



Third Party Removal Date									
Sample taken?									
PID Readings									
Photo Number(s)									

### Other Facility Equipment

Equipment type	Meter House	Meter House	Flare		
Equipment Condition Age	Good	Good	Good		
Soil impacts	None observed	None Observed	None Observed		
PID Readings	0.6	0.0	2.1		
Sample taken?	Yes, see below	Yes, see below	Yes, see below		
Photo Number(s)					

Other observations regarding other facility or third party equipment:

Sample taken below both meter house (MH01@0.5', MH02@0.5'), Sample taken below Flare (FLARE01@0.5').

### Summary

Was impacted soil identified?	
No	Yes - less than 10 cubic yards
Yes - more than 10 cubic yards	
Total number of samples field screened: 19	Total number of samples collected: 16
Highest PID Reading: 972.2	Total number of samples submitted to lab for analysis: 10
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:** Partially Buried Vault

**Material:** Concrete      **Volume:**      **Contents:** Produced Water

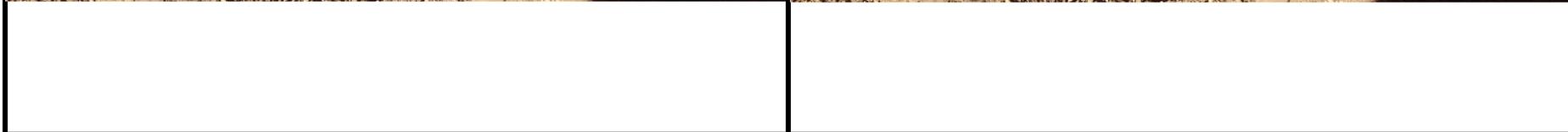
**Notes/Conditions:**

**Equipment ID:** SS02 @2.5'      **Equipment Type:** Partially Buried Vault

**Material:** Concrete      **Volume:**      **Contents:** Produced Water

**Notes/Conditions:**

**Photographic Log**



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

**Photographic Log**

**Equipment ID:** FS01@7'

**Equipment Type:** Partially Buried Vault

**Material:** Concrete

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

**Notes/Conditions:**
**Equipment ID:** SS05@2.5'

**Equipment Type:** Partially Buried Vault

**Material:** Concrete

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

**Notes/Conditions:**

**Photographic Log**



<b>Equipment ID:</b> SS06@2.5'		<b>Equipment Type:</b> Partially Buried Vault		<b>Equipment ID:</b> SS07@2.5'		<b>Equipment Type:</b> Partially Buried Vault	
<b>Material:</b> Concrete	<b>Volume:</b>	<b>Contents:</b> Produced Water		<b>Material:</b> Concrete	<b>Volume:</b>	<b>Contents:</b> Produced Water	
<b>Notes/Conditions:</b>				<b>Notes/Conditions:</b>			

**Photographic Log**

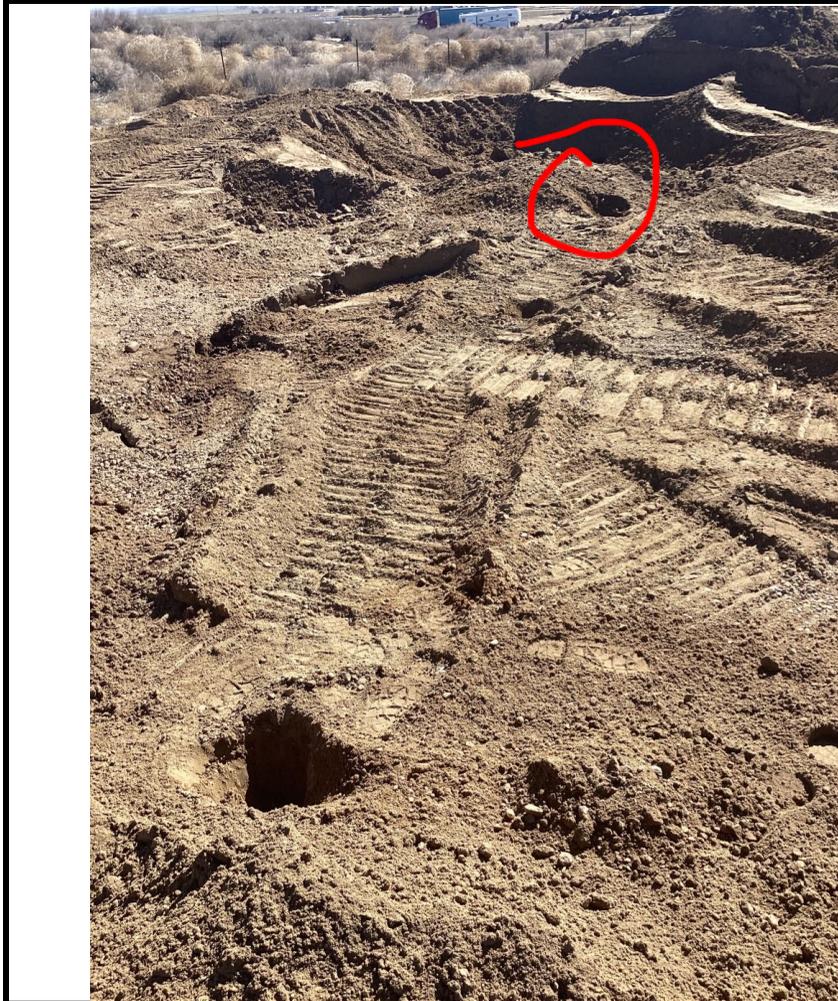

<b>Equipment ID:</b> SS08@2.5'		<b>Equipment Type:</b> Partially Buried Vault		<b>Equipment ID:</b> FS02@7'		<b>Equipment Type:</b> Partially Buried Vault	
<b>Material:</b> Concrete	<b>Volume:</b>	<b>Contents:</b> Produced Water		<b>Material:</b> Concrete	<b>Volume:</b>	<b>Contents:</b> Produced Water	
<b>Notes/Conditions:</b>				<b>Notes/Conditions:</b>			

**Photographic Log**


<b>Equipment ID:</b> AST01@0.5'	<b>Equipment Type:</b> Above Ground Storage Tank	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>		

<b>Equipment ID:</b> AST02@0.5'	<b>Equipment Type:</b> Above Ground Storage Tank	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>		

