

**TABLE 1**  
**FORMER SMITH REEVES 27-1 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**ORGANIC COMPOUNDS**

Sample ID	Date Sampled	Depth	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 <sup>(4)</sup> (mg/kg)
Residential SSL <sup>(1,2)</sup>			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL <sup>(1,2,3)</sup>			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500
FL01-05 @ 4'	12/01/2023	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FL01-06 @ 4'	12/01/2023	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR02 @ 4'	12/01/2023	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

**Notes:**

- Compounds referenced from the ECMC 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.
- Value calculated by adding TPH-GRO, TPH-DRO, and TPH-ORO concentrations.

ECMC = Colorado Energy & Carbon Management Commission

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

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = feet

bgs = Below ground surface

**TABLE 2**  
**FORMER SMITH REEVES 27-1 WELLHEAD**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**  
**INORGANIC COMPOUNDS**

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
<b>Soil Suitability for Reclamation Standard <sup>(1)</sup></b>			<b>6-8.3</b>	<b>&lt;4</b>	<b>&lt;6</b>	<b>2</b>
FL01-05 @ 4'	12/01/2023	4 ft. bgs	<b>8.98</b>	0.462	0.729	<2.00
FL01-06 @ 4'	12/01/2023	4 ft. bgs	<b>9.00</b>	0.405	0.849	<2.00
FLR02 @ 4'	12/01/2023	4 ft. bgs	<b>8.53</b>	0.157	0.0505	<2.00

**Notes:**

1. Compounds referenced from the ECMC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

ECMC = Colorado Energy & Carbon Management Commission

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

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

bgs = Below ground surface

**BOLD** = Analytical results in exceedance of applicable standard

TABLE 3  
FORMER SMITH REEVES 27-1 WELLHEAD  
SOIL ANALYTICAL RESULTS SUMMARY TABLE  
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	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>(1,2)</sup>			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>(1,2,3)</sup>			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01-05 @ 4'	12/01/2023	4 ft. bgs	<0.00500	0.0127	0.0405	0.0206	0.0364	0.0135	0.0347	<0.00500	0.105	<0.00500	0.0125	0.0830	<0.00500	<0.00500
FL01-06 @ 4'	12/01/2023	4 ft. bgs	<0.00500	<0.00500	0.0143	0.00845	0.0136	0.00536	0.0120	<0.00500	0.0350	<0.00500	0.00510	0.0289	<0.00500	<0.00500
FLR02 @ 4'	12/01/2023	4 ft. bgs	<0.00500	<0.00500	0.0461	0.0268	0.0412	0.0156	0.0348	<0.00500	0.101	<0.00500	0.0134	0.0806	<0.00500	<0.00500

Notes:

1. Compounds referenced from the ECMC 2 CCR 404-1, Table 915-1, effective January 15, 2021.  
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.  
3. SSLs are applicable if a pathway for communication with groundwater is present.

ECMC = Colorado Energy & Carbon Management Commission

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

PAHs = Polycyclic aromatic hydrocarbons

Benz(a) = Benzanthrane

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylnaphthalene

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

**BOLD** = Analytical result is in exceedance of applicable standard.

TABLE 4  
FORMER SMITH REEVES 27-1 WELLHEAD  
SOIL ANALYTICAL RESULTS SUMMARY TABLE  
METALS

Sample ID	Date Sampled	Depth	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>(1,2)</sup>			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>(1,2,3)</sup>			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01-05 @ 4'	12/01/2023	4 ft. bgs	1.36	172	0.229	<0.30 <sup>(4)</sup>	3.43	9.17	3.92	<0.260	0.0461	12.2
FL01-06 @ 4'	12/01/2023	4 ft. bgs	1.27	139	<0.200	<0.30 <sup>(4)</sup>	3.00	6.90	3.82	<0.260	0.0470	11.4
FLR02 @ 4'	12/01/2023	4 ft. bgs	1.35	172	0.233	<0.30 <sup>(4)</sup>	3.35	9.87	3.69	<0.260	0.0482	11.7
BKG01 @ 4'	12/01/2023	4 ft. bgs	1.07	235	<0.200	<0.30 <sup>(4)</sup>	2.90	8.11	3.53	<0.260	0.0456	11.0
BKG01 @ 6'	12/01/2023	6 ft. bgs	1.03	166	<0.200	<0.30 <sup>(4)</sup>	2.78	7.57	3.36	<0.260	0.0488	10.1
Mean Background Concentration <sup>(5)</sup>			1.05	201	<0.200	<0.30 <sup>(4)</sup>	2.84	7.84	3.45	0.260	0.0472	10.6
Mean Background Concentration <sup>(5)</sup> X 1.25			1.31	251	<0.200	<0.30 <sup>(4)</sup>	3.55	9.80	4.31	0.325	0.0590	13.2

