

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 16, 2025

AJ Engelhardt

Tasman Geosciences

4725 Independence St.

Wheat Ridge, CO 80033

RE: PDC - Cecil 66N64W 12NWNW

Work Order #2505141

Enclosed are the results of analyses for samples received by Summit Scientific on 05/30/25 17:52. 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 fluid and cursive, written in a professional style.

Natalie Tessier For Paul Shrewsbury
President



Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-N@2'	2505141-01	Soil	05/30/25 09:51	05/30/25 17:52
PWV02-N@2'	2505141-02	Soil	05/30/25 09:52	05/30/25 17:52
PWV01-E@2'	2505141-03	Soil	05/30/25 09:54	05/30/25 17:52
PWV02-W2@2'	2505141-04	Soil	05/30/25 11:37	05/30/25 17:52
PWV01-S@2'	2505141-05	Soil	05/30/25 10:02	05/30/25 17:52
PWV02-S@2'	2505141-06	Soil	05/30/25 10:03	05/30/25 17:52
PWV02-B@5'	2505141-07	Soil	05/30/25 10:05	05/30/25 17:52
PWV01-B@5'	2505141-08	Soil	05/30/25 10:07	05/30/25 17:52
PWV02-B2@5'	2505141-09	Soil	05/30/25 11:36	05/30/25 17:52



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

Lab ID	Page (of)
2505141	

Client: Chevron/Tasman	Project Manager: AJ Engelhardt	Company: PDC
Address: 4725 W. Independence Street	E-Mail: tas-chevron-3@tasman-geo.com	Project Name/Location: Cecil-66 NW 12 NW NW
City/State/Zip: Wheat Ridge, CO 80033	E-Mail: rbueuf27@chevron.com	AFE#: UW RWE-A5068-AES
Phone:	Project Name: Cecil-66 NW 12 NW NW	PO/Billing Codes:
Sampler Name: Conor Lovell	Project Number: 10517	Contact: Karen Olson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915-VOC	915-PAH	915-TPH	pH, EC, SAR	Boron		915-Metals
1	PWV01-N22'	5/30/25	951	4			4			4			X	X	X	X	X	X	
2	PWV02-N22'		952																
3	PWV01-E22'		954																
4	PWV02-W22'		1137																
5	PWV01-S22'		1002																
6	PWV02-S22'		1003																
7	PWV02-B25'		1005																
8	PWV01-B25'		1007																
9	PWV02-B225'		1136																
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>[Signature]</i> Date/Time: 5/30/25 1530	Received by: Tasman Lockbox Date/Time: 5/30/25 1530	TAT Business Days	Field DO	Notes:
		Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <i>[Signature]</i> Date/Time: 5/30/25 1752	Received by: <i>[Signature]</i> Date/Time: 5/30/25 1752	1 Day <input type="checkbox"/>	Field ORP	
		2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Received by:	3 Days <input type="checkbox"/>	Field Temp.	
		Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: 2.4	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	



Tasman Geosciences
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Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-N@2'
2505141-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0414	104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.1	113 %		50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

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Project Number: 10517
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PWV01-N@2'
2505141-01 (Soil)

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PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0236	70.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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PWV01-N@2'
2505141-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.77	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	64.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.53	0.400	"	"	"	"	"	"	
Lead	5.47	0.200	"	"	"	"	"	"	
Nickel	4.60	0.400	"	"	"	"	"	"	
Silver	0.0230	0.0200	"	"	"	"	"	"	
Zinc	9.62	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	8290	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	395	0.0500	"	"	"	"	"	"	
Sodium	9.00	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0262	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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PWV01-N@2'
2505141-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.8		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.302	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

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PWV02-N@2'
2505141-02 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	18.2	145 %	50-140		"	"	"	"	S-07

PAH by EPA Method 8270E SIM

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Project Number: 10517
Project Manager: AJ Engelhardt

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PWV02-N@2'
2505141-02 (Soil)