### Photographic Log

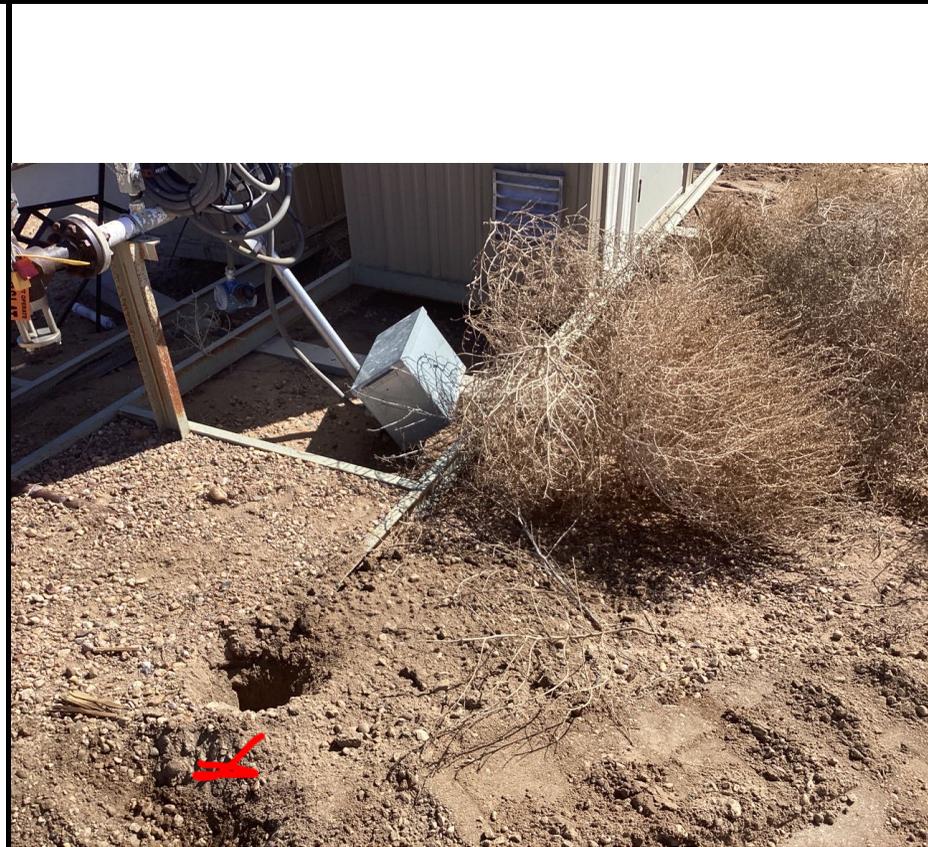


<b>Equipment ID:</b> AST03@0.5'	<b>Equipment Type:</b> Above Ground Storage Tank	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>		

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

**Photographic Log**

					
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water	<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>			<b>Notes/Conditions:</b>		

**Photographic Log**


<b>Equipment ID:</b> FLARE01@0.5'		<b>Equipment Type:</b> Emission Control Device	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water	
<b>Notes/Conditions:</b>			

<b>Equipment ID:</b> MH01@0.5'		<b>Equipment Type:</b> Emission Control Device	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water	
<b>Notes/Conditions:</b>			

**Photographic Log**


<b>Equipment ID:</b> MH02@0.5'	<b>Equipment Type:</b> Emission Control Device	
<b>Material:</b> Steel	<b>Volume:</b>	<b>Contents:</b> Oil/Gas/Water
<b>Notes/Conditions:</b>		

<b>Equipment ID:</b>	<b>Equipment Type:</b>	
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>
<b>Notes/Conditions:</b>		

**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - KILDOW C31-7X FAC**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
SS01@2.5'	04/07/23	0.7	No Staining	No Odor	Grab	40.27093212	-104.5911032	0.8
SS02@2.5'	04/07/23	2.2	No Staining	No Odor	Grab	40.27091708	-104.5910708	0.8
SS03@2.5'	04/07/23	3.1	No Staining	No Odor	Grab	40.27087976	-104.5911097	0.8
SS04@2.5'	04/07/23	5.1	No Staining	No Odor	Lab	40.27090174	-104.5911466	0.8
FS01@7'	04/07/23	3.5	No Staining	No Odor	Lab	40.27090619	-104.5911119	0.8
SS05@2.5'	04/07/23	1.2	No Staining	No Odor	Grab	40.27092549	-104.5908952	1.0
SS06@2.5'	04/07/23	0.3	No Staining	No Odor	Grab	40.27091390	-104.5908733	1.0
SS07@2.5'	04/07/23	2.8	No Staining	No Odor	Grab	40.27089612	-104.5908982	1.0
SS08@2.5'	04/07/23	3.4	No Staining	No Odor	Lab	40.27091431	-104.5909168	1.0
FS02@7'	04/07/23	2.8	No Staining	No Odor	Lab	40.27090949	-104.5908933	1.0
AST01@0.5'	04/07/23	3.4	No Staining	No Odor	Lab	40.27091310	-104.5910265	0.9
AST02@0.5'	04/07/23	3.7	No Staining	No Odor	Lab	40.27090933	-104.5909844	0.9
AST03@0.5'	04/07/23	1.7	No Staining	No Odor	Lab	40.27090542	-104.5909619	0.9
SEP01-DL@3'	04/07/23	3.2	No Staining	No Odor	Lab	40.27066669	-104.5909899	0.9
SEP02-DL@3'	04/07/23	972.2	No Staining	Strong HC Odor	Lab	40.27067992	-104.5910566	0.8
SEP03-DL@3'	04/07/23	35.7	No Staining	No Odor	Lab	40.27067142	-104.5910222	0.9
FLARE01@0.5'	04/07/23	2.1	No Staining	No Odor	Grab	40.27055624	-104.5910012	0.9
MH01@0.5'	04/07/23	0.6	No Staining	No Odor	Grab	40.27066574	-104.5908922	1.0
MH02@0.5'	04/07/23	0.0	No Staining	No Odor	Grab	40.27068093	-104.5908941	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 C31-7X FAC

