

Wellhead Closure Checklist

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

Additional attachments (optional):		Pit Closure		Tank Battery Closure		Flowline Closure		Partially Buried Vault Closure	
Site Name & COGCC Facility Number: McClellan 03-35		Date: 12/1/2021				Remediation Project #: 19606			
Associated Wells:		Age of Site:				Number of Photos Attached: 9			
Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple)						40.3378870, -104.654510		Estimated Facility Size (acres):	
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good condition - no visible signs of erosion, corrosion, or contamination									
USCS Soil Type: SW - Well graded sand					Estimated Depth to Groundwater: 6'				
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									
Wellhead(s)									
Well API	05-123-24833								
Age									
Condition of surface around wellhead	good								
PID Readings	0.0-1.7								
Condition of subsurface (staining present)	good - no staining present								
PID Readings	0.0-1.7								
Sample taken? Location Sample ID#	see below								
Photo Number(s)	1-9								
Other observations regarding wellheads: One sample was taken at each of the four sidewalls (SS01-SS04) @ 2.5'. One sample was taken from the base of the wellhead excavation (FS01) @6'. Two flowline samples were taken, one at the wellhead (FL01-A) and one at the separator (FL01-B). Two background samples were taken (BG01) and 4' and 6'.									
Summary									
Was impacted soil identified? No Yes - less than 10 cubic yards Yes - more than 10 cubic yards									
Total number of samples field screened: 9					Total number of samples collected: 9				
Highest PID Reading: 1.7					Total number of samples submitted to lab for analysis: 5				
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: SS01 @2.5		Equipment Type: Wellhead		Equipment ID: SS02 @2.5		Equipment Type: Wellhead	
Material: Steel		Volume:		Contents: Oil/Gas/Water		Material: Steel	
Volume:		Contents: Oil/Gas/Water		Volume:		Contents: Oil/Gas/Water	
Notes/Conditions: Sidewall sample SS01 @2.5'.				Notes/Conditions: Sidewall sample SS02 @2.5'.			

Photographic Log

					
Material: Steel	Volume:	Contents: Oil/Gas/Water	Material: Steel	Volume:	Contents: Oil/Gas/Water
Notes/Conditions: Sidewall sample SS03@2.5'.			Notes/Conditions: Sidewall sample SS04@2.5'.		

Photographic Log



Equipment ID: FS01@6	Equipment Type: Wellhead	
Material: Steel	Volume:	Contents: Oil/Gas/Water
Notes/Conditions: Floor sample FS01@6'.		

Equipment ID: FL01-A@4	Equipment Type: Flowline	
Material: Steel	Volume:	Contents: Oil/Gas/Water
Notes/Conditions: Flowline sample at wellhead FL01-A@4'.		

Photographic Log



Equipment ID: BG01@4		Equipment Type: Wellhead			Equipment ID: BG01@6		Equipment Type: Wellhead		
Material: Steel		Volume:	Contents: Oil/Gas/Water		Material: Steel		Volume:	Contents: Oil/Gas/Water	
Notes/Conditions: Background sample BG01@4.					Notes/Conditions: Background sample BG01@6.				

Photographic Log



Equipment ID: FL01-B@4		Equipment Type: Flowline		Equipment ID:		Equipment Type:	
Material: Steel		Volume:		Material:		Volume:	
Contents: Oil/Gas/Water		Notes/Conditions: Flowline sample at separator FL01-B@4.		Material:		Volume:	
Notes/Conditions:		Notes/Conditions:		Material:		Contents:	

