

# Tank Battery Closure Checklist

## COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Timbro Federal LD18-74HN		Date: 9/14/2023				Remediation Project #: 30308		
Associated Wells:		Age of Site:				Number of Photos Attached: 5		
Location: (GPS coordinates of southeaster berm) 40.744804, -103.903043						Estimated Facility Size (acres):		

General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.)  
Site in good condition.

USCS Soil Type: SW	Estimated Depth to Groundwater: >5'
--------------------	-------------------------------------

Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed

Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)

None observed

### Tanks

Tank Contents	Produced Water						
Size (barrels)							
Age							
Construction	Concrete						
Tank type	PBV						
Visual Integrity	Good Condition						
Condition of tank	Good Condition						
PID Readings							
Soil impacts present at valves or hatches?	None observed						
PID Readings	0.3 - 0.9						
Sample taken? Location/ Sample ID#	Yes, see below.						
Photo Number(s)	1 -5						

Other observations regarding tanks:

Four (4) samples were taken from the N-E-S-W sidewalls of the excavation (SS01@2.5' - SS04@2.5' respectively). One (1) sample was taken from the base of the excavation, FS01@5'.

### Separators

Separator size								
Vertical or								
Age								
Soil impacts								
PID Readings								
Sample taken? Location/ Sample ID#								
Photo Number(s)								

Other observations regarding separators:

Third Party Equipment									
Type									
Age									
Third Party									
Removal Date									
Sample taken?									
PID Readings									
Photo Number(s)									
Other Facility Equipment									
Equipment type									
Equipment									
Age									
Soil impacts									
PID Readings									
Sample taken?									
Photo Number(s)									
Other observations regarding other facility or third party equipment:									
Summary									
Was impacted soil identified?									
No									
Total number of samples field screened: 5					Total number of samples collected: 5				
Highest PID Reading: 0.9					Total number of samples submitted to lab for analysis: 2				
If more than 10 cubic yards of impacted soil were observed: No									
Vertical extent:					Estimated spill volume:				
Lateral extent:					Volume of soil removed:				
Is additional investigation required?									
Measured depth to groundwater:					Was remedial groundwater removal conducted?				
Date Groundwater was encountered:					Commencement date of removal:				
Sheen on groundwater?					Volume of groundwater removed prior to sampling:				
Free product observed?					Volume of groundwater removed post sampling:				
Total number of samples collected:					Total Volume of groundwater removed:				
Total number of samples submitted to lab for analysis:									

## Photographic Log


**Equipment ID:** SS01 @2.5'

**Equipment Type:** Partially Buried Vault

**Material:** Concrete

**Volume:**
**Contents:** Produced Water

**Notes/Conditions:** Facing north

**Equipment ID:** SS02 @2.5'

**Equipment Type:** Partially Buried Vault



**Material:** Concrete

**Volume:**
**Contents:** Produced Water

**Notes/Conditions:** Facing east



## Photographic Log

					
<b>Equipment ID:</b> SS03@2.5'		<b>Equipment Type:</b> Partially Buried Vault		<b>Equipment ID:</b> SS04@2.5'	
<b>Material:</b> Concrete		<b>Volume:</b>	<b>Contents:</b> Produced Water	<b>Material:</b> Concrete	
<b>Notes/Conditions:</b> Facing south				<b>Notes/Conditions:</b> Facing west	



## Photographic Log



<b>Equipment ID:</b> FS01@5'		<b>Equipment Type:</b> Partially Buried Vault		<b>Equipment ID:</b>		<b>Equipment Type:</b>					
<b>Material:</b> Concrete		<b>Volume:</b>		<b>Contents:</b> Produced Water		<b>Material:</b>		<b>Volume:</b>		<b>Contents:</b>	
<b>Notes/Conditions:</b> Facing west					<b>Notes/Conditions:</b>						

**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - TIMBRO FEDERAL LD18-74HN**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
FS01@5'	09/14/23	0.4	No Staining	No Odor	Lab	40.7447982	-103.9030269	0.9
SS01@2.5'	09/14/23	0.9	No Staining	No Odor	Lab	40.7448061	-103.9030294	0.9
SS02@2.5'	09/14/23	0.7	No Staining	No Odor	Grab	40.7447967	-103.9030136	0.9
SS03@2.5'	09/14/23	0.7	No Staining	No Odor	Grab	40.7447844	-103.9030282	0.9
SS04@2.5'	09/14/23	0.3	No Staining	No Odor	Grab	40.7447960	-103.9030378	0.9