Notes:

- Compounds referenced from the ECMC 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.
- Compound falls within COGCC Table 915-1 Footnote 9.
- Non-detect background results accounted for in the mean background concentration by using the reporting limit.

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

**BOLD** = Analytical result is in exceedance of applicable standard.

**BOLD** = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.

**TABLE 5**  
**FORMER SMITH REEVES 27-1 WELLHEAD**  
**FIELD DATA SUMMARY TABLE**

Sample ID	Date Sampled	Depth	GPS Data <sup>(1)</sup> Latitude / Longitude		PDOP Value	VOC Concentration <sup>(2)</sup> (ppm)
FL01-05 @ 4'	12/01/2023	4 ft. bgs	40.366416	-104.871499	0.9	0.0
FL01-06 @ 4'	12/01/2023	4 ft. bgs	40.366002	-104.870828	NC	0.0
FLR02 @ 4'	12/01/2023	4 ft. bgs	40.366004	-104.870713	NC	0.4
BKG01 @ 4'	12/01/2023	4 ft. bgs	40.368936	-104.871686	0.8	0.1
BKG01 @ 6'	12/01/2023	6 ft. bgs	40.368936	-104.871686	0.8	0.0

**Notes:**

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum 1983 (NAD83) UTM Zone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

NC = Data not collected

## Attachment A

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 29, 2023

Mark Longhurst

Tasman Geosciences

6855 W. 119th Ave.

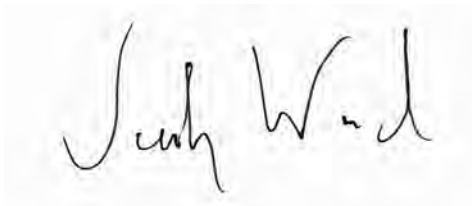
Broomfield, CO 80020

RE: PDC - Smith Reeves 27-1 Wellhead

Work Order #2312019

Enclosed are the results of analyses for samples received by Summit Scientific on 12/01/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6'	2312019-01	Soil	12/01/23 08:45	12/01/23 16:30
FLR01@4'	2312019-02	Soil	12/01/23 08:44	12/01/23 16:30
FL01-03@4'	2312019-03	Soil	12/01/23 10:04	12/01/23 16:30
FL01-05@4'	2312019-04	Soil	12/01/23 10:48	12/01/23 16:30
FL01-06@4'	2312019-05	Soil	12/01/23 11:00	12/01/23 16:30
FLR02@4'	2312019-06	Soil	12/01/23 11:40	12/01/23 16:30
BKG01@4'	2312019-07	Soil	12/01/23 10:18	12/01/23 16:30
BKG01@6'	2312019-08	Soil	12/01/23 10:20	12/01/23 16:30

Summit Scientific

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



Client: PDC / Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W 119th Ave		Project Manager: Mark Longhurst		Company: PDC Energy	
City/State/Zip: Broomfield / CO / 80020		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
Phone: 303-487-1228		Project Name: Smith Reeves 27-1 Wellhead		AFE#:	
Sampler Name: Elizabeth Brauer		Project Number:		PO/Billing Codes:	
				Contact: Mark Longhurst	

				Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs	On hold	915-metals	
1	WH01 @ 6'	12/1/23	845	2			X			X			X	X	X	X	X	X		X	
2	FL01 @ 4'		844													X	X				
3	FL01-03 @ 4'		1004																		
4	FL01-05 @ 4'		1048																		
5	FL01-06 @ 4'		1100																		
6	FL02 @ 4'		1140																		
7	BK01 @ 4'		1018																		
8	BK01 @ 6'		1020																		
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>ELK</i>	Date/Time: 12/1/23 1522	Received by: <i>Summit North</i>	Date/Time: 12/1/23 1522	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>SL</i>	Date/Time: 12/1/23 1630	Received by: <i>DAEL</i>	Date/Time: 12/1/23 1630	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: 10.1		Corrected Temperature: <i>0</i>		IR gun #: 1	HNO3 lot #:	

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2312019Client: PockmanClient Project ID: Smith Reaves 27-1 wellheadShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

10.1

Thermometer #

1

	Yes	No	N/A	Comments (If any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>bags labeled TB not with</u>
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <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.				

Custodian Printed Name

Date/Time

AS12/1/23



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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**WH01@6'**  
**2312019-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0331	82.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0436	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0444	111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.67	77.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**WH01@6'**  
**2312019-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	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: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0183	54.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	70.1 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	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: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**WH01@6'**  
**2312019-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.28	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	156	0.400	"	"	"	"	"	"
Cadmium	0.359	0.200	"	"	"	"	"	"
Copper	5.17	0.400	"	"	"	"	"	"
Lead	124	0.200	"	"	"	"	"	"
Nickel	3.64	0.400	"	"	"	"	"	"
Silver	0.0484	0.0200	"	"	"	"	"	"
Zinc	51.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2680	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	137	0.0500	"	"	"	"	"	"	
Sodium	22.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.113	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

Date Sampled: **12/01/23 08:45**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**WH01@6'**  
**2312019-01 (Soil)**

**Summit Scientific**

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

% Solids	85.9	%	1	BGL0319	12/08/23	12/12/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.790</b>	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.43</b>		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR01@4'**  
**2312019-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 08:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0566	142 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0417	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0431	108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.94	79.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR01@4'**  
**2312019-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.00918</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0103</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0153</b>	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00750</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0129</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.00711</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0151</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0172	51.6 %	40-150		"	"	"	"	
<i>Surrogate: Fluoranthene-d10</i>	0.0257	77.2 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 08:44**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR01@4'**  
**2312019-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.40	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	161	0.400	"	"	"	"	"	"
Cadmium	0.405	0.200	"	"	"	"	"	"
Copper	4.05	0.400	"	"	"	"	"	"
Lead	21.5	0.200	"	"	"	"	"	"
Nickel	3.91	0.400	"	"	"	"	"	"
Silver	0.0509	0.0200	"	"	"	"	"	"
Zinc	17.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	851	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	64.1	0.0500	"	"	"	"	"	"	
Sodium	32.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.293	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

Date Sampled: **12/01/23 08:44**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR01@4'**  
**2312019-02 (Soil)**

**Summit Scientific**

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

% Solids	81.7	%	1	BGL0319	12/08/23	12/12/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.237	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 08:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.66		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-03@4'**  
**2312019-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0570	143 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0420	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0425	106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.63	53.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-03@4'**  
**2312019-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	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: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.3 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 10:04**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-03@4'**  
**2312019-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.32	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	170	0.400	"	"	"	"	"	"
Cadmium	0.201	0.200	"	"	"	"	"	"
Copper	3.06	0.400	"	"	"	"	"	"
Lead	8.33	0.200	"	"	"	"	"	"
Nickel	3.78	0.400	"	"	"	"	"	"
Silver	0.0459	0.0200	"	"	"	"	"	"
Zinc	11.1	0.400	"	"	"	"	"	"
Selenium	0.439	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	304	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	518	0.0500	"	"	"	"	"	"	
Sodium	383	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.10	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

Date Sampled: **12/01/23 10:04**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-03@4'**  
**2312019-03 (Soil)**

**Summit Scientific**

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

% Solids	85.4	%	1	BGL0319	12/08/23	12/12/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.19	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-05@4'**  
**2312019-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0589	147 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0437	109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.28	66.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: PDC - Smith Reeves 27-1 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-05@4'**  
**2312019-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.0127</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0405</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0206</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0364</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.0135</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0347</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.105</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0125</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0830</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.8 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 10:48**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-05@4'**  
**2312019-04 (Soil)**

