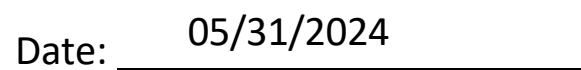




SITE NAME: Hanscome C21-24 Flowline							DATE: 5/31/2024	REM. PROJECT #: 34722	WEATHER: Cloudy 55	
SITE DIRECTIONS: ~0.4mi W from intersection of Co Rd 55 & Co Rd 42, turn N onto access rd and follow northbound for ~250yd. Access on the left running ~NW to wellhead.							CLIENT: Noble			
LEGALS AND LAT/LONG: 40.294296, -104.555501							TASMAN PERSONNEL: SW			
SOIL TYPES: SC - Clayey Sand							SURFACE GRADIENT: South			
SOIL SAMPLING							FACILITY INFRASTRUCTURE			
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo?	Grab or Lab Sample?	EQUIPMENT	Quantity	Photo?	
							Above Ground Storage Tank (AST)			
5/31/2024 09:20	FLR01-W@3'	0.0	No Staining	No Odor	Yes	Lab	Buried or Partially Buried Vessel			
							Separator			
							Emission Control Device (ECD)			
							Dump Line			
							Wellhead		✓	
							Flowline			
							Other:			
							Soil Loads Removed			
							IMPACTED SOIL IDENTIFIED?			
							ESTIMATED VOLUME OF IMPACTS:			
							Date	Number	CY	
							Total Removed	0	0	
							Disposal Facility:			
							Groundwater Recovery			
							DATE GW ENCOUNTERED:		DEPTH:	
							GROUNDWATER IN CONTACT WITH IMPACTED SOIL?			
							LNAPL OR SHEEN OBSERVED ON GW?			
GROUNDWATER SAMPLING							Date	BBLs		
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?				
							Total Removed	0		
							Disposal Facility:			



Site Area/AOC: Hanscome C21-24 Flowline Client: Noble

Daily Forecast/Weather: Cloudy 55 Personnel: SW

Task/Location Description: _____

Need photo log? ☒


											
Equipment ID: FLR01-W		Equipment Type:		Equipment ID:		Equipment Type:					
Material:		Volume:		Contents:		Material:		Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:					

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE ENERGY, INC. - 100322
HANSCOME C21-24 FL, WELD COUNTY, COLORADO
REM # 34722

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
FLR01-W@3'	5/31/2024	3	40.294300	-104.555495	1.5	0.0

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.
2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY, INC. - 100322
HANSCOME C21-24 FL, WELD COUNTY, COLORADO
REM # 34722

Sample ID	Sample Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
FLR01-W@3'	05/31/2024	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

Notes:

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. * Indicates laboratory minimum detection limit in excess of SSL
4. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg

ECMC = Energy & Carbon Management Commission

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

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

ft. = Feet

bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY, INC. - 100322
HANSCOME C21-24 FL, WELD COUNTY, COLORADO
REM # 34722

Sample ID	Sample Date	Depth (ft. bgs)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FLR01-W@3'	05/31/2024	3	<0.00500	0.00529	0.0112	0.00767	0.0148	0.0116	0.00952	<0.00500	0.0234	<0.00500	<0.00500	0.0283	<0.00500	<0.00500

Notes:
1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. * Indicates laboratory minimum detection limit in excess of SSL
ECMC = Colorado Energy & Carbon Management Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
ft. = Feet
bgs = Below ground surface
mg/kg = Milligrams per kilogram

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY, INC. - 100322
HANSCOME C21-24 FL, WELD COUNTY, COLORADO
REM # 34722

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
FLR01-W@3'	05/31/2024	3	8.57	0.377	2.38	<2.00

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
3. Brown highlighted soil analytical values indicate a regulatory exceedance.

ECMC = Colorado Energy & Carbon Management Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

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

ft. = Feet

bgs = Below ground surface

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY, INC. - 100322
HANSCOME C21-24 FL, WELD COUNTY, COLORADO
REM # 34722

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FLR01-W@3'	05/31/2024	3	7.46	104	<0.200	<0.30	7.93	17.8	2.99	0.317	0.0738	17.9

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Red** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
4. Compound falls within ECMC Table 915-1 Footnote 9.
5. Non-detect background results accounted for in the highest background concentration by using the reporting limit.