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS04@2.5'	04/07/23	<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@7'	04/07/23	<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
SS08@2.5'	04/07/23	<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
FS02@7'	04/07/23	<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
AST01@0.5'	04/07/23	<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
AST02@0.5'	04/07/23	<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
AST03@0.5'	04/07/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	0.0153	0.0187	0.00990	0.0166	<0.00500	0.0379	<0.00500	0.00876	0.0206	<0.00500	<0.00500
SEP01-DL@3'	04/07/23	<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
SEP02-DL@3'	04/07/23	<0.0020	0.0070	<0.0050	0.034	<b>0.042</b>	<b>0.038</b>	<b>0.0044</b>	<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	<b>0.0224</b>	<b>0.0515</b>	
SEP03-DL@3'	04/07/23	<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 <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
SS04@2.5'	04/07/23	7.43	0.0450	0.229	0.116
FS01@7'	04/07/23	7.06	0.0651	0.132	0.0590
SS08@2.5'	04/07/23	<b>5.82</b>	0.0575	0.156	0.0530
FS02@7'	04/07/23	7.47	0.151	0.168	0.0689
AST01@0.5'	04/07/23	<b>4.40</b>	0.0384	0.0711	0.0450
AST02@0.5'	04/07/23	8.22	0.599	0.269	0.0668
AST03@0.5'	04/07/23	7.50	0.0455	0.281	0.0911
SEP01-DL@3'	04/07/23	<b>5.94</b>	0.0663	0.120	0.0673
SEP02-DL@3'	04/07/23	<b>5.89</b>	0.105	0.192	0.0647
SEP03-DL@3'	04/07/23	6.11	0.169	0.131	0.0664

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL <sup>2</sup>		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
SEP02-DL@3'	04/07/23	<b>0.458</b>	37.9	<0.217	<0.30	1.16	3.81	1.28	<0.260	<0.0217	5.04