### Summit Scientific

#### Total Metals by EPA 6020B

Arsenic	1.36	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	172	0.400	"	"	"	"	"	"
Cadmium	0.229	0.200	"	"	"	"	"	"
Copper	3.43	0.400	"	"	"	"	"	"
Lead	9.17	0.200	"	"	"	"	"	"
Nickel	3.92	0.400	"	"	"	"	"	"
Silver	0.0461	0.0200	"	"	"	"	"	"
Zinc	12.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

#### Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/01/23 10:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: 12/01/23 10:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	995	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	150	0.0500	"	"	"	"	"	"	
Sodium	93.3	0.0500	"	"	"	"	"	"	

#### Calculated Analysis

Date Sampled: 12/01/23 10:48

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.729	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

Date Sampled: 12/01/23 10:48

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-05@4'**  
**2312019-04 (Soil)**

**Summit Scientific**

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

% Solids	81.6	%	1	BGL0319	12/08/23	12/12/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.462</b>	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.98</b>		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-06@4'**  
**2312019-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0493	123 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0423	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0435	109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.79	78.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-06@4'**  
**2312019-05 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0143</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.00845</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0136</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.00536</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0120</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0350</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.00510</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0289</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	42.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.2 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

#### Total Metals by EPA 6020B

Date Sampled: **12/01/23 11:00**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-06@4'**  
**2312019-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.27	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	139	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.00	0.400	"	"	"	"	"	"
Lead	6.90	0.200	"	"	"	"	"	"
Nickel	3.82	0.400	"	"	"	"	"	"
Silver	0.0470	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.6	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	11.1	0.0500	"	"	"	"	"	"	
Sodium	20.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.849	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FL01-06@4'**  
**2312019-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.6		%	1	BGL0319	12/08/23	12/12/23	Calculation	

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.405	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.00		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR02@4'**  
**2312019-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0181	12/05/23	12/08/23	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: **12/01/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0595	149 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0440	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0433	108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0182	12/05/23	12/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.06	64.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR02@4'**  
**2312019-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0276	12/07/23	12/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0461</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0268</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0412</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.0156</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0348</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.101</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0134</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0806</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0233	69.8 %	40-150		"	"	"	"	

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

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0421	12/12/23	12/19/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 11:40**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR02@4'**  
**2312019-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.35	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B
Barium	172	0.400	"	"	"	"	"	"
Cadmium	0.233	0.200	"	"	"	"	"	"
Copper	3.35	0.400	"	"	"	"	"	"
Lead	9.87	0.200	"	"	"	"	"	"
Nickel	3.69	0.400	"	"	"	"	"	"
Silver	0.0482	0.0200	"	"	"	"	"	"
Zinc	11.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	90.6	0.0500	mg/L dry	1	BGL0702	12/19/23	12/27/23	EPA 6020B	
Magnesium	12.9	0.0500	"	"	"	"	"	"	
Sodium	1.94	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0505	0.00100	units	1	BGL1019	12/28/23	12/28/23	Calculation	

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

Date Sampled: **12/01/23 11:40**

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**FLR02@4'**  
**2312019-06 (Soil)**

**Summit Scientific**

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

% Solids	83.8	%	1	BGL0319	12/08/23	12/12/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.157	0.0100	mmhos/cm	1	BGL0795	12/21/23	12/21/23	EPA 120.1	

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

Date Sampled: **12/01/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.53		pH Units	1	BGL0796	12/21/23	12/21/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**BKG01@4'**  
**2312019-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 10:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.07	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B	
Barium	235	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.90	0.400	"	"	"	"	"	"	
Lead	8.11	0.200	"	"	"	"	"	"	
Nickel	3.53	0.400	"	"	"	"	"	"	
Silver	0.0456	0.0200	"	"	"	"	"	"	
Zinc	11.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 10:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 10:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.5		%	1	BGL0319	12/08/23	12/12/23	Calculation	