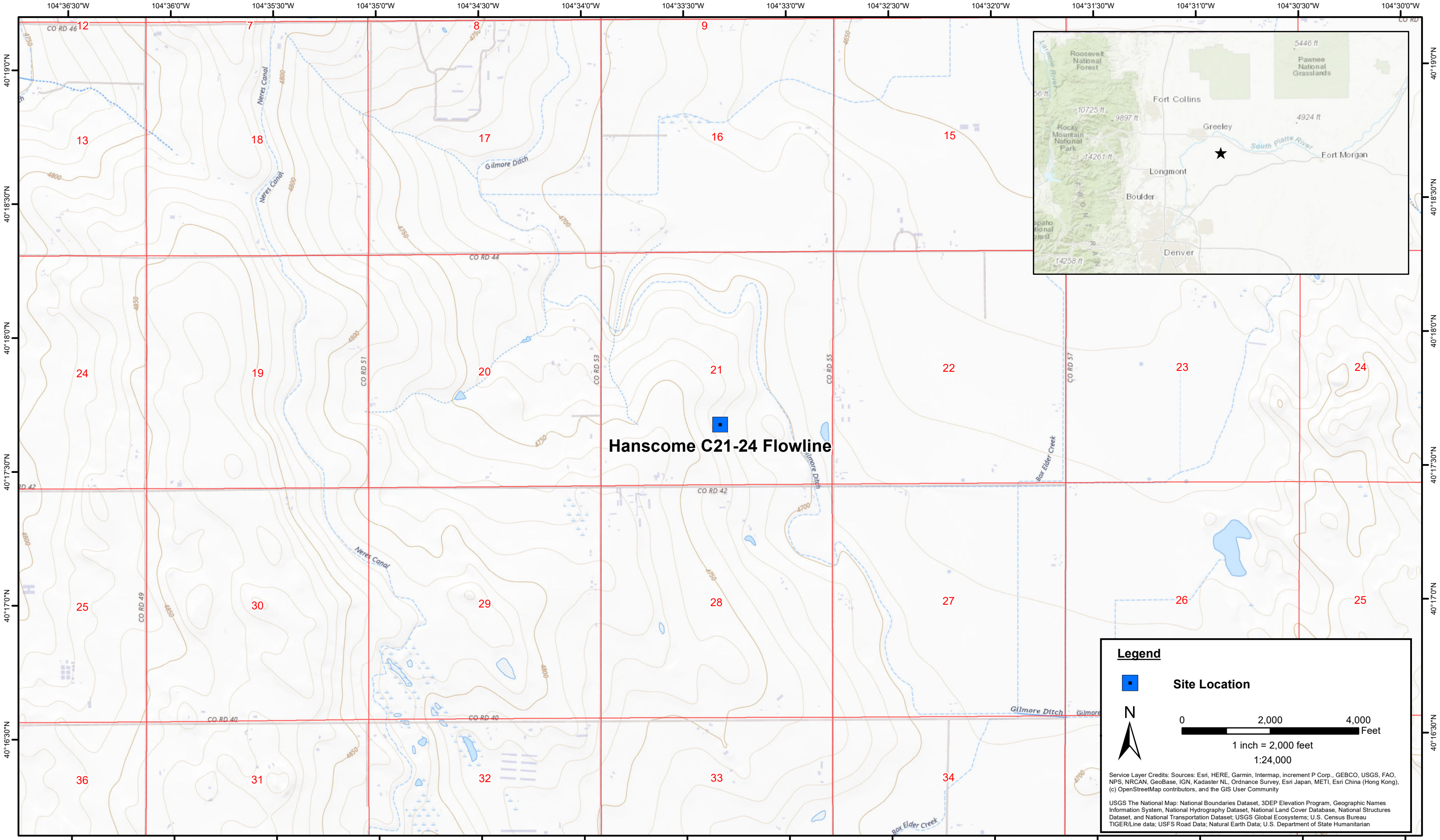
ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface



DATE:	July 2024
DESIGNED BY:	B. Nelson
DRAWN BY:	L. Reed

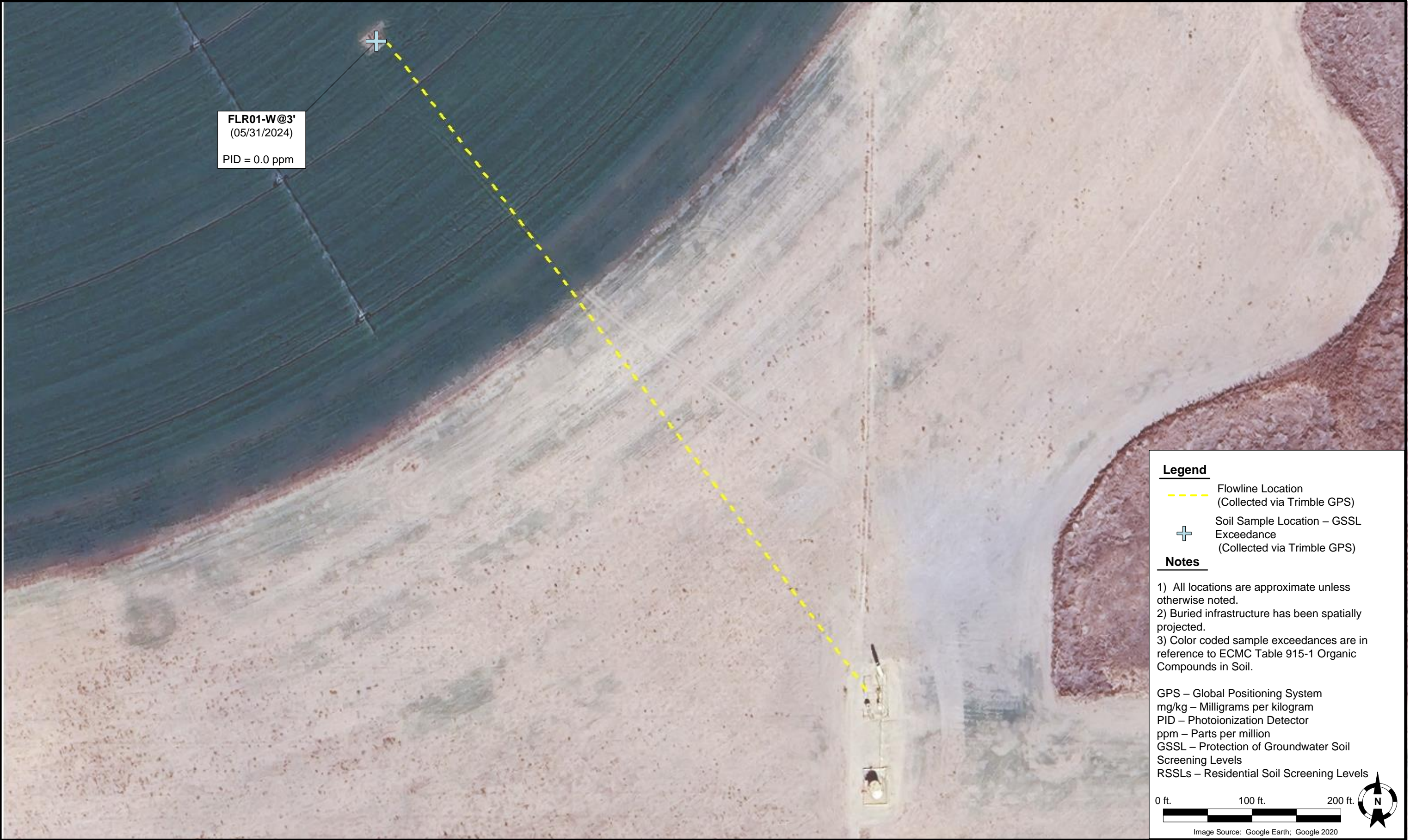


Tasman, Inc.
6855 W. 119th Ave
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Hanscome C21-24 Flowline
NWSE, Section 21, Township 4 North, Range 64 West
Weld County, Colorado

Site Location Map

Figure
1



Legend

- Flowline Location
(Collected via Trimble GPS)
- Soil Sample Location – GSSL
Exceedance
(Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Color coded sample exceedances are in reference to ECMC Table 915-1 Organic Compounds in Soil.

GPS – Global Positioning System
mg/kg – Milligrams per kilogram
PID – Photoionization Detector
ppm – Parts per million
GSSL – Protection of Groundwater Soil
Screening Levels
RSSLS – Residential Soil Screening Levels

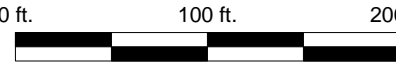


Image Source: Google Earth; Google 2020



DATE:	07/02/2024
DESIGNED BY:	JW
DRAWN BY:	L. Bohannon



TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

**Noble Energy, Inc. – 100322 - DJ Basin
Hanscome C21-24**
SWSE, Section 21, Township 4 North, Range 64 West
Weld County, Colorado

Flowline Closure & Soil
Analytical Results Map
(05/31/2024)

FIGURE
2

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 02, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Hanscome C21-24 FL

Work Order #2405494

Enclosed are the results of analyses for samples received by Summit Scientific on 05/31/24 17:55. 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 - Hanscome C21-24 FL

Project Number: UWRWE-A3450-ABN

Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01-W@3'	2405494-01	Soil	05/31/24 09:20	05/31/24 17:55

