

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 02, 2025

Andy Sagen

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Kildow PMC 31-2

Work Order #2411400

Enclosed are the results of analyses for samples received by Summit Scientific on 11/21/24 18:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH09R@9-10'	2411400-01	Soil	11/21/24 09:30	11/21/24 18:06
BH09R@14-15'	2411400-02	Soil	11/21/24 09:45	11/21/24 18:06
BH12@8-9'	2411400-03	Soil	11/21/24 11:15	11/21/24 18:06

Case Narrative

This revised report includes corrections to the EC Quality Control results.
This is a revision of the report originally sent on 12/26/2024 at 12:44 PM MT.

Summit Scientific

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

Client: PDC/Tasman NOBLE / TASMAN		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Andy Sagen		Company: PDC Energy NOBLE ENERGY	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: tas-chevron-1@tasman-geo.com		Project Name/Location:	
Phone: 602-881-5716		E-Mail: RBUEVF27@chevron.com		AFE#:	
Sampler Name: Dennis Gray		Project Name: Kildow PML 31-2		PO/Billing Codes:	
		Project Number:		Contact: Dan Peterson	

				Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	SAR, EC, pH by saturated paste	
1	BH09R09-10'	11-21-24	930	2			X			X			X	X	X	X	X	X			
2	BH09R014-15'	1	945	1			1			1			1	1	1	1	1	1			
3	BH12R08-9'	1	1115	1			1			1			1	1	1	1	1	1			
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Dennis Gray	Date/Time: 11-21-24 1330	Received by: Tasman Lock Box	Date/Time: 11-21-24 1330	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Relinquished by: Tasman Lock Box	Date/Time: 11-21-24 1800	Received by: [Signature]	Date/Time: 11-21-24 1800			
Relinquished by:	Date/Time:	Received by:	Date/Time:			
Temperature Upon Receipt: 6.3	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2411400Client: NoblemanClient Project ID: Kildow Pmc 31-2Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply)

Air ☐Soil ☒Solid ☐Water ☐Other ☐

Temp (°C)

4.3

Thermometer #

1

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

Custodian Printed Name

Date/Time



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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@9-10'
2411400-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK1328	11/26/24	11/28/24	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: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK1324	11/26/24	12/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	89.2 %	30-150		"	"	12/02/24	"	

PAH by EPA Method 8270D SIM

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BH09R@9-10'
2411400-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHL0010	12/02/24	12/03/24	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: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0253	76.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0242	72.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHL0298	12/06/24	12/09/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@9-10'
2411400-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.61	0.200	mg/kg dry	1	BHL0918	12/19/24	12/23/24	EPA 6020B	
Barium	99.9	0.400	"	"	"	"	"	"	
Cadmium	1.03	0.200	"	"	"	"	"	"	
Copper	8.88	0.400	"	"	"	"	"	"	
Lead	10.6	0.200	"	"	"	"	"	"	
Nickel	24.8	0.400	"	"	"	"	"	"	
Silver	0.0424	0.0200	"	"	"	"	"	"	
Zinc	52.9	0.400	"	"	"	"	"	"	
Selenium	0.346	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/21/24 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0666	12/16/24	12/16/24	EPA 7196A	

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

Date Sampled: 11/21/24 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.2	0.0500	mg/L dry	1	BHL0863	12/18/24	12/23/24	EPA 6020B	
Magnesium	18.1	0.0500	"	"	"	"	"	"	
Sodium	40.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/21/24 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.56	0.00100	units	1	BHL1192	12/26/24	12/26/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/21/24 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@9-10'
2411400-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.0	%	1	BHL0300	12/06/24	12/06/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.320	0.0100	mmhos/cm	1	BHL0866	12/18/24	12/23/24	EPA 120.1	

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

Date Sampled: **11/21/24 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.81		pH Units	1	BHL0867	12/18/24	12/23/24	EPA 9045D	

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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@14-15'
2411400-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK1328	11/26/24	11/28/24	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: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0459	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK1324	11/26/24	12/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	12/02/24	"	

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.3	82.7 %	30-150		"	"	12/02/24	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
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Reported:
01/02/25 10:45

BH09R@14-15'
2411400-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHL0010	12/02/24	12/03/24	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: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0261	78.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHL0298	12/06/24	12/09/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@14-15'
2411400-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.67	0.200	mg/kg dry	1	BHL0918	12/19/24	12/23/24	EPA 6020B
Barium	14.0	0.400	"	"	"	"	"	"
Cadmium	0.203	0.200	"	"	"	"	"	"
Copper	14.5	0.400	"	"	"	"	"	"
Lead	18.2	0.200	"	"	"	"	"	"
Nickel	1.80	0.400	"	"	"	"	"	"
Silver	0.100	0.0200	"	"	"	"	"	"
Zinc	13.5	0.400	"	"	"	"	"	"
Selenium	0.287	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/21/24 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0666	12/16/24	12/16/24	EPA 7196A	

