Tank Battery Closure Checklist

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

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure

Site Name & COGCC Facility Number: KILDOW PM C-64N64W 31NWNE	*Date:* 03/28/2023	*Remediation Project #:* 25628
Associated Wells:	*Age of Site:*	*Number of Photos Attached:* 11
Location: *(GPS coordinates of southeaster berm)*		*Estimated Facility Size (acres):* .654

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

Good, no visible sign of erosion and corrosion

USCS Soil Type:	*Estimated Depth to Groundwater:*

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

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

Tanks

Tank Contents									
Size (barrels)									
Age									
Construction Material									
Tank type (AST/BBV, etc.)									
Visual Integrity of Tank									
Condition of tank footprint									
PID Readings									
Soil impacts present at valves or hatches?									
PID Readings									
Sample taken? Location/ Sample ID#									
Photo Number(s)									

Other observations regarding tanks:

Separators

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

Other observations regarding separators:

Third Party Equipment

Type									
Age									

TANK BATTERY DECOMMISSIONING

Photographic Log

Equipment ID: SS03@2.5'	**Equipment Type:** Partially Buried Vault	
Material: Concrete	**Volume:**	**Contents:** Produced Water
Notes/Conditions:		

Equipment ID: SS04@2.5'	**Equipment Type:** Partially Buried Vault	
Material: Concrete	**Volume:**	**Contents:** Produced Water
Notes/Conditions:		

Need another photo log page? X

TASMAN GEOSCIENCES

TANK BATTERY DECOMMISSIONING

Photographic Log

Equipment ID: FS01@4.5'	**Equipment Type:** Partially Buried Vault	
Material: Concrete	**Volume:**	**Contents:** Produced Water
Notes/Conditions:		

Equipment ID: AST01@0.5'	**Equipment Type:** Above Ground Storage Tank	
Material: Steel	**Volume:**	**Contents:** Crude Oil
Notes/Conditions:		

Need another photo log page? X

TANK BATTERY DECOMMISSIONING

Photographic Log

Equipment ID: SEP01-FL@3'	**Equipment Type:** Separator	
Material: Steel	**Volume:**	**Contents:** Oil/Gas/Water
Notes/Conditions:		

Equipment ID: SEP01-DL@3'	**Equipment Type:** Separator	
Material: Steel	**Volume:**	**Contents:** Oil/Gas/Water
Notes/Conditions:		

Need another photo log page? X

TANK BATTERY DECOMMISSIONING

Photographic Log

Equipment ID: MH01@0.5'	Equipment Type:	
Material:	Volume:	Contents:
Notes/Conditions:		

Equipment ID: FS01@7'	Equipment Type:	
Material:	Volume:	Contents:
Notes/Conditions:		

Need another photo log page? X

TASMAN GEOSCIENCES

Photographic Log

Equipment ID: Background	**Equipment Type:**		**Equipment ID:**	**Equipment Type:**	
Material:	**Volume:**	**Contents:**	**Material:**	**Volume:**	**Contents:**
Notes/Conditions:			**Notes/Conditions:**		

Need another photo log page?

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - KILDOW PMC 31-2 FAC

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude[1]	Longitude	PDOP
SS01@2.5'	03/28/23	0.0	No Staining	No Odor	Lab	40.27590374	-104.5912188	1.0
SS02@2.5'	03/28/23	0.0	No Staining	No Odor	Lab	40.27587341	-104.5912003	1.0
SS03@2.5'	03/28/23	0.0	No Staining	No Odor	Lab	40.27584976	-104.5912175	0.9
SS04@2.5'	03/28/23	0.0	No Staining	No Odor	Lab	40.27587188	-104.5912445	1.0
FS01@4.5'	03/28/23	100.7	No Staining	No Odor	Lab	40.27587549	-104.5912183	0.9
FS01@7'	03/28/23	487.1	HC Staining	HC Odor	Lab	40.27587549	-104.5912183	0.9
AST01@0.5'	03/28/23	0.0	No Staining	No Odor	Lab	40.27586147	-104.5911154	0.9
SEP01-FL@3'	03/28/23	0.3	No Staining	No Odor	Lab	40.27588937	-104.5913645	0.9
SEP01-DL@3'	03/28/23	0.2	No Staining	No Odor	Lab	40.27588059	-104.5913974	0.9
MH01@0.5'	03/28/23	0.2	No Staining	No Odor	Grab	40.27589144	-104.5914343	0.9
BG01@2.5'	03/28/23	0.0	No Staining	No Odor	Grab	40.27574856	-104.5914222	0.9
BG01@4.5'	03/28/23	0.0	No Staining	No Odor	Grab	40.27574856	-104.5914222	0.9
BG01@7'	03/28/23	0.0	No Staining	No Odor	Lab	40.27574856	-104.5914222	0.9

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. - KILDOW PMC 31-2 FAC

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**
SS01@2.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS02@2.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS03@2.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS04@2.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@4.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.85	<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
FS01@7'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	**0.11**	<0.0050	**0.031**	1.7	<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
AST01@0.5'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL@3'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL@3'	03/28/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