Notes:

PID = Photoionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - TIMBRO FEDERAL LD18-74HN

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>1,2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>1,2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FS01@5'	09/14/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS01@2.5'	09/14/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
SSR <sup>1,2</sup>		6 - 8.3	<6	<4mmhos/cm	2
FS01@5'	09/14/23	8.05	5.06	2.21	0.238
SS01@2.5'	09/14/23	7.98	0.0708	0.203	0.199

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL <sup>1,2</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>1,2,3</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FS01@5'	09/14/23	0.694	177	<0.200	<0.30	0.969	5.89	1.13	<0.260	<0.0200	4.64
SS01@2.5'	09/14/23	0.680	232	<0.200	<0.30	0.835	8.97	1.15	<0.260	<0.0200	4.68

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.

2. Soil Screening Levels (SSL) and Soil Suitability for Reclamation (SSR) standards referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.

3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

ECMC = Energy and Carbon Management Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millimhos per centimeter

mg/L = Milligrams per liter

< = Analytical result is less than the indicated laboratory reporting limit

Highlighted results are equal to or exceed the ECMC Table 915-1 standard

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzo(a)anthracene

Benzo(b) = Benzo(b)fluoranthene

Benzo(k) = Benzo(k)fluoranthene

Benzo(a) = Benzo(a)pyrene

A,H = Dibenzo(a,h)anthracene


1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene





DATE: 09/15/2023	 <b>TASMAN</b> GEOSCIENCES	Tasman Geosciences, Inc. 6855 W 119 <sup>th</sup> Avenue Broomfield, CO 80020	<b>Noble Energy, Inc. – DJ Basin</b> <b>Timbro Federal LD18-74HN</b> SWSE, Section 18, Township 9 North, Range 58 West Weld County, Colorado	Soil Analytical Results Map (09/14/2023)	FIGURE 1
DESIGNED BY: JW					
DRAWN BY: HM					



# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 25, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Timbro Federal LD18-74HN

Work Order #2309243

Enclosed are the results of analyses for samples received by Summit Scientific on 09/14/23 17:00. 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 - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2.5'	2309243-01	Soil	09/14/23 14:00	09/14/23 17:00
FS01@5'	2309243-05	Soil	09/14/23 14:20	09/14/23 17:00

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.*



# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2309243	

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: <u>Chevron</u>	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: <u>Timbro Federal LD18-74HN</u>	
Phone: 970-402-0946		Project Name: <u>Timbro Federal LD18-74HN</u>		AFE#:	
Sampler Name: Patrick Kline		Project Number:		PO/Billing Codes:	
				Contact: <u>Dan Peterson</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	
1	SS01@2.5'	9/14/23	1400	3			3			X			X	X	X	X	X	X		X
2	SS02@2.5'	I	1405	I			I			I									X	I
3	SS03@2.5'	I	1410	I			I			I									X	I
4	SS04@2.5'	I	1415	I			I			I									X	I
5	FS01@2.5'	I	1420	I			I			I			X	X	X	X	X	X		I
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>9/14/23</u> <u>1700</u>	Relinquished by: <u>PSL</u> <u>receives</u> <u>Summit North Office</u>	Date/Time: <u>9/14/23</u> <u>1700</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>SL</u>	Date/Time: <u>9/14/23</u> <u>1700</u>	Received by: <u>[Signature]</u>	Date/Time: <u>9/14/23</u> <u>1700</u>	1 Day <u>X</u>	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>99</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>/</u>	HNO3 lot #: <u></u>			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2309243Client: Noble GasmanClient Project ID: Timbro Federal LD 8-74HNShipped 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"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

9.9

Thermometer #

1

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

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

Custodian Printed Name

Date/Time

9/14/23

23





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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**SS01@2.5'**  
**2309243-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/14/23	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: **09/14/23 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0429	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0454	114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0443	111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/14/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.5	91.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**SS01@2.5'**  
**2309243-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0437	09/15/23	09/15/23	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: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.5 %	40-150		"	"	"	"	