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**BKG01@6'**  
**2312019-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **12/01/23 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.03</b>	0.200	mg/kg dry	1	BGL0330	12/08/23	12/15/23	EPA 6020B	
<b>Barium</b>	<b>166</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>2.78</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>7.57</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.36</b>	0.400	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0488</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>10.1</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/01/23 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0316	12/08/23	12/12/23	EPA 7196A	

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

Date Sampled: **12/01/23 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>89.4</b>		%	1	BGL0319	12/08/23	12/12/23	Calculation	

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch BGL0181 - EPA 5030 Soil MS

##### Blank (BGL0181-BLK1)

Prepared: 12/05/23 Analyzed: 12/07/23

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	0.0551		"	0.0400		138	50-150			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

##### LCS (BGL0181-BS1)

Prepared: 12/05/23 Analyzed: 12/07/23

Benzene	0.117	0.0020	mg/kg	0.100		117	70-130			
Toluene	0.101	0.0050	"	0.100		101	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.238	0.010	"	0.200		119	70-130			
o-Xylene	0.114	0.0050	"	0.100		114	70-130			
1,2,4-Trimethylbenzene	0.117	0.0050	"	0.100		117	70-130			
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.100		120	70-130			
Naphthalene	0.0975	0.0038	"	0.100		97.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0583		"	0.0400		146	50-150			
Surrogate: Toluene-d8	0.0444		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0424		"	0.0400		106	50-150			

##### Matrix Spike (BGL0181-MS1)

Source: 2311495-01

Prepared: 12/05/23 Analyzed: 12/07/23

Benzene	0.112	0.0020	mg/kg	0.100	ND	112	70-130			
Toluene	0.125	0.0050	"	0.100	ND	125	70-130			
Ethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130			
m,p-Xylene	0.226	0.010	"	0.200	ND	113	70-130			
o-Xylene	0.112	0.0050	"	0.100	ND	112	70-130			
1,2,4-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130			
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130			
Naphthalene	0.0964	0.0038	"	0.100	ND	96.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0579		"	0.0400		145	50-150			
Surrogate: Toluene-d8	0.0443		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

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6855 W. 119th Ave.  
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Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

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

#### Batch BGL0181 - EPA 5030 Soil MS

##### Matrix Spike Dup (BGL0181-MSD1)

Source: 2311495-01

Prepared: 12/05/23 Analyzed: 12/07/23

Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130	4.60	30	
Toluene	0.129	0.0050	"	0.100	ND	129	70-130	3.05	30	
Ethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130	3.13	30	
m,p-Xylene	0.235	0.010	"	0.200	ND	118	70-130	3.86	30	
o-Xylene	0.115	0.0050	"	0.100	ND	115	70-130	2.63	30	
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	3.65	30	
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130	3.32	30	
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130	6.53	30	
Surrogate: 1,2-Dichloroethane-d4	0.0589		"	0.0400		147	50-150			
Surrogate: Toluene-d8	0.0438		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	50-150			

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6855 W. 119th Ave.  
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Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BGL0182 - EPA 3550A**

**Blank (BGL0182-BLK1)**

Prepared: 12/05/23 Analyzed: 12/09/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.9		"	12.5		94.9	30-150			

**LCS (BGL0182-BS1)**

Prepared: 12/05/23 Analyzed: 12/09/23

C10-C28 (DRO)	550	50	mg/kg	500		110	70-130			
Surrogate: o-Terphenyl	12.5		"	12.5		99.8	30-150			

**Matrix Spike (BGL0182-MS1)**

Source: 2311495-01

Prepared: 12/05/23 Analyzed: 12/09/23

C10-C28 (DRO)	383	50	mg/kg	500	19.2	72.8	70-130			
Surrogate: o-Terphenyl	8.81		"	12.5		70.5	30-150			

**Matrix Spike Dup (BGL0182-MSD1)**

Source: 2311495-01

Prepared: 12/05/23 Analyzed: 12/09/23

C10-C28 (DRO)	470	50	mg/kg	500	19.2	90.2	70-130	20.4	20	QR-02
Surrogate: o-Terphenyl	9.36		"	12.5		74.8	30-150			