Flowline Closure Checklist

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

<i>Additional Attachments:</i>		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
<i>Site Name & COGCC Facility Number:</i> McClellan 03-35		<i>Date:</i> 12/17/2022			<i>Remediation Project #:</i> 19606			
<i>Associated Wells:</i>		<i>Age of Site:</i>			<i>Number of Photos Attached:</i> 2			
<i>Starting point: (GPS coordinates and descriptions)</i> 40.337860, -104.654480								
<i>End point: (GPS coordinates and descriptions)</i> 40.340530, -104.655870								
<i>USCS Soil Type:</i> SW - Well Graded Sand					<i>Estimated Depth to Groundwater:</i> >4-ft			
<i>Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)</i> None observed								
<i>Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth)</i> None observed								
Flowlines								
<i>Flowline type</i>	<i>Oil/gas/water</i>							
<i>Depth</i>	4-ft							
<i>Age</i>	N/A							
<i>Length</i>	1,250-ft							
<i>Construction Material</i>	Steel							
<i>Were flowlines pulled?</i>	N/A							
<i>Visual Integrity of lines</i>	N/A							
<i>Visual impacts if trenched</i>	N/A							
<i>PID Readings if trenched</i>	N/A							
<i>Sample taken? Location/Sample ID#</i>	See below							
<i>Photo Number(s)</i>	2							
<i>Other observations regarding on location flowlines:</i> A total of two samples were taken where lines changes from W to N (FL01-D@4') and from N to NW (FL01-C@4'). Samples screened clean and were not submitted for lab analysis.								
Summary								
<i>Was impacted soil identified?</i> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards								
<i>Total number of samples field screened:</i> 2					<i>Total number of samples collected:</i> 2			
<i>Highest PID Reading:</i> 0.0-ppm					<i>Total number of samples submitted to lab for analysis:</i> 0			
<i>If more than 10 cubic yards of impacted soil were observed:</i>								
<i>Vertical extent:</i>					<i>Estimated spill volume:</i>			
<i>Lateral extent:</i>					<i>Volume of soil removed:</i>			
<i>Is additional investigation required?</i>								
<i>Was groundwater encountered during the investigation?</i> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils								
<i>Measured depth to groundwater:</i>					<i>Was remedial groundwater removal conducted?</i> Yes No			
<i>Date Groundwater was encountered:</i>					<i>Commencement date of removal:</i>			
<i>Sheen on groundwater?</i> Yes No					<i>Volume of groundwater removed prior to sampling:</i>			
<i>Free product observed?</i> Yes No					<i>Volume of groundwater removed post sampling:</i>			
<i>Total number of samples collected:</i>					<i>Total Volume of groundwater removed:</i>			
<i>Total number of samples submitted to lab for analysis:</i>								

Photographic Log


Equipment ID: FL01-C		Equipment Type: Flowline		Equipment ID: FL01-D		Equipment Type: Flowline	
Material: Steel		Volume:		Material: Steel		Volume:	
Contents: Oil/Gas/Water				Contents: Oil/Gas/Water			
Notes/Conditions: Flowline sample FL01-C@4' location. No hydrocarbon odor or staining. This is where the line changed from N to NW.				Notes/Conditions: Flowline sample FL01-D@4' location. No hydrocarbon odor or staining. This is where the line changed from W to N.			

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - MCCLELLAN 03-35

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
SS01@2.5'	12/01/21	1.1	No Staining	No Odor	Grab	40.3378995	-104.654529	1.1
SS02@2.5'	12/01/21	0.9	No Staining	No Odor	Grab	40.3378752	-104.654507	1.2
SS03@2.5'	12/01/21	1.5	No Staining	No Odor	Grab	40.3378657	-104.654507	1.2
SS04@2.5'	12/01/21	0.2	No Staining	No Odor	Grab	40.3378754	-104.654549	1.2
FS01@6'	12/01/21	1.0	No Staining	No Odor	Lab	40.3378810	-104.654520	1.2
FL01-A@4'	12/01/21	1.1	No Staining	No Odor	Lab	40.3378682	-104.654519	1.2
FL01-B@4'	12/01/21	1.7	No Staining	No Odor	Lab	40.3405300	-104.655870	1.2
FL01-C@4'	12/17/21	0.0	No Staining	No Odor	Grab	40.3399148	-104.655407	1.2
FL01-D@4'	12/17/21	0.0	No Staining	No Odor	Grab	40.3378643	-104.655175	1.1
BG01@4'	12/01/21	1.2	No Staining	No Odor	Grab	40.3376307	-104.654484	1.2
BG01@6'	12/01/21	0.5	No Staining	No Odor	Grab	40.3376307	-104.654484	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. - MCCLELLAN 03-35**

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 SSL²		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
FS01@6'	12/01/21	<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-A@4'	12/01/21	<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@4'	12/01/21	<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 SSL²		6 - 8.3	<6	<4mmhos/cm	2
FS01@6'	12/01/21	8.04	5.46	1.41	0.122
FL01-A@4'	12/01/21	7.94	4.33	1.70	0.143
FL01-B@4'	12/01/21	8.11	0.304	0.321	0.104

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- 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 = 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 COGCC Table 915-1 standard

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

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

Benzo(a) = Benzoanthracene

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



Legend

- Excavation Extent (Collected via Trimble GPS)
- ⊕ Soil Sample Location – Field Screen (Collected via Trimble GPS)
- ⊕ Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.
- 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
 mg/kg – Milligrams per kilogram

0 ft. 15 ft. 30 ft. 

