Flowline Closure Checklist

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

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure

Site Name & COGCC Facility Number: UPRC 07-10Q	*Date:* 12/15/2022	*Remediation Project #:* 24036
Associated Wells:	*Age of Site:*	*Number of Photos Attached:* 6

Starting point: *(GPS coordinates and descriptions)*
40.149219, -104.59055

Starting point *(GPS coordinates and descriptions)*
40.149489, -104.590278

USCS Soil Type: Well Graded Sand - 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

Flowlines

Flowline type	Oil/Water/Gas							
Depth	5'							
Age								
Length	125'							
Construction Material	Steel							
Were flowlines pulled?	Partially ially							
Visual Integrity of lines	Good							
Visual impacts if trenched	NA							
PID Readings if trenched	NA							
Sample taken? Location/Sample ID#	Yes, see below							
Photo Number(s)	1 - 3							

Other observations regarding on loction flowlines:
Flowline abandoned in place from FL01-C@3' to FL01-B@3'.
Flowline entrenched with HP Farms Y 7-15JI at FL01-B@3'

Summary

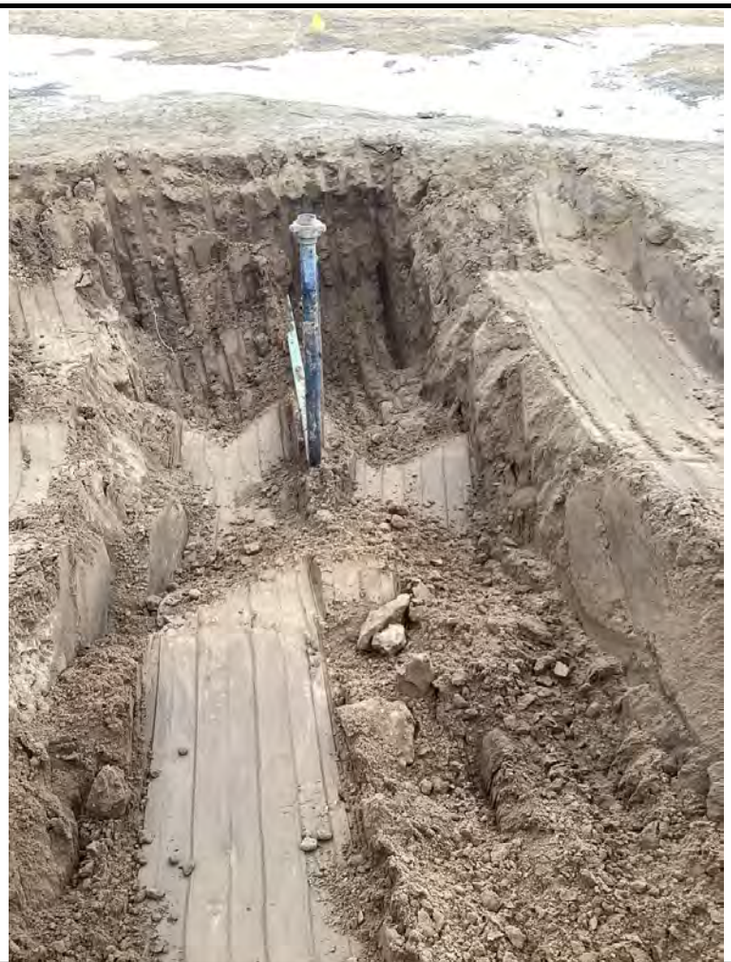
Was impacted soil identified?
No Yes - less than 10 cubic yards Yes - more than 10 cubic yards

Total number of samples field screened: 3	*Total number of samples collected:* 3
Highest PID Reading: 4.1	*Total number of samples submitted to lab for analysis:* 2
If more than 10 cubic yards of impacted soil were observed:	
Vertical extent:	*Estimated spill volume:*
Lateral extent:	*Volume of soil removed:*
Is additional investigation required?	