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

Benz(a) = Benzanthracene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

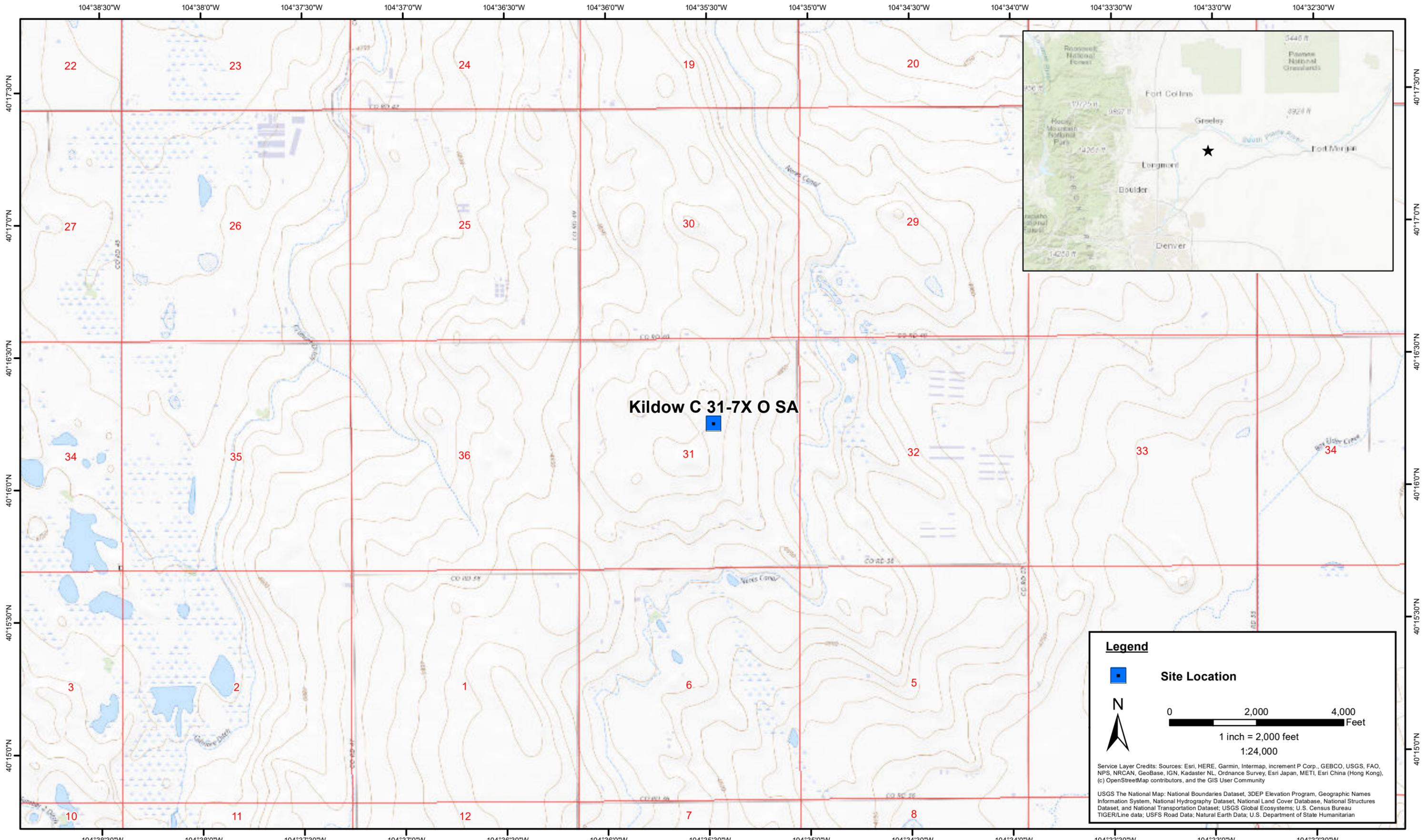
Benzo(a) = Benzopyrene

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

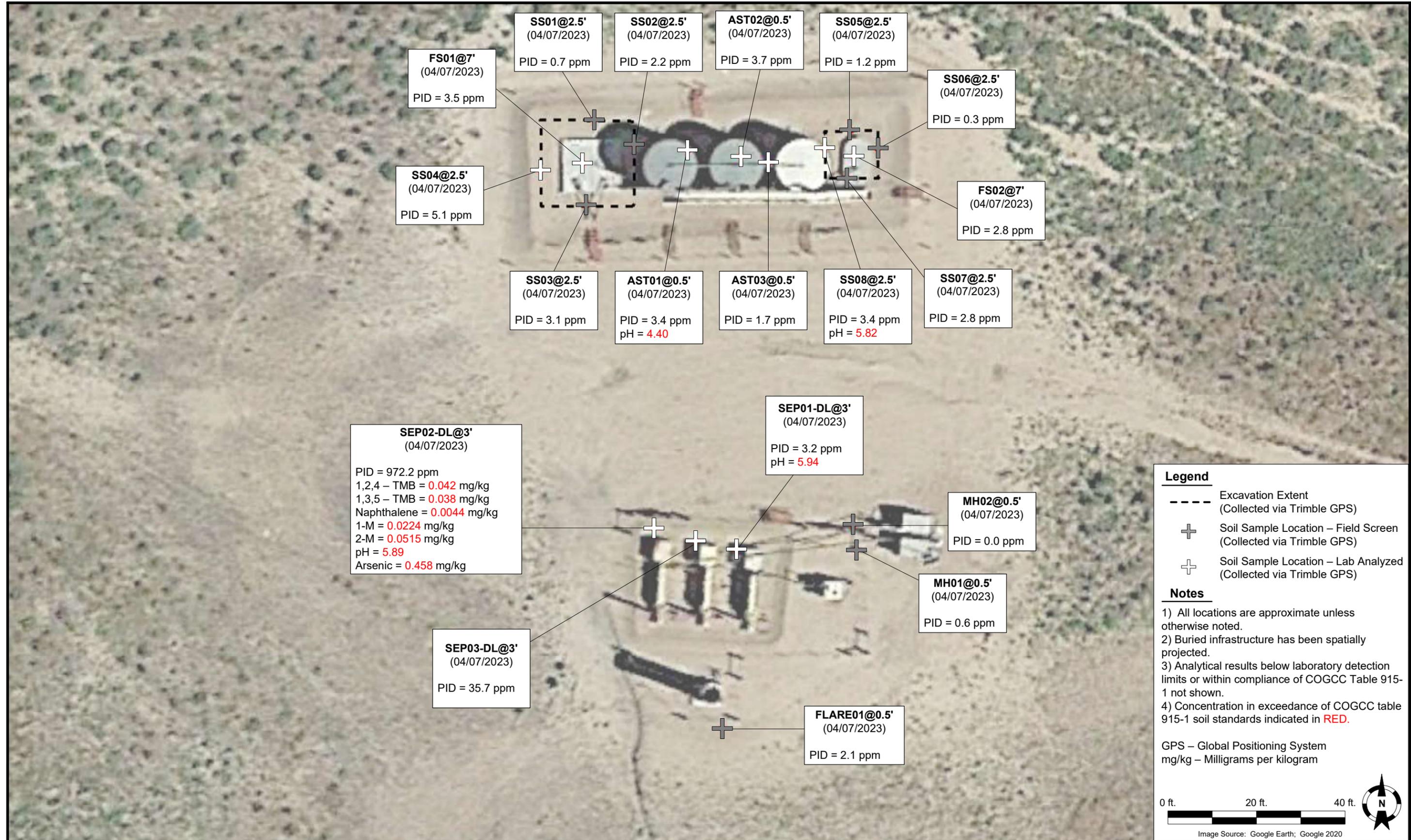


**Tasman, Inc.**  
6855 W. 119th Ave  
Broomfield, CO 80020

**Noble Energy, Inc - DJ Basin**  
**Kildow C 31-7X O SA**  
SWNE Sec. 31-T4N-R64W  
Weld County, Colorado

Site Location Map

Figure  
1



DATE: 04/21/2023

DESIGNED BY: JW

DRAWN BY: HM



**Noble Energy, Inc. – DJ Basin**  
**Kildow C 31-7X FAC**  
 SWNE, Section 31, Township 4 North, Range 64 West  
 Weld County, Colorado

Facility Closure & Soil  
 Analytical Results Map  
 (04/07/2023)

FIGURE  
 2

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

May 02, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfeld, CO 80020

RE: Noble - Kildow C 31-7x FAC

Work Order # 2304140

Enclosed are the results of analyses for samples received by Summit Scientific on 04/07/23 17:53. 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.  
Broomfield CO, 80020

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS04@2.5'	2304140-04	Soil	04/07/23 09:23	04/07/23 17:53
FS01@7'	2304140-05	Soil	04/07/23 09:24	04/07/23 17:53
SS08@2.5'	2304140-09	Soil	04/07/23 09:27	04/07/23 17:53
FS02@7'	2304140-10	Soil	04/07/23 09:28	04/07/23 17:53
AST01@0.5'	2304140-11	Soil	04/07/23 09:50	04/07/23 17:53
AST02@0.5'	2304140-12	Soil	04/07/23 09:55	04/07/23 17:53
AST03@0.5'	2304140-13	Soil	04/07/23 10:00	04/07/23 17:53
SEP01-DL@3'	2304140-14	Soil	04/07/23 10:23	04/07/23 17:53
SEP02-DL@3'	2304140-15	Soil	04/07/23 10:26	04/07/23 17:53
SEP03-DL@3'	2304140-16	Soil	04/07/23 10:45	04/07/23 17:53

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.*



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

Lab ID	Page 1 of 2
2304140.1	

Send Data To:		Send Invoice To:	
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: <u>Chevron</u>	
Address: 6855 W. 119th Ave.	E-Mail: jwhritenour@tasman-geo.com	Project Name/Location: <u>Kildow C 31-7X FAC</u>	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone: 602-881-5716	Project Name: <u>Kildow C 31-7X FAC</u>	PO/Billing Codes:	
Sampler Name: Dennis Gray	Project Number:	Contact: <u>Cole Moore</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD		
1	SS01@2.5'	4-7-23	920	2			X			X											SAR, EC, pH by saturated paste	
2	SS02@2.5'		921																			
3	SS03@2.5'		922																			
4	SS04@2.5'		923																			
5	FS01@7'		924											X	X	X	X	X				
6	SS05@2.5'		925											X	X	X	X	X				
7	SS06@2.5'		925																			
8	SS07@2.5'		926																			
9	SS08@2.5'		927											X	X	X	X	X				
10	FS02@7'		928											X	X	X	X	X				
11	AST01@0.5'		950											X	X	X	X	X				
12	AST02@0.5'		955											X	X	X	X	X				
13	AST03@0.5'		1000											X	X	X	X	X				
14	SEP01-DL@3'		1023											X	X	X	X	X				
15	SEP02-DL@3'		1026											X	X	X	X	X				