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

Date Sampled: 11/21/24 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.6	0.0500	mg/L dry	1	BHL0863	12/18/24	12/23/24	EPA 6020B	
Magnesium	22.7	0.0500	"	"	"	"	"	"	
Sodium	81.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/21/24 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.77	0.00100	units	1	BHL1192	12/26/24	12/26/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/21/24 09:45

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH09R@14-15'
2411400-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.1	%	1	BHL0300	12/06/24	12/06/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.605	0.0100	mmhos/cm	1	BHL0866	12/18/24	12/23/24	EPA 120.1	

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

Date Sampled: **11/21/24 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BHL0867	12/18/24	12/23/24	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH12@8-9'
2411400-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK1328	11/26/24	11/28/24	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: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0443	111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK1324	11/26/24	12/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.9	95.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH12@8-9'
2411400-03 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHL0010	12/02/24	12/03/24	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: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0206	61.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHL0298	12/06/24	12/09/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH12@8-9'
2411400-03 (Soil)

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Total Metals by EPA 6020B

Arsenic	4.24	0.200	mg/kg dry	1	BHL0918	12/19/24	12/23/24	EPA 6020B
Barium	123	0.400	"	"	"	"	"	"
Cadmium	0.450	0.200	"	"	"	"	"	"
Copper	4.74	0.400	"	"	"	"	"	"
Lead	6.03	0.200	"	"	"	"	"	"
Nickel	7.69	0.400	"	"	"	"	"	"
Silver	0.0414	0.0200	"	"	"	"	"	"
Zinc	19.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/21/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0666	12/16/24	12/16/24	EPA 7196A	

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

Date Sampled: 11/21/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.3	0.0500	mg/L dry	1	BHL0863	12/18/24	12/23/24	EPA 6020B	
Magnesium	15.1	0.0500	"	"	"	"	"	"	
Sodium	17.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/21/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.608	0.00100	units	1	BHL1192	12/26/24	12/26/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/21/24 11:15

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 - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

BH12@8-9'
2411400-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	96.7	%	1	BHL0300	12/06/24	12/06/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.265	0.0100	mmhos/cm	1	BHL0866	12/18/24	12/23/24	EPA 120.1	

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

Date Sampled: **11/21/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.51		pH Units	1	BHL0867	12/18/24	12/23/24	EPA 9045D	

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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHK1328 - EPA 5030 Soil MS

Blank (BHK1328-BLK1)

Prepared: 11/26/24 Analyzed: 11/28/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.3	50-150			

LCS (BHK1328-BS1)

Prepared: 11/26/24 Analyzed: 11/28/24

Benzene	0.105	0.0020	mg/kg	0.100		105	70-130			
Toluene	0.103	0.0050	"	0.100		103	70-130			
Ethylbenzene	0.0965	0.0050	"	0.100		96.5	70-130			
m,p-Xylene	0.195	0.010	"	0.200		97.4	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.0965	0.0050	"	0.100		96.5	70-130			
1,3,5-Trimethylbenzene	0.0959	0.0050	"	0.100		95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.7	50-150			

Matrix Spike (BHK1328-MS1)

Source: 2411384-02

Prepared: 11/26/24 Analyzed: 11/28/24

Benzene	0.0765	0.0020	mg/kg	0.100	ND	76.5	70-130			
Toluene	0.0771	0.0050	"	0.100	ND	77.1	70-130			
Ethylbenzene	0.0741	0.0050	"	0.100	ND	74.1	70-130			
m,p-Xylene	0.143	0.010	"	0.200	ND	71.7	70-130			
o-Xylene	0.0871	0.0050	"	0.100	ND	87.1	70-130			
1,2,4-Trimethylbenzene	0.0606	0.0050	"	0.100	ND	60.6	70-130			QM-05
1,3,5-Trimethylbenzene	0.0799	0.0050	"	0.100	ND	79.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHK1328 - EPA 5030 Soil MS