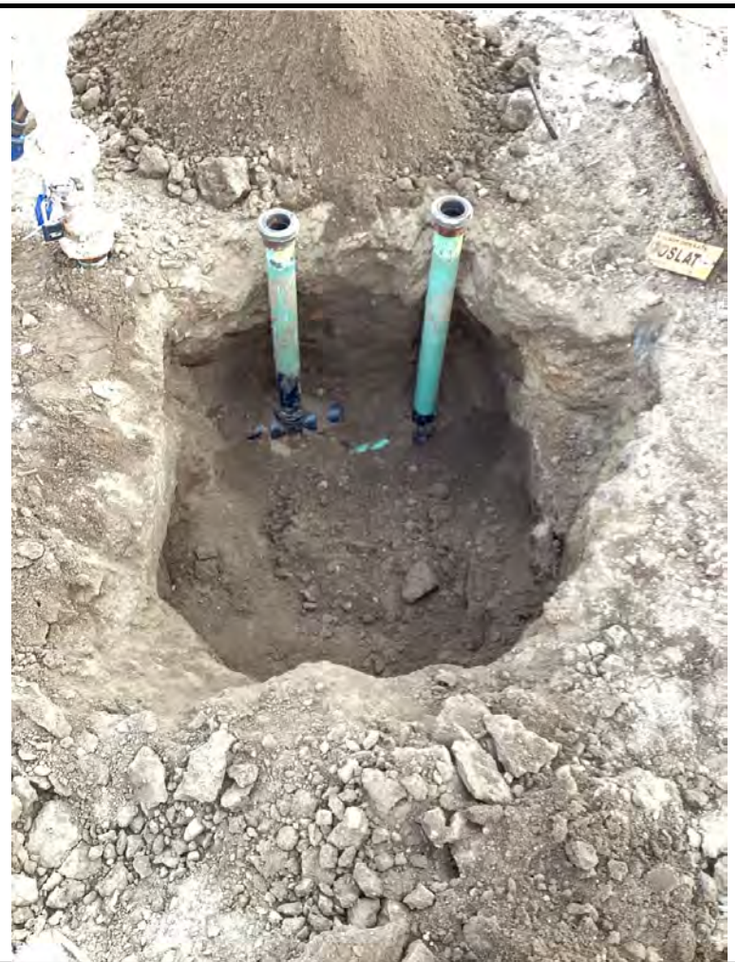
Was groundwater encountered during the investigation?
No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils

Measured depth to groundwater:	*Was remedial groundwater removal conducted?* Yes No
Date Groundwater was encountered:	*Commencement date of removal:*
Sheen on groundwater? Yes No	*Volume of groundwater removed prior to sampling:*
Free product observed? Yes No	*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