Image Source: Google Earth; Google 2021

DATE:	12/15/2021
DESIGNED BY:	JW
DRAWN BY:	JC



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

Noble Energy, Inc. – DJ Basin
McClellan 03-35
 NWSW, Section 3, Township 4 North, Range 65 West
 Weld County, Colorado

Wellhead Closure & Soil
 Analytical Results Map
 (12/01/2021)

FIGURE
1



Legend

- - - Flowline
- + Soil Sample Location – Field Screen (Collected via Trimble GPS)
- + Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.
- 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
 mg/kg – Milligrams per kilogram

0 ft. 15 ft. 30 ft.

Image Source: Google Earth; Google 2021

DATE:	12/15/2021
DESIGNED BY:	JW
DRAWN BY:	JC

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

**Noble Energy, Inc. – DJ Basin
 McClellan 03-35**
 NWSW, Section 3, Township 4 North, Range 65 West
 Weld County, Colorado

Flowline Closure & Soil
 Analytical Results Map
 (12/01/2021-12/17/2021)

FIGURE
 2

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 15, 2021

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - McClellan 03-35
Work Order #2112031

Enclosed are the results of analyses for samples received by Summit Scientific on 12/01/21 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 'Paul Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



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

Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN

Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@6	2112031-02	Soil	12/01/21 14:54	12/01/21 17:00
FL01-A@4	2112031-03	Soil	12/01/21 14:56	12/01/21 17:00
FL01-B@4	2112031-04	Soil	12/01/21 14:12	12/01/21 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

2112031

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Jeff White

Address: 6855 W. 119th Ave. E-Mail: Jwhritenour@tasman-geo.com

City/State/Zip: Broomfield / CO/ 80020

Phone: 303-487-1228 Project Name: McClellan 03-35

Sampler Name: Daniel Qua, Halina North Project Number: UWRIVE-A1607-ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	
1	SS03@2.5	12/1/21	14:52				X			X				X	X	X	X	X	X	
2	FS01@6	↓	14:54																	
3	FLO1-A@4	↓	14:56																	
4	FLO1-B@4	↓	14:12																	
5	BG01@4	↓	15:04																	X
6	BG01@4	↓	15:02																	X
7																				
8																				
9																				
10																				

Relinquished by: <u>Halina North</u>	Date/Time: <u>12/1/21 17:00</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: <u>12/1/21 17:00</u>	Turn Around Time (Check) <input type="checkbox"/> Same Day 72 hours <input checked="" type="checkbox"/> 24 hours Standard <input type="checkbox"/> 48 hours Sample Integrity: Temperature Upon Receipt: <u>8.9</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by: <u>[Signature]</u>	Date/Time: <u>12-1-21 1700</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		



2112031

S2 Work Order# _____

Sample Receipt Checklist

Client: Noble/Tasman Client Project ID: McClellan 03-35

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

Matrix (check all that apply): Air Soil/Solid Water Other: _____ (Describe)

Temp (°C)	<u>8.9</u>
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>ON ICE</u>
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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, H2SO4, NaOH, HNO3, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian Printed Name or Initials

Date/Time



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

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FS01@6
2112031-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEL0042	12/02/21	12/03/21	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: **12/01/21 14:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		118 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		124 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEL0043	12/02/21	12/03/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		88.4 %		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 - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FS01@6
2112031-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEL0027	12/02/21	12/08/21	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: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		61.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.122	0.0100	mg/L	1	BEL0168	12/08/21	12/14/21	EPA 6020B	

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

Date Sampled: **12/01/21 14:54**

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 - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FS01@6
2112031-02 (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	47.4	0.0571	mg/L dry	1	BEL0116	12/06/21	12/14/21	EPA 6020B	
Magnesium	15.8	0.0571	"	"	"	"	"	"	
Sodium	170	0.0571	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.46	0.00100	units	1	BEL0290	12/14/21	12/14/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.5		%	1	BEL0228	12/10/21	12/10/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.41	0.0100	mmhos/cm	1	BEL0136	12/07/21	12/07/21	EPA 120.1	

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

Date Sampled: **12/01/21 14:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BEL0135	12/07/21	12/07/21	EPA 9045D	

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Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-A@4
2112031-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEL0042	12/02/21	12/03/21	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: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		114 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEL0043	12/02/21	12/03/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-A@4
2112031-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEL0027	12/02/21	12/08/21	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: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		89.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.143	0.0100	mg/L	1	BEL0168	12/08/21	12/14/21	EPA 6020B	