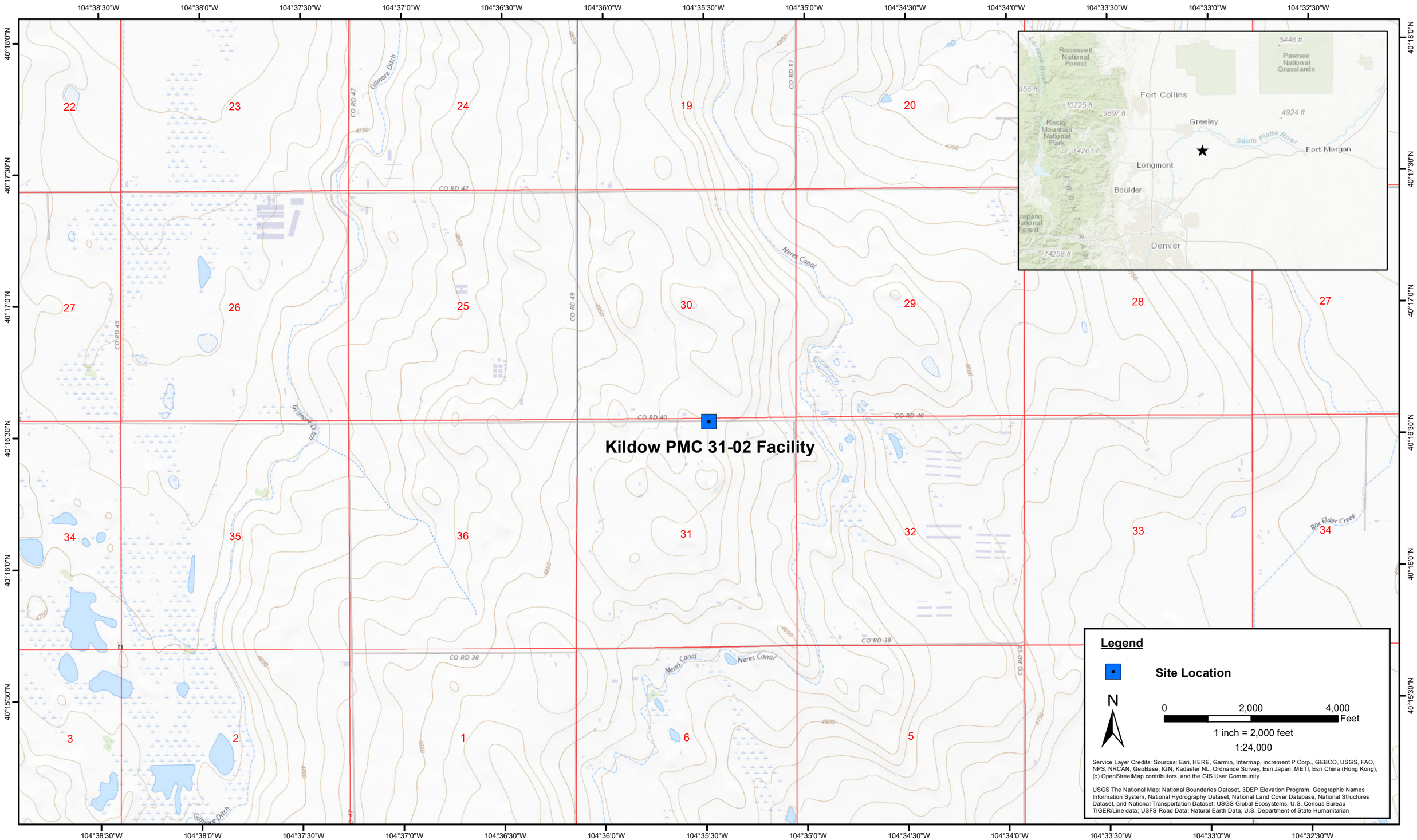
Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL[2]		**6 - 8.3**	**<6**	**<4mmhos/cm**	**2**
SS01@2.5'	03/28/23	7.82	0.0438	0.281	0.0824
SS02@2.5'	03/28/23	7.82	0.0807	0.383	0.0805
SS03@2.5'	03/28/23	7.57	0.211	0.274	0.118
SS04@2.5'	03/28/23	7.26	0.0166	0.170	0.113
FS01@4.5'	03/28/23	7.85	0.467	0.489	0.308
FS01@7'	03/28/23	8.22	**7.03**	1.14	1.81
AST01@0.5'	03/28/23	8.13	0.0871	0.200	0.102
SEP01-FL@3'	03/28/23	7.87	0.110	0.345	0.0983
SEP01-DL@3'	03/28/23	8.10	0.0270	0.256	0.0639
BG01@7'	03/28/23	8.79	2.83	0.673	0.374
BG01@2.5'	03/28/23	7.64	5.55	5.21	0.0682
BG01@4.5'	03/28/23	8.97	5.72	1.02	0.569