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PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0258	77.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-N@2'
2505141-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.62	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	65.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.61	0.400	"	"	"	"	"	"	
Lead	5.52	0.200	"	"	"	"	"	"	
Nickel	5.49	0.400	"	"	"	"	"	"	
Silver	0.0270	0.0200	"	"	"	"	"	"	
Zinc	11.4	0.400	"	"	"	"	"	"	
Selenium	0.264	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7310	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	436	0.0500	"	"	"	"	"	"	
Sodium	6.54	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0201	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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06/16/25 14:05

PWV02-N@2'
2505141-02 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.1	%	1	BIF0002	06/02/25	06/04/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.303	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.39		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

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Project: PDC - Cecil 66N64W 12NWNW
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06/16/25 14:05

PWV01-E@2'
2505141-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.2	114 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

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Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-E@2'
2505141-03 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0257	77.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0241	72.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 09:54**

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

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-E@2'
2505141-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.77	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	62.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.48	0.400	"	"	"	"	"	"	
Lead	5.08	0.200	"	"	"	"	"	"	
Nickel	4.62	0.400	"	"	"	"	"	"	
Silver	0.0272	0.0200	"	"	"	"	"	"	
Zinc	9.89	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7800	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	431	0.0500	"	"	"	"	"	"	
Sodium	10.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0319	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-E@2'
2505141-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.6		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.314	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-W2@2'
2505141-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0444	111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	06/02/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.2 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-W2@2'
2505141-04 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0260	78.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0230	68.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 11:37**

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

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-W2@2'
2505141-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.937	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	49.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.41	0.400	"	"	"	"	"	"	
Lead	5.37	0.200	"	"	"	"	"	"	
Nickel	4.27	0.400	"	"	"	"	"	"	
Silver	0.0220	0.0200	"	"	"	"	"	"	
Zinc	9.49	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6150	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	330	0.0500	"	"	"	"	"	"	
Sodium	5.71	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0192	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-W2@2'
2505141-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.8		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.327	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-S@2'
2505141-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0425	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.6	84.8 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-S@2'
2505141-05 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0225	67.5 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-S@2'
2505141-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.29	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	80.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.22	0.400	"	"	"	"	"	"	
Lead	5.93	0.200	"	"	"	"	"	"	
Nickel	4.41	0.400	"	"	"	"	"	"	
Silver	0.0247	0.0200	"	"	"	"	"	"	
Zinc	9.61	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	12200	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	307	0.0500	"	"	"	"	"	"	
Sodium	19.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0474	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-S@2'
2505141-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.267	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-S@2'
2505141-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	06/02/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.8	94.7 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-S@2'
2505141-06 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0190	57.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 10:03**

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

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-S@2'
2505141-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.48	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B
Barium	58.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.97	0.400	"	"	"	"	"	"
Lead	5.89	0.200	"	"	"	"	"	"
Nickel	5.28	0.400	"	"	"	"	"	"
Silver	0.0337	0.0200	"	"	"	"	"	"
Zinc	11.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	8030	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	225	0.0500	"	"	"	"	"	"	
Sodium	5.69	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0171	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-S@2'
2505141-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.3		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.315	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 10:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B@5'
2505141-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0442	111 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.4	115 %		50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B@5'
2505141-07 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0250	75.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0226	67.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B@5'
2505141-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.88	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	46.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.44	0.400	"	"	"	"	"	"	
Lead	4.40	0.200	"	"	"	"	"	"	
Nickel	2.80	0.400	"	"	"	"	"	"	
Silver	0.0277	0.0200	"	"	"	"	"	"	
Zinc	8.68	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	258	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	89.8	0.0500	"	"	"	"	"	"	
Sodium	80.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.09	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B@5'
2505141-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.92	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-B@5'
2505141-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0452	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.1	113 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-B@5'
2505141-08 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0254	76.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0222	66.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 10:07**

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

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-B@5'
2505141-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.66	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	78.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.83	0.400	"	"	"	"	"	"	
Lead	8.68	0.200	"	"	"	"	"	"	
Nickel	4.50	0.400	"	"	"	"	"	"	
Silver	0.0266	0.0200	"	"	"	"	"	"	
Zinc	9.83	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	9740	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	543	0.0500	"	"	"	"	"	"	
Sodium	122	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.326	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV01-B@5'
2505141-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.525	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.46		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B2@5'
2505141-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIE0791	05/30/25	05/31/25	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: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0428	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIE0793	05/30/25	05/30/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.1	88.5 %	50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

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4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B2@5'
2505141-09 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIF0003	06/02/25	06/05/25	EPA 8270E 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: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0261	78.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BIE0799	05/30/25	06/02/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B2@5'
2505141-09 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.93	0.200	mg/kg dry	1	BIE0800	05/30/25	06/03/25	EPA 6020B	
Barium	68.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	9.25	0.400	"	"	"	"	"	"	
Lead	8.48	0.200	"	"	"	"	"	"	
Nickel	8.42	0.400	"	"	"	"	"	"	
Silver	0.0586	0.0200	"	"	"	"	"	"	
Zinc	13.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by HACH M8023

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIF0004	06/02/25	06/02/25	Hach 8000	

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

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3650	0.0500	mg/L dry	1	BIE0794	05/30/25	06/03/25	EPA 6020B	
Magnesium	211	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0514	0.00100	units	1	BIF0102	06/06/25	06/06/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
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Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PWV02-B2@5'
2505141-09 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.9		%	1	BIF0002	06/02/25	06/04/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.440	0.0100	mmhos/cm	1	BIE0797	05/30/25	06/02/25	EPA 120.1	

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

Date Sampled: **05/30/25 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BIE0796	05/30/25	06/02/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BIE0791 - EPA 5030 Soil MS

Blank (BIE0791-BLK1)

Prepared & Analyzed: 05/30/25

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0432		"	0.0400		108	50-150				
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		98.1	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0408		"	0.0400		102	50-150				

LCS (BIE0791-BS1)

Prepared & Analyzed: 05/30/25

Benzene	0.110	0.0020	mg/kg	0.100		110	70-130				
Toluene	0.105	0.0050	"	0.100		105	70-130				
Ethylbenzene	0.0965	0.0050	"	0.100		96.5	70-130				
m,p-Xylene	0.192	0.010	"	0.200		96.0	70-130				
o-Xylene	0.101	0.0050	"	0.100		101	70-130				
1,2,4-Trimethylbenzene	0.0967	0.0050	"	0.100		96.7	70-130				
1,3,5-Trimethylbenzene	0.0963	0.0050	"	0.100		96.3	70-130				
Naphthalene	0.0999	0.0038	"	0.100		99.9	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0443		"	0.0400		111	50-150				
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.4	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0397		"	0.0400		99.2	50-150				

Matrix Spike (BIE0791-MS1)

Source: 2505141-01

Prepared & Analyzed: 05/30/25

Benzene	0.100	0.0020	mg/kg	0.100	ND	100	70-130				
Toluene	0.0960	0.0050	"	0.100	ND	96.0	70-130				
Ethylbenzene	0.0886	0.0050	"	0.100	ND	88.6	70-130				
m,p-Xylene	0.176	0.010	"	0.200	ND	88.1	70-130				
o-Xylene	0.0918	0.0050	"	0.100	ND	91.8	70-130				
1,2,4-Trimethylbenzene	0.0854	0.0050	"	0.100	ND	85.4	70-130				
1,3,5-Trimethylbenzene	0.0856	0.0050	"	0.100	ND	85.6	70-130				
Naphthalene	0.0791	0.0038	"	0.100	ND	79.1	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0424		"	0.0400		106	50-150				
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.4	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0401		"	0.0400		100	50-150				

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

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

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

Batch BIE0791 - EPA 5030 Soil MS

Matrix Spike Dup (BIE0791-MSD1)	Source: 2505141-01			Prepared: 05/30/25 Analyzed: 05/31/25						
Benzene	0.0999	0.0020	mg/kg	0.100	ND	99.9	70-130	0.180	30	
Toluene	0.0957	0.0050	"	0.100	ND	95.7	70-130	0.250	30	
Ethylbenzene	0.0885	0.0050	"	0.100	ND	88.5	70-130	0.0678	30	
m,p-Xylene	0.175	0.010	"	0.200	ND	87.7	70-130	0.427	30	
o-Xylene	0.0919	0.0050	"	0.100	ND	91.9	70-130	0.131	30	
1,2,4-Trimethylbenzene	0.0855	0.0050	"	0.100	ND	85.5	70-130	0.211	30	
1,3,5-Trimethylbenzene	0.0860	0.0050	"	0.100	ND	86.0	70-130	0.385	30	
Naphthalene	0.0796	0.0038	"	0.100	ND	79.6	70-130	0.605	30	
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	50-150			

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BIE0793 - EPA 3550A

Blank (BIE0793-BLK1)

Prepared & Analyzed: 05/30/25

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.2		"	12.5		122	50-140				

LCS (BIE0793-BS1)

Prepared: 05/30/25 Analyzed: 05/31/25

C10-C28 (DRO)	563	50	mg/kg	500		113	50-140				
Surrogate: <i>o</i> -Terphenyl	18.2		"	12.5		146	50-140				QLCS-01

Matrix Spike (BIE0793-MS1)

Source: 2505141-01

Prepared: 05/30/25 Analyzed: 05/31/25

C10-C28 (DRO)	505	50	mg/kg	500	20.8	96.8	50-140				
Surrogate: <i>o</i> -Terphenyl	16.3		"	12.5		131	50-140				

Matrix Spike Dup (BIE0793-MSD1)

Source: 2505141-01

Prepared: 05/30/25 Analyzed: 05/31/25

C10-C28 (DRO)	406	50	mg/kg	500	20.8	77.1	50-140	21.7	20		QR-02
Surrogate: <i>o</i> -Terphenyl	16.6		"	12.5		133	50-140				

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Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PAH by EPA Method 8270E SIM - Quality Control

Summit Scientific

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

Batch BIF0003 - EPA 5030 Soil MS

Blank (BIF0003-BLK1)

Prepared: 06/02/25 Analyzed: 06/04/25

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	0.0284		"	0.0333		85.1	40-140			
Surrogate: Fluoranthene-d10	0.0274		"	0.0333		82.2	40-140			

LCS (BIF0003-BS1)

Prepared: 06/02/25 Analyzed: 06/04/25

Acenaphthene	0.0238	0.00500	mg/kg	0.0333		71.4	40-140			
Anthracene	0.0262	0.00500	"	0.0333		78.7	40-140			
Benzo (a) anthracene	0.0259	0.00500	"	0.0333		77.6	40-140			
Benzo (a) pyrene	0.0261	0.00500	"	0.0333		78.4	40-140			
Benzo (b) fluoranthene	0.0271	0.00500	"	0.0333		81.3	40-140			
Benzo (k) fluoranthene	0.0269	0.00500	"	0.0333		80.8	40-140			
Chrysene	0.0260	0.00500	"	0.0333		77.9	40-140			
Dibenz (a,h) anthracene	0.0262	0.00500	"	0.0333		78.7	40-140			
Fluoranthene	0.0264	0.00500	"	0.0333		79.2	40-140			
Fluorene	0.0229	0.00500	"	0.0333		68.7	40-140			
Indeno (1,2,3-cd) pyrene	0.0268	0.00500	"	0.0333		80.5	40-140			
Pyrene	0.0256	0.00500	"	0.0333		76.9	40-140			
1-Methylnaphthalene	0.0246	0.00500	"	0.0333		73.8	40-140			
2-Methylnaphthalene	0.0244	0.00500	"	0.0333		73.3	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0246		"	0.0333		73.9	40-140			
Surrogate: Fluoranthene-d10	0.0261		"	0.0333		78.4	40-140			

Summit Scientific

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4725 Independence St.
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Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

PAH by EPA Method 8270E SIM - Quality Control

Summit Scientific

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

Batch BIF0003 - EPA 5030 Soil MS

Matrix Spike (BIF0003-MS1)		Source: 2505126-01			Prepared: 06/02/25		Analyzed: 06/04/25	
Acenaphthene	0.0258	0.00500	mg/kg	0.0333	ND	77.3	40-140	
Anthracene	0.0246	0.00500	"	0.0333	ND	73.7	40-140	
Benzo (a) anthracene	0.0247	0.00500	"	0.0333	ND	74.0	40-140	
Benzo (a) pyrene	0.0253	0.00500	"	0.0333	ND	76.0	40-140	
Benzo (b) fluoranthene	0.0263	0.00500	"	0.0333	ND	78.9	40-140	
Benzo (k) fluoranthene	0.0264	0.00500	"	0.0333	ND	79.2	40-140	
Chrysene	0.0255	0.00500	"	0.0333	ND	76.4	40-140	
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	ND	72.1	40-140	
Fluoranthene	0.0263	0.00500	"	0.0333	ND	78.9	40-140	
Fluorene	0.0261	0.00500	"	0.0333	ND	78.2	40-140	
Indeno (1,2,3-cd) pyrene	0.0255	0.00500	"	0.0333	ND	76.6	40-140	
Pyrene	0.0259	0.00500	"	0.0333	ND	77.7	40-140	
1-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.4	40-140	
2-Methylnaphthalene	0.0258	0.00500	"	0.0333	ND	77.4	40-140	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0251</i>		"	<i>0.0333</i>		<i>75.4</i>	<i>40-140</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0265</i>		"	<i>0.0333</i>		<i>79.5</i>	<i>40-140</i>	

Matrix Spike Dup (BIF0003-MSD1)		Source: 2505126-01			Prepared: 06/02/25		Analyzed: 06/04/25			
Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.4	40-140	36.6	30	QR-03
Anthracene	0.0180	0.00500	"	0.0333	ND	54.1	40-140	30.7	30	QR-03
Benzo (a) anthracene	0.0185	0.00500	"	0.0333	ND	55.4	40-140	28.8	30	
Benzo (a) pyrene	0.0192	0.00500	"	0.0333	ND	57.5	40-140	27.7	30	
Benzo (b) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.9	40-140	29.1	30	
Benzo (k) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	40-140	29.9	30	
Chrysene	0.0192	0.00500	"	0.0333	ND	57.6	40-140	28.2	30	
Dibenz (a,h) anthracene	0.0181	0.00500	"	0.0333	ND	54.4	40-140	28.0	30	
Fluoranthene	0.0194	0.00500	"	0.0333	ND	58.2	40-140	30.1	30	QR-03
Fluorene	0.0190	0.00500	"	0.0333	ND	56.9	40-140	31.5	30	QR-03
Indeno (1,2,3-cd) pyrene	0.0191	0.00500	"	0.0333	ND	57.4	40-140	28.7	30	
Pyrene	0.0194	0.00500	"	0.0333	ND	58.3	40-140	28.5	30	
1-Methylnaphthalene	0.0189	0.00500	"	0.0333	ND	56.7	40-140	32.1	30	QR-03
2-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.5	40-140	34.8	30	QR-03
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0184</i>		"	<i>0.0333</i>		<i>55.3</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0203</i>		"	<i>0.0333</i>		<i>61.0</i>	<i>40-140</i>			

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

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 BIE0799 - EPA 3050B

Blank (BIE0799-BLK1)

Prepared: 05/30/25 Analyzed: 06/02/25

Boron ND 2.00 mg/L wet

LCS (BIE0799-BS1)

Prepared: 05/30/25 Analyzed: 06/02/25

Boron 5.60 2.00 mg/L wet 5.00 112 80-120

Duplicate (BIE0799-DUP1)

Source: 2505138-01

Prepared: 05/30/25 Analyzed: 06/02/25

Boron 0.888 2.00 mg/L dry 0.918 3.35 20

Matrix Spike (BIE0799-MS1)

Source: 2505138-01

Prepared: 05/30/25 Analyzed: 06/02/25

Boron 4.85 2.00 mg/L dry 5.86 0.918 67.1 75-125 QM-05

Matrix Spike Dup (BIE0799-MSD1)

Source: 2505138-01

Prepared: 05/30/25 Analyzed: 06/02/25

Boron 5.78 2.00 mg/L dry 5.86 0.918 82.9 75-125 17.4 25

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIE0800 - EPA 3050B

Blank (BIE0800-BLK1)

Prepared: 05/30/25 Analyzed: 06/03/25

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 (BIE0800-BS1)

Prepared: 05/30/25 Analyzed: 06/03/25

Arsenic	44.5	0.200	mg/kg wet	41.7	107	80-120
Barium	44.9	0.400	"	41.7	108	80-120
Cadmium	2.30	0.200	"	2.08	110	80-120
Copper	45.6	0.400	"	41.7	110	80-120
Lead	23.0	0.200	"	20.8	110	80-120
Nickel	44.6	0.400	"	41.7	107	80-120
Silver	2.12	0.0200	"	2.08	102	80-120
Zinc	45.8	0.400	"	41.7	110	80-120
Selenium	4.84	0.260	"	4.17	116	80-120

Duplicate (BIE0800-DUP1)

Source: 2505141-01

Prepared: 05/30/25 Analyzed: 06/04/25

Arsenic	1.93	0.200	mg/kg dry	1.77	8.83	20	
Barium	66.6	0.400	"	64.3	3.61	20	
Cadmium	0.106	0.200	"	0.103	3.30	20	
Copper	2.52	0.400	"	4.53	57.0	20	QR-04
Lead	5.34	0.200	"	5.47	2.39	20	
Nickel	2.57	0.400	"	4.60	56.9	20	QR-04
Silver	0.0231	0.0200	"	0.0230	0.420	20	
Zinc	9.75	0.400	"	9.62	1.26	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

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 BIE0800 - EPA 3050B

Matrix Spike (BIE0800-MS1)	Source: 2505141-01			Prepared: 05/30/25		Analyzed: 06/03/25					
Arsenic	25.4	0.200	mg/kg dry	48.6	1.77	48.7	75-125				QM-05
Barium	103	0.400	"	48.6	64.3	80.7	75-125				
Cadmium	2.29	0.200	"	2.43	0.103	89.9	75-125				
Copper	47.8	0.400	"	48.6	4.53	89.1	75-125				
Lead	26.5	0.200	"	24.3	5.47	86.7	75-125				
Nickel	47.8	0.400	"	48.6	4.60	88.9	75-125				
Silver	2.21	0.0200	"	2.43	0.0230	90.2	75-125				
Zinc	33.9	0.400	"	48.6	9.62	49.9	75-125				QM-05
Selenium	5.01	0.260	"	4.86	ND	103	75-125				

Matrix Spike Dup (BIE0800-MSD1)	Source: 2505141-01			Prepared: 05/30/25		Analyzed: 06/03/25					
Arsenic	25.8	0.200	mg/kg dry	48.6	1.77	49.4	75-125	1.28	25		QM-05
Barium	103	0.400	"	48.6	64.3	79.9	75-125	0.362	25		
Cadmium	2.28	0.200	"	2.43	0.103	89.4	75-125	0.469	25		
Copper	48.3	0.400	"	48.6	4.53	90.0	75-125	0.939	25		
Lead	26.9	0.200	"	24.3	5.47	88.1	75-125	1.32	25		
Nickel	48.2	0.400	"	48.6	4.60	89.7	75-125	0.745	25		
Silver	2.16	0.0200	"	2.43	0.0230	88.1	75-125	2.33	25		
Zinc	34.8	0.400	"	48.6	9.62	51.8	75-125	2.57	25		QM-05
Selenium	4.43	0.260	"	4.86	ND	91.2	75-125	12.4	25		

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW
Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

Hexavalent Chromium by HACH M8023 - Quality Control
Summit Scientific

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

Batch BIF0004 - 3060A Mod

Blank (BIF0004-BLK1)

Prepared & Analyzed: 06/02/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIF0004-BS1)

Prepared & Analyzed: 06/02/25

Chromium, Hexavalent 24.5 0.30 mg/kg wet 25.8 95.0 80-120

Duplicate (BIF0004-DUP1)

Source: 2505138-01

Prepared & Analyzed: 06/02/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIF0004-MS1)

Source: 2505138-01

Prepared & Analyzed: 06/02/25

Chromium, Hexavalent 29.9 0.30 mg/kg dry 30.2 ND 99.0 75-125

Matrix Spike Dup (BIF0004-MSD1)

Source: 2505138-01

Prepared & Analyzed: 06/02/25

Chromium, Hexavalent 29.0 0.30 mg/kg dry 30.2 ND 96.2 75-125 2.87 20

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
 Project Manager: AJ Engelhardt

Reported:
 06/16/25 14:05

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

Summit Scientific

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

Batch BIE0794 - General Preparation

Blank (BIE0794-BLK1)

Prepared: 05/30/25 Analyzed: 06/03/25

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

LCS (BIE0794-BS1)

Prepared: 05/30/25 Analyzed: 06/03/25

Calcium	5.46	0.0500	mg/L wet	5.00	109	70-130			
Magnesium	5.17	0.0500	"	5.00	103	70-130			
Sodium	5.06	0.0500	"	5.00	101	70-130			

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
 Project Manager: AJ Engelhardt

Reported:
 06/16/25 14:05

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

Summit Scientific

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

Batch BIF0002 - General Preparation

Duplicate (BIF0002-DUP1)

Source: 2505138-01

Prepared: 06/02/25 Analyzed: 06/04/25

% Solids	85.7		%		85.4			0.327	20	
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Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
 Project Manager: AJ Engelhardt

Reported:
 06/16/25 14:05

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 BIE0797 - General Preparation

Blank (BIE0797-BLK1)

Prepared: 05/30/25 Analyzed: 06/02/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIE0797-BS1)

Prepared: 05/30/25 Analyzed: 06/02/25

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.5 95-105

Duplicate (BIE0797-DUP1)

Source: 2505138-01

Prepared: 05/30/25 Analyzed: 06/02/25

Specific Conductance (EC) 6.77 0.0100 mmhos/cm 7.02 3.60 20

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
 Project Manager: AJ Engelhardt

Reported:
 06/16/25 14:05

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 BIE0796 - General Preparation

LCS (BIE0796-BS1)

Prepared: 05/30/25 Analyzed: 06/02/25

pH	9.10	pH Units	9.18	99.1	95-105
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Duplicate (BIE0796-DUP1)

Source: 2505138-01

Prepared: 05/30/25 Analyzed: 06/02/25

pH	8.03	pH Units	8.02	0.137	20
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Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: PDC - Cecil 66N64W 12NWNW

Project Number: 10517
Project Manager: AJ Engelhardt

Reported:
06/16/25 14:05

Notes and Definitions

- S-07 The surrogate recovery was outside acceptance limits indicating a potential high bias. The sample did not exhibit concentrations above reporting level for analytes represented by this surrogate. Data quality is not affected.
- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values. Only applies to source/DUP and MS/MSD pairs.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-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.
- QLCS-01 The spike recovery was outside acceptance limits for this analyte indicating a potential high bias. The corresponding samples did not exhibit concentrations above reporting level for this analyte. Data quality is not affected.
- 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