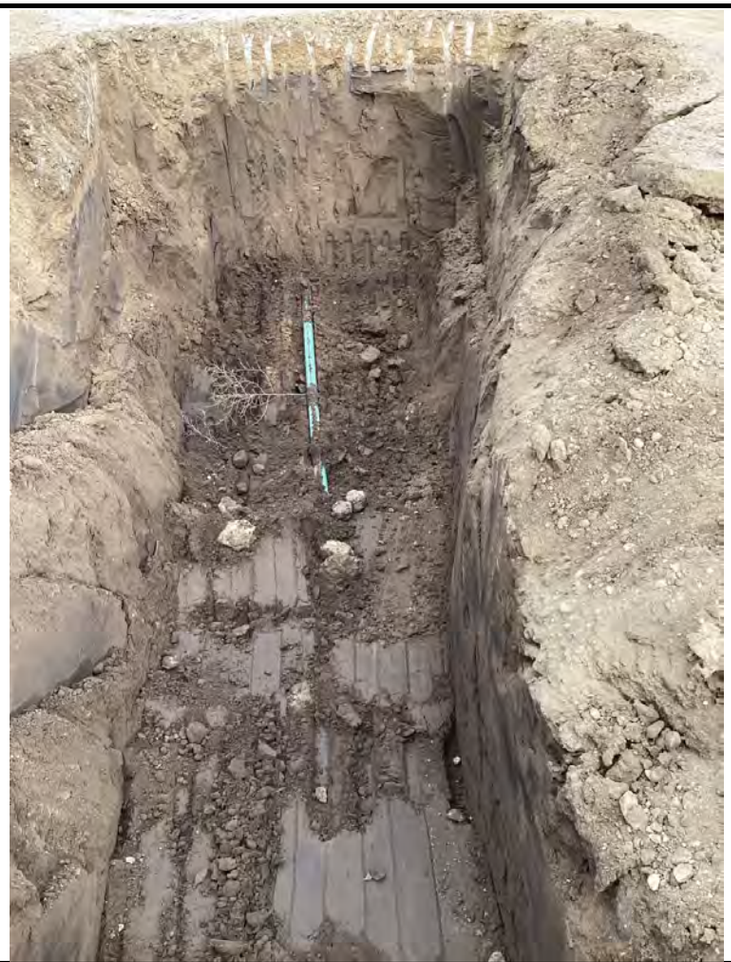


Equipment ID: FL01-A@	**Equipment Type:** Flowline	
Material: Steel	**Volume:**	**Contents:** Oil/Gas/Water
Notes/Conditions:		



Equipment ID: FL01-B@3'	**Equipment Type:**	
Material: Steel	**Volume:**	**Contents:** Oil/Gas/Water
Notes/Conditions: Flow line entrenched with HP farms Y 7-15JI. UPRC 07-10Q is on the left. Flowline abandoned in place from FL01-B@3' to FL01-C@5'		

Photographic Log



Equipment ID: FL01-C@5'	**Equipment Type:**		**Equipment ID:**	**Equipment Type:**	
Material:	**Volume:**	**Contents:**	**Material:**	**Volume:**	**Contents:**
Notes/Conditions: Flowline abandoned in place from FL01-B@3' to FL01-C@5'			**Notes/Conditions:**		

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - UPRC 07-10Q

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude[1]	Longitude	PDOP
FL01-A@3'	12/15/22	0.1	No Staining	No Odor	Lab	40.149240	-104.590561	1.1
FL01-B@3'	12/15/22	4.1	No Staining	No Odor	Lab	40.149502	-104.590284	1.1
FL01-C@5'	12/15/22	0.1	No Staining	No Odor	Grab	40.149424	-104.590431	1.2

Notes:

PID = Photo-ionization 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. - UPRC 07-10Q

Soil Sample ID	Date	[1]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[2]		**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[2,3]		**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**
FL01-A@3'	12/15/22	<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
FL01-B@3'	12/15/22	<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