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL[2]		**0.68**	**15,000**	**71**	**0.3**	**3,100**	**400**	**1,500**	**390**	**390**	**23,000**
Protection of Groundwater		**0.29**	**82**	**0.38**	**0.00067**	**46**	**14**	**26**	**0.26**	**0.8**	**370**
FS01@7'	03/28/23	**3.190**	54.6	**1.73**	<0.30	8.90	**16.0**	11.0	**0.778**	0.0823	52.7
BG01@7'	03/28/23	2.98	84.1	0.266	<0.30	4.72	6.45	6.43	<0.260	0.0211	20.8

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: April 2023 DESIGNED BY: J. Whritenour DRAWN BY: L. Reed	TASMAN **Tasman, Inc.** **6855 W. 119th Ave** **Broomfield, CO 80020**	**Noble Energy, Inc - DJ Basin** **Kildow PMC 31-02 Facility** NWNE Sec. 31-T4N-R64W Weld County, Colorado	Site Location Map

Figure 1

DATE:	04/05/2023
DESIGNED BY:	JW
DRAWN BY:	HM

TASMAN GEOSCIENCES

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

Noble Energy, Inc. – DJ Basin
Kildow PMC 31-2 FAC
NWNE, Section 31, Township 4 North, Range 64 West
Weld County, Colorado

Tank Battery Closure & Soil Analytical Results Map
(03/28/2023)

FIGURE
2

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

April 11, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfeld, CO 80020

RE: Noble - Kildow PMC 31-2 (FAC)

Work Order # 2303681

Enclosed are the results of analyses for samples received by Summit Scientific on 03/28/23 17:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott Sheely For Paul Shrewsbury

President

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2.5'	2303681-01	Soil	03/28/23 10:34	03/28/23 17:38
SS02@2.5'	2303681-02	Soil	03/28/23 10:36	03/28/23 17:38
SS03@2.5'	2303681-03	Soil	03/28/23 10:38	03/28/23 17:38
SS04@2.5'	2303681-04	Soil	03/28/23 10:40	03/28/23 17:38
FS01@4.5'	2303681-05	Soil	03/28/23 10:42	03/28/23 17:38
FS01@7'	2303681-06	Soil	03/28/23 11:28	03/28/23 17:38
AST01@0.5'	2303681-07	Soil	03/28/23 10:51	03/28/23 17:38
SEP01-FL@3'	2303681-08	Soil	03/28/23 10:57	03/28/23 17:38
SEP01-DL@3'	2303681-09	Soil	03/28/23 10:59	03/28/23 17:38
BG01@2.5'	2303681-10	Soil	03/28/23 12:05	03/28/23 17:38
BG01@4.5'	2303681-11	Soil	03/28/23 12:07	03/28/23 17:38
BG01@7'	2303681-12	Soil	03/28/23 12:09	03/28/23 17:38

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2303681	

	Send Data To:	Send Invoice To:
Client: Noble / Tasman	Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W. 119th Ave	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Kildow PMC 31-2(FAC)
City/State/Zip: Broomfield, CO 80020		AFE#:
Phone: 303-261-6246	Project Name: Kildow PMC 31-2 (FAC)	PO/Billing Codes:
Sampler Name: Stanley Gilbert	Project Number: UWRWE-A2316-ABN	Contact: Cole Moore

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative: HCl	HNO3	None	Other ___	Matrix: Water	Soil	Air-Canister #	Other ___	Analysis Requested: VOC - 915	TPH - 915	PAH - 915	pH,EC,SAR	Boron - HWS	Metals - 915	HOLD	Special Instructions: pH, EC, SAR by saturated paste
1	SS01 @ 2.5'	3/28/23	10:34	2			X			X			X	X	X	X	X			
2	SS02 @ 2.5'		10:36																	
3	SS03 @ 2.5'		10:38																	
4	SS04 @ 2.5'		10:40																	
5	FS01 @ 4.5'		10:42																	
6	FS01 @ 7'		11:28																	
7	AST01 @ 0.5'		10:51																	
8	SEP01-FL @ 3'		10:57																	
9	SEP01-DL @ 3'		10:59																	
10	BG01 @ 2.5'		12:05																	
11	BG01 @ 4.5'		12:07																	
12	BG01 @ 7'		12:09																	
13																				
14																				
15																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	TAT Business Days		Field DO	
[signature]	3/28/23 14:53	Tasman Lock Box	3/28/23 14:53	Same Day		Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day		Field ORP	
Tasman Lock Box	3/28/23 17:38	[signature]	3/28/23 17:38	2 Days		Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days		Field Temp.	
				Standard	X	Field Turb.	