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

Date Sampled: **09/14/23 14:00**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.199</b>	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **09/14/23 14:00**

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



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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**SS01@2.5'**  
**2309243-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.680	0.200	mg/kg dry	1	BGI0449	09/15/23	09/19/23	EPA 6020B
Barium	232	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.835	0.400	"	"	"	"	"	"
Lead	8.97	0.200	"	"	"	"	"	"
Nickel	1.15	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.68	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	534	0.0500	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	13.5	0.0500	"	"	"	"	"	"	
Sodium	6.06	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0708	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

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

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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**SS01@2.5'**  
**2309243-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.5		%	1	BGI0441	09/15/23	09/15/23	Calculation	

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

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.203	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	

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

Date Sampled: **09/14/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**FS01@5'**  
**2309243-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/14/23	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: **09/14/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0410	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0444	111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0447	112 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/14/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.0	104 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**FS01@5'**  
**2309243-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0437	09/15/23	09/15/23	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: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0202	60.5 %	40-150		"	"	"	"	

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

Date Sampled: **09/14/23 14:20**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.238</b>	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**FS01@5'**  
**2309243-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.694	0.200	mg/kg dry	1	BGI0449	09/15/23	09/19/23	EPA 6020B
Barium	177	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.969	0.400	"	"	"	"	"	"
Lead	5.89	0.200	"	"	"	"	"	"
Nickel	1.13	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.64	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BGI0441	09/15/23	09/15/23	Calculation	

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

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.21	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	

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

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**FS01@5'**  
**2309243-05 (Soil)**

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

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**FS01@5'**  
**2309243-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Calcium</b>	<b>89.0</b>	0.0500		mg/L dry	1	BGJ0573	09/14/23	10/18/23	EPA 6020B	
<b>Magnesium</b>	<b>10.3</b>	0.0500		"	"	"	"	"	"	
<b>Sodium</b>	<b>189</b>	0.0500		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/14/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Sodium Adsorption Ratio</b>	<b>5.06</b>	0.00100		units	1	BGJ0779	09/18/23	10/19/23	Calculation	

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

## 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 BGI0426 - EPA 5030 Soil MS

##### Blank (BGI0426-BLK1)

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0368		"	0.0400		92.0	50-150			
Surrogate: Toluene-d8	0.0467		"	0.0400		117	50-150			
Surrogate: 4-Bromofluorobenzene	0.0456		"	0.0400		114	50-150			

##### LCS (BGI0426-BS1)

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	0.0989	0.0020	mg/kg	0.100		98.9	70-130			
Toluene	0.119	0.0050	"	0.100		119	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.224	0.010	"	0.200		112	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100		113	70-130			
Naphthalene	0.0939	0.0038	"	0.100		93.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0463		"	0.0400		116	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	50-150			

##### Matrix Spike (BGI0426-MS1)

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	0.0949	0.0020	mg/kg	0.100	ND	94.9	70-130			
Toluene	0.114	0.0050	"	0.100	ND	114	70-130			
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
m,p-Xylene	0.217	0.010	"	0.200	ND	109	70-130			
o-Xylene	0.0960	0.0050	"	0.100	ND	96.0	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
Naphthalene	0.0828	0.0038	"	0.100	ND	82.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0460		"	0.0400		115	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

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Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

## 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 BGI0426 - EPA 5030 Soil MS

##### Matrix Spike Dup (BGI0426-MSD1)

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	0.0889	0.0020	mg/kg	0.100	ND	88.9	70-130	6.53	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	8.27	30	
Ethylbenzene	0.0998	0.0050	"	0.100	ND	99.8	70-130	7.30	30	
m,p-Xylene	0.203	0.010	"	0.200	ND	101	70-130	6.80	30	
o-Xylene	0.0900	0.0050	"	0.100	ND	90.0	70-130	6.48	30	
1,2,4-Trimethylbenzene	0.0921	0.0050	"	0.100	ND	92.1	70-130	9.91	30	
1,3,5-Trimethylbenzene	0.0960	0.0050	"	0.100	ND	96.0	70-130	9.92	30	
Naphthalene	0.0772	0.0038	"	0.100	ND	77.2	70-130	6.90	30	
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0444		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0429 - EPA 3550A**