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

### PAH by EPA Method 8270D SIM - Quality Control

#### Summit Scientific

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

#### Batch BGL0276 - EPA 5030 Soil MS

##### Blank (BGL0276-BLK1)

Prepared: 12/07/23 Analyzed: 12/09/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0230		"	0.0333		69.0	40-150			
Surrogate: Fluoranthene-d10	0.0346		"	0.0333		104	40-150			

##### LCS (BGL0276-BS1)

Prepared: 12/07/23 Analyzed: 12/09/23

Acenaphthene	0.0348	0.00500	mg/kg	0.0333	104	31-137
Anthracene	0.0331	0.00500	"	0.0333	99.2	30-120
Benzo (a) anthracene	0.0326	0.00500	"	0.0333	97.8	30-120
Benzo (a) pyrene	0.0297	0.00500	"	0.0333	89.0	30-120
Benzo (b) fluoranthene	0.0318	0.00500	"	0.0333	95.4	30-120
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333	103	30-120
Chrysene	0.0356	0.00500	"	0.0333	107	30-120
Dibenz (a,h) anthracene	0.0282	0.00500	"	0.0333	84.5	30-120
Fluoranthene	0.0328	0.00500	"	0.0333	98.5	30-120
Fluorene	0.0355	0.00500	"	0.0333	106	30-120
Indeno (1,2,3-cd) pyrene	0.0288	0.00500	"	0.0333	86.5	30-120
Pyrene	0.0365	0.00500	"	0.0333	110	35-142
1-Methylnaphthalene	0.0303	0.00500	"	0.0333	90.8	35-142
2-Methylnaphthalene	0.0340	0.00500	"	0.0333	102	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0289		"	0.0333	86.8	40-150
Surrogate: Fluoranthene-d10	0.0332		"	0.0333	99.6	40-150

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BGL0276 - EPA 5030 Soil MS

##### Matrix Spike (BGL0276-MS1)

Source: 2312019-01

Prepared: 12/07/23 Analyzed: 12/09/23

Acenaphthene	0.0254	0.00500	mg/kg	0.0333	ND	76.1	31-137				
Anthracene	0.0263	0.00500	"	0.0333	ND	78.8	30-120				
Benzo (a) anthracene	0.0267	0.00500	"	0.0333	ND	80.0	30-120				
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	ND	72.3	30-120				
Benzo (b) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.5	30-120				
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.6	30-120				
Chrysene	0.0254	0.00500	"	0.0333	ND	76.1	30-120				
Dibenz (a,h) anthracene	0.0187	0.00500	"	0.0333	ND	56.0	30-120				
Fluoranthene	0.0258	0.00500	"	0.0333	ND	77.5	30-120				
Fluorene	0.0277	0.00500	"	0.0333	ND	83.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0203	0.00500	"	0.0333	ND	61.0	30-120				
Pyrene	0.0272	0.00500	"	0.0333	ND	81.6	35-142				
1-Methylnaphthalene	0.0273	0.00500	"	0.0333	ND	82.0	15-130				
2-Methylnaphthalene	0.0318	0.00500	"	0.0333	ND	95.3	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0255		"	0.0333		76.5	40-150				
Surrogate: Fluoranthene-d10	0.0265		"	0.0333		79.6	40-150				

##### Matrix Spike Dup (BGL0276-MSD1)

Source: 2312019-01

Prepared: 12/07/23 Analyzed: 12/09/23

Acenaphthene	0.0232	0.00500	mg/kg	0.0333	ND	69.6	31-137	8.92	30		
Anthracene	0.0237	0.00500	"	0.0333	ND	71.0	30-120	10.4	30		
Benzo (a) anthracene	0.0246	0.00500	"	0.0333	ND	73.9	30-120	7.91	30		
Benzo (a) pyrene	0.0221	0.00500	"	0.0333	ND	66.2	30-120	8.94	30		
Benzo (b) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.7	30-120	1.05	30		
Benzo (k) fluoranthene	0.0243	0.00500	"	0.0333	ND	72.9	30-120	5.06	30		
Chrysene	0.0229	0.00500	"	0.0333	ND	68.8	30-120	10.1	30		
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	3.70	30		
Fluoranthene	0.0234	0.00500	"	0.0333	ND	70.2	30-120	9.85	30		
Fluorene	0.0272	0.00500	"	0.0333	ND	81.7	30-120	1.61	30		
Indeno (1,2,3-cd) pyrene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	10.7	30		
Pyrene	0.0245	0.00500	"	0.0333	ND	73.4	35-142	10.6	30		
1-Methylnaphthalene	0.0281	0.00500	"	0.0333	ND	84.4	15-130	2.90	50		
2-Methylnaphthalene	0.0318	0.00500	"	0.0333	ND	95.4	15-130	0.0115	50		
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.2	40-150				
Surrogate: Fluoranthene-d10	0.0238		"	0.0333		71.4	40-150				

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

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

**Batch BGL0421 - EPA 3050B**

**Blank (BGL0421-BLK1)**

Prepared: 12/12/23 Analyzed: 12/19/23

Boron ND 2.00 mg/L

**LCS (BGL0421-BS1)**

Prepared: 12/12/23 Analyzed: 12/19/23

Boron 5.91 2.00 mg/L 5.00 118 80-120

**Duplicate (BGL0421-DUP1)**

Source: 2311623-01

Prepared: 12/12/23 Analyzed: 12/19/23

Boron 0.255 2.00 mg/L 0.259 1.47 20

**Matrix Spike (BGL0421-MS1)**

Source: 2311623-01

Prepared: 12/12/23 Analyzed: 12/19/23

Boron 6.14 2.00 mg/L 5.00 0.259 118 75-125

**Matrix Spike Dup (BGL0421-MSD1)**

Source: 2311623-01

Prepared: 12/12/23 Analyzed: 12/19/23

Boron 6.33 2.00 mg/L 5.00 0.259 122 75-125 3.12 25

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

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

**Batch BGL0330 - EPA 3050B**

**Blank (BGL0330-BLK1)**

Prepared: 12/08/23 Analyzed: 12/15/23

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	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

**LCS (BGL0330-BS1)**

Prepared: 12/08/23 Analyzed: 12/15/23

Arsenic	40.7	0.200	mg/kg wet	40.0	102	80-120
Barium	36.1	0.400	"	40.0	90.2	80-120
Cadmium	1.85	0.200	"	2.00	92.3	80-120
Copper	42.4	0.400	"	40.0	106	80-120
Lead	18.2	0.200	"	20.0	91.2	80-120
Nickel	41.8	0.400	"	40.0	105	80-120
Silver	1.89	0.0200	"	2.00	94.7	80-120
Zinc	40.5	0.400	"	40.0	101	80-120
Selenium	4.64	0.260	"	4.00	116	80-120

**Duplicate (BGL0330-DUP1)**

Source: 2312016-01

Prepared: 12/08/23 Analyzed: 12/15/23

Arsenic	0.697	0.200	mg/kg dry	0.745	6.68	20
Barium	37.1	0.400	"	33.3	10.8	20
Cadmium	0.0701	0.200	"	0.0608	14.2	20
Copper	1.37	0.400	"	1.40	2.44	20
Lead	7.06	0.200	"	6.79	3.97	20
Nickel	1.30	0.400	"	1.28	1.74	20
Silver	0.0123	0.0200	"	0.0123	0.00	20
Zinc	6.06	0.400	"	6.65	9.33	20
Selenium	ND	0.260	"	ND		20

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

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

**Batch BGL0330 - EPA 3050B**

**Matrix Spike (BGL0330-MS1)**

Source: 2312016-01

Prepared: 12/08/23 Analyzed: 12/15/23

Arsenic	20.1	0.200	mg/kg dry	42.2	0.745	45.9	75-125			QM-05
Barium	75.6	0.400	"	42.2	33.3	100	75-125			
Cadmium	2.15	0.200	"	2.11	0.0608	99.1	75-125			
Copper	21.5	0.400	"	42.2	1.40	47.5	75-125			QM-05
Lead	27.2	0.200	"	21.1	6.79	96.4	75-125			
Nickel	21.3	0.400	"	42.2	1.28	47.3	75-125			QM-05
Silver	2.14	0.0200	"	2.11	0.0123	101	75-125			
Zinc	27.0	0.400	"	42.2	6.65	48.1	75-125			QM-05
Selenium	4.59	0.260	"	4.22	ND	109	75-125			