Temperature Upon Receipt: 9.1 | Corrected Temperature: — | IR gun #: 1 | HNO3 lot #:

Notes:

S2

Sample Receipt Checklist

S2 Work Order# 2303681

Client: Noble/Tasman Client Project ID: Kildaw PMC 31-2 (FAC)

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

[ ] [✓] [ ] [ ] [ ]

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

Temp (°C) 9.1 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.**

AB
Custodian Printed Name

3/28/23
Date/Time

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS01@2.5'
2303681-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/29/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*95.6 %*		*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. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS01@2.5'

2303681-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/03/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*62.0 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*52.6 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0824**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:34**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS01@2.5'
2303681-01 (Soil)

Summit Scientific

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

Calcium	**39.4**	0.0536	mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**5.17**	0.0536	"	"	"	"	"	"
Sodium	**1.10**	0.0536	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0438**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**93.4**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.281**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:34**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.82**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS02@2.5'
2303681-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/29/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*109 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*92.4 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS02@2.5'

2303681-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*64.9 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*53.4 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0805**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:36**

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

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS02@2.5'
2303681-02 (Soil)

Summit Scientific

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

Calcium	**41.0**	0.0566	mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**7.49**	0.0566	"	"	"	"	"	"
Sodium	**2.14**	0.0566	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0807**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**88.4**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.383**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:36**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.82**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS03@2.5'
2303681-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/29/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.0 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*89.5 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS03@2.5'

2303681-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*64.6 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*48.2 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.118**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:38**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS03@2.5'
2303681-03 (Soil)

Summit Scientific

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

Calcium	**26.2**	0.0573		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**7.31**	0.0573		"	"	"	"	"	"
Sodium	**4.73**	0.0573		"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.211**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**87.2**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.274**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:38**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.57**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS04@2.5'
2303681-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/29/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*84.7 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS04@2.5'

2303681-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*64.4 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*48.6 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.113**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:40**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SS04@2.5'
2303681-04 (Soil)

Summit Scientific

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

Calcium	**202**	0.0562		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**42.5**	0.0562		"	"	"	"	"	"
Sodium	**0.996**	0.0562		"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0166**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**88.9**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.170**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.26**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@4.5'
2303681-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**0.85**	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*109 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*113 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*76.9 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@4.5'

2303681-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*53.6 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*51.5 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.308**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:42**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@4.5'
2303681-05 (Soil)

Summit Scientific

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

Calcium	**29.0**	0.0598	mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**17.0**	0.0598	"	"	"	"	"	"
Sodium	**12.8**	0.0598	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.467**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**83.7**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.489**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:42**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.85**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@7'
2303681-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.11**	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	**0.031**	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	**1.7**	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*95.3 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*107 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*90.1 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@7'

2303681-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*44.8 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*60.9 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**1.81**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/28/23 11:28**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@7'
2303681-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	**3.19**	0.242	0.204	mg/kg dry	1	BGD0203	04/07/23	04/10/23	EPA 6020B
Barium	**54.6**	0.484	0.383	"	"	"	"	"	"
Cadmium	**1.73**	0.242	0.00872	"	"	"	"	"	"
Copper	**8.90**	0.484	0.0253	"	"	"	"	"	"
Lead	**16.0**	0.242	0.0666	"	"	"	"	"	"
Nickel	**11.0**	0.484	0.0739	"	"	"	"	"	"
Selenium	**0.778**	0.260	0.175	"	"	"	"	"	"
Silver	**0.0823**	0.0242	0.00323	"	"	"	"	"	"
Zinc	**52.7**	0.484	0.322	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGD0214	04/07/23	04/07/23	EPA 7196A	

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

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**9.46**	0.0605		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B	
Magnesium	**16.9**	0.0605		"	"	"	"	"	"	
Sodium	**156**	0.0605		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**7.03**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

FS01@7'

2303681-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**82.6**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1.14**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 11:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.22**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

AST01@0.5'
2303681-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*99.2 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*101 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

AST01@0.5'
2303681-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*64.5 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*54.0 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.102**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:51**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

AST01@0.5'
2303681-07 (Soil)

Summit Scientific

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

Calcium	**59.2**	0.0566	mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**7.96**	0.0566	"	"	"	"	"	"
Sodium	**2.69**	0.0566	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0871**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**88.3**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.200**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:51**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.13**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-FL@3'
2303681-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.8 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*86.6 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-FL@3'
2303681-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*55.2 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*46.7 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0983**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:57**

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

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-FL@3'
2303681-08 (Soil)

Summit Scientific

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

Calcium	**51.3**	0.0584		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**7.80**	0.0584		"	"	"	"	"	"
Sodium	**3.21**	0.0584		"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.110**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**85.6**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.345**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.87**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-DL@3'
2303681-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGC0967	03/29/23	03/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*108 %*		*50-150*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*		*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*		*50-150*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGC0969	03/29/23	03/30/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*84.7 %*		*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-DL@3'
2303681-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0024	04/03/23	04/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*63.0 %*		*40-150*		"	"	"	"	
Surrogate: Fluoranthene-d10		*54.2 %*		*40-150*		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0639**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 10:59**

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

SEP01-DL@3'
2303681-09 (Soil)