**Blank (BGI0429-BLK1)**

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.3		"	12.5		98.0	30-150			

**LCS (BGI0429-BS1)**

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	442	50	mg/kg	500		88.3	70-130			
Surrogate: o-Terphenyl	10.9		"	12.5		87.5	30-150			

**Matrix Spike (BGI0429-MS1)**

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	450	50	mg/kg	500	17.5	86.6	70-130			
Surrogate: o-Terphenyl	10.3		"	12.5		82.7	30-150			

**Matrix Spike Dup (BGI0429-MSD1)**

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	417	50	mg/kg	500	17.5	79.9	70-130	7.72	20	
Surrogate: o-Terphenyl	9.82		"	12.5		78.6	30-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

## 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 BGI0437 - EPA 5030 Soil MS

##### Blank (BGI0437-BLK1)

Prepared & Analyzed: 09/15/23

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	0.0279		"	0.0333		83.6	40-150			
Surrogate: Fluoranthene-d10	0.0283		"	0.0333		84.8	40-150			

##### LCS (BGI0437-BS1)

Prepared & Analyzed: 09/15/23

Acenaphthene	0.0323	0.00500	mg/kg	0.0333		96.8	31-137			
Anthracene	0.0335	0.00500	"	0.0333		100	30-120			
Benzo (a) anthracene	0.0234	0.00500	"	0.0333		70.1	30-120			
Benzo (a) pyrene	0.0313	0.00500	"	0.0333		94.0	30-120			
Benzo (b) fluoranthene	0.0307	0.00500	"	0.0333		92.0	30-120			
Benzo (k) fluoranthene	0.0335	0.00500	"	0.0333		100	30-120			
Chrysene	0.0323	0.00500	"	0.0333		97.0	30-120			
Dibenz (a,h) anthracene	0.0357	0.00500	"	0.0333		107	30-120			
Fluoranthene	0.0318	0.00500	"	0.0333		95.3	30-120			
Fluorene	0.0299	0.00500	"	0.0333		89.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0356	0.00500	"	0.0333		107	30-120			
Pyrene	0.0340	0.00500	"	0.0333		102	35-142			
1-Methylnaphthalene	0.0265	0.00500	"	0.0333		79.4	35-142			
2-Methylnaphthalene	0.0348	0.00500	"	0.0333		104	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0296		"	0.0333		88.7	40-150			
Surrogate: Fluoranthene-d10	0.0318		"	0.0333		95.3	40-150			

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6855 W. 119th Ave.  
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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

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

### Summit Scientific

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

#### Batch BGI0437 - EPA 5030 Soil MS

##### Matrix Spike (BGI0437-MS1)

Source: 2309142-01

Prepared & Analyzed: 09/15/23

Acenaphthene	0.0209	0.00500	mg/kg	0.0333	ND	62.6	31-137				
Anthracene	0.0229	0.00500	"	0.0333	ND	68.7	30-120				
Benzo (a) anthracene	0.0192	0.00500	"	0.0333	ND	57.7	30-120				
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	66.0	30-120				
Benzo (b) fluoranthene	0.0211	0.00500	"	0.0333	ND	63.4	30-120				
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120				
Chrysene	0.0214	0.00500	"	0.0333	ND	64.2	30-120				
Dibenz (a,h) anthracene	0.0147	0.00500	"	0.0333	ND	44.1	30-120				
Fluoranthene	0.0219	0.00500	"	0.0333	ND	65.7	30-120				
Fluorene	0.0217	0.00500	"	0.0333	ND	65.2	30-120				
Indeno (1,2,3-cd) pyrene	0.0175	0.00500	"	0.0333	ND	52.5	30-120				
Pyrene	0.0218	0.00500	"	0.0333	ND	65.3	35-142				
1-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.5	15-130				
2-Methylnaphthalene	0.0234	0.00500	"	0.0333	ND	70.1	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0223		"	0.0333		66.8	40-150				
Surrogate: Fluoranthene-d10	0.0220		"	0.0333		66.1	40-150				