**Matrix Spike Dup (BGL0330-MSD1)**

Source: 2312016-01

Prepared: 12/08/23 Analyzed: 12/15/23

Arsenic	20.0	0.200	mg/kg dry	42.2	0.745	45.5	75-125	0.805	25	QM-05
Barium	72.6	0.400	"	42.2	33.3	92.9	75-125	4.04	25	
Cadmium	2.03	0.200	"	2.11	0.0608	93.1	75-125	6.12	25	
Copper	21.2	0.400	"	42.2	1.40	46.9	75-125	1.27	25	QM-05
Lead	26.1	0.200	"	21.1	6.79	91.5	75-125	3.86	25	
Nickel	21.1	0.400	"	42.2	1.28	46.8	75-125	0.924	25	QM-05
Silver	2.04	0.0200	"	2.11	0.0123	95.8	75-125	5.17	25	
Zinc	26.8	0.400	"	42.2	6.65	47.7	75-125	0.539	25	QM-05
Selenium	4.47	0.260	"	4.22	ND	106	75-125	2.65	25	

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

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

**Batch BGL0316 - 3060A Mod**

**Blank (BGL0316-BLK1)**

Prepared: 12/08/23 Analyzed: 12/12/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGL0316-BS1)**

Prepared: 12/08/23 Analyzed: 12/12/23

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

**Duplicate (BGL0316-DUP1)**

**Source: 2312019-01**

Prepared: 12/08/23 Analyzed: 12/12/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGL0316-MS1)**

**Source: 2312019-01**

Prepared: 12/08/23 Analyzed: 12/12/23

Chromium, Hexavalent 29.6 0.30 mg/kg dry 29.1 ND 102 75-125

**Matrix Spike Dup (BGL0316-MSD1)**

**Source: 2312019-01**

Prepared: 12/08/23 Analyzed: 12/12/23

Chromium, Hexavalent 29.3 0.30 mg/kg dry 29.1 ND 101 75-125 1.19 20

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

**Summit Scientific**

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

**Batch BGL0702 - General Preparation**

**Blank (BGL0702-BLK1)**

Prepared: 12/19/23 Analyzed: 12/27/23

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

**LCS (BGL0702-BS1)**

Prepared: 12/19/23 Analyzed: 12/27/23

Calcium	6.10	0.0500	mg/L wet	5.00	122	70-130
Magnesium	5.66	0.0500	"	5.00	113	70-130
Sodium	5.51	0.0500	"	5.00	110	70-130

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

**Summit Scientific**

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

**Batch BGL0319 - General Preparation**

Duplicate (BGL0319-DUP1)		Source: 2311585-01		Prepared: 12/08/23 Analyzed: 12/12/23	
% Solids	76.0		%	75.8	0.210 20

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

**Summit Scientific**

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

**Batch BGL0795 - General Preparation**

**Blank (BGL0795-BLK1)**

Prepared & Analyzed: 12/21/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL0795-BS1)**

Prepared & Analyzed: 12/21/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

**Duplicate (BGL0795-DUP1)**

**Source: 2312016-01**

Prepared & Analyzed: 12/21/23

Specific Conductance (EC) 0.771 0.0100 mmhos/cm 0.772 0.194 20

Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

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

**Summit Scientific**

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

**Batch BGL0796 - General Preparation**

**LCS (BGL0796-BS1)**

Prepared & Analyzed: 12/21/23

pH	9.11	pH Units	9.18	99.2	95-105
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**Duplicate (BGL0796-DUP1)**

Source: 2312016-01

Prepared & Analyzed: 12/21/23

pH	9.34	pH Units	9.34	0.00	20
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Summit Scientific

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

Project: PDC - Smith Reeves 27-1 Wellhead

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
12/29/23 10:31

### 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.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
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