Summit Scientific

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

Calcium	**39.0**	0.0595	mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B
Magnesium	**7.76**	0.0595	"	"	"	"	"	"
Sodium	**0.704**	0.0595	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**0.0270**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**84.0**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.256**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 10:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.10**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

BG01@2.5'
2303681-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.0682**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**286**	0.0572		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B	
Magnesium	**140**	0.0572		"	"	"	"	"	"	
Sodium	**458**	0.0572		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**5.55**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**87.5**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**5.21**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

BG01@2.5'

2303681-10 (Soil)

Summit Scientific

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

Date Sampled: **03/28/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**7.64**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

Summit Scientific

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BG01@4.5'

2303681-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.569**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

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

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**16.3**	0.0568		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B	
Magnesium	**17.7**	0.0568		"	"	"	"	"	"	
Sodium	**140**	0.0568		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**5.72**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**88.0**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**1.02**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

BG01@4.5'

2303681-11 (Soil)

Summit Scientific

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

Date Sampled: **03/28/23 12:07**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.97**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

BG01@7'
2303681-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	**0.374**	0.0100		mg/L	1	BGC1009	03/30/23	04/02/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**2.98**	0.225	0.189	mg/kg dry	1	BGD0203	04/07/23	04/10/23	EPA 6020B	
Barium	**84.1**	0.449	0.355	"	"	"	"	"	"	
Cadmium	**0.266**	0.225	0.00809	"	"	"	"	"	"	
Copper	**4.72**	0.449	0.0235	"	"	"	"	"	"	
Lead	**6.45**	0.225	0.0617	"	"	"	"	"	"	
Nickel	**6.43**	0.449	0.0685	"	"	"	"	"	"	
Selenium	ND	0.260	0.175	"	"	"	"	"	"	
Silver	**0.0211**	0.0225	0.00300	"	"	"	"	"	"	
Zinc	**20.8**	0.449	0.299	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGD0214	04/07/23	04/07/23	EPA 7196A	

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

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	**8.36**	0.0562		mg/L dry	1	BGC1052	03/31/23	04/02/23	EPA 6020B	
Magnesium	**22.3**	0.0562		"	"	"	"	"	"	
Sodium	**69.1**	0.0562		"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences 6855 W. 119th Ave. Broomfeld CO, 80020	Project: Noble - Kildow PMC 31-2 (FAC) Project Number: UWRWE-A2316-ABN Project Manager: Jacob Whritenour	**Reported:** 04/11/23 13:18

BG01@7'

2303681-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	**2.83**	0.00100		units	1	BGD0060	04/03/23	04/03/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**89.0**			%	1	BGC0980	03/29/23	03/30/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	**0.673**	0.0100		mmhos/cm	1	BGD0008	04/01/23	04/01/23	EPA 120.1	

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

Date Sampled: **03/28/23 12:09**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	**8.79**			pH Units	1	BGD0007	04/01/23	04/01/23	EPA 9045D	

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGC0967 - EPA 5030 Soil MS										
Blank (BGC0967-BLK1)				Prepared & Analyzed: 03/29/23						
Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	*0.0455*		*"*	*0.0400*		*114*	*50-150*			
Surrogate: Toluene-d8	*0.0334*		*"*	*0.0400*		*83.5*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0348*		*"*	*0.0400*		*86.9*	*50-150*			
LCS (BGC0967-BS1)				Prepared & Analyzed: 03/29/23						
Benzene	0.117	0.0020	mg/kg	0.150		77.9	70-130			
Toluene	0.122	0.0050	"	0.150		81.4	70-130			
Ethylbenzene	0.175	0.0050	"	0.150		117	70-130			
m,p-Xylene	0.354	0.010	"	0.300		118	70-130			
o-Xylene	0.168	0.0050	"	0.150		112	70-130			
1,2,4-Trimethylbenzene	0.180	0.0050	"	0.150		120	70-130			
1,3,5-Trimethylbenzene	0.186	0.0050	"	0.150		124	70-130			
Naphthalene	0.178	0.0038	"	0.150		119	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0465*		*"*	*0.0400*		*116*	*50-150*			
Surrogate: Toluene-d8	*0.0341*		*"*	*0.0400*		*85.4*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0332*		*"*	*0.0400*		*83.0*	*50-150*			
Matrix Spike (BGC0967-MS1)		**Source: 2303665-01**		Prepared & Analyzed: 03/29/23						
Benzene	0.111	0.0020	mg/kg	0.150	ND	73.9	70-130			
Toluene	0.117	0.0050	"	0.150	ND	77.9	70-130			
Ethylbenzene	0.168	0.0050	"	0.150	ND	112	70-130			
m,p-Xylene	0.339	0.010	"	0.300	ND	113	70-130			
o-Xylene	0.158	0.0050	"	0.150	ND	105	70-130			
1,2,4-Trimethylbenzene	0.171	0.0050	"	0.150	ND	114	70-130			
1,3,5-Trimethylbenzene	0.176	0.0050	"	0.150	ND	117	70-130			
Naphthalene	0.170	0.0038	"	0.150	0.0184	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0464*		*"*	*0.0400*		*116*	*50-150*			
Surrogate: Toluene-d8	*0.0339*		*"*	*0.0400*		*84.7*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0334*		*"*	*0.0400*		*83.4*	*50-150*			