Matrix Spike Dup (BHK1328-MSD1)	Source: 2411384-02			Prepared: 11/26/24 Analyzed: 11/28/24						
Benzene	0.0792	0.0020	mg/kg	0.100	ND	79.2	70-130	3.43	30	
Toluene	0.0777	0.0050	"	0.100	ND	77.7	70-130	0.775	30	
Ethylbenzene	0.0713	0.0050	"	0.100	ND	71.3	70-130	3.75	30	
m,p-Xylene	0.141	0.010	"	0.200	ND	70.3	70-130	1.99	30	
o-Xylene	0.0847	0.0050	"	0.100	ND	84.7	70-130	2.79	30	
1,2,4-Trimethylbenzene	0.0613	0.0050	"	0.100	ND	61.3	70-130	1.13	30	QM-05
1,3,5-Trimethylbenzene	0.0773	0.0050	"	0.100	ND	77.3	70-130	3.24	30	
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150			

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Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHK1324 - EPA 3550A

Blank (BHK1324-BLK1)

Prepared: 11/26/24 Analyzed: 12/02/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.7		"	12.5		93.5	30-150			

LCS (BHK1324-BS1)

Prepared: 11/26/24 Analyzed: 12/02/24

C10-C28 (DRO)	544	50	mg/kg	500		109	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.3	30-150			

Matrix Spike (BHK1324-MS1)

Source: 2411384-02

Prepared: 11/26/24 Analyzed: 12/02/24

C10-C28 (DRO)	546	50	mg/kg	500	27.8	104	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.1	30-150			

Matrix Spike Dup (BHK1324-MSD1)

Source: 2411384-02

Prepared: 11/26/24 Analyzed: 12/02/24

C10-C28 (DRO)	573	50	mg/kg	500	27.8	109	70-130	4.92	20	
Surrogate: o-Terphenyl	11.8		"	12.5		94.4	30-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHL0010 - EPA 5030 Soil MS

Blank (BHL0010-BLK1)

Prepared & Analyzed: 12/02/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0321		"	0.0333		96.2	40-140			
Surrogate: Fluoranthene-d10	0.0276		"	0.0333		82.8	40-140			

LCS (BHL0010-BS1)

Prepared & Analyzed: 12/02/24

Acenaphthene	0.0233	0.00500	mg/kg	0.0333		70.0	40-140			
Anthracene	0.0244	0.00500	"	0.0333		73.2	40-140			
Benzo (a) anthracene	0.0247	0.00500	"	0.0333		74.1	40-140			
Benzo (a) pyrene	0.0216	0.00500	"	0.0333		64.8	40-140			
Benzo (b) fluoranthene	0.0220	0.00500	"	0.0333		66.0	40-140			
Benzo (k) fluoranthene	0.0236	0.00500	"	0.0333		70.8	40-140			
Chrysene	0.0247	0.00500	"	0.0333		74.2	40-140			
Dibenz (a,h) anthracene	0.0178	0.00500	"	0.0333		53.3	40-140			
Fluoranthene	0.0240	0.00500	"	0.0333		71.9	40-140			
Fluorene	0.0240	0.00500	"	0.0333		72.0	40-140			
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333		65.0	40-140			
Pyrene	0.0256	0.00500	"	0.0333		76.9	40-140			
1-Methylnaphthalene	0.0289	0.00500	"	0.0333		86.6	40-140			
2-Methylnaphthalene	0.0262	0.00500	"	0.0333		78.6	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0294		"	0.0333		88.3	40-140			
Surrogate: Fluoranthene-d10	0.0259		"	0.0333		77.7	40-140			

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHL0010 - EPA 5030 Soil MS

Matrix Spike (BHL0010-MS1)

Source: 2411387-01

Prepared & Analyzed: 12/02/24

Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.5	40-140				
Anthracene	0.0184	0.00500	"	0.0333	ND	55.1	40-140				
Benzo (a) anthracene	0.0192	0.00500	"	0.0333	ND	57.5	40-140				
Benzo (a) pyrene	0.0158	0.00500	"	0.0333	ND	47.4	40-140				
Benzo (b) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.7	40-140				
Benzo (k) fluoranthene	0.0160	0.00500	"	0.0333	ND	48.0	40-140				
Chrysene	0.0186	0.00500	"	0.0333	ND	55.7	40-140				
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.4	40-140				
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.7	40-140				
Fluorene	0.0181	0.00500	"	0.0333	ND	54.4	40-140				
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333	ND	45.7	40-140				
Pyrene	0.0193	0.00500	"	0.0333	ND	57.8	40-140				
1-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.2	40-140				
2-Methylnaphthalene	0.0183	0.00500	"	0.0333	ND	54.9	40-140				
Surrogate: 2-Methylnaphthalene-d10	0.0189		"	0.0333		56.6	40-140				
Surrogate: Fluoranthene-d10	0.0188		"	0.0333		56.5	40-140				

Matrix Spike Dup (BHL0010-MSD1)

