

Project Number: UWRWE-A3133-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
09/06/24 09:14

### Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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