Relinquished by: <u>Dennis Gray</u>	Date/Time: <u>4-7-23 1615</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>4-7-23 1615</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: <u>4723 1753</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4723 1753</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>93</u>	Corrected Temperature: <u>6</u>	IR gun #: <u>1</u>	HNO3 lot #:			

<b>Send Data To:</b>		<b>Send Invoice To:</b>	
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: <b>Chevron</b>	
Address: 6855 W. 119th Ave.	E-Mail: jwhritenour@tasman-geo.com	Project Name/Location: <b>Kildow C 31-7X FAC</b>	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone: 602-881-5716	Project Name: <b>Kildow C 31-7X FAC</b>	PO/Billing Codes:	
Sampler Name: Dennis Gray	Project Number:	Contact: <b>Cole Moore</b>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	
1	SEPO3-DL@3'	4-7-23	1045	2			X			X			X	X	X	X	X		SAR, EC, pH by saturated paste
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>Dennis Gray</i>	Date/Time: 4-7-23 1615	Received by: Tasman Lock Box	Date/Time: 4-7-23 1615	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 4-7-23 1753	Received by: <i>[Signature]</i>	Date/Time: 4-7-23 1753	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 93	Corrected Temperature: $\emptyset$	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

2/2

S2 Work Order# 2304140

Sample Receipt Checklist

Client: Wolfe/Trasman Client Project ID: Kildew C31-7xFAe

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

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

Temp (°C)  Thermometer #

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

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

AS

Custodian Printed Name

4/7/23

Date/Time



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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS04@2.5'**  
**2304140-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/10/23	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: **04/07/23 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		90.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		61.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS04@2.5'**  
**2304140-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.7 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		74.1 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.116</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:23**

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

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS04@2.5'**  
**2304140-04 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	492	0.0518		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	105	0.0518		"	"	"	"	"	"	
Sodium	4.21	0.0518		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0450	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.229	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.43			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**FS01@7'**  
**2304140-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 09:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		88.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		48.5 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**FS01@7'**  
**2304140-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		64.9 %		40-150		"	"	"	"	

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0590</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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 - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**FS01@7'**  
**2304140-05 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	315	0.0549		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	77.9	0.0549		"	"	"	"	"	"	
Sodium	4.98	0.0549		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0651	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.132	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:24**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.06			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS08@2.5'**  
**2304140-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		90.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		71.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS08@2.5'**  
**2304140-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.0 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		63.2 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0530</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:27**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SS08@2.5'**  
**2304140-09 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	149	0.0528		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	34.9	0.0528		"	"	"	"	"	"	
Sodium	3.00	0.0528		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0575	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.6			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.156	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:27**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.82			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**FS02@7'**  
**2304140-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		89.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		58.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

Reported:  
05/02/23 10:50

**FS02@7'**  
**2304140-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		55.3 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		72.1 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<b>Boron</b>	<b>0.0689</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:28**

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

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**FS02@7'**  
**2304140-10 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	241	0.0542		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	55.5	0.0542		"	"	"	"	"	"	
Sodium	10.0	0.0542		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.151	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.168	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.47			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST01@0.5'**  
**2304140-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		90.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		58.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST01@0.5'**  
**2304140-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		42.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.5 %		40-150		"	"	"	"	

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

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0450</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:50**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST01@0.5'**  
**2304140-11 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	193	0.0531		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	28.5	0.0531		"	"	"	"	"	"	
Sodium	2.16	0.0531		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0384	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0711	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	4.40			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST02@0.5'**  
**2304140-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		92.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		58.3 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

Reported:  
05/02/23 10:50

**AST02@0.5'**  
**2304140-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.3 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		78.3 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0668</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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 - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST02@0.5'**  
**2304140-12 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	271	0.0523		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	37.5	0.0523		"	"	"	"	"	"	
Sodium	39.7	0.0523		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.599	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.269	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 09:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST03@0.5'**  
**2304140-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		90.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		98.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST03@0.5'**  
**2304140-13 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	"
<b>Benzo (a) pyrene</b>	<b>0.0153</b>	0.00500		"	"	"	"	"	"	"
<b>Benzo (b) fluoranthene</b>	<b>0.0187</b>	0.00500		"	"	"	"	"	"	"
<b>Benzo (k) fluoranthene</b>	<b>0.00990</b>	0.00500		"	"	"	"	"	"	"
<b>Chrysene</b>	<b>0.0166</b>	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
<b>Fluoranthene</b>	<b>0.0379</b>	0.00500		"	"	"	"	"	"	"
Fluorene	ND	0.00500		"	"	"	"	"	"	"
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.00876</b>	0.00500		"	"	"	"	"	"	"
<b>Pyrene</b>	<b>0.0206</b>	0.00500		"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.3 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		84.3 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0911</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 10:00**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**AST03@0.5'**  
**2304140-13 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	293	0.0516		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	68.7	0.0516		"	"	"	"	"	"	
Sodium	3.33	0.0516		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0455	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.0			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.281	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 10:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.50			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP01-DL@3'**  
**2304140-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		92.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.5 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		48.1 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP01-DL@3'**  
**2304140-14 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.9 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		68.7 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0673</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 10:23**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP01-DL@3'**  
**2304140-14 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	139	0.0527		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	29.5	0.0527		"	"	"	"	"	"	
Sodium	3.30	0.0527		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0663	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.9			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.120	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 10:23**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.94			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP02-DL@3'**  
**2304140-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	EPA 8260B	
<b>Toluene</b>	<b>0.0070</b>	0.0050		"	"	"	"	"	"	"
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	"
<b>Xylenes (total)</b>	<b>0.034</b>	0.010		"	"	"	"	"	"	"
<b>1,2,4-Trimethylbenzene</b>	<b>0.042</b>	0.0050		"	"	"	"	"	"	"
<b>1,3,5-Trimethylbenzene</b>	<b>0.038</b>	0.0050		"	"	"	"	"	"	"
<b>Naphthalene</b>	<b>0.0044</b>	0.0038		"	"	"	"	"	"	"
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	"

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		93.2 %		50-150		"	"	"	"	"
Surrogate: Toluene-d8		89.8 %		50-150		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		91.0 %		50-150		"	"	"	"	"