##### Matrix Spike Dup (BGI0437-MSD1)

Source: 2309142-01

Prepared & Analyzed: 09/15/23

Acenaphthene	0.0174	0.00500	mg/kg	0.0333	ND	52.3	31-137	17.9	30		
Anthracene	0.0202	0.00500	"	0.0333	ND	60.7	30-120	12.4	30		
Benzo (a) anthracene	0.0144	0.00500	"	0.0333	ND	43.1	30-120	28.9	30		
Benzo (a) pyrene	0.0169	0.00500	"	0.0333	ND	50.7	30-120	26.3	30		
Benzo (b) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	14.1	30		
Benzo (k) fluoranthene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	27.2	30		
Chrysene	0.0185	0.00500	"	0.0333	ND	55.4	30-120	14.6	30		
Dibenz (a,h) anthracene	0.0176	0.00500	"	0.0333	ND	52.8	30-120	18.0	30		
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.6	30-120	18.4	30		
Fluorene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	20.3	30		
Indeno (1,2,3-cd) pyrene	0.0157	0.00500	"	0.0333	ND	47.2	30-120	10.6	30		
Pyrene	0.0182	0.00500	"	0.0333	ND	54.7	35-142	17.7	30		
1-Methylnaphthalene	0.0134	0.00500	"	0.0333	ND	40.1	15-130	39.0	50		
2-Methylnaphthalene	0.0148	0.00500	"	0.0333	ND	44.4	15-130	44.9	50		
Surrogate: 2-Methylnaphthalene-d10	0.0141		"	0.0333		42.2	40-150				
Surrogate: Fluoranthene-d10	0.0154		"	0.0333		46.3	40-150				

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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0442 - EPA 3050B**

**Blank (BGI0442-BLK1)**

Prepared & Analyzed: 09/15/23

Boron ND 0.0100 mg/L

**LCS (BGI0442-BS1)**

Prepared & Analyzed: 09/15/23

Boron 5.23 0.0100 mg/L 5.00 105 80-120

**Duplicate (BGI0442-DUP1)**

**Source: 2309227-01**

Prepared & Analyzed: 09/15/23

Boron 0.469 0.0100 mg/L 0.452 3.63 20

**Matrix Spike (BGI0442-MS1)**

**Source: 2309227-01**

Prepared & Analyzed: 09/15/23

Boron 5.88 0.0100 mg/L 5.00 0.452 108 75-125

**Matrix Spike Dup (BGI0442-MSD1)**

**Source: 2309227-01**

Prepared & Analyzed: 09/15/23

Boron 5.88 0.0100 mg/L 5.00 0.452 109 75-125 0.108 25

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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

### 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 BGI0449 - EPA 3050B

##### Blank (BGI0449-BLK1)

Prepared: 09/15/23 Analyzed: 09/19/23

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 (BGI0449-BS1)

Prepared: 09/15/23 Analyzed: 09/19/23

Arsenic	42.8	0.200	mg/kg wet	40.0	107	80-120
Barium	39.7	0.400	"	40.0	99.3	80-120
Cadmium	1.95	0.200	"	2.00	97.4	80-120
Copper	41.1	0.400	"	40.0	103	80-120
Lead	21.4	0.200	"	20.0	107	80-120
Nickel	42.3	0.400	"	40.0	106	80-120
Silver	1.91	0.0200	"	2.00	95.3	80-120
Zinc	41.0	0.400	"	40.0	103	80-120

##### Duplicate (BGI0449-DUP1)

Source: 2309239-01

Prepared: 09/15/23 Analyzed: 09/19/23

Arsenic	1.35	0.200	mg/kg dry	1.26	6.49	20	
Barium	168	0.400	"	167	0.854	20	
Cadmium	0.251	0.200	"	0.186	30.0	20	QR-01
Copper	2.30	0.400	"	2.27	1.21	20	
Lead	9.43	0.200	"	8.67	8.43	20	
Nickel	3.03	0.400	"	12.0	119	20	QR-01
Silver	0.0783	0.0200	"	0.0672	15.2	20	
Zinc	8.64	0.400	"	12.0	32.2	20	QR-04
Selenium	ND	0.260	"	ND		200	

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Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0449 - EPA 3050B**