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

Date Sampled: **12/01/21 14:56**

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 - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-A@4
2112031-03 (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	69.4	0.0572	mg/L dry	1	BEL0116	12/06/21	12/14/21	EPA 6020B	
Magnesium	29.8	0.0572	"	"	"	"	"	"	
Sodium	171	0.0572	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.33	0.00100	units	1	BEL0290	12/14/21	12/14/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BEL0228	12/10/21	12/10/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.70	0.0100	mmhos/cm	1	BEL0136	12/07/21	12/07/21	EPA 120.1	

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

Date Sampled: **12/01/21 14:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BEL0135	12/07/21	12/07/21	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-B@4
2112031-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEL0042	12/02/21	12/03/21	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: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		116 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEL0043	12/02/21	12/03/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-B@4
2112031-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEL0027	12/02/21	12/08/21	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: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.104	0.0100	mg/L	1	BEL0168	12/08/21	12/14/21	EPA 6020B	

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

Date Sampled: **12/01/21 14:12**

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

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

FL01-B@4
2112031-04 (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	29.5	0.0564	mg/L dry	1	BEL0116	12/06/21	12/14/21	EPA 6020B	
Magnesium	13.9	0.0564	"	"	"	"	"	"	
Sodium	7.98	0.0564	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.304	0.00100	units	1	BEL0290	12/14/21	12/14/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7		%	1	BEL0228	12/10/21	12/10/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.321	0.0100	mmhos/cm	1	BEL0136	12/07/21	12/07/21	EPA 120.1	

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

Date Sampled: **12/01/21 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.11		pH Units	1	BEL0135	12/07/21	12/07/21	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEL0042 - EPA 5030 Soil MS

Blank (BEL0042-BLK1)

Prepared: 12/02/21 Analyzed: 12/03/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0479		"	0.0400		120	23-173			
<i>Surrogate: Toluene-d8</i>	0.0468		"	0.0400		117	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0463		"	0.0400		116	21-167			

LCS (BEL0042-BS1)

Prepared: 12/02/21 Analyzed: 12/03/21

Benzene	0.0947	0.0020	mg/kg	0.100		94.7	70-130			
Toluene	0.112	0.0050	"	0.100		112	70-130			
Ethylbenzene	0.0961	0.0050	"	0.100		96.1	70-130			
m,p-Xylene	0.196	0.010	"	0.200		98.0	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.0979	0.0050	"	0.100		97.9	70-130			
Naphthalene	0.0855	0.0038	"	0.100		85.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0458		"	0.0400		114	23-173			
<i>Surrogate: Toluene-d8</i>	0.0446		"	0.0400		111	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0412		"	0.0400		103	21-167			

Matrix Spike (BEL0042-MS1)

Source: 2111506-01

Prepared: 12/02/21 Analyzed: 12/03/21

Benzene	0.0907	0.0020	mg/kg	0.100	ND	90.7	70-130			
Toluene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
Ethylbenzene	0.0814	0.0050	"	0.100	ND	81.4	70-130			
m,p-Xylene	0.165	0.010	"	0.200	ND	82.7	70-130			
o-Xylene	0.0866	0.0050	"	0.100	ND	86.6	70-130			
1,2,4-Trimethylbenzene	0.0820	0.0050	"	0.100	ND	82.0	70-130			
1,3,5-Trimethylbenzene	0.0774	0.0050	"	0.100	ND	77.4	70-130			
Naphthalene	0.0882	0.0038	"	0.100	ND	88.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0486		"	0.0400		122	23-173			
<i>Surrogate: Toluene-d8</i>	0.0446		"	0.0400		112	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0438		"	0.0400		110	21-167			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BEL0042 - EPA 5030 Soil MS

Matrix Spike Dup (BEL0042-MSD1)	Source: 2111506-01			Prepared: 12/02/21 Analyzed: 12/03/21						
Benzene	0.0912	0.0020	mg/kg	0.100	ND	91.2	70-130	0.528	30	
Toluene	0.0945	0.0050	"	0.100	ND	94.5	70-130	3.28	30	
Ethylbenzene	0.0796	0.0050	"	0.100	ND	79.6	70-130	2.27	30	
m,p-Xylene	0.164	0.010	"	0.200	ND	82.0	70-130	0.819	30	
o-Xylene	0.0844	0.0050	"	0.100	ND	84.4	70-130	2.60	30	
1,2,4-Trimethylbenzene	0.0803	0.0050	"	0.100	ND	80.3	70-130	2.11	30	
1,3,5-Trimethylbenzene	0.0764	0.0050	"	0.100	ND	76.4	70-130	1.29	30	
Naphthalene	0.0861	0.0038	"	0.100	ND	86.1	70-130	2.41	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0468</i>		<i>"</i>	<i>0.0400</i>		<i>117</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0432</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>21-167</i>			