Case Narrative

This revised report has been reissued per client request on 7/2/2024.
Original report sent on 6/20/2024 at 10:41 AM 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: Noble/Tasman		Project Manager: Jake Whritenour		Send Invoice To:	
Address: 6855 W. 119th Ave.		E-Mail: Jwhritenour@tasman-geo.com		Company: Noble Energy, Inc.	
City/State/Zip: Broomfield/CO/ 80020		Project Name: <u>HANSCOMPC 21-24 FL</u>		Project Name/Location:	
Phone: 602-881-5716		Project Number:		AFE#: <u>UWIKWE-A3450-ABN</u>	
Sampler Name: <u>McKenzie Reynolds</u> ^{SW}		Project Number:		PO/Billing Codes:	
Shannon LUKUS		Project Number:		Contact: <u>Miguel Burton</u>	
		Preservative		Matrix	
		HCl		Air-Canister #	
		HNO3		Other	
		None		Metals - 915	
		Other		VOC - 915	
		Water		TPH - 915	
		Soil		PAH - 915	
				SAR, EC, pH	
				Boron - HWS	
				HOLD	
				Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	SAR, EC, pH by saturated paste
1	FLR01-W@3'	5/31/24	0920	3	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
Relinquished by: <u>Shannon Lukus</u> 1330		Date/Time: <u>5/31/24</u>		Received by: <u>Tasman Lock Box</u> 1330	
Relinquished by: <u>Tasman Lock Box</u> 1755		Date/Time: <u>5/31/24</u>		Received by: <u>[Signature]</u> 1755	
Relinquished by:		Date/Time:		Received by:	
Date/Time:		Date/Time:		Date/Time:	
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.			
Temperature Upon Receipt: <u>7.7</u>		Corrected Temperature: <u>5</u>		IR gun #: <u>1</u>	
				HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2405494Client: Noble Tasman Client Project ID: Hanscome 21-24 FLShipped 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) 7.7 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>none</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.AS
Custodian Printed Name5/31/24
Date/Time



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

FLR01-W@3'
2405494-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHF0087	06/04/24	06/05/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0463	116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	99.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0423	106 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHF0089	06/04/24	06/05/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.9	87.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

FLR01-W@3'
2405494-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0011	06/03/24	06/04/24	EPA 8270D SIM	
Anthracene	0.00529	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0112	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00767	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0148	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0116	0.00500	"	"	"	"	"	"	
Chrysene	0.00952	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0234	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0283	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0237	71.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0248	74.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0023	06/03/24	06/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

FLR01-W@3'
2405494-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	7.46	0.200	mg/kg dry	1	BHF0030	06/03/24	06/05/24	EPA 6020B
Barium	104	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.93	0.400	"	"	"	"	"	"
Lead	17.8	0.200	"	"	"	"	"	"
Nickel	2.99	0.400	"	"	"	"	"	"
Silver	0.0738	0.0200	"	"	"	"	"	"
Zinc	17.9	0.400	"	"	"	"	"	"
Selenium	0.317	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0106	06/05/24	06/05/24	EPA 7196A	

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

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.3	0.0500	mg/L dry	1	BHF0078	06/04/24	06/13/24	EPA 6020B	
Magnesium	4.58	0.0500	"	"	"	"	"	"	
Sodium	45.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.38	0.00100	units	1	BHF0424	06/14/24	06/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

FLR01-W@3'
2405494-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.1	%	1	BHF0114	06/05/24	06/05/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.377	0.0100	mmhos/cm	1	BHF0080	06/04/24	06/05/24	EPA 120.1	

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

Date Sampled: **05/31/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.57		pH Units	1	BHF0079	06/04/24	06/05/24	EPA 9045D	

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0087 - EPA 5030 Soil MS

Blank (BHF0087-BLK1)

Prepared: 06/04/24 Analyzed: 06/05/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0480		"	0.0400		120	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

LCS (BHF0087-BS1)

Prepared: 06/04/24 Analyzed: 06/05/24

Benzene	0.110	0.0020	mg/kg	0.100		110	70-130			
Toluene	0.117	0.0050	"	0.100		117	70-130			
Ethylbenzene	0.122	0.0050	"	0.100		122	70-130			
m,p-Xylene	0.243	0.010	"	0.200		121	70-130			
o-Xylene	0.120	0.0050	"	0.100		120	70-130			
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100		115	70-130			
1,3,5-Trimethylbenzene	0.117	0.0050	"	0.100		117	70-130			
Naphthalene	0.109	0.0038	"	0.100		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150			

Matrix Spike (BHF0087-MS1)

Source: 2405493-01

Prepared: 06/04/24 Analyzed: 06/05/24

Benzene	0.105	0.0020	mg/kg	0.100	ND	105	70-130			
Toluene	0.112	0.0050	"	0.100	ND	112	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.0967	0.0050	"	0.100	ND	96.7	70-130			
1,3,5-Trimethylbenzene	0.0973	0.0050	"	0.100	ND	97.3	70-130			
Naphthalene	0.0921	0.0038	"	0.100	ND	92.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0446		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0443		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	50-150			

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0087 - EPA 5030 Soil MS

Matrix Spike Dup (BHF0087-MSD1)		Source: 2405493-01			Prepared: 06/04/24 Analyzed: 06/05/24					
Benzene	0.118	0.0020	mg/kg	0.100	ND	118	70-130	11.5	30	
Toluene	0.124	0.0050	"	0.100	ND	124	70-130	10.2	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	12.5	30	
m,p-Xylene	0.234	0.010	"	0.200	ND	117	70-130	13.0	30	
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130	10.7	30	
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	9.04	30	
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	10.2	30	
Naphthalene	0.0970	0.0038	"	0.100	ND	97.0	70-130	5.20	30	
Surrogate: 1,2-Dichloroethane-d4	0.0484		"	0.0400		121	50-150			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	50-150			

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0089 - EPA 3550A

Blank (BHF0089-BLK1)

Prepared & Analyzed: 06/04/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	16.7		"	12.5	134	30-150				

LCS (BHF0089-BS1)

Prepared & Analyzed: 06/04/24

C10-C28 (DRO)	591	50	mg/kg	500	118	70-130				
Surrogate: o-Terphenyl	15.8		"	12.5	126	30-150				

Matrix Spike (BHF0089-MS1)

Source: 2405493-01

Prepared: 06/04/24 Analyzed: 06/05/24

C10-C28 (DRO)	584	50	mg/kg	500	30.1	111	70-130			
Surrogate: o-Terphenyl	15.9		"	12.5	127	30-150				

Matrix Spike Dup (BHF0089-MSD1)

Source: 2405493-01

Prepared: 06/04/24 Analyzed: 06/05/24

C10-C28 (DRO)	510	50	mg/kg	500	30.1	96.0	70-130	13.5	20	
Surrogate: o-Terphenyl	15.0		"	12.5	120	30-150				

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0011 - EPA 5030 Soil MS

Blank (BHF0011-BLK1)

Prepared & Analyzed: 06/03/24

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	0.0333		"	0.0333		100	40-150			
Surrogate: Fluoranthene-d10	0.0372		"	0.0333		112	40-150			

LCS (BHF0011-BS1)

Prepared & Analyzed: 06/03/24

Acenaphthene	0.0247	0.00500	mg/kg	0.0333	74.1	31-137
Anthracene	0.0259	0.00500	"	0.0333	77.7	30-120
Benzo (a) anthracene	0.0254	0.00500	"	0.0333	76.3	30-120
Benzo (a) pyrene	0.0252	0.00500	"	0.0333	75.6	30-120
Benzo (b) fluoranthene	0.0246	0.00500	"	0.0333	73.7	30-120
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333	70.6	30-120
Chrysene	0.0263	0.00500	"	0.0333	78.9	30-120
Dibenz (a,h) anthracene	0.0237	0.00500	"	0.0333	71.0	30-120
Fluoranthene	0.0253	0.00500	"	0.0333	76.0	30-120
Fluorene	0.0249	0.00500	"	0.0333	74.6	30-120
Indeno (1,2,3-cd) pyrene	0.0300	0.00500	"	0.0333	90.1	30-120
Pyrene	0.0315	0.00500	"	0.0333	94.6	35-142
1-Methylnaphthalene	0.0249	0.00500	"	0.0333	74.8	35-142
2-Methylnaphthalene	0.0248	0.00500	"	0.0333	74.5	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0255		"	0.0333	76.4	40-150
Surrogate: Fluoranthene-d10	0.0267		"	0.0333	80.2	40-150

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0011 - EPA 5030 Soil MS

Matrix Spike (BHF0011-MS1)			Source: 2405479-01			Prepared & Analyzed: 06/03/24					
Acenaphthene	0.0227	0.00500	mg/kg	0.0333	ND	68.1	31-137				
Anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120				
Benzo (a) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120				
Benzo (a) pyrene	0.0235	0.00500	"	0.0333	0.00554	54.0	30-120				
Benzo (b) fluoranthene	0.0237	0.00500	"	0.0333	0.00754	48.5	30-120				
Benzo (k) fluoranthene	0.0227	0.00500	"	0.0333	0.00533	52.1	30-120				
Chrysene	0.0234	0.00500	"	0.0333	ND	70.3	30-120				
Dibenz (a,h) anthracene	0.0276	0.00500	"	0.0333	ND	82.7	30-120				
Fluoranthene	0.0217	0.00500	"	0.0333	0.00657	45.3	30-120				
Fluorene	0.0226	0.00500	"	0.0333	ND	67.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333	ND	58.0	30-120				
Pyrene	0.0425	0.00500	"	0.0333	ND	128	35-142				
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.5	15-130				
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.1	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0235		"	0.0333		70.5	40-150				
Surrogate: Fluoranthene-d10	0.0233		"	0.0333		69.8	40-150				

Matrix Spike Dup (BHF0011-MSD1)			Source: 2405479-01			Prepared & Analyzed: 06/03/24					
Acenaphthene	0.0225	0.00500	mg/kg	0.0333	ND	67.4	31-137	1.11	30		
Anthracene	0.0229	0.00500	"	0.0333	ND	68.7	30-120	4.01	30		
Benzo (a) anthracene	0.0240	0.00500	"	0.0333	ND	71.9	30-120	3.78	30		
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	0.00554	49.2	30-120	6.97	30		
Benzo (b) fluoranthene	0.0213	0.00500	"	0.0333	0.00754	41.4	30-120	10.5	30		
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333	0.00533	48.4	30-120	5.58	30		
Chrysene	0.0232	0.00500	"	0.0333	ND	69.6	30-120	0.971	30		
Dibenz (a,h) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120	17.8	30		
Fluoranthene	0.0220	0.00500	"	0.0333	0.00657	46.3	30-120	1.53	30		
Fluorene	0.0235	0.00500	"	0.0333	ND	70.5	30-120	3.74	30		
Indeno (1,2,3-cd) pyrene	0.0159	0.00500	"	0.0333	ND	47.6	30-120	19.7	30		
Pyrene	0.0257	0.00500	"	0.0333	ND	77.2	35-142	49.2	30		QR-02
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.6	15-130	0.148	50		
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.8	15-130	0.973	50		
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.5	40-150				
Surrogate: Fluoranthene-d10	0.0234		"	0.0333		70.2	40-150				

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0720 - EPA 5030 Soil MS

Blank (BHF0720-BLK1)

Prepared: 06/24/24 Analyzed: 06/25/24

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	0.0264		"	0.0333		79.3	40-150			
Surrogate: Fluoranthene-d10	0.0279		"	0.0333		83.7	40-150			

LCS (BHF0720-BS1)

Prepared: 06/24/24 Analyzed: 06/25/24

Acenaphthene	0.0231	0.00500	mg/kg	0.0333		69.3	31-137			
Anthracene	0.0236	0.00500	"	0.0333		70.7	30-120			
Benzo (a) anthracene	0.0244	0.00500	"	0.0333		73.1	30-120			
Benzo (a) pyrene	0.0256	0.00500	"	0.0333		76.9	30-120			
Benzo (b) fluoranthene	0.0278	0.00500	"	0.0333		83.4	30-120			
Benzo (k) fluoranthene	0.0263	0.00500	"	0.0333		78.8	30-120			
Chrysene	0.0219	0.00500	"	0.0333		65.8	30-120			
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333		54.6	30-120			
Fluoranthene	0.0235	0.00500	"	0.0333		70.6	30-120			
Fluorene	0.0238	0.00500	"	0.0333		71.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333		52.2	30-120			
Pyrene	0.0231	0.00500	"	0.0333		69.4	35-142			
1-Methylnaphthalene	0.0241	0.00500	"	0.0333		72.2	35-142			
2-Methylnaphthalene	0.0257	0.00500	"	0.0333		77.1	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0250		"	0.0333		74.9	40-150			
Surrogate: Fluoranthene-d10	0.0246		"	0.0333		73.7	40-150			

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0720 - EPA 5030 Soil MS

Matrix Spike (BHF0720-MS1)			Source: 2406307-22		Prepared: 06/24/24 Analyzed: 06/25/24						
Acenaphthene	0.0224	0.00500	mg/kg	0.0333	ND	67.2	31-137				
Anthracene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Benzo (a) anthracene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Benzo (a) pyrene	0.0242	0.00500	"	0.0333	ND	72.6	30-120				
Benzo (b) fluoranthene	0.0260	0.00500	"	0.0333	ND	78.1	30-120				
Benzo (k) fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120				
Chrysene	0.0209	0.00500	"	0.0333	ND	62.6	30-120				
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.6	30-120				
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.2	30-120				
Fluorene	0.0223	0.00500	"	0.0333	ND	66.8	30-120				
Indeno (1,2,3-cd) pyrene	0.0157	0.00500	"	0.0333	ND	47.2	30-120				
Pyrene	0.0244	0.00500	"	0.0333	ND	73.3	35-142				
1-Methylnaphthalene	0.0219	0.00500	"	0.0333	ND	65.6	15-130				
2-Methylnaphthalene	0.0239	0.00500	"	0.0333	ND	71.6	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0230		"	0.0333		69.1	40-150				
Surrogate: Fluoranthene-d10	0.0219		"	0.0333		65.7	40-150				

