

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 14, 2025

Mike Medina

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Land 31-13,17,19,24,36D Wellheads

Work Order #2412398

Enclosed are the results of analyses for samples received by Summit Scientific on 12/18/24 18:07. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG03@0.5'	2412398-01	Soil	12/18/24 11:00	12/18/24 18:07
BKG03@2.5'	2412398-02	Soil	12/18/24 11:02	12/18/24 18:07
BKG03@3'	2412398-03	Soil	12/18/24 11:04	12/18/24 18:07
BKG03@4.5'	2412398-04	Soil	12/18/24 11:06	12/18/24 18:07
BKG04@0.5'	2412398-05	Soil	12/18/24 11:08	12/18/24 18:07
BKG04@2.5'	2412398-06	Soil	12/18/24 11:10	12/18/24 18:07
BKG04@3'	2412398-07	Soil	12/18/24 11:12	12/18/24 18:07
BKG04.5'	2412398-08	Soil	12/18/24 11:14	12/18/24 18:07
BKG05@0.5'	2412398-09	Soil	12/18/24 11:16	12/18/24 18:07
BKG05@2.5'	2412398-10	Soil	12/18/24 11:18	12/18/24 18:07
BKG05@3'	2412398-11	Soil	12/18/24 11:20	12/18/24 18:07
BKG05@4.5'	2412398-12	Soil	12/18/24 11:22	12/18/24 18:07
BKG06@0.5'	2412398-13	Soil	12/18/24 11:24	12/18/24 18:07
BKG06@2.5'	2412398-14	Soil	12/18/24 11:26	12/18/24 18:07
BKG06@3'	2412398-15	Soil	12/18/24 11:28	12/18/24 18:07
BKG06@4.5'	2412398-16	Soil	12/18/24 11:30	12/18/24 18:07

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

Lab ID	Page 1 of 2
2412398.1	

Client: PDC/Tasman	<b>Send Data To:</b> Project Manager: Andy Sagen <sup>PH</sup> Mike Medina	<b>Send Invoice To:</b> Company: PDC Energy
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-1@tasman-geo.com	Project Name/Location: Land 31-13, 17, 19, 24, 36D
City/State/Zip: Broomfield/CO/ 80020	RBUEUF27@chevron.com	AFE#: PX-90033
Phone: 231-292-2576	Project Name: Land 31-13,17,19,24,36D Wellheads	PO/Billing Codes:
Sampler Name: Elyse Hossink	Project Number: 33835	Contact: Karen Olson / Delbert Pace

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	BK603 @ 0.5'	12/18/24	11:00	1			X			X										SAR, EC, pH by saturated paste
2	BK603 @ 2.5'		11:02				X			X										
3	BK603 @ 3'		11:04				X			X										
4	BK603 @ 4.5'		11:06				X			X										
5	BK604 @ 0.5'		11:08				X			X										
6	BK604 @ 2.5'		11:10				X			X										
7	BK604 @ 3'		11:12				X			X										
8	BK604 @ 4.5'		11:14				X			X										
9	BK605 @ 0.5'		11:16				X			X										
10	BK605 @ 2.5'		11:18				X			X										
11	BK605 @ 3'		11:20				X			X										
12	BK605 @ 4.5'		11:22				X			X										
13																				
14																				
15																				

Relinquished by: <i>Elyse Hossink</i> Date/Time: 12/18/2024 14:20	Received by: Tasman Lock Box Date/Time: 12/18/2024 14:20	TAT Business Days	Field DO	Notes:
		Same Day	Field EC	
Relinquished by: Tasman Lock Box Date/Time: 12/18/24 1807	Received by: <i>[Signature]</i> Date/Time: 12/18/24 1807	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by:	Received by:	3 Days	Field Temp.	
		Standard	Field Turb.	
Temperature Upon Receipt: 3.2	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	



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

Lab ID	Page 2 of 2
2412398.2	

Client: PDC/Tasman	<b>Send Data To:</b> Project Manager: <del>Andy Sagen</del> <sup>CH</sup> Mike Medina	<b>Send Invoice To:</b> Company: PDC Energy
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-1@tasman-geo.com	Project Name/Location: Land 31-13, 17, 19, 24, 36D
City/State/Zip: Broomfield/CO/ 80020	RBUEUF27@chevron.com	AFE#: PX - 900 33
Phone: 231-292-2576	Project Name: Land 31-13,17,19,24,36D Wellheads	PO/Billing Codes:
Sampler Name: Elyse Hossink	Project Number: 33 8 35	Contact: Karen Olson / Delbert Pace

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	BK606 @ 0.5'	12/18/24	11:24	1			X			X					X	X			SAR, EC, pH by saturated paste
2	BK606 @ 2.5'		11:26	1			X			X					X	X			
3	BK606 @ 3'		11:28	1			X			X					X	X			
4	BK606 @ 4.5'		11:30	1			X			X					X	X			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>Elyse Hossink</i>	Date/Time: 14:30 12/18/2024	Received by: <b>Tasman Lock Box</b>	Date/Time: 14:20 12/18/2024	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <b>Tasman Lock Box</b>	Date/Time: 1807 12/18/24	Received by: <i>[Signature]</i>	Date/Time: 1807 12/18/24	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 3.2	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S<sub>2</sub>

2/2

Sample Receipt Checklist

S2 Work Order# 2412398

Client: Podtisman

Client Project ID:

Land 31-13, 17, 19, 24, 36D *wellheads*

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> 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"/>	<i>on 2CE</i>
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 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <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

12/18/24  
Date/Time



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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@0.5'**  
**2412398-01 (Soil)**

Summit Scientific

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

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>2.30</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/13/25	EPA 6020B	
Barium	<b>115</b>	0.400	"	"	"	"	"	"	
Cadmium	<b>0.284</b>	0.200	"	"	"	"	"	"	
Copper	<b>9.04</b>	0.400	"	"	"	"	"	"	
Lead	<b>8.84</b>	0.200	"	"	"	"	"	"	
Nickel	<b>5.12</b>	0.400	"	"	"	"	"	"	
Silver	<b>0.0374</b>	0.0200	"	"	"	"	"	"	
Zinc	<b>37.8</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>557</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	<b>10.0</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>5.64</b>	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@0.5'**  
**2412398-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.0649</b>	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>87.7</b>		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.902</b>	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.08</b>		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@2.5'**  
**2412398-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.07	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	110	0.400	"	"	"	"	"	"	
Cadmium	0.205	0.200	"	"	"	"	"	"	
Copper	6.67	0.400	"	"	"	"	"	"	
Lead	6.84	0.200	"	"	"	"	"	"	
Nickel	4.84	0.400	"	"	"	"	"	"	
Silver	0.0282	0.0200	"	"	"	"	"	"	
Zinc	28.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	67.0	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	18.5	0.0500	"	"	"	"	"	"	
Sodium	151	0.0500	"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@2.5'**  
**2412398-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.21	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.61	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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6855 W. 119th Ave.  
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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@3'**  
**2412398-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.29	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	99.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.94	0.400	"	"	"	"	"	"	
Lead	6.23	0.200	"	"	"	"	"	"	
Nickel	4.91	0.400	"	"	"	"	"	"	
Silver	0.0266	0.0200	"	"	"	"	"	"	
Zinc	25.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	115	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	33.0	0.0500	"	"	"	"	"	"	
Sodium	188	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@3'**  
**2412398-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.98	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.15	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.10		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@4.5'**  
**2412398-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.76</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
<b>Barium</b>	<b>79.8</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>4.03</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.04</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.64</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>17.6</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>99.8</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
<b>Magnesium</b>	<b>28.6</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>181</b>	0.0500	"	"	"	"	"	"	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG03@4.5'**  
**2412398-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.11	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.2		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.817	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.90		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@0.5'**  
**2412398-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.07	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	99.7	0.400	"	"	"	"	"	"	
Cadmium	0.273	0.200	"	"	"	"	"	"	
Copper	8.58	0.400	"	"	"	"	"	"	
Lead	8.24	0.200	"	"	"	"	"	"	
Nickel	5.01	0.400	"	"	"	"	"	"	
Silver	0.0330	0.0200	"	"	"	"	"	"	
Zinc	37.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	198	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	9.73	0.0500	"	"	"	"	"	"	
Sodium	29.6	0.0500	"	"	"	"	"	"	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@0.5'**  
**2412398-05 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.557	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.53	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@2.5'**  
**2412398-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.83	0.200		mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	137	0.400		"	"	"	"	"	"	
Cadmium	0.214	0.200		"	"	"	"	"	"	
Copper	7.77	0.400		"	"	"	"	"	"	
Lead	7.78	0.200		"	"	"	"	"	"	
Nickel	6.24	0.400		"	"	"	"	"	"	
Silver	0.0376	0.0200		"	"	"	"	"	"	
Zinc	32.2	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	323	0.0500		mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	65.4	0.0500		"	"	"	"	"	"	
Sodium	241	0.0500		"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@2.5'**  
**2412398-06 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.20	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.6		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.79	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.32		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@3'**  
**2412398-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.73</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
<b>Barium</b>	<b>60.0</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>3.75</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>4.08</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.10</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>15.0</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>94.0</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
<b>Magnesium</b>	<b>23.8</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>163</b>	0.0500	"	"	"	"	"	"	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04@3'**  
**2412398-07 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.89	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.4		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.08	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04.5'**  
**2412398-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>1.84</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	<b>107</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	<b>4.47</b>	0.400	"	"	"	"	"	"	
Lead	<b>4.81</b>	0.200	"	"	"	"	"	"	
Nickel	<b>3.96</b>	0.400	"	"	"	"	"	"	
Silver	<b>0.0204</b>	0.0200	"	"	"	"	"	"	
Zinc	<b>19.4</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>106</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	<b>26.5</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>214</b>	0.0500	"	"	"	"	"	"	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG04.5'**  
**2412398-08 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.82	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.773	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@0.5'**  
**2412398-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.60</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
<b>Barium</b>	<b>50.3</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>5.70</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.62</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.78</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>25.3</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>577</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
<b>Magnesium</b>	<b>9.47</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>3.83</b>	0.0500	"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@0.5'**  
**2412398-09 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0433	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.0		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.25	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@2.5'**  
**2412398-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.76	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	191	0.400	"	"	"	"	"	"	
Cadmium	0.301	0.200	"	"	"	"	"	"	
Copper	11.0	0.400	"	"	"	"	"	"	
Lead	9.27	0.200	"	"	"	"	"	"	
Nickel	6.45	0.400	"	"	"	"	"	"	
Silver	0.0376	0.0200	"	"	"	"	"	"	
Zinc	46.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	314	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	89.7	0.0500	"	"	"	"	"	"	
Sodium	379	0.0500	"	"	"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@2.5'**  
**2412398-10 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.86	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.4		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.957	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@3'**  
**2412398-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.89	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	142	0.400	"	"	"	"	"	"	
Cadmium	0.253	0.200	"	"	"	"	"	"	
Copper	9.47	0.400	"	"	"	"	"	"	
Lead	9.10	0.200	"	"	"	"	"	"	
Nickel	6.98	0.400	"	"	"	"	"	"	
Silver	0.0451	0.0200	"	"	"	"	"	"	
Zinc	45.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	32.2	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	9.95	0.0500	"	"	"	"	"	"	
Sodium	94.3	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@3'**  
**2412398-11 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.72	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.7		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.43	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@4.5'**  
**2412398-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.76	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	149	0.400	"	"	"	"	"	"	
Cadmium	0.207	0.200	"	"	"	"	"	"	
Copper	8.39	0.400	"	"	"	"	"	"	
Lead	7.88	0.200	"	"	"	"	"	"	
Nickel	6.55	0.400	"	"	"	"	"	"	
Silver	0.0420	0.0200	"	"	"	"	"	"	
Zinc	34.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	192	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	65.8	0.0500	"	"	"	"	"	"	
Sodium	394	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG05@4.5'**  
**2412398-12 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.26	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.8		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.892	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.29		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@0.5'**  
**2412398-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.15	0.200		mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	82.8	0.400		"	"	"	"	"	"	
Cadmium	0.231	0.200		"	"	"	"	"	"	
Copper	8.36	0.400		"	"	"	"	"	"	
Lead	7.79	0.200		"	"	"	"	"	"	
Nickel	5.12	0.400		"	"	"	"	"	"	
Silver	0.0321	0.0200		"	"	"	"	"	"	
Zinc	33.9	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	617	0.0500		mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	10.7	0.0500		"	"	"	"	"	"	
Sodium	5.62	0.0500		"	"	"	"	"	"	

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Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@0.5'**  
**2412398-13 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0614	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.4		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.96	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@2.5'**  
**2412398-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.27	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
Barium	109	0.400	"	"	"	"	"	"	
Cadmium	0.339	0.200	"	"	"	"	"	"	
Copper	9.71	0.400	"	"	"	"	"	"	
Lead	10.1	0.200	"	"	"	"	"	"	
Nickel	6.40	0.400	"	"	"	"	"	"	
Silver	0.0505	0.0200	"	"	"	"	"	"	
Zinc	33.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	101	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
Magnesium	26.1	0.0500	"	"	"	"	"	"	
Sodium	207	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@2.5'**  
**2412398-14 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.75	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.0		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.46	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@3'**  
**2412398-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.61</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
<b>Barium</b>	<b>58.1</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>4.42</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.13</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.73</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>18.8</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>198</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
<b>Magnesium</b>	<b>49.3</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>238</b>	0.0500	"	"	"	"	"	"	

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

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@3'**  
**2412398-15 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.92	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.76	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@4.5'**  
**2412398-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BIB0530	02/11/25	02/13/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>1.67</b>	0.200	mg/kg dry	1	BIB0377	02/07/25	02/14/25	EPA 6020B	
<b>Barium</b>	<b>53.5</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>4.20</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>5.27</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>3.31</b>	0.400	"	"	"	"	"	"	
<b>Silver</b>	<b>0.0204</b>	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>17.2</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0732	01/16/25	01/21/25	EPA 7196A	

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

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>470</b>	0.0500	mg/L dry	1	BIA0580	01/14/25	01/20/25	EPA 6020B	
<b>Magnesium</b>	<b>92.6</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>250</b>	0.0500	"	"	"	"	"	"	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**BKG06@4.5'**  
**2412398-16 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.76	0.00100	units	1	BIA0964	01/21/25	01/21/25	Calculation	

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

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.6		%	1	BIA0604	01/14/25	01/14/25	Calculation	

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

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0854	0.0100	mmhos/cm	1	BIA0574	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **12/18/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BIA0568	01/14/25	01/16/25	EPA 9045D	

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

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

**Summit Scientific**

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

**Batch BIB0530 - EPA 3050B**

**Blank (BIB0530-BLK1)**

Prepared: 02/11/25 Analyzed: 02/13/25

Boron ND 2.00 mg/L

**LCS (BIB0530-BS1)**

Prepared: 02/11/25 Analyzed: 02/13/25

Boron 4.74 2.00 mg/L 5.00 94.8 80-120

**Duplicate (BIB0530-DUP1)**

**Source: 2412378-01**

Prepared: 02/11/25 Analyzed: 02/13/25

Boron 0.263 2.00 mg/L 0.277 5.17 20

**Matrix Spike (BIB0530-MS1)**

**Source: 2412378-01**

Prepared: 02/11/25 Analyzed: 02/13/25

Boron 4.97 2.00 mg/L 5.02 0.277 93.6 75-125

**Matrix Spike Dup (BIB0530-MSD1)**

**Source: 2412378-01**

Prepared: 02/11/25 Analyzed: 02/13/25

Boron 5.10 2.00 mg/L 5.02 0.277 96.0 75-125 2.45 25

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

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

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

**Batch BIB0377 - EPA 3050B**

**Blank (BIB0377-BLK1)**

Prepared: 02/07/25 Analyzed: 02/13/25

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 (BIB0377-BS1)**

Prepared: 02/07/25 Analyzed: 02/13/25

Arsenic	40.4	0.200	mg/kg wet	41.0	98.7	80-120
Barium	43.2	0.400	"	41.0	105	80-120
Cadmium	2.26	0.200	"	2.05	110	80-120
Copper	40.6	0.400	"	41.0	99.1	80-120
Lead	22.7	0.200	"	20.5	111	80-120
Nickel	48.4	0.400	"	41.0	118	80-120
Silver	2.25	0.0200	"	2.05	110	80-120
Zinc	41.8	0.400	"	41.0	102	80-120
Selenium	4.57	0.260	"	4.10	112	80-120

**Duplicate (BIB0377-DUP1)**

Source: 2412398-01

Prepared: 02/07/25 Analyzed: 02/13/25

Arsenic	2.20	0.200	mg/kg dry	2.30	4.14	20
Barium	111	0.400	"	115	3.79	20
Cadmium	0.278	0.200	"	0.284	1.97	20
Copper	8.51	0.400	"	9.04	6.04	20
Lead	8.52	0.200	"	8.84	3.68	20
Nickel	5.23	0.400	"	5.12	1.96	20
Silver	0.0345	0.0200	"	0.0374	8.12	20
Zinc	36.7	0.400	"	37.8	2.73	20
Selenium	0.187	0.260	"	0.185	0.803	20

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**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 BIB0377 - EPA 3050B**

<b>Matrix Spike (BIB0377-MS1)</b>	<b>Source: 2412398-01</b>			Prepared: 02/07/25		Analyzed: 02/14/25					
Arsenic	44.9	0.200	mg/kg dry	47.5	2.30	89.8	75-125				
Barium	158	0.400	"	47.5	115	91.4	75-125				
Cadmium	2.71	0.200	"	2.37	0.284	102	75-125				
Copper	51.0	0.400	"	47.5	9.04	88.3	75-125				
Lead	32.2	0.200	"	23.7	8.84	98.4	75-125				
Nickel	37.0	0.400	"	47.5	5.12	67.1	75-125				QM-05
Silver	2.41	0.0200	"	2.37	0.0374	99.8	75-125				
Zinc	81.4	0.400	"	47.5	37.8	91.8	75-125				
Selenium	4.92	0.260	"	4.75	0.185	99.7	75-125				

<b>Matrix Spike Dup (BIB0377-MSD1)</b>	<b>Source: 2412398-01</b>			Prepared: 02/07/25		Analyzed: 02/14/25					
Arsenic	45.8	0.200	mg/kg dry	45.2	2.30	96.3	75-125	2.01	25		
Barium	163	0.400	"	45.2	115	107	75-125	3.09	25		
Cadmium	2.73	0.200	"	2.26	0.284	108	75-125	0.660	25		
Copper	52.0	0.400	"	45.2	9.04	94.9	75-125	1.90	25		
Lead	32.4	0.200	"	22.6	8.84	104	75-125	0.725	25		
Nickel	36.4	0.400	"	45.2	5.12	69.2	75-125	1.55	25		QM-05
Silver	2.42	0.0200	"	2.26	0.0374	105	75-125	0.514	25		
Zinc	84.5	0.400	"	45.2	37.8	103	75-125	3.78	25		
Selenium	4.78	0.260	"	4.52	0.185	102	75-125	2.81	25		

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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

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

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

**Batch BIA0732 - 3060A Mod**

**Blank (BIA0732-BLK1)**

Prepared: 01/16/25 Analyzed: 01/21/25

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BIA0732-BS1)**

Prepared: 01/16/25 Analyzed: 01/21/25

Chromium, Hexavalent 23.9 0.30 mg/kg wet 25.3 94.8 80-120

**Duplicate (BIA0732-DUP1)**

**Source: 2412396-01**

Prepared: 01/16/25 Analyzed: 01/21/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BIA0732-MS1)**

**Source: 2412396-01**

Prepared: 01/16/25 Analyzed: 01/21/25

Chromium, Hexavalent 27.3 0.30 mg/kg dry 25.9 ND 105 75-125

**Matrix Spike Dup (BIA0732-MSD1)**

**Source: 2412396-01**

Prepared: 01/16/25 Analyzed: 01/21/25

Chromium, Hexavalent 30.6 0.30 mg/kg dry 28.1 ND 109 75-125 11.3 20

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6855 W. 119th Ave.  
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Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**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 BIA0580 - General Preparation**

**Blank (BIA0580-BLK1)**

Prepared: 01/14/25 Analyzed: 01/20/25

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

**LCS (BIA0580-BS1)**

Prepared: 01/14/25 Analyzed: 01/20/25

Calcium	5.05	0.0500	mg/L wet	5.00		101	70-130			
Magnesium	4.86	0.0500	"	5.00		97.1	70-130			
Sodium	5.00	0.0500	"	5.00		100	70-130			

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 6855 W. 119th Ave.  
 Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
 Project Manager: Mike Medina

**Reported:**  
 02/14/25 09:34

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

**Summit Scientific**

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

**Batch BIA0604 - General Preparation**

**Duplicate (BIA0604-DUP1)**

**Source: 2412398-01**

**Prepared & Analyzed: 01/14/25**

% Solids	87.1		%		87.7			0.709		20	
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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

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

**Summit Scientific**

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

**Batch BIA0574 - General Preparation**

**Blank (BIA0574-BLK1)**

Prepared: 01/14/25 Analyzed: 01/16/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BIA0574-BS1)**

Prepared: 01/14/25 Analyzed: 01/16/25

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BIA0574-DUP1)**

**Source: 2412391-01**

Prepared: 01/14/25 Analyzed: 01/16/25

Specific Conductance (EC) 0.418 0.0100 mmhos/cm 0.419 0.287 20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

**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 BIA0568 - General Preparation**

**LCS (BIA0568-BS1)**

Prepared: 01/14/25 Analyzed: 01/16/25

pH	9.15	pH Units	9.18	99.7	95-105
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**Duplicate (BIA0568-DUP1)**

Source: 2412391-01

Prepared: 01/14/25 Analyzed: 01/16/25

pH	8.87	pH Units	8.90	0.338	20
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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: PDC - Land 31-13,17,19,24,36D Wellheads

Project Number: 33835  
Project Manager: Mike Medina

**Reported:**  
02/14/25 09:34

### Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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