

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 02, 2025

AJ Engelhardt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Hullabaloo State Y 21 Econode

Work Order #2412328

Enclosed are the results of analyses for samples received by Summit Scientific on 12/16/24 17:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Hullaballoo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@6'	2412328-01	Soil	12/16/24 13:00	12/16/24 17:46
SS01@5'	2412328-02	Soil	12/16/24 13:04	12/16/24 17:46
SS02@5'	2412328-03	Soil	12/16/24 13:06	12/16/24 17:46
SS03@5'	2412328-04	Soil	12/16/24 13:08	12/16/24 17:46
SS04@5'	2412328-05	Soil	12/16/24 13:10	12/16/24 17:46

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

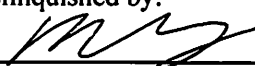

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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2412328	

Client: Chevron/Tasman	Project Manager: AJ Engelhardt	Send Invoice To:
Address: 6855 W. 119th Avenue	E-Mail: tas-chevron-3@tasman-geo.com	Company: Chevron/Noble
City/State/Zip: Broomfield, CO 80020	E-Mail: rbueuf27@chevron.com	Project Name/Location: HULLABALOO STATE Y21 ECONODE
Phone: 808 651 6795	Project Name: HULLABALOO STATE Y21 ECONODE	AFE#:
Sampler Name: Ryan Yavinsky	Project Number:	PO/Billing Codes:
		Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915-VOC	915-PAH	915-TPH	pH, EC, SAR	Boron	915-Metals	
1	F501e6'	12/16/24	1300	2			X			X			X	X	X	X	X	X	
2	S501e5'		1304																
3	S502e5'		1306																
4	S503e5'		1308																
5	S504e5'		1310																
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by:  Date/Time: 12/16/24 1530	Received by: Tasman Lockbox Date/Time: 12/16/24 1530	TAT Business Days	Field DO	Notes:
		Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: Tasman Lockbox Date/Time: 12/16/24 1740	Received by:  Date/Time: 12/16/24 1740	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by: Date/Time:	Received by: Date/Time:	3 Days	Field Temp.	
		Standard	Field Turb.	
Temperature Upon Receipt: 4.3	Corrected Temperature: 6	IR gun #:	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2412328

Econode

Client: Clemon/Hasman

Client Project ID: Hullabaloo State Y21

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

Airbill #: _____

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

AS

Custodian Printed Name

12/16/24

Date/Time



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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

FS01@6'
2412328-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0704	12/16/24	12/16/24	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: **12/16/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0364	91.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0706	12/16/24	12/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.58	68.7 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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FS01@6'
2412328-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL1219	12/27/24	12/31/24	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: **12/16/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0146	43.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0727	12/17/24	12/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/16/24 13:00**

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 - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

FS01@6'
2412328-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.87	0.200	mg/kg dry	1	BHL0731	12/17/24	12/18/24	EPA 6020B
Barium	135	0.400	"	"	"	"	"	"
Cadmium	0.278	0.200	"	"	"	"	"	"
Copper	5.55	0.400	"	"	"	"	"	"
Lead	7.81	0.200	"	"	"	"	"	"
Nickel	6.50	0.400	"	"	"	"	"	"
Silver	0.0775	0.0200	"	"	"	"	"	"
Zinc	22.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/16/24 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0743	12/17/24	12/17/24	EPA 7196A	

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

Date Sampled: 12/16/24 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	275	0.0500	mg/L dry	1	BHL0692	12/16/24	12/17/24	EPA 6020B	
Magnesium	142	0.0500	"	"	"	"	"	"	
Sodium	385	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/16/24 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.70	0.00100	units	1	BHL0803	12/18/24	12/18/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/16/24 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
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Reported:
01/02/25 13:48

FS01@6'
2412328-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.2	%	1	BHL0752	12/17/24	12/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/16/24 13:00**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.10	0.0100	mmhos/cm	1	BHL0708	12/16/24	12/18/24	EPA 120.1	