Matrix Spike Dup (BHF0720-MSD1)			Source: 2406307-22		Prepared: 06/24/24 Analyzed: 06/25/24						
Acenaphthene	0.0154	0.00500	mg/kg	0.0333	ND	46.3	31-137	36.8	30		QR-02
Anthracene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	21.0	30		
Benzo (a) anthracene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	18.5	30		
Benzo (a) pyrene	0.0211	0.00500	"	0.0333	ND	63.3	30-120	13.7	30		
Benzo (b) fluoranthene	0.0226	0.00500	"	0.0333	ND	67.7	30-120	14.2	30		
Benzo (k) fluoranthene	0.0210	0.00500	"	0.0333	ND	63.0	30-120	15.2	30		
Chrysene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	17.6	30		
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.8	30-120	10.7	30		
Fluoranthene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	18.1	30		
Fluorene	0.0157	0.00500	"	0.0333	ND	47.2	30-120	34.4	30		QR-02
Indeno (1,2,3-cd) pyrene	0.0150	0.00500	"	0.0333	ND	44.9	30-120	4.95	30		
Pyrene	0.0198	0.00500	"	0.0333	ND	59.4	35-142	21.0	30		
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.7	15-130	18.1	50		
2-Methylnaphthalene	0.0186	0.00500	"	0.0333	ND	55.7	15-130	25.0	50		
Surrogate: 2-Methylnaphthalene-d10	0.0187		"	0.0333		56.1	40-150				
Surrogate: Fluoranthene-d10	0.0182		"	0.0333		54.7	40-150				

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0023 - EPA 3050B

Blank (BHF0023-BLK1)

Prepared: 06/03/24 Analyzed: 06/05/24

Boron ND 2.00 mg/L

LCS (BHF0023-BS1)

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.01 2.00 mg/L 5.00 100 80-120

Duplicate (BHF0023-DUP1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 0.105 2.00 mg/L 0.133 23.7 20 QR-01

Matrix Spike (BHF0023-MS1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.15 2.00 mg/L 5.01 0.133 100 75-125

Matrix Spike Dup (BHF0023-MSD1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.57 2.00 mg/L 5.01 0.133 109 75-125 7.87 25

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0030 - EPA 3050B

Blank (BHF0030-BLK1)

Prepared: 06/03/24 Analyzed: 06/05/24

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 (BHF0030-BS1)

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	38.8	0.200	mg/kg wet	39.1	99.3	80-120
Barium	39.0	0.400	"	39.1	99.8	80-120
Cadmium	1.95	0.200	"	1.95	100	80-120
Copper	40.6	0.400	"	39.1	104	80-120
Lead	19.4	0.200	"	19.5	99.6	80-120
Nickel	40.5	0.400	"	39.1	104	80-120
Silver	1.94	0.0200	"	1.95	99.2	80-120
Zinc	40.3	0.400	"	39.1	103	80-120
Selenium	4.29	0.260	"	3.91	110	80-120

Duplicate (BHF0030-DUP1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	2.00	0.200	mg/kg dry	1.88	6.22	20
Barium	31.8	0.400	"	31.2	1.70	20
Cadmium	0.0860	0.200	"	0.0925	7.22	20
Copper	1.73	0.400	"	1.88	8.13	20
Lead	3.39	0.200	"	4.82	34.8	20
Nickel	1.89	0.400	"	1.83	2.79	20
Silver	0.00960	0.0200	"	0.0103	7.20	20
Zinc	8.72	0.400	"	8.65	0.772	20
Selenium	ND	0.260	"	ND		20

QR-04

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0030 - EPA 3050B

Matrix Spike (BHF0030-MS1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	39.8	0.200	mg/kg dry	40.3	1.88	94.1	75-125
Barium	67.9	0.400	"	40.3	31.2	90.9	75-125
Cadmium	2.07	0.200	"	2.02	0.0925	98.3	75-125
Copper	33.0	0.400	"	40.3	1.88	77.2	75-125
Lead	22.8	0.200	"	20.2	4.82	89.2	75-125
Nickel	33.5	0.400	"	40.3	1.83	78.4	75-125
Silver	1.93	0.0200	"	2.02	0.0103	95.4	75-125
Zinc	40.7	0.400	"	40.3	8.65	79.4	75-125
Selenium	4.07	0.260	"	4.03	ND	101	75-125