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		50.2 %		30-150		"	"	"	"	"

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP02-DL@3'**  
**2304140-15 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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		"	"	"	"	"	"	"
<b>1-Methylnaphthalene</b>	<b>0.0224</b>	0.00500		"	"	"	"	"	"	"
<b>2-Methylnaphthalene</b>	<b>0.0515</b>	0.00500		"	"	"	"	"	"	"

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.5 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		85.5 %		40-150		"	"	"	"	"

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0647</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/07/23 10:26**

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

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP02-DL@3'**  
**2304140-15 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.458	0.217	mg/kg dry	1	BGD0828	04/25/23	05/01/23	EPA 6020B
Barium	37.9	0.434	"	"	"	"	"	"
Cadmium	ND	0.217	"	"	"	"	"	"
Copper	1.16	0.434	"	"	"	"	"	"
Lead	3.81	0.217	"	"	"	"	"	"
Nickel	1.28	0.434	"	"	"	"	"	"
Selenium	ND	0.260	0.175	"	"	"	"	"
Silver	ND	0.0217	"	"	"	"	"	"
Zinc	5.04	0.434	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGD0816	04/25/23	04/25/23	EPA 7196A	

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	324	0.0542		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	65.3	0.0542		"	"	"	"	"	"	
Sodium	7.93	0.0542		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.105	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP02-DL@3'**  
**2304140-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.2			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.192	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	5.89			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP03-DL@3'**  
**2304140-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGD0280	04/10/23	04/11/23	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: **04/07/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		93.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		89.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGD0282	04/10/23	04/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		47.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP03-DL@3'**  
**2304140-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGD0411	04/13/23	04/13/23	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: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.1 %		40-150		"	"	"	"	

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

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0664</b>	0.0100		mg/L	1	BGD0294	04/10/23	04/17/23	EPA 6020B	

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

Date Sampled: **04/07/23 10:45**

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**SEP03-DL@3'**  
**2304140-16 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	164	0.0534		mg/L dry	1	BGD0473	04/15/23	04/21/23	EPA 6020B	
Magnesium	31.6	0.0534		"	"	"	"	"	"	
Sodium	9.04	0.0534		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.169	0.00100		units	1	BGD0696	04/21/23	04/21/23	Calculation	

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

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.6			%	1	BGD0291	04/10/23	04/11/23	Calculation	

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

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.131	0.0100		mmhos/cm	1	BGD0475	04/16/23	04/16/23	EPA 120.1	

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

Date Sampled: **04/07/23 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.11			pH Units	1	BGD0474	04/16/23	04/16/23	EPA 9045D	

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Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

Reported:  
05/02/23 10:50

### 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 BGD0280 - EPA 5030 Soil MS

##### Blank (BGD0280-BLK1)

Prepared & Analyzed: 04/10/23

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	0.0367		"	0.0400		91.6	50-150			
Surrogate: Toluene-d8	0.0352		"	0.0400		88.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.7	50-150			

##### LCS (BGD0280-BS1)

Prepared & Analyzed: 04/10/23

Benzene	0.108	0.0020	mg/kg	0.125		86.8	70-130			
Toluene	0.135	0.0050	"	0.125		108	70-130			
Ethylbenzene	0.148	0.0050	"	0.125		119	70-130			
m,p-Xylene	0.295	0.010	"	0.250		118	70-130			
o-Xylene	0.137	0.0050	"	0.125		110	70-130			
1,2,4-Trimethylbenzene	0.153	0.0050	"	0.125		123	70-130			
1,3,5-Trimethylbenzene	0.153	0.0050	"	0.125		122	70-130			
Naphthalene	0.151	0.0038	"	0.125		121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0354		"	0.0400		88.4	50-150			
Surrogate: Toluene-d8	0.0358		"	0.0400		89.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0347		"	0.0400		86.8	50-150			

##### Matrix Spike (BGD0280-MS1)

Source: 2304120-01

Prepared & Analyzed: 04/10/23

Benzene	0.108	0.0020	mg/kg	0.125	ND	86.7	70-130			
Toluene	0.136	0.0050	"	0.125	ND	109	70-130			
Ethylbenzene	0.152	0.0050	"	0.125	ND	121	70-130			
m,p-Xylene	0.300	0.010	"	0.250	ND	120	70-130			
o-Xylene	0.140	0.0050	"	0.125	ND	112	70-130			
1,2,4-Trimethylbenzene	0.158	0.0050	"	0.125	ND	127	70-130			
1,3,5-Trimethylbenzene	0.156	0.0050	"	0.125	ND	125	70-130			
Naphthalene	0.161	0.0038	"	0.125	ND	129	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.2	50-150			
Surrogate: Toluene-d8	0.0355		"	0.0400		88.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0348		"	0.0400		87.0	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**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 BGD0280 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGD0280-MSD1)</b>	<b>Source: 2304120-01</b>			<b>Prepared &amp; Analyzed: 04/10/23</b>						
Benzene	0.109	0.0020	mg/kg	0.125	ND	86.8	70-130	0.111	30	
Toluene	0.136	0.0050	"	0.125	ND	109	70-130	0.177	30	
Ethylbenzene	0.151	0.0050	"	0.125	ND	120	70-130	0.656	30	
m,p-Xylene	0.298	0.010	"	0.250	ND	119	70-130	0.913	30	
o-Xylene	0.138	0.0050	"	0.125	ND	111	70-130	1.06	30	
1,2,4-Trimethylbenzene	0.156	0.0050	"	0.125	ND	125	70-130	1.24	30	
1,3,5-Trimethylbenzene	0.155	0.0050	"	0.125	ND	124	70-130	0.539	30	
Naphthalene	0.157	0.0038	"	0.125	ND	126	70-130	2.23	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0374</i>		<i>"</i>	<i>0.0400</i>		<i>93.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0356</i>		<i>"</i>	<i>0.0400</i>		<i>88.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0350</i>		<i>"</i>	<i>0.0400</i>		<i>87.5</i>	<i>50-150</i>			

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**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 BGD0282 - EPA 3550A**

**Blank (BGD0282-BLK1)**

Prepared & Analyzed: 04/10/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.5	108	30-150					