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGC0967 - EPA 5030 Soil MS										
Matrix Spike Dup (BGC0967-MSD1)		**Source: 2303665-01**		Prepared & Analyzed: 03/29/23						
Benzene	0.112	0.0020	mg/kg	0.150	ND	74.5	70-130	0.755	30	
Toluene	0.117	0.0050	"	0.150	ND	77.9	70-130	0.0257	30	
Ethylbenzene	0.165	0.0050	"	0.150	ND	110	70-130	1.69	30	
m,p-Xylene	0.331	0.010	"	0.300	ND	110	70-130	2.33	30	
o-Xylene	0.158	0.0050	"	0.150	ND	105	70-130	0.399	30	
1,2,4-Trimethylbenzene	0.167	0.0050	"	0.150	ND	111	70-130	2.45	30	
1,3,5-Trimethylbenzene	0.173	0.0050	"	0.150	ND	115	70-130	1.65	30	
Naphthalene	0.178	0.0038	"	0.150	0.0184	107	70-130	4.70	30	
Surrogate: 1,2-Dichloroethane-d4	*0.0467*		*"*	*0.0400*		*117*	*50-150*			
Surrogate: Toluene-d8	*0.0343*		*"*	*0.0400*		*85.7*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*0.0331*		*"*	*0.0400*		*82.7*	*50-150*			

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 BGC0969 - EPA 3550A										
Blank (BGC0969-BLK1)				Prepared: 03/29/23 Analyzed: 03/30/23						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	*15.0*		*"*	*12.5*		*120*	*30-150*			
LCS (BGC0969-BS1)				Prepared: 03/29/23 Analyzed: 03/30/23						
C10-C28 (DRO)	446	50	mg/kg	500		89.1	70-130			
Surrogate: o-Terphenyl	*13.5*		*"*	*12.5*		*108*	*30-150*			
Matrix Spike (BGC0969-MS1)		**Source: 2303665-01**		Prepared: 03/29/23 Analyzed: 03/30/23						
C10-C28 (DRO)	435	50	mg/kg	500	22.1	82.6	70-130			
Surrogate: o-Terphenyl	*9.75*		*"*	*12.5*		*78.0*	*30-150*			
Matrix Spike Dup (BGC0969-MSD1)		**Source: 2303665-01**		Prepared: 03/29/23 Analyzed: 03/30/23						
C10-C28 (DRO)	453	50	mg/kg	500	22.1	86.2	70-130	4.09	20	
Surrogate: o-Terphenyl	*9.03*		*"*	*12.5*		*72.2*	*30-150*			

PAH by EPA Method 8270D SIM - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0024 - EPA 5030 Soil MS										
Blank (BGD0024-BLK1)				Prepared & Analyzed: 04/03/23						
Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	*0.0275*		*"*	*0.0333*		*82.5*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0225*		*"*	*0.0333*		*67.5*	*40-150*			
LCS (BGD0024-BS1)				Prepared & Analyzed: 04/03/23						
Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.2	31-137			
Anthracene	0.0256	0.00500	"	0.0333		76.7	30-120			
Benzo (a) anthracene	0.0144	0.00500	"	0.0333		43.3	30-120			
Benzo (a) pyrene	0.0189	0.00500	"	0.0333		56.6	30-120			
Benzo (b) fluoranthene	0.0180	0.00500	"	0.0333		54.0	30-120			
Benzo (k) fluoranthene	0.0223	0.00500	"	0.0333		66.9	30-120			
Chrysene	0.0221	0.00500	"	0.0333		66.4	30-120			
Dibenz (a,h) anthracene	0.0181	0.00500	"	0.0333		54.4	30-120			
Fluoranthene	0.0265	0.00500	"	0.0333		79.4	30-120			
Fluorene	0.0227	0.00500	"	0.0333		68.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333		58.0	30-120			
Pyrene	0.0262	0.00500	"	0.0333		78.5	35-142			
1-Methylnaphthalene	0.0252	0.00500	"	0.0333		75.7	35-142			
2-Methylnaphthalene	0.0247	0.00500	"	0.0333		74.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0293*		*"*	*0.0333*		*87.9*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0289*		*"*	*0.0333*		*86.7*	*40-150*			