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

Date Sampled: **12/16/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BHL0707	12/16/24	12/18/24	EPA 9045D	

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS01@5'
2412328-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0704	12/16/24	12/16/24	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: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0392	97.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0706	12/16/24	12/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.02	64.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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SS01@5'
2412328-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL1219	12/27/24	12/31/24	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: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0175	52.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0727	12/17/24	12/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS01@5'
2412328-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.65	0.200	mg/kg dry	1	BHL0731	12/17/24	12/18/24	EPA 6020B	
Barium	164	0.400	"	"	"	"	"	"	
Cadmium	0.364	0.200	"	"	"	"	"	"	
Copper	6.57	0.400	"	"	"	"	"	"	
Lead	9.97	0.200	"	"	"	"	"	"	
Nickel	7.50	0.400	"	"	"	"	"	"	
Silver	0.0953	0.0200	"	"	"	"	"	"	
Zinc	25.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/16/24 13:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0743	12/17/24	12/17/24	EPA 7196A	

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

Date Sampled: 12/16/24 13:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.4	0.0500	mg/L dry	1	BHL0692	12/16/24	12/17/24	EPA 6020B	
Magnesium	9.51	0.0500	"	"	"	"	"	"	
Sodium	11.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/16/24 13:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.428	0.00100	units	1	BHL0803	12/18/24	12/18/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/16/24 13:04

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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS01@5'
2412328-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.0	%	1	BHL0752	12/17/24	12/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/16/24 13:04**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.319	0.0100	mmhos/cm	1	BHL0708	12/16/24	12/18/24	EPA 120.1	

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

Date Sampled: **12/16/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BHL0707	12/16/24	12/18/24	EPA 9045D	

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS02@5'
2412328-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0704	12/16/24	12/16/24	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: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0706	12/16/24	12/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.60	76.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS02@5'
2412328-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL1219	12/27/24	12/31/24	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: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	59.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0727	12/17/24	12/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS02@5'
2412328-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.55	0.200	mg/kg dry	1	BHL0731	12/17/24	12/18/24	EPA 6020B
Barium	149	0.400	"	"	"	"	"	"
Cadmium	0.249	0.200	"	"	"	"	"	"
Copper	5.76	0.400	"	"	"	"	"	"
Lead	7.55	0.200	"	"	"	"	"	"
Nickel	6.06	0.400	"	"	"	"	"	"
Silver	0.0737	0.0200	"	"	"	"	"	"
Zinc	24.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0743	12/17/24	12/17/24	EPA 7196A	

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

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.0	0.0500	mg/L dry	1	BHL0692	12/16/24	12/17/24	EPA 6020B	
Magnesium	11.0	0.0500	"	"	"	"	"	"	
Sodium	11.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.390	0.00100	units	1	BHL0803	12/18/24	12/18/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS02@5'
2412328-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.8	%	1	BHL0752	12/17/24	12/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/16/24 13:06**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.331	0.0100	mmhos/cm	1	BHL0708	12/16/24	12/18/24	EPA 120.1	

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

Date Sampled: **12/16/24 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BHL0707	12/16/24	12/18/24	EPA 9045D	

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS03@5'
2412328-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0704	12/16/24	12/16/24	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: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0385	96.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	96.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0706	12/16/24	12/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.91	63.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Broomfield CO, 80020

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS03@5'
2412328-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL1219	12/27/24	12/31/24	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: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0145	43.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0137	41.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0729	12/17/24	12/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/16/24 13:08**

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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS03@5'
2412328-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.49	0.200	mg/kg dry	1	BHL0731	12/17/24	12/18/24	EPA 6020B	
Barium	98.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.58	0.400	"	"	"	"	"	"	
Lead	6.07	0.200	"	"	"	"	"	"	
Nickel	4.51	0.400	"	"	"	"	"	"	
Silver	0.0594	0.0200	"	"	"	"	"	"	
Zinc	25.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0743	12/17/24	12/17/24	EPA 7196A	

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

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	69.5	0.0500	mg/L dry	1	BHL0692	12/16/24	12/17/24	EPA 6020B	
Magnesium	4.45	0.0500	"	"	"	"	"	"	
Sodium	6.31	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.198	0.00100	units	1	BHL0803	12/18/24	12/18/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS03@5'
2412328-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.7			%	1	BHL0752	12/17/24	12/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.301	0.0100		mmhos/cm	1	BHL0708	12/16/24	12/18/24	EPA 120.1	

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

Date Sampled: **12/16/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.23			pH Units	1	BHL0707	12/16/24	12/18/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS04@5'
2412328-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0704	12/16/24	12/16/24	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: **12/16/24 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0381	95.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0706	12/16/24	12/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.38	59.1 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS04@5'
2412328-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL1219	12/27/24	12/31/24	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: **12/16/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0148	44.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0729	12/17/24	12/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/16/24 13:10**

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 - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS04@5'
2412328-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.50	0.200	mg/kg dry	1	BHL0731	12/17/24	12/18/24	EPA 6020B
Barium	215	0.400	"	"	"	"	"	"
Cadmium	0.226	0.200	"	"	"	"	"	"
Copper	5.74	0.400	"	"	"	"	"	"
Lead	7.73	0.200	"	"	"	"	"	"
Nickel	5.82	0.400	"	"	"	"	"	"
Silver	0.0653	0.0200	"	"	"	"	"	"
Zinc	37.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/16/24 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0743	12/17/24	12/17/24	EPA 7196A	

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

Date Sampled: 12/16/24 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	224	0.0500	mg/L dry	1	BHL0692	12/16/24	12/17/24	EPA 6020B	
Magnesium	4.39	0.0500	"	"	"	"	"	"	
Sodium	2.63	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/16/24 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0476	0.00100	units	1	BHL0803	12/18/24	12/18/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 12/16/24 13:10

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 - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

SS04@5'
2412328-05 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.8	%	1	BHL0752	12/17/24	12/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/16/24 13:10**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.269	0.0100	mmhos/cm	1	BHL0708	12/16/24	12/18/24	EPA 120.1	

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

Date Sampled: **12/16/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BHL0707	12/16/24	12/18/24	EPA 9045D	

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHL0704 - EPA 5030 Soil MS

Blank (BHL0704-BLK1)

Prepared: 12/16/24 Analyzed: 12/17/24

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>	0.0392		"	0.0400		98.0	50-150			
<i>Surrogate: Toluene-d8</i>	0.0383		"	0.0400		95.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		96.9	50-150			

LCS (BHL0704-BS1)

Prepared: 12/16/24 Analyzed: 12/17/24

Benzene	0.100	0.0020	mg/kg	0.100		100	70-130			
Toluene	0.0984	0.0050	"	0.100		98.4	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.196	0.010	"	0.200		98.0	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
1,2,4-Trimethylbenzene	0.0984	0.0050	"	0.100		98.4	70-130			
1,3,5-Trimethylbenzene	0.0992	0.0050	"	0.100		99.2	70-130			
Naphthalene	0.102	0.0038	"	0.100		102	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0382		"	0.0400		95.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		98.1	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0385		"	0.0400		96.2	50-150			

Matrix Spike (BHL0704-MS1)

Source: 2412328-01

Prepared: 12/16/24 Analyzed: 12/17/24

Benzene	0.0868	0.0020	mg/kg	0.100	ND	86.8	70-130			
Toluene	0.0849	0.0050	"	0.100	ND	84.9	70-130			
Ethylbenzene	0.0886	0.0050	"	0.100	ND	88.6	70-130			
m,p-Xylene	0.171	0.010	"	0.200	ND	85.4	70-130			
o-Xylene	0.0870	0.0050	"	0.100	ND	87.0	70-130			
1,2,4-Trimethylbenzene	0.0852	0.0050	"	0.100	ND	85.2	70-130			
1,3,5-Trimethylbenzene	0.0869	0.0050	"	0.100	ND	86.9	70-130			
Naphthalene	0.0893	0.0038	"	0.100	ND	89.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0378		"	0.0400		94.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0385		"	0.0400		96.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0374		"	0.0400		93.5	50-150			

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHL0704 - EPA 5030 Soil MS

Matrix Spike Dup (BHL0704-MSD1)	Source: 2412328-01			Prepared: 12/16/24 Analyzed: 12/17/24					
Benzene	0.0908	0.0020	mg/kg	0.100	ND	90.8	70-130	4.59	30
Toluene	0.0894	0.0050	"	0.100	ND	89.4	70-130	5.13	30
Ethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130	7.97	30
m,p-Xylene	0.184	0.010	"	0.200	ND	92.0	70-130	7.37	30
o-Xylene	0.0904	0.0050	"	0.100	ND	90.4	70-130	3.79	30
1,2,4-Trimethylbenzene	0.0874	0.0050	"	0.100	ND	87.4	70-130	2.64	30
1,3,5-Trimethylbenzene	0.0906	0.0050	"	0.100	ND	90.6	70-130	4.16	30
Naphthalene	0.0840	0.0038	"	0.100	ND	84.0	70-130	6.20	30
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.5	50-150		
Surrogate: Toluene-d8	0.0382		"	0.0400		95.6	50-150		
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	50-150		

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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 BHL0706 - EPA 3550A

Blank (BHL0706-BLK1)

Prepared: 12/16/24 Analyzed: 12/17/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	8.41		"	12.5		67.3	30-150				

LCS (BHL0706-BS1)

Prepared: 12/16/24 Analyzed: 12/17/24

C10-C28 (DRO)	391	50	mg/kg	500		78.2	70-130				
Surrogate: <i>o</i> -Terphenyl	8.07		"	12.5		64.6	30-150				

Matrix Spike (BHL0706-MS1)

Source: 2412328-01

Prepared: 12/16/24 Analyzed: 12/17/24

C10-C28 (DRO)	465	50	mg/kg	500	ND	93.0	70-130				
Surrogate: <i>o</i> -Terphenyl	8.08		"	12.5		64.7	30-150				

Matrix Spike Dup (BHL0706-MSD1)

Source: 2412328-01

Prepared: 12/16/24 Analyzed: 12/17/24

C10-C28 (DRO)	445	50	mg/kg	500	ND	89.1	70-130	4.31	20		
Surrogate: <i>o</i> -Terphenyl	8.21		"	12.5		65.7	30-150				

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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 BHL1219 - EPA 5030 Soil MS

Blank (BHL1219-BLK1)

Prepared: 12/27/24 Analyzed: 12/30/24

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	0.0174		"	0.0333		52.2	40-140			
Surrogate: Fluoranthene-d10	0.0200		"	0.0333		60.0	40-140			

LCS (BHL1219-BS1)

Prepared: 12/27/24 Analyzed: 12/30/24

Acenaphthene	0.0191	0.00500	mg/kg	0.0333		57.4	40-140			
Anthracene	0.0209	0.00500	"	0.0333		62.6	40-140			
Benzo (a) anthracene	0.0211	0.00500	"	0.0333		63.3	40-140			
Benzo (a) pyrene	0.0182	0.00500	"	0.0333		54.6	40-140			
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333		48.3	40-140			
Benzo (k) fluoranthene	0.0160	0.00500	"	0.0333		48.1	40-140			
Chrysene	0.0202	0.00500	"	0.0333		60.5	40-140			
Dibenz (a,h) anthracene	0.0263	0.00500	"	0.0333		78.9	40-140			
Fluoranthene	0.0209	0.00500	"	0.0333		62.6	40-140			
Fluorene	0.0207	0.00500	"	0.0333		62.2	40-140			
Indeno (1,2,3-cd) pyrene	0.0262	0.00500	"	0.0333		78.6	40-140			
Pyrene	0.0175	0.00500	"	0.0333		52.4	40-140			
1-Methylnaphthalene	0.0194	0.00500	"	0.0333		58.2	40-140			
2-Methylnaphthalene	0.0186	0.00500	"	0.0333		55.8	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.3	40-140			
Surrogate: Fluoranthene-d10	0.0208		"	0.0333		62.5	40-140			