Source: 2411387-01

Prepared & Analyzed: 12/02/24

QR-04

Acenaphthene	0.00970	0.00500	mg/kg	0.0333	ND	29.1	40-140	59.2	30		
Anthracene	0.00959	0.00500	"	0.0333	ND	28.8	40-140	62.8	30		
Benzo (a) anthracene	0.0102	0.00500	"	0.0333	ND	30.5	40-140	61.3	30		
Benzo (a) pyrene	0.00791	0.00500	"	0.0333	ND	23.7	40-140	66.5	30		
Benzo (b) fluoranthene	0.00775	0.00500	"	0.0333	ND	23.2	40-140	63.2	30		
Benzo (k) fluoranthene	0.00789	0.00500	"	0.0333	ND	23.7	40-140	67.9	30		
Chrysene	0.00927	0.00500	"	0.0333	ND	27.8	40-140	66.8	30		
Dibenz (a,h) anthracene	0.00743	0.00500	"	0.0333	ND	22.3	40-140	64.3	30		
Fluoranthene	0.00951	0.00500	"	0.0333	ND	28.5	40-140	61.2	30		
Fluorene	0.00988	0.00500	"	0.0333	ND	29.7	40-140	58.9	30		
Indeno (1,2,3-cd) pyrene	0.00855	0.00500	"	0.0333	ND	25.7	40-140	56.1	30		
Pyrene	0.00887	0.00500	"	0.0333	ND	26.6	40-140	73.9	30		
1-Methylnaphthalene	0.00763	0.00500	"	0.0333	ND	22.9	40-140	82.8	30		
2-Methylnaphthalene	0.00846	0.00500	"	0.0333	ND	25.4	40-140	73.5	30		
Surrogate: 2-Methylnaphthalene-d10	0.00749		"	0.0333		22.5	40-140				
Surrogate: Fluoranthene-d10	0.00992		"	0.0333		29.8	40-140				

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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

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

Batch BHL0298 - EPA 3050B

Blank (BHL0298-BLK1)

Prepared: 12/06/24 Analyzed: 12/09/24

Boron ND 2.00 mg/L

LCS (BHL0298-BS1)

Prepared: 12/06/24 Analyzed: 12/09/24

Boron 5.43 2.00 mg/L 5.00 109 80-120

Duplicate (BHL0298-DUP1)

Source: 2411400-01

Prepared: 12/06/24 Analyzed: 12/09/24

Boron 0.768 2.00 mg/L 0.773 0.677 20

Matrix Spike (BHL0298-MS1)

Source: 2411400-01

Prepared: 12/06/24 Analyzed: 12/09/24

Boron 6.00 2.00 mg/L 5.01 0.773 104 75-125

Matrix Spike Dup (BHL0298-MSD1)

Source: 2411400-01

Prepared: 12/06/24 Analyzed: 12/09/24

Boron 6.27 2.00 mg/L 5.01 0.773 110 75-125 4.40 25

Summit Scientific

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHL0918 - EPA 3050B

Blank (BHL0918-BLK1)

Prepared: 12/19/24 Analyzed: 12/23/24

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 (BHL0918-BS1)

Prepared: 12/19/24 Analyzed: 12/23/24

Arsenic	37.9	0.200	mg/kg wet	38.5	98.6	80-120
Barium	38.3	0.400	"	38.5	99.6	80-120
Cadmium	1.90	0.200	"	1.92	99.0	80-120
Copper	37.2	0.400	"	38.5	96.7	80-120
Lead	18.2	0.200	"	19.2	94.6	80-120
Nickel	37.5	0.400	"	38.5	97.4	80-120
Silver	1.87	0.0200	"	1.92	97.1	80-120
Zinc	35.9	0.400	"	38.5	93.3	80-120
Selenium	3.45	0.260	"	3.85	89.6	80-120

Duplicate (BHL0918-DUP1)

Source: 2411400-01

Prepared: 12/19/24 Analyzed: 12/23/24

Arsenic	7.40	0.200	mg/kg dry	7.61	2.81	20	QR-04
Barium	23.8	0.400	"	99.9	123	20	
Cadmium	1.02	0.200	"	1.03	1.81	20	
Copper	9.30	0.400	"	8.88	4.65	20	
Lead	10.1	0.200	"	10.6	4.77	20	
Nickel	27.6	0.400	"	24.8	11.0	20	
Silver	0.0402	0.0200	"	0.0424	5.41	20	
Zinc	54.2	0.400	"	52.9	2.43	20	
Selenium	0.322	0.260	"	0.346	7.24	20	