**LCS (BGD0282-BS1)**

Prepared & Analyzed: 04/10/23

C10-C28 (DRO)	530	50	mg/kg	500	106	70-130					
Surrogate: <i>o</i> -Terphenyl	15.1		"	12.5	121	30-150					

**Matrix Spike (BGD0282-MS1)**

Source: 2304119-01

Prepared & Analyzed: 04/10/23

C10-C28 (DRO)	458	50	mg/kg	500	18.0	88.1	70-130				
Surrogate: <i>o</i> -Terphenyl	8.75		"	12.5	70.0	30-150					

**Matrix Spike Dup (BGD0282-MSD1)**

Source: 2304119-01

Prepared & Analyzed: 04/10/23

C10-C28 (DRO)	440	50	mg/kg	500	18.0	84.4	70-130	4.10	20		
Surrogate: <i>o</i> -Terphenyl	9.13		"	12.5	73.0	30-150					

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6855 W. 119th Ave.  
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Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**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 BGD0411 - EPA 5030 Soil MS**

**Blank (BGD0411-BLK1)**

Prepared & Analyzed: 04/13/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0244</i>		"	<i>0.0333</i>		<i>73.3</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0281</i>		"	<i>0.0333</i>		<i>84.3</i>		<i>40-150</i>		

**LCS (BGD0411-BS1)**

Prepared & Analyzed: 04/13/23

Acenaphthene	0.0269	0.00500	mg/kg	0.0333		80.7		31-137		
Anthracene	0.0263	0.00500	"	0.0333		78.9		30-120		
Benzo (a) anthracene	0.0270	0.00500	"	0.0333		80.9		30-120		
Benzo (a) pyrene	0.0245	0.00500	"	0.0333		73.4		30-120		
Benzo (b) fluoranthene	0.0275	0.00500	"	0.0333		82.5		30-120		
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333		60.4		30-120		
Chrysene	0.0160	0.00500	"	0.0333		47.9		30-120		
Dibenz (a,h) anthracene	0.0265	0.00500	"	0.0333		79.6		30-120		
Fluoranthene	0.0252	0.00500	"	0.0333		75.5		30-120		
Fluorene	0.0264	0.00500	"	0.0333		79.3		30-120		
Indeno (1,2,3-cd) pyrene	0.0302	0.00500	"	0.0333		90.5		30-120		
Pyrene	0.0241	0.00500	"	0.0333		72.2		35-142		
1-Methylnaphthalene	0.0242	0.00500	"	0.0333		72.7		35-142		
2-Methylnaphthalene	0.0248	0.00500	"	0.0333		74.4		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0250</i>		"	<i>0.0333</i>		<i>75.1</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0268</i>		"	<i>0.0333</i>		<i>80.5</i>		<i>40-150</i>		

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

Reported:  
05/02/23 10:50

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 BGD0411 - EPA 5030 Soil MS

Matrix Spike (BGD0411-MS1)	Source: 2304140-04			Prepared & Analyzed: 04/13/23							
Acenaphthene	0.0230	0.00500	mg/kg	0.0333	ND	68.9	31-137				
Anthracene	0.0215	0.00500	"	0.0333	ND	64.4	30-120				
Benzo (a) anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120				
Benzo (a) pyrene	0.0168	0.00500	"	0.0333	ND	50.3	30-120				
Benzo (b) fluoranthene	0.0165	0.00500	"	0.0333	ND	49.5	30-120				
Benzo (k) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.5	30-120				
Chrysene	0.0161	0.00500	"	0.0333	0.000876	45.8	30-120				
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.3	30-120				
Fluoranthene	0.0257	0.00500	"	0.0333	ND	77.2	30-120				
Fluorene	0.0219	0.00500	"	0.0333	ND	65.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	52.0	30-120				
Pyrene	0.0164	0.00500	"	0.0333	ND	49.3	35-142				
1-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	57.9	15-130				
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.4	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.2	40-150				
Surrogate: Fluoranthene-d10	0.0295		"	0.0333		88.4	40-150				

Matrix Spike Dup (BGD0411-MSD1)	Source: 2304140-04			Prepared & Analyzed: 04/13/23							
Acenaphthene	0.0159	0.00500	mg/kg	0.0333	ND	47.8	31-137	36.1	30		QR-02
Anthracene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	23.5	30		
Benzo (a) anthracene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	12.5	30		
Benzo (a) pyrene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	11.5	30		
Benzo (b) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	12.9	30		
Benzo (k) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.5	30-120	4.78	30		
Chrysene	0.0137	0.00500	"	0.0333	0.000876	38.5	30-120	16.1	30		
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.2	30-120	9.62	30		
Fluoranthene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	25.1	30		
Fluorene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	28.6	30		
Indeno (1,2,3-cd) pyrene	0.0147	0.00500	"	0.0333	ND	44.0	30-120	16.7	30		
Pyrene	0.0152	0.00500	"	0.0333	ND	45.5	35-142	8.09	30		
1-Methylnaphthalene	0.0176	0.00500	"	0.0333	ND	52.9	15-130	9.13	50		
2-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.5	15-130	17.8	50		
Surrogate: 2-Methylnaphthalene-d10	0.0185		"	0.0333		55.4	40-150				
Surrogate: Fluoranthene-d10	0.0240		"	0.0333		71.9	40-150				

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

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

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

**Batch BGD0294 - EPA 3050B**

**Blank (BGD0294-BLK1)**

Prepared: 04/10/23 Analyzed: 04/17/23

Boron ND 0.0100 mg/L

**LCS (BGD0294-BS1)**

Prepared: 04/10/23 Analyzed: 04/17/23

Boron 5.69 0.0100 mg/L 5.00 114 80-120

**Duplicate (BGD0294-DUP1)**

**Source: 2304139-01**

Prepared: 04/10/23 Analyzed: 04/17/23

Boron 0.149 0.0100 mg/L 0.158 6.46 20

**Matrix Spike (BGD0294-MS1)**

**Source: 2304139-01**

Prepared: 04/10/23 Analyzed: 04/17/23

Boron 5.69 0.0100 mg/L 5.00 0.158 111 75-125

**Matrix Spike Dup (BGD0294-MSD1)**

**Source: 2304139-01**

Prepared: 04/10/23 Analyzed: 04/17/23

Boron 5.79 0.0100 mg/L 5.00 0.158 113 75-125 1.73 25

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGD0828 - EPA 3050B**

**Blank (BGD0828-BLK1)**

Prepared: 04/25/23 Analyzed: 05/01/23

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 (BGD0828-BS1)**

Prepared: 04/25/23 Analyzed: 05/01/23

Arsenic	36.9	0.200	mg/kg wet	40.0	92.4	80-120
Barium	41.8	0.400	"	40.0	105	80-120
Cadmium	2.03	0.200	"	2.00	102	80-120
Copper	38.0	0.400	"	40.0	94.9	80-120
Lead	21.1	0.200	"	20.0	106	80-120
Nickel	36.6	0.400	"	40.0	91.5	80-120
Selenium	4.81	0.260	"	4.00	120	80-120
Silver	2.28	0.0200	"	2.00	114	80-120
Zinc	36.0	0.400	"	40.0	90.0	80-120