Matrix Spike Dup (BHF0030-MSD1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	40.1	0.200	mg/kg dry	39.1	1.88	97.7	75-125	0.668	25
Barium	66.0	0.400	"	39.1	31.2	88.8	75-125	2.82	25
Cadmium	2.02	0.200	"	1.96	0.0925	98.4	75-125	2.78	25
Copper	32.8	0.400	"	39.1	1.88	79.1	75-125	0.510	25
Lead	22.7	0.200	"	19.6	4.82	91.3	75-125	0.516	25
Nickel	33.9	0.400	"	39.1	1.83	82.0	75-125	1.27	25
Silver	1.87	0.0200	"	1.96	0.0103	94.9	75-125	3.62	25
Zinc	40.6	0.400	"	39.1	8.65	81.6	75-125	0.257	25
Selenium	4.01	0.260	"	3.91	ND	103	75-125	1.55	25

Post Spike (BHF0030-PS1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	110		ug/l	100	4.55	105	75-125
Barium	175		"	100	75.7	99.8	75-125
Cadmium	5.49		"	5.00	0.224	105	75-125
Copper	97.5		"	100	4.55	93.0	75-125
Lead	64.3		"	50.0	11.7	105	75-125
Nickel	94.4		"	100	4.44	90.0	75-125
Silver	5.33		"	5.00	0.0250	106	75-125
Zinc	114		"	100	21.0	93.0	75-125
Selenium	11.4		"	10.0	0.118	113	75-125

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0106 - 3060A Mod

Blank (BHF0106-BLK1)

Prepared & Analyzed: 06/05/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHF0106-BS1)

Prepared & Analyzed: 06/05/24

Chromium, Hexavalent 25.2 0.30 mg/kg wet 25.0 101 80-120

Duplicate (BHF0106-DUP1)

Source: 2405494-01

Prepared & Analyzed: 06/05/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHF0106-MS1)

Source: 2405494-01

Prepared & Analyzed: 06/05/24

Chromium, Hexavalent 26.2 0.30 mg/kg dry 29.0 ND 90.4 75-125

Matrix Spike Dup (BHF0106-MSD1)

Source: 2405494-01

Prepared & Analyzed: 06/05/24

Chromium, Hexavalent 27.2 0.30 mg/kg dry 30.5 ND 89.4 75-125 3.77 20

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0078 - General Preparation

Blank (BHF0078-BLK1)

Prepared: 06/04/24 Analyzed: 06/13/24

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

LCS (BHF0078-BS1)

Prepared: 06/04/24 Analyzed: 06/13/24

Calcium	5.49	0.0500	mg/L wet	5.00	110	70-130
Magnesium	5.11	0.0500	"	5.00	102	70-130
Sodium	5.40	0.0500	"	5.00	108	70-130

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.



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

Project: Noble - Hanscome C21-24 FL

Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0114 - General Preparation

Duplicate (BHF0114-DUP1)		Source: 2405485-01			Prepared & Analyzed: 06/05/24					
% Solids	82.5		%		83.5		1.20		20	

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.



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

Project: Noble - Hanscome C21-24 FL
Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0080 - General Preparation

Blank (BHF0080-BLK1)

Prepared: 06/04/24 Analyzed: 06/05/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHF0080-BS1)

Prepared: 06/04/24 Analyzed: 06/05/24

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHF0080-DUP1)

Source: 2405486-01

Prepared: 06/04/24 Analyzed: 06/05/24

Specific Conductance (EC) 0.159 0.0100 mmhos/cm 0.160 0.628 20

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.



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

Project: Noble - Hanscome C21-24 FL

Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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 BHF0079 - General Preparation

LCS (BHF0079-BS1)

Prepared: 06/04/24 Analyzed: 06/05/24

pH	9.20	pH Units	9.18	100	95-105
----	------	----------	------	-----	--------

Duplicate (BHF0079-DUP1)

Source: 2405486-01

Prepared: 06/04/24 Analyzed: 06/05/24

pH	8.85	pH Units	9.02	1.90	20
----	------	----------	------	------	----

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.



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

Project: Noble - Hanscome C21-24 FL

Project Number: UWRWE-A3450-ABN
Project Manager: Jacob Whritenour

Reported:
07/02/24 11:15

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-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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.
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