

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 02, 2024

Daniel Simpson

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Houndskeeper HOI-17 Facility

Work Order #2411086

Enclosed are the results of analyses for samples received by Summit Scientific on 11/05/24 18:13. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH12@6-7'	2411086-01	Soil	11/05/24 10:00	11/05/24 18:13
BH12@23-24'	2411086-02	Soil	11/05/24 10:20	11/05/24 18:13
BH14@21-22'	2411086-03	Soil	11/05/24 11:00	11/05/24 18:13
BH14@23-24'	2411086-04	Soil	11/05/24 11:10	11/05/24 18:13
BH15@22-23'	2411086-05	Soil	11/05/24 11:45	11/05/24 18:13
BH15@23-24'	2411086-06	Soil	11/05/24 11:48	11/05/24 18:13
BH13@21-22'	2411086-07	Soil	11/05/24 12:45	11/05/24 18:13
BH13@23-24'	2411086-08	Soil	11/05/24 12:50	11/05/24 18:13
BH16@21-22'	2411086-09	Soil	11/05/24 13:20	11/05/24 18:13
BH16@23-24'	2411086-10	Soil	11/05/24 13:25	11/05/24 18:13

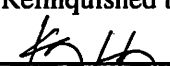


# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2411086	

<b>Send Data To:</b>		<b>Send Invoice To:</b>
Client: Tasman, Inc.	Project Manager: Daniel Simpson	Company:
Address: 6855 W. 119th Ave.	E-Mail: Tas-chevron-5@tasman-geo.com	Project Name/Location: Houndskeeper H01-17 Facility
City/State/Zip: Broomfield / CO / 80020		AFE#:
Phone: 303-487-1228	Project Name: Houndskeeper H01-17 Facility	PO/Billing Codes:
Sampler Name: Kelly Hoag	Project Number:	Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD
1	BH12@6-7'	11/05/24	10:00	3			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	BH12@23-24'		10:20																	
3	BH14@21-22'		11:00																	
4	BH14@23-24'		11:10																	
5	BH15@22-23'		11:45																	
6	BH15@23-24'		11:48																	
7	BH13@21-22'		12:45																	
8	BH13@23-24'		12:30																	
9	BH16@21-22'		13:20																	
10	BH16@23-24'		13:25																	
11																				
12																				
13																				
14																				
15																				

Relinquished by: 	Date/Time: 11/05/24 13:45	Received by: Tasman Lock Box	Date/Time: 11/05/24 15:45	TAT Business Days	Field DO	Notes:
Relinquished by: 	Date/Time: 11/05/24 1813	Received by: 	Date/Time: 11/05/24 1813	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 54	Corrected Temperature: 6	IR gun #:		Standard	X Field Turb.	
				HNO3 lot #:		

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2411086

Client: Tasman Client Project ID: Houndskeeper M01-17 Facility

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

-

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

Temp (°C)  Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <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>once</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

11/5/24  
Date/Time



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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@6-7'**  
**2411086-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Benzene</b>	<b>1.9</b>	0.020	mg/kg	10	BHK0365	11/07/24	11/09/24	EPA 8260B	
Toluene	ND	0.050	"	"	"	"	"	"	R-05
<b>Ethylbenzene</b>	<b>5.3</b>	0.050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>84</b>	1.0	"	100	"	"	11/12/24	"	
<b>1,2,4-Trimethylbenzene</b>	<b>62</b>	0.50	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>41</b>	0.50	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>1.2</b>	0.038	"	10	"	"	11/09/24	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2500</b>	50	"	100	"	"	11/12/24	"	