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHL1219 - EPA 5030 Soil MS

Matrix Spike (BHL1219-MS1)

Source: 2412325-01

Prepared: 12/27/24 Analyzed: 12/30/24

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.1	40-140			
Anthracene	0.0213	0.00500	"	0.0333	ND	64.0	40-140			
Benzo (a) anthracene	0.0215	0.00500	"	0.0333	ND	64.5	40-140			
Benzo (a) pyrene	0.0187	0.00500	"	0.0333	ND	56.2	40-140			
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.7	40-140			
Benzo (k) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.3	40-140			
Chrysene	0.0207	0.00500	"	0.0333	ND	62.0	40-140			
Dibenz (a,h) anthracene	0.0206	0.00500	"	0.0333	ND	61.7	40-140			
Fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	40-140			
Fluorene	0.0200	0.00500	"	0.0333	ND	59.9	40-140			
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.6	40-140			
Pyrene	0.0220	0.00500	"	0.0333	ND	66.1	40-140			
1-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.2	40-140			
2-Methylnaphthalene	0.0172	0.00500	"	0.0333	ND	51.6	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0180</i>		<i>"</i>	<i>0.0333</i>		<i>54.0</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0195</i>		<i>"</i>	<i>0.0333</i>		<i>58.6</i>	<i>40-140</i>			

Matrix Spike Dup (BHL1219-MSD1)

Source: 2412325-01

Prepared: 12/27/24 Analyzed: 12/30/24

Acenaphthene	0.0192	0.00500	mg/kg	0.0333	ND	57.7	40-140	2.44	30
Anthracene	0.0205	0.00500	"	0.0333	ND	61.5	40-140	4.04	30
Benzo (a) anthracene	0.0205	0.00500	"	0.0333	ND	61.4	40-140	4.90	30
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.1	40-140	5.65	30
Benzo (b) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.1	40-140	4.97	30
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	40-140	6.23	30
Chrysene	0.0196	0.00500	"	0.0333	ND	58.8	40-140	5.28	30
Dibenz (a,h) anthracene	0.0193	0.00500	"	0.0333	ND	57.9	40-140	6.50	30
Fluoranthene	0.0192	0.00500	"	0.0333	ND	57.7	40-140	4.06	30
Fluorene	0.0197	0.00500	"	0.0333	ND	59.0	40-140	1.62	30
Indeno (1,2,3-cd) pyrene	0.0135	0.00500	"	0.0333	ND	40.4	40-140	3.02	30
Pyrene	0.0206	0.00500	"	0.0333	ND	61.9	40-140	6.56	30
1-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	51.8	40-140	2.67	30
2-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	48.1	40-140	6.94	30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0178</i>		<i>"</i>	<i>0.0333</i>		<i>53.5</i>	<i>40-140</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0184</i>		<i>"</i>	<i>0.0333</i>		<i>55.1</i>	<i>40-140</i>		

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
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Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

Batch BHL0727 - EPA 3050B

Blank (BHL0727-BLK1)				Prepared & Analyzed: 12/17/24							
Boron	ND	2.00	mg/L								
LCS (BHL0727-BS1)				Prepared & Analyzed: 12/17/24							
Boron	4.86	2.00	mg/L	5.00		97.2	80-120				
Duplicate (BHL0727-DUP1)				Source: 2412300-01		Prepared & Analyzed: 12/17/24					
Boron	0.147	2.00	mg/L		0.190			25.7	20		QR-01
Matrix Spike (BHL0727-MS1)				Source: 2412300-01		Prepared & Analyzed: 12/17/24					
Boron	4.91	2.00	mg/L	5.00	0.190	94.3	75-125				
Matrix Spike Dup (BHL0727-MSD1)				Source: 2412300-01		Prepared & Analyzed: 12/17/24					
Boron	5.23	2.00	mg/L	5.00	0.190	101	75-125	6.39	25		

Batch BHL0729 - EPA 3050B

Blank (BHL0729-BLK1)				Prepared: 12/17/24 Analyzed: 12/18/24							
Boron	ND	2.00	mg/L								
LCS (BHL0729-BS1)				Prepared: 12/17/24 Analyzed: 12/18/24							
Boron	4.77	2.00	mg/L	5.00		95.4	80-120				
Duplicate (BHL0729-DUP1)				Source: 2411384-02		Prepared: 12/17/24 Analyzed: 12/18/24					
Boron	0.165	2.00	mg/L		0.201			19.7	20		
Matrix Spike (BHL0729-MS1)				Source: 2411384-02		Prepared: 12/17/24 Analyzed: 12/18/24					
Boron	4.84	2.00	mg/L	5.00	0.201	92.7	75-125				

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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

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

Batch BHL0729 - EPA 3050B


Matrix Spike Dup (BHL0729-MSD1)

Source: 2411384-02

Prepared: 12/17/24 Analyzed: 12/18/24

Boron	5.05	2.00	mg/L	5.00	0.201	97.0	75-125	4.35	25	
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHL0731 - EPA 3050B

Blank (BHL0731-BLK1)

Prepared & Analyzed: 12/17/24

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 (BHL0731-BS1)

Prepared & Analyzed: 12/17/24

Arsenic	38.6	0.200	mg/kg wet	40.7	94.8	80-120
Barium	38.6	0.400	"	40.7	95.0	80-120
Cadmium	1.90	0.200	"	2.03	93.3	80-120
Copper	37.8	0.400	"	40.7	93.0	80-120
Lead	18.2	0.200	"	20.3	89.8	80-120
Nickel	38.0	0.400	"	40.7	93.5	80-120
Silver	2.10	0.0200	"	2.03	103	80-120
Zinc	37.9	0.400	"	40.7	93.1	80-120
Selenium	4.12	0.260	"	4.07	101	80-120

Duplicate (BHL0731-DUP1)

Source: 2412325-01

Prepared & Analyzed: 12/17/24

Arsenic	2.22	0.200	mg/kg dry	2.62	16.3	20
Barium	77.5	0.400	"	66.5	15.2	20
Cadmium	0.123	0.200	"	0.124	0.681	20
Copper	2.15	0.400	"	2.09	2.79	20
Lead	4.51	0.200	"	4.33	4.00	20
Nickel	2.77	0.400	"	2.85	3.10	20
Silver	0.152	0.0200	"	0.209	31.4	20
Zinc	10.4	0.400	"	10.5	0.740	20
Selenium	ND	0.260	"	ND		20

QR-04

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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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 BHL0731 - EPA 3050B

Matrix Spike (BHL0731-MS1)	Source: 2412325-01			Prepared & Analyzed: 12/17/24								
Arsenic	40.6	0.200	mg/kg dry	42.6	2.62	89.2	75-125					
Barium	114	0.400	"	42.6	66.5	112	75-125					
Cadmium	2.07	0.200	"	2.13	0.124	91.3	75-125					
Copper	32.2	0.400	"	42.6	2.09	70.8	75-125					QM-05
Lead	22.9	0.200	"	21.3	4.33	87.3	75-125					
Nickel	33.1	0.400	"	42.6	2.85	71.1	75-125					QM-05
Silver	1.95	0.0200	"	2.13	0.209	81.8	75-125					
Zinc	41.3	0.400	"	42.6	10.5	72.3	75-125					QM-05
Selenium	4.20	0.260	"	4.26	ND	98.7	75-125					

Matrix Spike Dup (BHL0731-MSD1)	Source: 2412325-01			Prepared & Analyzed: 12/17/24								
Arsenic	41.5	0.200	mg/kg dry	41.9	2.62	92.9	75-125	2.33	25			
Barium	112	0.400	"	41.9	66.5	108	75-125	2.01	25			
Cadmium	2.07	0.200	"	2.09	0.124	93.0	75-125	0.237	25			
Copper	32.5	0.400	"	41.9	2.09	72.5	75-125	0.748	25			QM-05
Lead	23.2	0.200	"	20.9	4.33	90.0	75-125	1.17	25			
Nickel	33.4	0.400	"	41.9	2.85	73.0	75-125	0.991	25			QM-05
Silver	2.00	0.0200	"	2.09	0.209	85.6	75-125	2.51	25			
Zinc	41.2	0.400	"	41.9	10.5	73.3	75-125	0.194	25			QM-05
Selenium	4.40	0.260	"	4.19	ND	105	75-125	4.46	25			

Summit Scientific

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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHL0743 - 3060A Mod

Blank (BHL0743-BLK1)

Prepared & Analyzed: 12/17/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHL0743-BS1)

Prepared & Analyzed: 12/17/24

Chromium, Hexavalent 26.4 0.30 mg/kg wet 25.8 102 80-120

Duplicate (BHL0743-DUP1)

Source: 2411405-01

Prepared & Analyzed: 12/17/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHL0743-MS1)

Source: 2411405-01

Prepared & Analyzed: 12/17/24

Chromium, Hexavalent 30.7 0.30 mg/kg dry 30.3 ND 101 75-125

Matrix Spike Dup (BHL0743-MSD1)

Source: 2411405-01

Prepared & Analyzed: 12/17/24

Chromium, Hexavalent 30.5 0.30 mg/kg dry 29.7 ND 103 75-125 0.670 20

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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 BHL0692 - General Preparation

Blank (BHL0692-BLK1)

Prepared: 12/16/24 Analyzed: 12/17/24

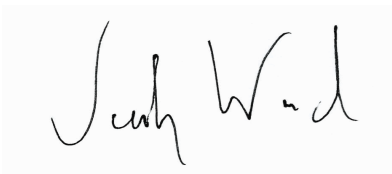
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BHL0692-BS1)

Prepared: 12/16/24 Analyzed: 12/17/24

Calcium	5.19	0.0500	mg/L wet	5.00		104	70-130			
Magnesium	4.69	0.0500	"	5.00		93.7	70-130			
Sodium	4.93	0.0500	"	5.00		98.6	70-130			

Summit Scientific



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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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

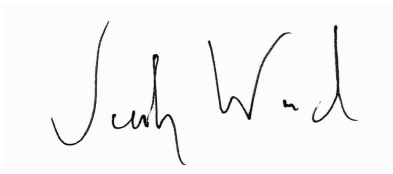
Summit Scientific

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

Batch BHL0752 - General Preparation

Duplicate (BHL0752-DUP1)	Source: 2412009-01			Prepared & Analyzed: 12/17/24					
% Solids	87.0	%		87.1			0.0812	20	

Summit Scientific



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6855 W. 119th Ave.
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Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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

Summit Scientific

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

Batch BHL0708 - General Preparation

Blank (BHL0708-BLK1)

Prepared: 12/16/24 Analyzed: 12/18/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHL0708-BS1)

Prepared: 12/16/24 Analyzed: 12/18/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHL0708-DUP1)

Source: 2411484-38

Prepared: 12/16/24 Analyzed: 12/18/24

Specific Conductance (EC) 0.457 0.0100 mmhos/cm 0.464 1.50 20

Summit Scientific

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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

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 BHL0707 - General Preparation

LCS (BHL0707-BS1)

Prepared: 12/16/24 Analyzed: 12/18/24

pH	9.22		pH Units	9.18		100	95-105			
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Duplicate (BHL0707-DUP1)

Source: 2412325-01

Prepared: 12/16/24 Analyzed: 12/18/24

pH	8.43		pH Units	8.56		1.53	20			
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Summit Scientific



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

Project: Noble - Hullabaloo State Y 21 Econode

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/02/25 13:48

Notes and Definitions

- 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.
- 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