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHL0918 - EPA 3050B

Matrix Spike (BHL0918-MS1)	Source: 2411400-01			Prepared: 12/19/24 Analyzed: 12/23/24						
Arsenic	53.1	0.200	mg/kg dry	48.2	7.61	94.3	75-125			
Barium	94.3	0.400	"	48.2	99.9	NR	75-125			QM-05
Cadmium	3.41	0.200	"	2.41	1.03	98.7	75-125			
Copper	36.3	0.400	"	48.2	8.88	56.9	75-125			QM-05
Lead	31.7	0.200	"	24.1	10.6	87.5	75-125			
Nickel	53.4	0.400	"	48.2	24.8	59.4	75-125			QM-05
Silver	2.34	0.0200	"	2.41	0.0424	95.2	75-125			
Zinc	87.3	0.400	"	48.2	52.9	71.5	75-125			QM-05
Selenium	3.71	0.260	"	4.82	0.346	69.7	75-125			QM-05

Matrix Spike Dup (BHL0918-MSD1)	Source: 2411400-01			Prepared: 12/19/24 Analyzed: 12/23/24						
Arsenic	52.0	0.200	mg/kg dry	46.3	7.61	95.8	75-125	2.10	25	
Barium	69.7	0.400	"	46.3	99.9	NR	75-125	30.0	25	QM-05
Cadmium	3.46	0.200	"	2.32	1.03	105	75-125	1.37	25	
Copper	34.9	0.400	"	46.3	8.88	56.3	75-125	3.85	25	QM-05
Lead	33.8	0.200	"	23.2	10.6	100	75-125	6.47	25	
Nickel	50.9	0.400	"	46.3	24.8	56.5	75-125	4.70	25	QM-05
Silver	2.25	0.0200	"	2.32	0.0424	95.4	75-125	3.69	25	
Zinc	80.9	0.400	"	46.3	52.9	60.6	75-125	7.60	25	QM-05
Selenium	3.54	0.260	"	4.63	0.346	69.0	75-125	4.52	25	QM-05

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHL0666 - 3060A Mod

Blank (BHL0666-BLK1)

Prepared & Analyzed: 12/16/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHL0666-BS1)

Prepared & Analyzed: 12/16/24

Chromium, Hexavalent 26.0 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BHL0666-DUP1)

Source: 2411384-18

Prepared & Analyzed: 12/16/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHL0666-MS1)

Source: 2411384-18

Prepared & Analyzed: 12/16/24

Chromium, Hexavalent 28.7 0.30 mg/kg dry 28.7 ND 100 75-125

Matrix Spike Dup (BHL0666-MSD1)

Source: 2411384-18

Prepared & Analyzed: 12/16/24

Chromium, Hexavalent 29.0 0.30 mg/kg dry 28.7 ND 101 75-125 1.19 20

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Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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

Summit Scientific

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

Batch BHL0863 - General Preparation

Blank (BHL0863-BLK1)

Prepared: 12/18/24 Analyzed: 12/23/24

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

LCS (BHL0863-BS1)

Prepared: 12/18/24 Analyzed: 12/23/24

Calcium	5.73	0.0500	mg/L wet	5.00	115	70-130
Magnesium	5.61	0.0500	"	5.00	112	70-130
Sodium	4.97	0.0500	"	5.00	99.4	70-130

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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

Summit Scientific

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

Batch BHL0300 - General Preparation

Duplicate (BHL0300-DUP1)		Source: 2411400-01		Prepared & Analyzed: 12/06/24						
% Solids	81.9		%		85.0			3.75	20	

Summit Scientific

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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

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

Batch BHL0866 - General Preparation

Blank (BHL0866-BLK1)

Prepared: 12/18/24 Analyzed: 12/23/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHL0866-BS1)

Prepared: 12/18/24 Analyzed: 12/23/24

Specific Conductance (EC) 1.35 0.0100 mmhos/cm 1.41 95.5 95-105

Duplicate (BHL0866-DUP1)

Source: 2411383-01

Prepared: 12/18/24 Analyzed: 12/23/24

Specific Conductance (EC) 0.144 0.0100 mmhos/cm 0.143 0.206 20

Summit Scientific

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

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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

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

Batch BHL0867 - General Preparation

LCS (BHL0867-BS1)

Prepared: 12/18/24 Analyzed: 12/23/24

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BHL0867-DUP1)

Source: 2411383-01

Prepared: 12/18/24 Analyzed: 12/23/24

pH	8.49	pH Units	8.53	0.483	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kildow PMC 31-2

Project Number: [none]
Project Manager: Andy Sagen

Reported:
01/02/25 10:45

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.
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