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0324	80.9 %	50-150	"	"	"	11/09/24	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0418	104 %	50-150	"	"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>C10-C28 (DRO)</b>	<b>2900</b>	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.7	101 %	30-150	"	"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@6-7'**  
**2411086-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.256</b>	0.0500	"	10	"	"	11/12/24	"	
Benzo (a) pyrene	ND	0.00500	"	1	"	"	11/09/24	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0910</b>	0.0500	"	10	"	"	11/12/24	"	
Dibenz (a,h) anthracene	ND	0.00500	"	1	"	"	11/09/24	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0794</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0725</b>	0.0500	"	10	"	"	11/12/24	"	
<b>1-Methylnaphthalene</b>	<b>1.99</b>	1.00	"	200	"	"	11/12/24	"	
<b>2-Methylnaphthalene</b>	<b>5.75</b>	1.00	"	"	"	"	"	"	

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00618	18.5 %	40-140		"	"	11/09/24	"	S-04
Surrogate: Fluoranthene-d10	0.0238	71.3 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@6-7'**  
**2411086-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	6.38	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	82.9	0.400	"	"	"	"	"	"
Cadmium	0.220	0.200	"	"	"	"	"	"
Copper	5.98	0.400	"	"	"	"	"	"
Lead	8.02	0.200	"	"	"	"	"	"
Nickel	8.00	0.400	"	"	"	"	"	"
Silver	0.0277	0.0200	"	"	"	"	"	"
Zinc	19.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.7	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	7.12	0.0500	"	"	"	"	"	"	
Sodium	29.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.40	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 10:00

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@6-7'**  
**2411086-01 (Soil)**

**Summit Scientific**

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

% Solids	89.4	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.249	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@23-24'**  
**2411086-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/12/24	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: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.64	69.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@23-24'**  
**2411086-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0140	41.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.5 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 10:20**

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@23-24'**  
**2411086-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.53	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	42.1	0.400	"	"	"	"	"	"
Cadmium	0.349	0.200	"	"	"	"	"	"
Copper	4.99	0.400	"	"	"	"	"	"
Lead	9.83	0.200	"	"	"	"	"	"
Nickel	5.85	0.400	"	"	"	"	"	"
Silver	0.0239	0.0200	"	"	"	"	"	"
Zinc	44.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.2	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	4.16	0.0500	"	"	"	"	"	"	
Sodium	19.0	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.14	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 10:20

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH12@23-24'**  
**2411086-02 (Soil)**

**Summit Scientific**

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

% Solids	87.3	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.123	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@21-22'**  
**2411086-03 (Soil)**

**Summit Scientific**

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.20		mg/kg	100	BHK0365	11/07/24	11/09/24	EPA 8260B	R-05
<b>Toluene</b>	<b>0.92</b>	0.50		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.58</b>	0.50		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>7.1</b>	1.0		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>4.4</b>	0.50		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>3.3</b>	0.50		"	"	"	"	"	"	
Naphthalene	ND	0.38		"	"	"	"	"	"	R-05
<b>Gasoline Range Hydrocarbons</b>	<b>300</b>	50		"	"	"	"	"	"	

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0351	87.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>250</b>	50		mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.53	76.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@21-22'**  
**2411086-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0102</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.107</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.274</b>	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.4 %	40-140		"	"	"	"	

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

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

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@21-22'**  
**2411086-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.903	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	252	0.400	"	"	"	"	"	"
Cadmium	0.334	0.200	"	"	"	"	"	"
Copper	2.96	0.400	"	"	"	"	"	"
Lead	9.00	0.200	"	"	"	"	"	"
Nickel	2.76	0.400	"	"	"	"	"	"
Silver	0.0322	0.0200	"	"	"	"	"	"
Zinc	26.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.6	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	8.88	0.0500	"	"	"	"	"	"	
Sodium	36.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.82	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 11:00

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@21-22'**  
**2411086-03 (Soil)**

**Summit Scientific**

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

% Solids	83.9	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.284</b>	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.46</b>		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@23-24'**  
**2411086-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/09/24	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: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.0	80.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@23-24'**  
**2411086-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.4 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 11:10**