PAH by EPA Method 8270D SIM - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0024 - EPA 5030 Soil MS										
Matrix Spike (BGD0024-MS1)		**Source: 2303681-01**		Prepared & Analyzed: 04/03/23						
Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.4	31-137			
Anthracene	0.0163	0.00500	"	0.0333	ND	48.8	30-120			
Benzo (a) anthracene	0.0136	0.00500	"	0.0333	ND	40.7	30-120			
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120			
Benzo (b) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.7	30-120			
Benzo (k) fluoranthene	0.0169	0.00500	"	0.0333	ND	50.8	30-120			
Chrysene	0.0136	0.00500	"	0.0333	ND	40.9	30-120			
Dibenz (a,h) anthracene	0.0148	0.00500	"	0.0333	ND	44.4	30-120			
Fluoranthene	0.0181	0.00500	"	0.0333	ND	54.2	30-120			
Fluorene	0.0166	0.00500	"	0.0333	ND	49.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333	ND	58.0	30-120			
Pyrene	0.0168	0.00500	"	0.0333	ND	50.4	35-142			
1-Methylnaphthalene	0.0164	0.00500	"	0.0333	ND	49.1	15-130			
2-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.2	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0199*		*"*	*0.0333*		*59.8*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0191*		*"*	*0.0333*		*57.4*	*40-150*			
Matrix Spike Dup (BGD0024-MSD1)		**Source: 2303681-01**		Prepared & Analyzed: 04/03/23						
Acenaphthene	0.0207	0.00500	mg/kg	0.0333	ND	62.1	31-137	15.1	30	
Anthracene	0.0196	0.00500	"	0.0333	ND	58.9	30-120	18.9	30	
Benzo (a) anthracene	0.0197	0.00500	"	0.0333	ND	59.0	30-120	36.7	30	QR-02
Benzo (a) pyrene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	9.06	30	
Benzo (b) fluoranthene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	1.98	30	
Benzo (k) fluoranthene	0.0174	0.00500	"	0.0333	ND	52.1	30-120	2.52	30	
Chrysene	0.0161	0.00500	"	0.0333	ND	48.2	30-120	16.3	30	
Dibenz (a,h) anthracene	0.0166	0.00500	"	0.0333	ND	49.7	30-120	11.2	30	
Fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120	12.6	30	
Fluorene	0.0188	0.00500	"	0.0333	ND	56.3	30-120	12.1	30	
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	28.7	30	
Pyrene	0.0191	0.00500	"	0.0333	ND	57.3	35-142	12.7	30	
1-Methylnaphthalene	0.0194	0.00500	"	0.0333	ND	58.3	15-130	17.2	50	
2-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.4	15-130	18.1	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0233*		*"*	*0.0333*		*69.9*	*40-150*			
Surrogate: Fluoranthene-d10	*0.0223*		*"*	*0.0333*		*66.9*	*40-150*			

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

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGC1009 - EPA 3050B										
Blank (BGC1009-BLK1)				Prepared: 03/30/23 Analyzed: 04/02/23						
Boron	ND	0.0100	mg/L							
LCS (BGC1009-BS1)				Prepared: 03/30/23 Analyzed: 04/02/23						
Boron	4.84	0.0100	mg/L	5.00		96.7	80-120			
Duplicate (BGC1009-DUP1)		**Source: 2303678-01**		Prepared: 03/30/23 Analyzed: 04/02/23						
Boron	0.111	0.0100	mg/L		0.119			7.02	20	
Matrix Spike (BGC1009-MS1)		**Source: 2303678-01**		Prepared: 03/30/23 Analyzed: 04/02/23						
Boron	4.95	0.0100	mg/L	5.00	0.119	96.5	75-125			
Matrix Spike Dup (BGC1009-MSD1)		**Source: 2303678-01**		Prepared: 03/30/23 Analyzed: 04/02/23						
Boron	4.99	0.0100	mg/L	5.00	0.119	97.4	75-125	0.914	25	

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Total Metals by EPA 6020B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0203 - EPA 3050B										
Blank (BGD0203-BLK1)				Prepared: 04/07/23 Analyzed: 04/10/23						
Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	ND	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Selenium	ND	0.260	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
LCS (BGD0203-BS1)				Prepared: 04/07/23 Analyzed: 04/10/23						
Arsenic	40.0	0.200	mg/kg wet	40.0		99.9	80-120			
Barium	46.7	0.400	"	40.0		117	80-120			
Cadmium	2.33	0.200	"	2.00		116	80-120			
Copper	45.7	0.400	"	40.0		114	80-120			
Lead	19.7	0.200	"	20.0		98.7	80-120			
Nickel	45.0	0.400	"	40.0		113	80-120			
Selenium	4.41	0.260	"	4.00		110	80-120			
Silver	2.16	0.0200	"	2.00		108	80-120			
Zinc	45.3	0.400	"	40.0		113	80-120			
Duplicate (BGD0203-DUP1)		**Source: 2303610-01**		Prepared: 04/07/23 Analyzed: 04/10/23						
Arsenic	1.99	0.221	mg/kg dry		1.69			16.4	20	
Barium	56.4	0.441	"		50.9			10.2	20	
Cadmium	0.148	0.221	"		0.127			15.7	20	
Copper	4.69	0.441	"		4.03			15.2	20	
Lead	7.24	0.221	"		10.7			39.0	20	QR-03
Nickel	4.45	0.441	"		4.10			8.11	20	
Selenium	ND	0.260	"		ND				20	
Silver	0.0251	0.0221	"		0.0229			9.17	20	
Zinc	16.7	0.441	"		14.6			13.1	20	