Summit Scientific

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

Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEL0043 - EPA 3550A

Blank (BEL0043-BLK1)

Prepared: 12/02/21 Analyzed: 12/03/21

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							

LCS (BEL0043-BS1)

Prepared: 12/02/21 Analyzed: 12/03/21

C10-C28 (DRO)	580	50	mg/kg	500		116	70-130			
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Matrix Spike (BEL0043-MS1)

Source: 2111506-01

Prepared: 12/02/21 Analyzed: 12/03/21

C10-C28 (DRO)	479	50	mg/kg	500	ND	95.8	70-130			
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Matrix Spike Dup (BEL0043-MSD1)

Source: 2111506-01

Prepared: 12/02/21 Analyzed: 12/03/21

C10-C28 (DRO)	445	50	mg/kg	500	ND	88.9	70-130	7.38	20	
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Tasman Geosciences
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Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

PAH by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch BEL0027 - EPA 5030 Soil MS

Blank (BEL0027-BLK1)

Prepared: 12/02/21 Analyzed: 12/07/21

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0298		"	0.0333		89.4	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0273		"	0.0333		81.9	40-150			

LCS (BEL0027-BS1)

Prepared: 12/02/21 Analyzed: 12/07/21

Acenaphthene	0.0263	0.00500	mg/kg	0.0333		78.9	31-137			
Anthracene	0.0273	0.00500	"	0.0333		81.9	30-120			
Benzo (a) anthracene	0.0247	0.00500	"	0.0333		74.0	30-120			
Benzo (a) pyrene	0.0268	0.00500	"	0.0333		80.4	30-120			
Benzo (b) fluoranthene	0.0280	0.00500	"	0.0333		84.1	30-120			
Benzo (k) fluoranthene	0.0309	0.00500	"	0.0333		92.7	30-120			
Chrysene	0.0256	0.00500	"	0.0333		76.9	30-120			
Dibenz (a,h) anthracene	0.0223	0.00500	"	0.0333		67.0	30-120			
Fluoranthene	0.0282	0.00500	"	0.0333		84.6	30-120			
Fluorene	0.0286	0.00500	"	0.0333		85.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0138	0.00500	"	0.0333		41.5	30-120			
Pyrene	0.0264	0.00500	"	0.0333		79.1	35-142			
1-Methylnaphthalene	0.0248	0.00500	"	0.0333		74.3	35-142			
2-Methylnaphthalene	0.0233	0.00500	"	0.0333		69.9	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0253		"	0.0333		75.9	40-150			
<i>Surrogate: Fluoranthene-d10</i>	0.0281		"	0.0333		84.2	40-150			

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Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEL0027 - EPA 5030 Soil MS

Matrix Spike (BEL0027-MS1)	Source: 2111360-01			Prepared: 12/02/21 Analyzed: 12/07/21					
Acenaphthene	0.0231	0.00500	mg/kg	0.0333	ND	69.4	31-137		
Anthracene	0.0231	0.00500	"	0.0333	ND	69.3	30-120		
Benzo (a) anthracene	0.0214	0.00500	"	0.0333	ND	64.3	30-120		
Benzo (a) pyrene	0.0239	0.00500	"	0.0333	ND	71.7	30-120		
Benzo (b) fluoranthene	0.0246	0.00500	"	0.0333	ND	73.7	30-120		
Benzo (k) fluoranthene	0.0275	0.00500	"	0.0333	ND	82.4	30-120		
Chrysene	0.0228	0.00500	"	0.0333	ND	68.5	30-120		
Dibenz (a,h) anthracene	0.0205	0.00500	"	0.0333	ND	61.5	30-120		
Fluoranthene	0.0248	0.00500	"	0.0333	ND	74.3	30-120		
Fluorene	0.0247	0.00500	"	0.0333	ND	74.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0123	0.00500	"	0.0333	ND	37.0	30-120		
Pyrene	0.0229	0.00500	"	0.0333	ND	68.8	35-142		
1-Methylnaphthalene	0.0242	0.00500	"	0.0333	ND	72.5	15-130		
2-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.1	15-130		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.2</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0252</i>		<i>"</i>	<i>0.0333</i>		<i>75.6</i>	<i>40-150</i>		