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@23-24'**  
**2411086-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	7.06	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	74.1	0.400	"	"	"	"	"	"
Cadmium	0.279	0.200	"	"	"	"	"	"
Copper	3.97	0.400	"	"	"	"	"	"
Lead	9.75	0.200	"	"	"	"	"	"
Nickel	4.73	0.400	"	"	"	"	"	"
Silver	0.0280	0.0200	"	"	"	"	"	"
Zinc	29.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	115	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	13.4	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.278	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 11:10

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH14@23-24'**  
**2411086-04 (Soil)**

**Summit Scientific**

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

% Solids	86.5	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.0984</b>	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.44</b>		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@22-23'**  
**2411086-05 (Soil)**

**Summit Scientific**

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/09/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0071</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.066</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.050</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.024</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0055</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.3</b>	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0362	90.4 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0398	99.6 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	9.11	72.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@22-23'**  
**2411086-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0128</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0348</b>	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0137	41.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.1 %	40-140		"	"	"	"	

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

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

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@22-23'**  
**2411086-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.886	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B	
Barium	77.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.47	0.400	"	"	"	"	"	"	
Lead	7.07	0.200	"	"	"	"	"	"	
Nickel	2.88	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	18.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	93.1	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	9.64	0.0500	"	"	"	"	"	"	
Sodium	15.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.417	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@22-23'**  
**2411086-05 (Soil)**

**Summit Scientific**

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.4			%	1	BHK0506	11/11/24	11/13/24	Calculation	

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.144	0.0100		mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.81			pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@23-24'**  
**2411086-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/09/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.0051</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0044</b>	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0362	90.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.77	70.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@23-24'**  
**2411086-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	52.0 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 11:48**

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@23-24'**  
**2411086-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.757	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B	
Barium	35.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.08	0.400	"	"	"	"	"	"	
Lead	7.52	0.200	"	"	"	"	"	"	
Nickel	4.34	0.400	"	"	"	"	"	"	
Silver	0.0206	0.0200	"	"	"	"	"	"	
Zinc	22.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 11:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 11:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	87.7	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	6.78	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 11:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.327	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH15@23-24'**  
**2411086-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>86.0</b>			%	1	BHK0506	11/11/24	11/13/24	Calculation	

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

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	<b>0.0861</b>	0.0100		mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	<b>8.22</b>			pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@21-22'**  
**2411086-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.045</b>	0.0020	mg/kg	1	BHK0365	11/07/24	11/09/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	R-05
<b>Ethylbenzene</b>	<b>0.16</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.11</b>	0.10	"	10	"	"	11/12/24	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.47</b>	0.050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.81</b>	0.0050	"	1	"	"	11/09/24	"	
<b>Naphthalene</b>	<b>0.064</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>32</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0356	89.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0569	142 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>260</b>	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.0	80.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@21-22'**  
**2411086-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/09/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0103</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0936</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.239</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0160	48.0 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 12:45**

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@21-22'**  
**2411086-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.39	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	137	0.400	"	"	"	"	"	"
Cadmium	0.494	0.200	"	"	"	"	"	"
Copper	6.53	0.400	"	"	"	"	"	"
Lead	24.9	0.200	"	"	"	"	"	"
Nickel	2.82	0.400	"	"	"	"	"	"
Silver	0.0438	0.0200	"	"	"	"	"	"
Zinc	21.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.7	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	4.59	0.0500	"	"	"	"	"	"	
Sodium	28.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.49	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 12:45

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@21-22'**  
**2411086-07 (Soil)**

**Summit Scientific**

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

% Solids	85.6	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.229	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.46		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@23-24'**  
**2411086-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/14/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.060</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.67</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.56</b>	0.0050	"	"	"	"	"	"	E
<b>1,3,5-Trimethylbenzene</b>	<b>0.42</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.026</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>38</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0337	84.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0531	133 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>520</b>	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	100 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@23-24'**  
**2411086-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/10/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0192</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0511</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0163	48.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.4 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 12:50**