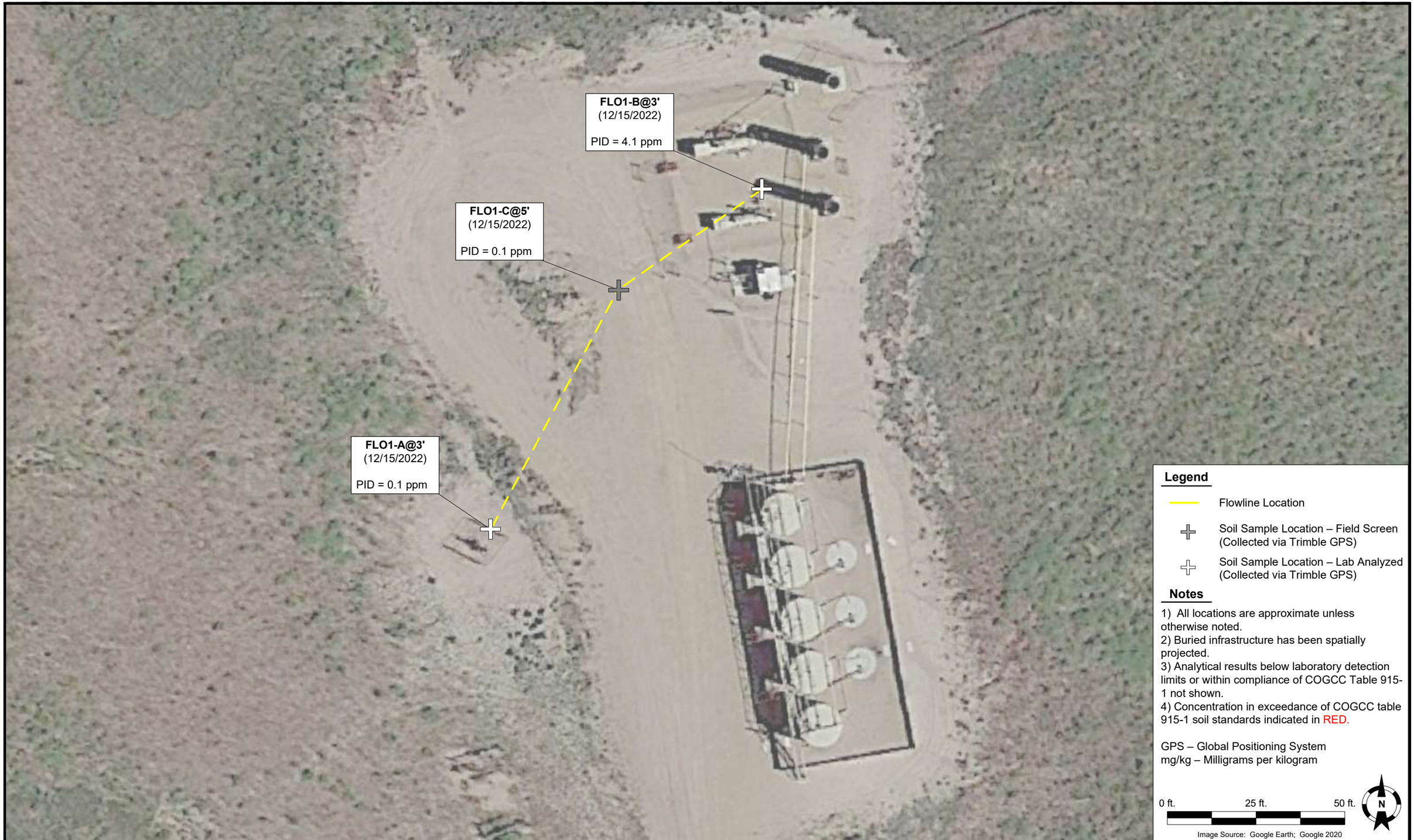
Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL[2]		**6 - 8.3**	**<6**	**<4mmhos/cm**	**2**
FL01-A@3'	12/15/22	7.80	0.135	0.314	0.154
FL01-B@3'	12/15/22	7.89	0.0792	0.203	0.172

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) 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:

COGCC = Colorado Oil and Gas Conservation 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 = Millmhos 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 COGCC Table 915-1 standard
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
Benz(a) = Benzanthracene
Benzo(b) = Benzofluoranthene
Benzo(k) = Benzofluoranthene
Benzo(a) = Benzopyrene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
1-M = 1-methylnaphthalene
2-M = 2-methylnaphthalene



DATE:	1/23/2023
DESIGNED BY:	JW
DRAWN BY:	DG

TASMAN GEOSCIENCES

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

Noble Energy, Inc. – DJ Basin
UPRC 7-10Q
NWSE, Section 7, Township 2 North, Range 64 West
Weld County, Colorado

Flowline Closure & Soil Analytical Results Map (12/15/2022)

FIGURE 1

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 27, 2022

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

RE: Noble - UPRC 07-10Q
Work Order #2212314

Enclosed are the results of analyses for samples received by Summit Scientific on 12/15/22 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott Sheely For Paul Shrewsbury
President

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-A@3'	2212314-01	Soil	12/15/22 12:31	12/15/22 17:40
FL01-B@3'	2212314-02	Soil	12/15/22 11:29	12/15/22 17:40

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

S_2

2212314.

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Client:	Noble / Tasman	Project Manager:	Jake Whritenour Invoice:
Address:	6855 W. 119th Ave	E-Mail:	jwhritenour@tasman-geo.com
City/State/Zip:	Broomfield, CO 80020		
Phone:	602-881-5716	Project Name:	UPRC 07 - 10Q
Sampler Name:	Dennis Gray	Project Number:	UWRWE - A2701 - ABN

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD			pH, EC, SAR by saturated paste
1	FL01-A@3'	12-15-22	12:31	3			X			X			X	X	X	X	X				
2	FL01-B@3'	12-15-22	11:29	3			X			X			X	X	X	X	X				
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: Dennis Gray	Date/Time: 12-15-22 1630	Received by: Tasman's Lock Box	Date/Time: 12-15-22 1630	**Turn Around Time**	(Check)
Relinquished by: Tasman's Lock Box	Date/Time: 121522 1740	Received by:	Date/Time: 121522 1740	Same Day ___	72 hours ___
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours ___	Standard X
				48 hours ___	
				Sample Integrity:	
				Temperature Upon Receipt: 04	
				Samples Intact: (Yes) No	

Notes:

S2

Sample Receipt Checklist

S2 Work Order# 2212314

Client: Noble/Tasman Client Project ID: OPRC 07-10Q

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other [ ] Airbill #: [ ]

[ ] [–] [ ] [ ] [ ]

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

Temp (°C) [6.4] 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.	–			ON ICE
If custody seals are present, are they intact? (1)	–			
Are samples due within 48 hours present?		–		
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			–	
Is a chain-of-custody (COC) form present and filled out Completely? (1)	–			
Is the COC properly relinquished by the client w/ date and time recorded? (1)	–			
Were all samples received intact? (1)	–			
Was adequate sample volume provided? (1)	–			
Does the COC agree with the number and type of sample bottles received? (1)	–			
Do the sample IDs on the bottle labels match the COC?(1)	–			
For volatiles in water – is there headspace present? **If yes, contact client and note in narrative.**			–	
Are samples preserved that require preservation **(excluding cooling)?** (1) Note the type of preservative in the comments column – HCl, H_2SO_4, NaOH, HNO_3, etc.			–	
If samples are acid preserved for metals, is the pH ≤ 2? (1) Record the pH in Comments.			–	
If dissolved metals are requested, were samples field filtered?			–	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name

12-15-22
Date/Time

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-A@3'

2212314-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0470	12/19/22	12/19/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0396	*99.1 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8	0.0399	*99.8 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	*95.8 %*	*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0469	12/19/22	12/19/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.3	*123 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

S2

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-A@3'

2212314-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0414	12/16/22	12/17/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	*59.2 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	*71.7 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.154**	0.0100	mg/L	1	BFL0457	12/18/22	12/20/22	EPA 6020B	

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

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-A@3'

2212314-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**40.7**	0.0535	mg/L dry	1	BFL0522	12/20/22	12/22/22	EPA 6020B	
Magnesium	**6.94**	0.0535	"	"	"	"	"	"	
Sodium	**3.54**	0.0535	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.135**	0.00100	units	1	BFL0608	12/22/22	12/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**93.5**		%	1	BFL0486	12/19/22	12/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.314**	0.0100	mmhos/cm	1	BFL0557	12/21/22	12/21/22	EPA 120.1	

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

Date Sampled: **12/15/22 12:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.80**		pH Units	1	BFL0556	12/21/22	12/21/22	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 - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-B@3'

2212314-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFL0470	12/19/22	12/19/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	*100 %*	*50-150*		"	"	"	"	
Surrogate: Toluene-d8	0.0406	*101 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0378	*94.5 %*	*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0469	12/19/22	12/19/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.3	*98.0 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-B@3'

2212314-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0414	12/16/22	12/17/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0238	*71.5 %*	*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0246	*73.9 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.172**	0.0100	mg/L	1	BFL0457	12/18/22	12/20/22	EPA 6020B	

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

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

FL01-B@3'

2212314-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**59.3**	0.0532	mg/L dry	1	BFL0522	12/20/22	12/22/22	EPA 6020B	
Magnesium	**9.85**	0.0532	"	"	"	"	"	"	
Sodium	**2.50**	0.0532	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0792**	0.00100	units	1	BFL0608	12/22/22	12/22/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**94.0**		%	1	BFL0486	12/19/22	12/20/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.203**	0.0100	mmhos/cm	1	BFL0557	12/21/22	12/21/22	EPA 120.1	

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

Date Sampled: **12/15/22 11:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.89**		pH Units	1	BFL0556	12/21/22	12/21/22	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0470 - EPA 5030 Soil MS										
Blank (BFL0470-BLK1)				Prepared & Analyzed: 12/19/22						
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	*0.0392*		*"*	*0.0400*		*98.0*	*50-150*			
Surrogate: Toluene-d8	*0.0403*		*"*	*0.0400*		*101*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0382*		*"*	*0.0400*		*95.5*	*50-150*			
LCS (BFL0470-BS1)				Prepared & Analyzed: 12/19/22						
Benzene	0.0643	0.0020	mg/kg	0.0750		85.7	70-130			
Toluene	0.0647	0.0050	"	0.0750		86.2	70-130			
Ethylbenzene	0.0596	0.0050	"	0.0750		79.4	70-130			
m,p-Xylene	0.121	0.010	"	0.150		80.5	70-130			
o-Xylene	0.0577	0.0050	"	0.0750		77.0	70-130			
1,2,4-Trimethylbenzene	0.0604	0.0050	"	0.0750		80.6	70-130			
1,3,5-Trimethylbenzene	0.0620	0.0050	"	0.0750		82.7	70-130			
Naphthalene	0.0733	0.0038	"	0.0750		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0383*		*"*	*0.0400*		*95.8*	*50-150*			
Surrogate: Toluene-d8	*0.0409*		*"*	*0.0400*		*102*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0410*		*"*	*0.0400*		*103*	*50-150*			
Matrix Spike (BFL0470-MS1)	**Source: 2212313-01**			Prepared & Analyzed: 12/19/22						
Benzene	0.0659	0.0020	mg/kg	0.0750	ND	87.9	70-130			
Toluene	0.0683	0.0050	"	0.0750	ND	91.0	70-130			
Ethylbenzene	0.0593	0.0050	"	0.0750	ND	79.0	70-130			
m,p-Xylene	0.121	0.010	"	0.150	ND	80.5	70-130			
o-Xylene	0.0581	0.0050	"	0.0750	ND	77.5	70-130			
1,2,4-Trimethylbenzene	0.0628	0.0050	"	0.0750	ND	83.7	70-130			
1,3,5-Trimethylbenzene	0.0636	0.0050	"	0.0750	ND	84.8	70-130			
Naphthalene	0.0816	0.0038	"	0.0750	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0434*		*"*	*0.0400*		*108*	*50-150*			
Surrogate: Toluene-d8	*0.0423*		*"*	*0.0400*		*106*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0424*		*"*	*0.0400*		*106*	*50-150*			

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Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0470 - EPA 5030 Soil MS										
Matrix Spike Dup (BFL0470-MSD1)		**Source: 2212313-01**		Prepared & Analyzed: 12/19/22						
Benzene	0.0676	0.0020	mg/kg	0.0750	ND	90.1	70-130	2.43	30	
Toluene	0.0691	0.0050	"	0.0750	ND	92.2	70-130	1.22	30	
Ethylbenzene	0.0618	0.0050	"	0.0750	ND	82.4	70-130	4.21	30	
m,p-Xylene	0.127	0.010	"	0.150	ND	84.4	70-130	4.73	30	
o-Xylene	0.0608	0.0050	"	0.0750	ND	81.1	70-130	4.54	30	
1,2,4-Trimethylbenzene	0.0645	0.0050	"	0.0750	ND	86.0	70-130	2.69	30	
1,3,5-Trimethylbenzene	0.0659	0.0050	"	0.0750	ND	87.9	70-130	3.57	30	
Naphthalene	0.0787	0.0038	"	0.0750	ND	105	70-130	3.63	30	
Surrogate: 1,2-Dichloroethane-d4	*0.0428*		*"*	*0.0400*		*107*	*50-150*			
Surrogate: Toluene-d8	*0.0415*		*"*	*0.0400*		*104*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0430*		*"*	*0.0400*		*108*	*50-150*			

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0469 - EPA 3550A										
Blank (BFL0469-BLK1)				Prepared & Analyzed: 12/19/22						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	*14.1*		*"*	*12.5*		*113*	*30-150*			
LCS (BFL0469-BS1)				Prepared & Analyzed: 12/19/22						
C10-C28 (DRO)	394	50	mg/kg	500		78.7	70-130			
Surrogate: o-Terphenyl	*15.0*		*"*	*12.5*		*120*	*30-150*			
Matrix Spike (BFL0469-MS1)	**Source: 2212313-01**			Prepared & Analyzed: 12/19/22						
C10-C28 (DRO)	465	50	mg/kg	500	13.5	90.4	70-130			
Surrogate: o-Terphenyl	*15.6*		*"*	*12.5*		*125*	*30-150*			
Matrix Spike Dup (BFL0469-MSD1)	**Source: 2212313-01**			Prepared & Analyzed: 12/19/22						
C10-C28 (DRO)	494	50	mg/kg	500	13.5	96.0	70-130	5.91	20	
Surrogate: o-Terphenyl	*17.9*		*"*	*12.5*		*143*	*30-150*			

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0414 - EPA 5030 Soil MS										
Blank (BFL0414-BLK1)				Prepared: 12/16/22 Analyzed: 12/17/22						
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	*0.0303*		*"*	*0.0333*		*90.8*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0306*		*"*	*0.0333*		*91.9*	*40-150*			
LCS (BFL0414-BS1)				Prepared: 12/16/22 Analyzed: 12/17/22						
Acenaphthene	0.0312	0.00500	mg/kg	0.0333		93.5	31-137			
Anthracene	0.0319	0.00500	"	0.0333		95.7	30-120			
Benzo (a) anthracene	0.0319	0.00500	"	0.0333		95.6	30-120			
Benzo (a) pyrene	0.0301	0.00500	"	0.0333		90.4	30-120			
Benzo (b) fluoranthene	0.0294	0.00500	"	0.0333		88.1	30-120			
Benzo (k) fluoranthene	0.0293	0.00500	"	0.0333		87.8	30-120			
Chrysene	0.0322	0.00500	"	0.0333		96.6	30-120			
Dibenz (a,h) anthracene	0.0295	0.00500	"	0.0333		88.5	30-120			
Fluoranthene	0.0311	0.00500	"	0.0333		93.3	30-120			
Fluorene	0.0304	0.00500	"	0.0333		91.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0340	0.00500	"	0.0333		102	30-120			
Pyrene	0.0327	0.00500	"	0.0333		98.1	35-142			
1-Methylnaphthalene	0.0359	0.00500	"	0.0333		108	35-142			
2-Methylnaphthalene	0.0315	0.00500	"	0.0333		94.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0316*		*"*	*0.0333*		*94.8*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0320*		*"*	*0.0333*		*96.1*	*40-150*			

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0414 - EPA 5030 Soil MS										
Matrix Spike (BFL0414-MS1)	**Source: 2212264-01**			Prepared: 12/16/22 Analyzed: 12/17/22						
Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.5	31-137			
Anthracene	0.0176	0.00500	"	0.0333	ND	52.9	30-120			
Benzo (a) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120			
Benzo (a) pyrene	0.0161	0.00500	"	0.0333	ND	48.4	30-120			
Benzo (b) fluoranthene	0.0158	0.00500	"	0.0333	ND	47.4	30-120			
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.6	30-120			
Chrysene	0.0174	0.00500	"	0.0333	ND	52.1	30-120			
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.6	30-120			
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.5	30-120			
Fluorene	0.0170	0.00500	"	0.0333	ND	51.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0176	0.00500	"	0.0333	ND	52.8	30-120			
Pyrene	0.0178	0.00500	"	0.0333	ND	53.5	35-142			
1-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.8	15-130			
2-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.3	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0197*		*"*	*0.0333*		*59.1*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0192*		*"*	*0.0333*		*57.5*	*40-150*			
Matrix Spike Dup (BFL0414-MSD1)	**Source: 2212264-01**			Prepared: 12/16/22 Analyzed: 12/17/22						
Acenaphthene	0.0160	0.00500	mg/kg	0.0333	ND	48.1	31-137	4.70	30	
Anthracene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	12.3	30	
Benzo (a) anthracene	0.0168	0.00500	"	0.0333	ND	50.3	30-120	5.31	30	
Benzo (a) pyrene	0.0154	0.00500	"	0.0333	ND	46.1	30-120	4.88	30	
Benzo (b) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.6	30-120	3.93	30	
Benzo (k) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	4.94	30	
Chrysene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	5.03	30	
Dibenz (a,h) anthracene	0.0149	0.00500	"	0.0333	ND	44.6	30-120	6.42	30	
Fluoranthene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	6.85	30	
Fluorene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	3.67	30	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	1.67	30	
Pyrene	0.0167	0.00500	"	0.0333	ND	50.1	35-142	6.58	30	
1-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.6	15-130	5.46	50	
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.3	15-130	4.80	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0172*		*"*	*0.0333*		*51.6*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0169*		*"*	*0.0333*		*50.6*	*40-150*			

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0457 - EPA 3050B										
Blank (BFL0457-BLK1)				Prepared: 12/18/22 Analyzed: 12/20/22						
Boron	ND	0.0100	mg/L							
LCS (BFL0457-BS1)				Prepared: 12/18/22 Analyzed: 12/20/22						
Boron	4.42	0.0100	mg/L	5.00		88.3	80-120			
Duplicate (BFL0457-DUP1)		**Source: 2212314-01**		Prepared: 12/18/22 Analyzed: 12/20/22						
Boron	0.142	0.0100	mg/L		0.154			7.80	20	
Matrix Spike (BFL0457-MS1)		**Source: 2212314-01**		Prepared: 12/18/22 Analyzed: 12/20/22						
Boron	4.06	0.0100	mg/L	5.00	0.154	78.1	75-125			
Matrix Spike Dup (BFL0457-MSD1)		**Source: 2212314-01**		Prepared: 12/18/22 Analyzed: 12/20/22						
Boron	4.10	0.0100	mg/L	5.00	0.154	78.9	75-125	0.944	25	

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0522 - General Preparation										
Blank (BFL0522-BLK1)				Prepared: 12/20/22 Analyzed: 12/22/22						
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							
LCS (BFL0522-BS1)				Prepared: 12/20/22 Analyzed: 12/22/22						
Calcium	4.49	0.0500	mg/L wet	5.00		89.9	70-130			
Magnesium	4.15	0.0500	"	5.00		83.1	70-130			
Sodium	4.44	0.0500	"	5.00		88.8	70-130			

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0486 - General Preparation										
Duplicate (BFL0486-DUP1)		**Source: 2212313-01**		Prepared: 12/19/22 Analyzed: 12/20/22						
% Solids	99.8		%		89.6			10.8	20	

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0557 - General Preparation										
Blank (BFL0557-BLK1)				Prepared & Analyzed: 12/21/22						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (BFL0557-BS1)				Prepared & Analyzed: 12/21/22						
Specific Conductance (EC)	0.146	0.0100	mmhos/cm	0.150		97.5	95-105			
Duplicate (BFL0557-DUP1)		**Source: 2212313-01**		Prepared & Analyzed: 12/21/22						
Specific Conductance (EC)	0.245	0.0100	mmhos/cm		0.253			3.21	20	

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BFL0556 - General Preparation										
LCS (BFL0556-BS1)				Prepared & Analyzed: 12/21/22						
pH	9.13		pH Units	9.18		99.5	95-105			
Duplicate (BFL0556-DUP1)		**Source: 2212313-01**		Prepared & Analyzed: 12/21/22						
pH	7.96		pH Units		8.15			2.36	20	

Tasman Geosciences 6855 W. 119th Ave. Broomfield CO, 80020	Project: Noble - UPRC 07-10Q Project Number: UWRWE-A2701-ABN Project Manager: Jacob Whritenour	**Reported:** 12/27/22 11:15

Notes and Definitions

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