Matrix Spike Dup (BEL0027-MSD1)	Source: 2111360-01			Prepared: 12/02/21 Analyzed: 12/07/21					
Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.6	31-137	1.09	30
Anthracene	0.0231	0.00500	"	0.0333	ND	69.3	30-120	0.0101	30
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120	4.87	30
Benzo (a) pyrene	0.0244	0.00500	"	0.0333	ND	73.3	30-120	2.14	30
Benzo (b) fluoranthene	0.0250	0.00500	"	0.0333	ND	74.9	30-120	1.62	30
Benzo (k) fluoranthene	0.0279	0.00500	"	0.0333	ND	83.7	30-120	1.47	30
Chrysene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	2.31	30
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333	ND	60.7	30-120	1.28	30
Fluoranthene	0.0246	0.00500	"	0.0333	ND	73.9	30-120	0.470	30
Fluorene	0.0251	0.00500	"	0.0333	ND	75.3	30-120	1.45	30
Indeno (1,2,3-cd) pyrene	0.0133	0.00500	"	0.0333	ND	40.0	30-120	7.85	30
Pyrene	0.0242	0.00500	"	0.0333	ND	72.7	35-142	5.56	30
1-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.7	15-130	5.41	50
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.5	15-130	9.75	50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0215</i>		<i>"</i>	<i>0.0333</i>		<i>64.4</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0253</i>		<i>"</i>	<i>0.0333</i>		<i>75.8</i>	<i>40-150</i>		

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

Project: Noble - McClellan 03-35
Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

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

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

Batch BEL0168 - EPA 3050B

Blank (BEL0168-BLK1)				Prepared: 12/08/21 Analyzed: 12/14/21							
Boron	ND	0.0100	mg/L								
LCS (BEL0168-BS1)				Prepared: 12/08/21 Analyzed: 12/14/21							
Boron	5.10	0.0100	mg/L	5.00	102	80-120					
Duplicate (BEL0168-DUP1)				Source: 2112027-01		Prepared: 12/08/21 Analyzed: 12/14/21					
Boron	ND	0.0100	mg/L		ND					20	
Matrix Spike (BEL0168-MS1)				Source: 2112027-01		Prepared: 12/08/21 Analyzed: 12/14/21					
Boron	5.40	0.0100	mg/L	5.00	ND	108	75-125				
Matrix Spike Dup (BEL0168-MSD1)				Source: 2112027-01		Prepared: 12/08/21 Analyzed: 12/14/21					
Boron	5.39	0.0100	mg/L	5.00	ND	108	75-125	0.156		25	

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Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN

Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

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

Summit Scientific

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

Batch BEL0116 - General Preparation

Blank (BEL0116-BLK1)

Prepared: 12/06/21 Analyzed: 12/14/21

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

LCS (BEL0116-BS1)

Prepared: 12/06/21 Analyzed: 12/14/21

Calcium	5.78	0.0500	mg/L wet	5.00	116	70-130
Magnesium	5.89	0.0500	"	5.00	118	70-130
Sodium	5.46	0.0500	"	5.00	109	70-130

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Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN
 Project Manager: Jacob Whritenour

Reported:
 12/15/21 12:08

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

Summit Scientific

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

Batch BEL0228 - General Preparation

Duplicate (BEL0228-DUP1)

Source: 2112026-12

Prepared & Analyzed: 12/10/21

% Solids	96.8		%		96.6			0.214	20	
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

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

Summit Scientific

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

Batch BEL0136 - General Preparation

Blank (BEL0136-BLK1)

Prepared & Analyzed: 12/07/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEL0136-BS1)

Prepared & Analyzed: 12/07/21

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BEL0136-DUP1)

Source: 2111526-01

Prepared & Analyzed: 12/07/21

Specific Conductance (EC) 2.36 0.0100 mmhos/cm 2.41 2.18 20

Summit Scientific

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Project: Noble - McClellan 03-35

Project Number: UWRWE-A1607-ABN
Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

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

Summit Scientific

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

Batch BEL0135 - General Preparation

LCS (BEL0135-BS1)

Prepared & Analyzed: 12/07/21

pH 9.07 pH Units 9.18 98.8 95-105

Duplicate (BEL0135-DUP1)

Source: 2111526-01

Prepared & Analyzed: 12/07/21

pH 11.6 pH Units 11.5 0.691 20

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Project Number: UWRWE-A1607-ABN

Project Manager: Jacob Whritenour

Reported:
12/15/21 12:08

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