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@23-24'**  
**2411086-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.42	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B	
Barium	50.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.06	0.400	"	"	"	"	"	"	
Lead	5.61	0.200	"	"	"	"	"	"	
Nickel	3.61	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	29.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	107	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	8.47	0.0500	"	"	"	"	"	"	
Sodium	15.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.396	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH13@23-24'**  
**2411086-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.4			%	1	BHK0506	11/11/24	11/13/24	Calculation	

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

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.151	0.0100		mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.93			pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@21-22'**  
**2411086-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHK0365	11/07/24	11/09/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.069</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.77</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.29</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.20</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.014</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>64</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0314	78.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0497	124 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0369	11/07/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.6	84.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@21-22'**  
**2411086-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/10/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0128</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0369</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0190	57.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.1 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 13:20**

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@21-22'**  
**2411086-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.86	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B
Barium	194	0.400	"	"	"	"	"	"
Cadmium	1.12	0.200	"	"	"	"	"	"
Copper	9.85	0.400	"	"	"	"	"	"
Lead	13.6	0.200	"	"	"	"	"	"
Nickel	13.0	0.400	"	"	"	"	"	"
Silver	0.182	0.0200	"	"	"	"	"	"
Zinc	33.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.2	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	5.24	0.0500	"	"	"	"	"	"	
Sodium	27.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.33	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

Date Sampled: 11/05/24 13:20

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@21-22'**  
**2411086-09 (Soil)**

**Summit Scientific**

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

% Solids	67.1	%	1	BHK0506	11/11/24	11/13/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.126</b>	0.0100	mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.38</b>		pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@23-24'**  
**2411086-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHK0365	11/07/24	11/12/24	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: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0405	101 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHK0369	11/07/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.30	74.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@23-24'**  
**2411086-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0398	11/08/24	11/10/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0182	54.7 %	40-140		"	"	"	"	

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

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0571	11/12/24	11/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/05/24 13:25**

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 - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@23-24'**  
**2411086-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.18	0.200	mg/kg dry	1	BHK1156	11/22/24	11/26/24	EPA 6020B	
Barium	31.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.32	0.400	"	"	"	"	"	"	
Lead	7.97	0.200	"	"	"	"	"	"	
Nickel	2.97	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	25.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/05/24 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0751	11/14/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/05/24 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.4	0.0500	mg/L dry	1	BHK0776	11/14/24	11/16/24	EPA 6020B	
Magnesium	3.69	0.0500	"	"	"	"	"	"	
Sodium	13.6	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/05/24 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.638	0.00100	units	1	BHK0919	11/18/24	11/18/24	Calculation	

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

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**BH16@23-24'**  
**2411086-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.7			%	1	BHK0506	11/11/24	11/13/24	Calculation	

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

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0963	0.0100		mmhos/cm	1	BHK0778	11/14/24	11/15/24	EPA 120.1	

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

Date Sampled: **11/05/24 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.79			pH Units	1	BHK0777	11/14/24	11/15/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

### 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 BHK0365 - EPA 5030 Soil MS

##### Blank (BHK0365-BLK1)

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

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0340</i>		<i>"</i>	<i>0.0400</i>		<i>85.1</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>		<i>95.7</i>	<i>50-150</i>				

##### LCS (BHK0365-BS1)

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

Benzene	0.0825	0.0020	mg/kg	0.100		82.5	70-130				
Toluene	0.0824	0.0050	"	0.100		82.4	70-130				
Ethylbenzene	0.0808	0.0050	"	0.100		80.8	70-130				
m,p-Xylene	0.162	0.010	"	0.200		81.0	70-130				
o-Xylene	0.0804	0.0050	"	0.100		80.4	70-130				
1,2,4-Trimethylbenzene	0.0784	0.0050	"	0.100		78.4	70-130				
1,3,5-Trimethylbenzene	0.0771	0.0050	"	0.100		77.1	70-130				
Naphthalene	0.0729	0.0038	"	0.100		72.9	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0345</i>		<i>"</i>	<i>0.0400</i>		<i>86.3</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.6</i>	<i>50-150</i>				

##### Matrix Spike (BHK0365-MS1)

Source: 2411086-02

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

Benzene	0.0742	0.0020	mg/kg	0.100	ND	74.2	70-130				
Toluene	0.0723	0.0050	"	0.100	ND	72.3	70-130				
Ethylbenzene	0.0719	0.0050	"	0.100	ND	71.9	70-130				
m,p-Xylene	0.144	0.010	"	0.200	ND	72.0	70-130				
o-Xylene	0.0705	0.0050	"	0.100	ND	70.5	70-130				
1,2,4-Trimethylbenzene	0.0683	0.0050	"	0.100	ND	68.3	70-130				QM-05
1,3,5-Trimethylbenzene	0.0672	0.0050	"	0.100	ND	67.2	70-130				QM-05
Naphthalene	0.0652	0.0038	"	0.100	ND	65.2	70-130				QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0363</i>		<i>"</i>	<i>0.0400</i>		<i>90.8</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>				

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

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

**Summit Scientific**

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

**Batch BHK0365 - EPA 5030 Soil MS**

Matrix Spike Dup (BHK0365-MSD1)	Source: 2411086-02			Prepared: 11/07/24 Analyzed: 11/09/24						
Benzene	0.0747	0.0020	mg/kg	0.100	ND	74.7	70-130	0.604	30	
Toluene	0.0743	0.0050	"	0.100	ND	74.3	70-130	2.70	30	
Ethylbenzene	0.0741	0.0050	"	0.100	ND	74.1	70-130	3.04	30	
m,p-Xylene	0.148	0.010	"	0.200	ND	74.2	70-130	3.10	30	
o-Xylene	0.0731	0.0050	"	0.100	ND	73.1	70-130	3.64	30	
1,2,4-Trimethylbenzene	0.0686	0.0050	"	0.100	ND	68.6	70-130	0.438	30	QM-05
1,3,5-Trimethylbenzene	0.0686	0.0050	"	0.100	ND	68.6	70-130	2.08	30	QM-05
Naphthalene	0.0685	0.0038	"	0.100	ND	68.5	70-130	4.98	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0367		"	0.0400		91.6	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	50-150			

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0369 - EPA 3550A**

**Blank (BHK0369-BLK1)**

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

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		107		30-150			

**LCS (BHK0369-BS1)**

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

C10-C28 (DRO)	408	50	mg/kg	500		81.7		70-130			
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		107		30-150			

**Matrix Spike (BHK0369-MS1)**

Source: 2411086-02

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

C10-C28 (DRO)	436	50	mg/kg	500	ND	87.2		70-130			
Surrogate: <i>o</i> -Terphenyl	14.3		"	12.5		114		30-150			

**Matrix Spike Dup (BHK0369-MSD1)**

Source: 2411086-02

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

C10-C28 (DRO)	442	50	mg/kg	500	ND	88.5		70-130	1.40	20	
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		106		30-150			

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0398 - EPA 5030 Soil MS**

**Blank (BHK0398-BLK1)**

Prepared: 11/08/24 Analyzed: 11/09/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0140</i>		"	<i>0.0333</i>		<i>42.2</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0138</i>		"	<i>0.0333</i>		<i>41.4</i>	<i>40-140</i>			

**LCS (BHK0398-BS1)**

Prepared: 11/08/24 Analyzed: 11/09/24

Acenaphthene	0.0189	0.00500	mg/kg	0.0333		56.7	40-140			
Anthracene	0.0188	0.00500	"	0.0333		56.4	40-140			
Benzo (a) anthracene	0.0189	0.00500	"	0.0333		56.8	40-140			
Benzo (a) pyrene	0.0178	0.00500	"	0.0333		53.5	40-140			
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333		53.7	40-140			
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333		54.4	40-140			
Chrysene	0.0186	0.00500	"	0.0333		55.7	40-140			
Dibenz (a,h) anthracene	0.0166	0.00500	"	0.0333		49.8	40-140			
Fluoranthene	0.0195	0.00500	"	0.0333		58.5	40-140			
Fluorene	0.0193	0.00500	"	0.0333		57.8	40-140			
Indeno (1,2,3-cd) pyrene	0.0155	0.00500	"	0.0333		46.5	40-140			
Pyrene	0.0189	0.00500	"	0.0333		56.6	40-140			
1-Methylnaphthalene	0.0184	0.00500	"	0.0333		55.2	40-140			
2-Methylnaphthalene	0.0183	0.00500	"	0.0333		55.0	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0186</i>		"	<i>0.0333</i>		<i>55.8</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0201</i>		"	<i>0.0333</i>		<i>60.2</i>	<i>40-140</i>			

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0398 - EPA 5030 Soil MS**

<b>Matrix Spike (BHK0398-MS1)</b>	<b>Source: 2411081-01</b>			<b>Prepared: 11/08/24 Analyzed: 11/12/24</b>						
Acenaphthene	0.0145	0.00500	mg/kg	0.0333	ND	43.4	40-140			
Anthracene	0.0150	0.00500	"	0.0333	ND	45.1	40-140			
Benzo (a) anthracene	0.0155	0.00500	"	0.0333	ND	46.6	40-140			
Benzo (a) pyrene	0.0146	0.00500	"	0.0333	ND	43.8	40-140			
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	40-140			
Benzo (k) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.9	40-140			
Chrysene	0.0158	0.00500	"	0.0333	ND	47.3	40-140			
Dibenz (a,h) anthracene	0.0136	0.00500	"	0.0333	ND	40.7	40-140			
Fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	40-140			
Fluorene	0.0149	0.00500	"	0.0333	ND	44.7	40-140			
Indeno (1,2,3-cd) pyrene	0.0134	0.00500	"	0.0333	ND	40.1	40-140			
Pyrene	0.0135	0.00500	"	0.0333	ND	40.5	40-140			
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	40-140			
2-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.9	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0143</i>		<i>"</i>	<i>0.0333</i>		<i>42.8</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0159</i>		<i>"</i>	<i>0.0333</i>		<i>47.6</i>	<i>40-140</i>			

<b>Matrix Spike Dup (BHK0398-MSD1)</b>	<b>Source: 2411081-01</b>			<b>Prepared: 11/08/24 Analyzed: 11/12/24</b>						
Acenaphthene	0.0145	0.00500	mg/kg	0.0333	ND	43.6	40-140	0.434	30	
Anthracene	0.0153	0.00500	"	0.0333	ND	45.9	40-140	1.65	30	
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	40-140	1.61	30	
Benzo (a) pyrene	0.0139	0.00500	"	0.0333	ND	41.6	40-140	5.23	30	
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.3	40-140	6.36	30	
Benzo (k) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.4	40-140	3.45	30	
Chrysene	0.0153	0.00500	"	0.0333	ND	46.0	40-140	2.82	30	
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.2	40-140	10.4	30	
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.0	40-140	0.330	30	
Fluorene	0.0142	0.00500	"	0.0333	ND	42.6	40-140	4.84	30	
Indeno (1,2,3-cd) pyrene	0.0141	0.00500	"	0.0333	ND	42.2	40-140	5.10	30	
Pyrene	0.0136	0.00500	"	0.0333	ND	40.9	40-140	1.06	30	
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	40-140	0.0174	30	
2-Methylnaphthalene	0.0143	0.00500	"	0.0333	ND	43.0	40-140	2.03	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0147</i>		<i>"</i>	<i>0.0333</i>		<i>44.0</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0162</i>		<i>"</i>	<i>0.0333</i>		<i>48.6</i>	<i>40-140</i>			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

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

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

**Batch BHK0571 - EPA 3050B**

**Blank (BHK0571-BLK1)**

Prepared: 11/12/24 Analyzed: 11/18/24

Boron ND 2.00 mg/L

**LCS (BHK0571-BS1)**

Prepared: 11/12/24 Analyzed: 11/18/24

Boron 4.62 2.00 mg/L 5.00 92.3 80-120

**Duplicate (BHK0571-DUP1)**

**Source: 2411085-01**

Prepared: 11/12/24 Analyzed: 11/18/24

Boron 0.226 2.00 mg/L 0.247 9.12 20

**Matrix Spike (BHK0571-MS1)**

**Source: 2411085-01**

Prepared: 11/12/24 Analyzed: 11/18/24

Boron 4.41 2.00 mg/L 5.00 0.247 83.2 75-125

**Matrix Spike Dup (BHK0571-MSD1)**

**Source: 2411085-01**

Prepared: 11/12/24 Analyzed: 11/18/24

Boron 4.92 2.00 mg/L 5.00 0.247 93.4 75-125 11.0 25

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

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

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

**Batch BHK1156 - EPA 3050B**

**Blank (BHK1156-BLK1)**

Prepared: 11/22/24 Analyzed: 11/26/24

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

**LCS (BHK1156-BS1)**

Prepared: 11/22/24 Analyzed: 11/26/24

Arsenic	41.1	0.200	mg/kg wet	40.3		102	80-120		
Barium	41.5	0.400	"	40.3		103	80-120		
Cadmium	2.05	0.200	"	2.02		102	80-120		
Copper	41.9	0.400	"	40.3		104	80-120		
Lead	20.1	0.200	"	20.2		99.9	80-120		
Nickel	41.6	0.400	"	40.3		103	80-120		
Silver	1.68	0.0200	"	2.02		83.1	80-120		
Zinc	42.1	0.400	"	40.3		104	80-120		
Selenium	4.04	0.260	"	4.03		100	80-120		

**Duplicate (BHK1156-DUP1)**

Source: 2411086-01

Prepared: 11/22/24 Analyzed: 11/26/24

Arsenic	4.54	0.200	mg/kg dry		6.38		33.7	20	QR-04
Barium	90.5	0.400	"		82.9		8.74	20	
Cadmium	0.167	0.200	"		0.220		27.1	20	QR-01
Copper	5.82	0.400	"		5.98		2.70	20	
Lead	7.98	0.200	"		8.02		0.454	20	
Nickel	6.13	0.400	"		8.00		26.4	20	QR-04
Silver	0.0325	0.0200	"		0.0277		15.9	20	
Zinc	18.9	0.400	"		19.2		1.75	20	
Selenium	ND	0.260	"		ND			20	

Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK1156 - EPA 3050B**

**Matrix Spike (BHK1156-MS1)**

Source: 2411086-01

Prepared: 11/22/24 Analyzed: 11/26/24

Arsenic	50.1	0.200	mg/kg dry	44.4	6.38	98.5	75-125			
Barium	122	0.400	"	44.4	82.9	88.7	75-125			
Cadmium	2.51	0.200	"	2.22	0.220	103	75-125			
Copper	32.3	0.400	"	44.4	5.98	59.2	75-125			QM-05
Lead	29.8	0.200	"	22.2	8.02	98.1	75-125			
Nickel	34.0	0.400	"	44.4	8.00	58.6	75-125			QM-05
Silver	1.41	0.0200	"	2.22	0.0277	62.2	75-125			QM-05
Zinc	45.8	0.400	"	44.4	19.2	59.8	75-125			QM-05
Selenium	3.88	0.260	"	4.44	ND	87.5	75-125			

**Matrix Spike Dup (BHK1156-MSD1)**

Source: 2411086-01

Prepared: 11/22/24 Analyzed: 11/26/24

Arsenic	46.8	0.200	mg/kg dry	44.0	6.38	91.7	75-125	6.95	25	
Barium	119	0.400	"	44.0	82.9	81.5	75-125	2.87	25	
Cadmium	2.40	0.200	"	2.20	0.220	99.1	75-125	4.30	25	
Copper	31.4	0.400	"	44.0	5.98	57.8	75-125	2.68	25	QM-05
Lead	28.0	0.200	"	22.0	8.02	90.8	75-125	6.15	25	
Nickel	31.9	0.400	"	44.0	8.00	54.3	75-125	6.30	25	QM-05
Silver	1.37	0.0200	"	2.20	0.0277	61.0	75-125	2.64	25	QM-05
Zinc	44.4	0.400	"	44.0	19.2	57.1	75-125	3.15	25	QM-05
Selenium	3.87	0.260	"	4.40	ND	87.9	75-125	0.369	25	

Summit Scientific

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6855 W. 119th Ave.  
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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

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

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

**Batch BHK0751 - 3060A Mod**

**Blank (BHK0751-BLK1)**

Prepared: 11/14/24 Analyzed: 11/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHK0751-BS1)**

Prepared: 11/14/24 Analyzed: 11/18/24

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

**Duplicate (BHK0751-DUP1)**

**Source: 2411076-01**

Prepared: 11/14/24 Analyzed: 11/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHK0751-MS1)**

**Source: 2411076-01**

Prepared: 11/14/24 Analyzed: 11/18/24

Chromium, Hexavalent 27.0 0.30 mg/kg dry 26.5 ND 102 75-125

**Matrix Spike Dup (BHK0751-MSD1)**

**Source: 2411076-01**

Prepared: 11/14/24 Analyzed: 11/18/24

Chromium, Hexavalent 28.7 0.30 mg/kg dry 26.5 ND 108 75-125 6.10 20

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0776 - General Preparation**

**Blank (BHK0776-BLK1)**

Prepared: 11/14/24 Analyzed: 11/16/24

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

**LCS (BHK0776-BS1)**

Prepared: 11/14/24 Analyzed: 11/16/24

Calcium	5.25	0.0500	mg/L wet	5.00	105	70-130				
Magnesium	5.62	0.0500	"	5.00	112	70-130				
Sodium	4.99	0.0500	"	5.00	99.8	70-130				

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Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0506 - General Preparation**

<b>Duplicate (BHK0506-DUP1)</b>		<b>Source: 2411080-01</b>		Prepared: 11/11/24 Analyzed: 11/13/24	
% Solids	89.7	%		89.5	0.201 20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

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

**Summit Scientific**

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

**Batch BHK0778 - General Preparation**

**Blank (BHK0778-BLK1)**

Prepared: 11/14/24 Analyzed: 11/15/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHK0778-BS1)**

Prepared: 11/14/24 Analyzed: 11/15/24

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

**Duplicate (BHK0778-DUP1)**

Source: 2411085-01

Prepared: 11/14/24 Analyzed: 11/15/24

Specific Conductance (EC) 0.638 0.0100 mmhos/cm 0.645 0.966 20

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

**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 BHK0777 - General Preparation**

**LCS (BHK0777-BS1)**

Prepared: 11/14/24 Analyzed: 11/15/24

pH	9.27	pH Units	9.18	101	95-105
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**Duplicate (BHK0777-DUP1)**

Source: 2411085-01

Prepared: 11/14/24 Analyzed: 11/15/24

pH	7.60	pH Units	7.54	0.793	20
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Summit Scientific

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

Project: Noble - Houndskeeper HOI-17 Facility

Project Number: [none]  
Project Manager: Daniel Simpson

**Reported:**  
12/02/24 08:18

### Notes and Definitions

- S-04 A sample matrix effect prevented complete surrogate recovery.
- R-05 The reporting limit for this sample has been raised due to the presence of high levels of non-target analytes.
- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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