**Duplicate (BGD0828-DUP1)**

Source: 2303710-34

Prepared: 04/25/23 Analyzed: 05/01/23

Arsenic	3.61	0.237	mg/kg dry	3.61	0.144	20	
Barium	39.3	0.474	"	46.8	17.5	20	
Cadmium	0.0631	0.237	"	0.0498	23.5	20	QR-01
Copper	5.43	0.474	"	5.42	0.297	20	
Lead	14.0	0.237	"	16.4	15.7	20	
Nickel	4.33	0.474	"	4.39	1.51	20	
Selenium	0.265	0.260	"	0.256	3.46	20	
Silver	0.0370	0.0237	"	0.0266	32.8	20	QR-01
Zinc	19.4	0.474	"	19.9	2.53	20	

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BGD0828 - EPA 3050B**

**Matrix Spike (BGD0828-MS1)**

Source: 2303710-34

Prepared: 04/25/23 Analyzed: 05/01/23

Arsenic	18.3	0.237	mg/kg dry	47.4	3.61	31.0	75-125				QM-07
Barium	78.2	0.474	"	47.4	46.8	66.1	75-125				QM-07
Cadmium	2.64	0.237	"	2.37	0.0498	109	75-125				
Copper	20.1	0.474	"	47.4	5.42	31.0	75-125				QM-07
Lead	39.9	0.237	"	23.7	16.4	98.9	75-125				
Nickel	20.1	0.474	"	47.4	4.39	33.1	75-125				QM-07
Selenium	4.96	0.260	"	4.74	0.256	99.1	75-125				
Silver	3.00	0.0237	"	2.37	0.0266	125	75-125				
Zinc	33.5	0.474	"	47.4	19.9	28.7	75-125				QM-07

**Matrix Spike Dup (BGD0828-MSD1)**

Source: 2303710-34

Prepared: 04/25/23 Analyzed: 05/01/23

Arsenic	18.8	0.237	mg/kg dry	47.4	3.61	32.1	75-125	2.60	25		QM-07
Barium	80.3	0.474	"	47.4	46.8	70.5	75-125	2.65	25		QM-07
Cadmium	2.76	0.237	"	2.37	0.0498	114	75-125	4.29	25		
Copper	20.2	0.474	"	47.4	5.42	31.2	75-125	0.658	25		QM-07
Lead	39.8	0.237	"	23.7	16.4	98.8	75-125	0.0274	25		
Nickel	20.2	0.474	"	47.4	4.39	33.4	75-125	0.763	25		QM-07
Selenium	3.02	0.260	"	4.74	0.256	58.2	75-125	48.7	25		QM-07
Silver	2.95	0.0237	"	2.37	0.0266	123	75-125	1.58	25		
Zinc	33.6	0.474	"	47.4	19.9	28.8	75-125	0.102	25		QM-07

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGD0816 - 3060A Mod**

**Blank (BGD0816-BLK1)**

Prepared & Analyzed: 04/25/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGD0816-BS1)**

Prepared & Analyzed: 04/25/23

Chromium, Hexavalent      20.8      0.30    mg/kg wet      25.0      83.0      80-120

**Duplicate (BGD0816-DUP1)**

**Source: 2304514-01**

Prepared & Analyzed: 04/25/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGD0816-MS1)**

**Source: 2304514-01**

Prepared & Analyzed: 04/25/23

Chromium, Hexavalent      20.8      0.30    mg/kg dry      25.9      ND      80.4      75-125

**Matrix Spike Dup (BGD0816-MSD1)**

**Source: 2304514-01**

Prepared & Analyzed: 04/25/23

Chromium, Hexavalent      25.1      0.30    mg/kg dry      25.9      ND      97.0      75-125      18.7      20

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

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

**Summit Scientific**

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

**Batch BGD0473 - General Preparation**

**Blank (BGD0473-BLK1)**

Prepared: 04/15/23 Analyzed: 04/21/23

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

**LCS (BGD0473-BS1)**

Prepared: 04/15/23 Analyzed: 04/21/23

Calcium	4.89	0.0500	mg/L wet	5.00	97.9	70-130				
Magnesium	5.10	0.0500	"	5.00	102	70-130				
Sodium	5.04	0.0500	"	5.00	101	70-130				

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/02/23 10:50

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

**Summit Scientific**

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

**Batch BGD0291 - General Preparation**

Duplicate (BGD0291-DUP1)	Source: 2304120-01		Prepared: 04/10/23 Analyzed: 04/11/23		
% Solids	90.9	%	92.0	1.21	20

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

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

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

**Batch BGD0475 - General Preparation**

**Blank (BGD0475-BLK1)**

Prepared & Analyzed: 04/16/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGD0475-BS1)**

Prepared & Analyzed: 04/16/23

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

**Duplicate (BGD0475-DUP1)**

**Source: 2304139-01**

Prepared & Analyzed: 04/16/23

Specific Conductance (EC) 0.374 0.0100 mmhos/cm 0.374 0.0267 20

Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
 Project Manager: Jacob Whritenour

**Reported:**  
 05/02/23 10:50

**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 BGD0474 - General Preparation**

**LCS (BGD0474-BS1)**

Prepared & Analyzed: 04/16/23

pH	9.01		pH Units	9.18	98.1	95-105
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**Duplicate (BGD0474-DUP1)**

Source: 2304139-01

Prepared & Analyzed: 04/16/23

pH	7.66		pH Units	7.60	0.786	20
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Summit Scientific

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

Project: Noble - Kildow C 31-7x FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/23 10:50

### Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- 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