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Total Metals by EPA 6020B - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0203 - EPA 3050B										
Matrix Spike (BGD0203-MS1)	**Source: 2303610-01**			Prepared: 04/07/23 Analyzed: 04/10/23						
Arsenic	41.6	0.221	mg/kg dry	44.1	1.69	90.5	75-125			
Barium	99.7	0.441	"	44.1	50.9	111	75-125			
Cadmium	2.49	0.221	"	2.21	0.127	107	75-125			
Copper	36.9	0.441	"	44.1	4.03	74.6	75-125			QM-07
Lead	29.2	0.221	"	22.1	10.7	83.7	75-125			
Nickel	36.9	0.441	"	44.1	4.10	74.3	75-125			QM-07
Selenium	4.15	0.260	"	4.41	ND	94.0	75-125			
Silver	2.21	0.0221	"	2.21	0.0229	99.1	75-125			
Zinc	48.5	0.441	"	44.1	14.6	76.8	75-125			
Matrix Spike Dup (BGD0203-MSD1)	**Source: 2303610-01**			Prepared: 04/07/23 Analyzed: 04/10/23						
Arsenic	45.4	0.221	mg/kg dry	44.1	1.69	99.0	75-125	8.62	25	
Barium	103	0.441	"	44.1	50.9	119	75-125	3.67	25	
Cadmium	2.61	0.221	"	2.21	0.127	113	75-125	4.69	25	
Copper	40.2	0.441	"	44.1	4.03	82.1	75-125	8.63	25	
Lead	31.1	0.221	"	22.1	10.7	92.4	75-125	6.31	25	
Nickel	39.6	0.441	"	44.1	4.10	80.4	75-125	7.10	25	
Selenium	4.39	0.260	"	4.41	ND	99.6	75-125	5.81	25	
Silver	2.28	0.0221	"	2.21	0.0229	102	75-125	3.05	25	
Zinc	52.0	0.441	"	44.1	14.6	84.7	75-125	6.92	25	

Hexavalent Chromium by EPA Method 7196 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BGD0214 - 3060A_Mod										
Blank (BGD0214-BLK1)				Prepared & Analyzed: 04/07/23						
Chromium, Hexavalent	ND	0.30	mg/kg wet							
LCS (BGD0214-BS1)				Prepared & Analyzed: 04/07/23						
Chromium, Hexavalent	23.1	0.30	mg/kg wet	25.0		92.4	80-120			
Duplicate (BGD0214-DUP1)		**Source: 2303610-01**		Prepared & Analyzed: 04/07/23						
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND				20	
Matrix Spike (BGD0214-MS1)		**Source: 2303610-01**		Prepared & Analyzed: 04/07/23						
Chromium, Hexavalent	29.0	0.30	mg/kg dry	27.6	ND	105	75-125			
Matrix Spike Dup (BGD0214-MSD1)		**Source: 2303610-01**		Prepared & Analyzed: 04/07/23						
Chromium, Hexavalent	28.8	0.30	mg/kg dry	27.6	ND	104	75-125	0.763	20	

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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 BGC1052 - General Preparation										
Blank (BGC1052-BLK1)				Prepared: 03/31/23 Analyzed: 04/02/23						
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							
LCS (BGC1052-BS1)				Prepared: 03/31/23 Analyzed: 04/02/23						
Calcium	5.57	0.0500	mg/L wet	5.00		111	70-130			
Magnesium	5.11	0.0500	"	5.00		102	70-130			
Sodium	4.76	0.0500	"	5.00		95.2	70-130			

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 BGC0980 - General Preparation										
Duplicate (BGC0980-DUP1)		**Source: 2303676-01**		Prepared: 03/29/23 Analyzed: 03/30/23						
% Solids	89.8		%		90.0			0.165	20	

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 BGD0008 - General Preparation										
Blank (BGD0008-BLK1)				Prepared & Analyzed: 04/01/23						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (BGD0008-BS1)				Prepared & Analyzed: 04/01/23						
Specific Conductance (EC)	0.150	0.0100	mmhos/cm	0.150		100	95-105			
Duplicate (BGD0008-DUP1)		**Source: 2303680-01**		Prepared & Analyzed: 04/01/23						
Specific Conductance (EC)	0.727	0.0100	mmhos/cm		0.728			0.220	20	

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 BGD0007 - General Preparation										
LCS (BGD0007-BS1)				Prepared & Analyzed: 04/01/23						
pH	9.09		pH Units	9.18		99.0	95-105			
Duplicate (BGD0007-DUP1)		**Source: 2303680-01**		Prepared & Analyzed: 04/01/23						
pH	7.90		pH Units		7.85			0.635	20	

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. 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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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