Matrix Spike (BGI0449-MS1)		Source: 2309239-01			Prepared: 09/15/23 Analyzed: 09/19/23					
Arsenic	10.3	0.200	mg/kg dry	46.0	1.26	19.7	75-125			QM-01
Barium	172	0.400	"	46.0	167	10.6	75-125			QM-01
Cadmium	1.63	0.200	"	2.30	0.186	62.8	75-125			QM-01
Copper	11.3	0.400	"	46.0	2.27	19.7	75-125			QM-01
Lead	21.5	0.200	"	23.0	8.67	55.7	75-125			QM-01
Nickel	12.6	0.400	"	46.0	12.0	1.39	75-125			QM-01
Silver	1.47	0.0200	"	2.30	0.0672	60.8	75-125			QM-01
Zinc	18.1	0.400	"	46.0	12.0	13.4	75-125			QM-01

Matrix Spike Dup (BGI0449-MSD1)		Source: 2309239-01			Prepared: 09/15/23 Analyzed: 09/19/23					
Arsenic	10.2	0.200	mg/kg dry	46.0	1.26	19.4	75-125	1.31	25	QM-01
Barium	173	0.400	"	46.0	167	12.7	75-125	0.584	25	QM-01
Cadmium	1.64	0.200	"	2.30	0.186	63.2	75-125	0.647	25	QM-01
Copper	11.2	0.400	"	46.0	2.27	19.4	75-125	1.33	25	QM-01
Lead	21.6	0.200	"	23.0	8.67	56.2	75-125	0.440	25	QM-01
Nickel	12.5	0.400	"	46.0	12.0	1.21	75-125	0.659	25	QM-01
Silver	1.48	0.0200	"	2.30	0.0672	61.5	75-125	1.16	25	QM-01
Zinc	17.9	0.400	"	46.0	12.0	12.9	75-125	1.36	25	QM-01

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0451 - 3060A Mod**

**Blank (BGI0451-BLK1)**

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGI0451-BS1)**

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

**Duplicate (BGI0451-DUP1)**

**Source: 2309235-01**

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGI0451-MS1)**

**Source: 2309235-01**

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 30.8 0.30 mg/kg dry 31.4 ND 98.0 75-125

**Matrix Spike Dup (BGI0451-MSD1)**

**Source: 2309235-01**

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 30.7 0.30 mg/kg dry 31.4 ND 97.6 75-125 0.409 20

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGJ0573 - General Preparation**

**Blank (BGJ0573-BLK1)**

Prepared: 10/13/23 Analyzed: 10/18/23

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

**LCS (BGJ0573-BS1)**

Prepared: 10/13/23 Analyzed: 10/18/23

Calcium	6.26	0.0500	mg/L wet	5.00	125	70-130
Magnesium	5.41	0.0500	"	5.00	108	70-130
Sodium	5.36	0.0500	"	5.00	107	70-130

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0441 - General Preparation**

Duplicate (BGI0441-DUP1)		Source: 2309235-01			Prepared & Analyzed: 09/15/23					
% Solids	81.0		%		79.6			1.81	20	

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Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

**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 BGI0436 - General Preparation**

**Blank (BGI0436-BLK1)**

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGI0436-BS1)**

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BGI0436-DUP1)**

**Source: 2309235-01**

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) 0.299 0.0100 mmhos/cm 0.298 0.0670 20

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

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

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

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

**Batch BGI0438 - General Preparation**

<b>LCS (BGI0438-BS1)</b>				Prepared & Analyzed: 09/15/23						
pH	9.16		pH Units	9.18		99.8	95-105			
<b>LCS (BGI0438-BS2)</b>				Prepared & Analyzed: 09/15/23						
pH	9.15		pH Units	9.18		99.7	95-105			
<b>LCS (BGI0438-BS3)</b>				Prepared & Analyzed: 09/15/23						
pH	9.14		pH Units	9.18		99.6	95-105			
<b>LCS (BGI0438-BS4)</b>				Prepared & Analyzed: 09/15/23						
pH	9.14		pH Units	9.18		99.6	95-105			
<b>Duplicate (BGI0438-DUP1)</b>				<b>Source: 2309235-01</b>		Prepared & Analyzed: 09/15/23				
pH	7.61		pH Units		7.61			0.00	20	

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Broomfield CO, 80020

Project: Noble - Timbro Federal LD18-74HN

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/25/23 16:52

### Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference