

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 16, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

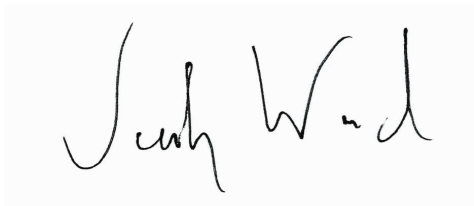
Broomfield, CO 80020

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

Work Order #2409123

Enclosed are the results of analyses for samples received by Summit Scientific on 09/09/24 17:33. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

ANALYTICAL REPORT FOR SAMPLES



Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2409123-01	Soil	09/09/24 09:10	09/09/24 17:33
AST02@0-6"	2409123-02	Soil	09/09/24 09:11	09/09/24 17:33
AST03@0-6"	2409123-03	Soil	09/09/24 09:12	09/09/24 17:33
GL01@0-6"	2409123-04	Soil	09/09/24 09:03	09/09/24 17:33
PWV01-B@4.5'	2409123-05	Soil	09/09/24 10:51	09/09/24 17:33
PWV01-E@2.5'	2409123-07	Soil	09/09/24 10:58	09/09/24 17:33
PWV02-B@4.5'	2409123-09	Soil	09/09/24 10:47	09/09/24 17:33
PWV02-S@2.5'	2409123-11	Soil	09/09/24 10:52	09/09/24 17:33
SEP01-DL@4.5'	2409123-13	Soil	09/09/24 11:31	09/09/24 17:33
SEP01-FL01@4.5'	2409123-14	Soil	09/09/24 13:25	09/09/24 17:33
SEP01-FL02@4.5'	2409123-15	Soil	09/09/24 13:20	09/09/24 17:33
SEP01-FL03@4.5'	2409123-16	Soil	09/09/24 13:28	09/09/24 17:33
SEP01-FL04@4.5'	2409123-17	Soil	09/09/24 13:18	09/09/24 17:33
SEP01-FL05@4.5'	2409123-18	Soil	09/09/24 13:30	09/09/24 17:33

Summit Scientific

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Client: PDC / Tasman		Send Data To: Project Manager: Karen Olson		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: karen.olson@chevron.com		Project Name/Location: Land 31-13, 17, 19, 24, 26 Tank Battery	
City/State/Zip: Broomfield / CO / 80020				AFE#: PX-900337	
Phone: 303-487-1228		Project Name: Land 31-13, 17, 19, 24, 26 Tank Battery		PO/Billing Codes:	
Sampler Name: Elizabeth Brauer, Doug Decker		Project Number:		Contact: Karen Olson & Delbert Pace	

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs	Metals - 915	Hold	
1	AST01@0-C"	9/9/24	910	3			X			X			X	X	X	X	X	X	X	X	
2	AST02@0-C"		911																		
3	AST03@0-C"		912																		
4	GL01@0-C"		903																		
5	PWV01-B@4.5'		1051																		
6	PWV01-N@2.5'		1106																		X
7	PWV01-E@2.5'		1058																		
8	PWV01-S@2.5'		1049																		X
9	PWV02-B@4.5'		1047																		
10	PWV02-N@2.5'		1104																		X
11	PWV02-S@2.5'		1052																		
12	PWV02-W@2.5'		1055																		X
13	SEP01-DL@4.5'		1131																		
14	SEP01-FL01@4.5'		1325																		
15	SEP01-FL02@4.5'		1320																		

Relinquished by: 	Date/Time: 9/9/24 1610	Received by: Tasman Lockbox	Date/Time: 9/9/24 1410	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 9/9/24 1733	Received by: 	Date/Time: 9/9/24 1733	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 4.4	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:			

Client: PDC / Tasman				Send Data To: Project Manager: Karen Olson				Send Invoice To: Company: PDC Energy												
Address: 6855 W 119th Ave				E-Mail: karen.olson@chevron.com				Project Name/Location: Land 31-13, 17, 19, 24, 36 Tank Battery												
City/State/Zip: Broomfield / CO / 80020								AFE#: PX-900337												
Phone: 303-487-1228				Project Name: Land 31-13, 17, 19, 24, 36 Tank Battery				PO/Billing Codes:												
Sampler Name: Elizabeth Brauer				Project Number:				Contact: Karen Olson as Delbert Pace												
				Preservative		Matrix		Analysis Requested				Special Instructions								
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs	Metals - 915	
1	SEP01-FL03@4.5'	9/9/24	1328	3			X			X			X	X	X	X	X	X	X	
2	SEP01-FL04@4.5'	↓	1318	↓			↓			↓			↓	↓	↓	↓	↓	↓	↓	
3	SEP01-FL05@4.5'	↓	1330	↓			↓			↓			↓	↓	↓	↓	↓	↓	↓	
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Elk</i>	Date/Time: 9/9/24 1610	Received by: Tasman Lockbox	Date/Time: 9/9/24 1610	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time:	Received by: <i>[Signature]</i>	Date/Time: 9/9/24 1730	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 9.4	Corrected Temperature: 8	IR gun #:		Standard	X Field Turb.	
				HNO3 lot #:		

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2409123Client: Port of AstoriaClient Project ID: Land 3+13, 17, 19, 24, 36D

Tank Bottom

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air ☐Soil/Solid ☒Water ☐Other ☐

Temp (°C)

9.4

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , 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? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample # 13. 2/3 jays said PL
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)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ 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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name

Date/Time



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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST01@0-6"
2409123-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	96.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.84	70.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project Number: [none]
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Reported:
09/16/24 14:43

AST01@0-6"
2409123-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0217	65.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST01@0-6"
2409123-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.40	0.200	mg/kg dry	1	BHI0335	09/11/24	09/11/24	EPA 6020B
Barium	51.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.90	0.400	"	"	"	"	"	"
Lead	7.02	0.200	"	"	"	"	"	"
Nickel	3.61	0.400	"	"	"	"	"	"
Silver	0.0314	0.0200	"	"	"	"	"	"
Zinc	16.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	89.0	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	24.2	0.0500	"	"	"	"	"	"	
Sodium	24.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.599	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project Number: [none]
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Reported:
09/16/24 14:43

AST01@0-6"
2409123-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.2			%	1	BHI0344	09/11/24	09/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.129	0.0100		mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 09:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.31			pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST02@0-6"
2409123-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0432	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.16	73.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST02@0-6"
2409123-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0214	64.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST02@0-6"
2409123-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.89	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	81.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.63	0.400	"	"	"	"	"	"
Lead	6.50	0.200	"	"	"	"	"	"
Nickel	3.34	0.400	"	"	"	"	"	"
Silver	0.0413	0.0200	"	"	"	"	"	"
Zinc	18.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	80.3	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	16.9	0.0500	"	"	"	"	"	"	
Sodium	4.48	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.119	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST02@0-6"
2409123-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5		%	1	BHI0344	09/11/24	09/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0968	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 09:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.62		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST03@0-6"
2409123-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0525	131 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.41	67.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST03@0-6"
2409123-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0191	57.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	57.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST03@0-6"
2409123-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.44	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	104	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.58	0.400	"	"	"	"	"	"
Lead	5.75	0.200	"	"	"	"	"	"
Nickel	3.07	0.400	"	"	"	"	"	"
Silver	0.0415	0.0200	"	"	"	"	"	"
Zinc	15.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	90.1	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	145	0.0500	"	"	"	"	"	"	
Sodium	439	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.66	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

AST03@0-6"
2409123-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.2		%	1	BHI0344	09/11/24	09/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.38	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 09:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	10.7		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

GL01@0-6"
2409123-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.45	67.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

GL01@0-6"
2409123-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

GL01@0-6"
2409123-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.61	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	56.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.50	0.400	"	"	"	"	"	"
Lead	5.26	0.200	"	"	"	"	"	"
Nickel	3.17	0.400	"	"	"	"	"	"
Silver	0.0302	0.0200	"	"	"	"	"	"
Zinc	14.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	133	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	20.9	0.0500	"	"	"	"	"	"	
Sodium	26.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.570	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

GL01@0-6"
2409123-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.6			%	1	BHI0344	09/11/24	09/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.171	0.0100		mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 09:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.56			pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-B@4.5'
2409123-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0469	117 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.67	61.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-B@4.5'
2409123-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-B@4.5'
2409123-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.71	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	83.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.77	0.400	"	"	"	"	"	"
Lead	7.71	0.200	"	"	"	"	"	"
Nickel	4.44	0.400	"	"	"	"	"	"
Silver	0.0293	0.0200	"	"	"	"	"	"
Zinc	16.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	66.7	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	18.8	0.0500	"	"	"	"	"	"	
Sodium	52.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.45	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-B@4.5'
2409123-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.0		%	1	BHI0344	09/11/24	09/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.611	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 10:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-E@2.5'
2409123-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0355	88.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.33	50.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-E@2.5'
2409123-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0189	56.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-E@2.5'
2409123-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	4.30	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	334	0.400	"	"	"	"	"	"
Cadmium	0.320	0.200	"	"	"	"	"	"
Copper	8.44	0.400	"	"	"	"	"	"
Lead	11.4	0.200	"	"	"	"	"	"
Nickel	6.74	0.400	"	"	"	"	"	"
Silver	0.0571	0.0200	"	"	"	"	"	"
Zinc	26.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	749	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	133	0.0500	"	"	"	"	"	"	
Sodium	62.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.550	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 10:58**

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV01-E@2.5'
2409123-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	67.7	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.84	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-B@4.5'
2409123-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0432	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0374	93.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.87	63.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-B@4.5'
2409123-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0164	49.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-B@4.5'
2409123-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.68	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	117	0.400	"	"	"	"	"	"
Cadmium	0.228	0.200	"	"	"	"	"	"
Copper	6.30	0.400	"	"	"	"	"	"
Lead	10.8	0.200	"	"	"	"	"	"
Nickel	5.57	0.400	"	"	"	"	"	"
Silver	0.0402	0.0200	"	"	"	"	"	"
Zinc	21.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	101	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	24.1	0.0500	"	"	"	"	"	"	
Sodium	50.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.16	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 10:47**

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-B@4.5'
2409123-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.0	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.748	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-S@2.5'
2409123-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.86	62.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-S@2.5'
2409123-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0196	58.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	55.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-S@2.5'
2409123-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.20	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	111	0.400	"	"	"	"	"	"
Cadmium	0.226	0.200	"	"	"	"	"	"
Copper	5.75	0.400	"	"	"	"	"	"
Lead	7.54	0.200	"	"	"	"	"	"
Nickel	4.80	0.400	"	"	"	"	"	"
Silver	0.0385	0.0200	"	"	"	"	"	"
Zinc	18.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	185	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	8.42	0.0500	"	"	"	"	"	"	
Sodium	1.29	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0252	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 10:52**

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

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PWV02-S@2.5'
2409123-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.3	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.103	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.86		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-DL@4.5'
2409123-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0461	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0391	97.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.93	63.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-DL@4.5'
2409123-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	56.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/11/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-DL@4.5'
2409123-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.30	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	128	0.400	"	"	"	"	"	"
Cadmium	0.246	0.200	"	"	"	"	"	"
Copper	6.26	0.400	"	"	"	"	"	"
Lead	8.75	0.200	"	"	"	"	"	"
Nickel	5.04	0.400	"	"	"	"	"	"
Silver	0.0467	0.0200	"	"	"	"	"	"
Zinc	20.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	99.9	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	13.6	0.0500	"	"	"	"	"	"	
Sodium	52.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.32	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 11:31**

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

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-DL@4.5'
2409123-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.8	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.683	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.21		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL01@4.5'
2409123-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0466	116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.60	68.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL01@4.5'
2409123-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	57.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/12/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 13:25**

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

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL01@4.5'
2409123-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.42	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	156	0.400	"	"	"	"	"	"
Cadmium	0.544	0.200	"	"	"	"	"	"
Copper	6.74	0.400	"	"	"	"	"	"
Lead	8.76	0.200	"	"	"	"	"	"
Nickel	5.47	0.400	"	"	"	"	"	"
Silver	0.0469	0.0200	"	"	"	"	"	"
Zinc	25.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	66.7	0.0500	mg/L dry	1	BHI0365	09/11/24	09/12/24	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.354	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 13:25**

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

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



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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL01@4.5'
2409123-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.389	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.44		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL02@4.5'
2409123-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.72	69.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL02@4.5'
2409123-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0159	47.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/12/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL02@4.5'
2409123-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.25	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	140	0.400	"	"	"	"	"	"
Cadmium	0.430	0.200	"	"	"	"	"	"
Copper	6.36	0.400	"	"	"	"	"	"
Lead	8.65	0.200	"	"	"	"	"	"
Nickel	5.07	0.400	"	"	"	"	"	"
Silver	0.0464	0.0200	"	"	"	"	"	"
Zinc	20.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	62.0	0.0500	mg/L dry	1	BHI0365	09/11/24	09/13/24	EPA 6020B	
Magnesium	11.8	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.360	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 13:20**

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL02@4.5'
2409123-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.1	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.694	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.24		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL03@4.5'
2409123-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0489	122 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.86	70.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL03@4.5'
2409123-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/11/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0170	50.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0169	50.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/12/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL03@4.5'
2409123-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.78	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	183	0.400	"	"	"	"	"	"
Cadmium	0.311	0.200	"	"	"	"	"	"
Copper	6.35	0.400	"	"	"	"	"	"
Lead	8.93	0.200	"	"	"	"	"	"
Nickel	4.99	0.400	"	"	"	"	"	"
Silver	0.0491	0.0200	"	"	"	"	"	"
Zinc	20.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.5	0.0500	mg/L dry	1	BHI0365	09/11/24	09/13/24	EPA 6020B	
Magnesium	9.07	0.0500	"	"	"	"	"	"	
Sodium	6.21	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.205	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 13:28**

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL03@4.5'
2409123-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.4	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.11	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL04@4.5'
2409123-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0429	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0348	86.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.72	61.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL04@4.5'
2409123-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/12/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/12/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL04@4.5'
2409123-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.86	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	214	0.400	"	"	"	"	"	"
Cadmium	0.339	0.200	"	"	"	"	"	"
Copper	7.02	0.400	"	"	"	"	"	"
Lead	9.94	0.200	"	"	"	"	"	"
Nickel	5.88	0.400	"	"	"	"	"	"
Silver	0.0511	0.0200	"	"	"	"	"	"
Zinc	22.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	452	0.0500	mg/L dry	1	BHI0365	09/11/24	09/13/24	EPA 6020B	
Magnesium	49.0	0.0500	"	"	"	"	"	"	
Sodium	10.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.122	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 13:18**

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL04@4.5'
2409123-17 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	77.7	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.18	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL05@4.5'
2409123-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHI0307	09/10/24	09/11/24	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: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0430	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	97.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHI0310	09/10/24	09/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.16	73.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL05@4.5'
2409123-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHI0325	09/11/24	09/12/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHI0286	09/10/24	09/12/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL05@4.5'
2409123-18 (Soil)

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Total Metals by EPA 6020B

Arsenic	6.60	0.200	mg/kg dry	1	BHI0335	09/11/24	09/12/24	EPA 6020B
Barium	117	0.400	"	"	"	"	"	"
Cadmium	3.80	0.200	"	"	"	"	"	"
Copper	8.37	0.400	"	"	"	"	"	"
Lead	8.94	0.200	"	"	"	"	"	"
Nickel	6.67	0.400	"	"	"	"	"	"
Silver	0.0368	0.0200	"	"	"	"	"	"
Zinc	27.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHI0292	09/10/24	09/11/24	EPA 7196A	

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

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.4	0.0500	mg/L dry	1	BHI0365	09/11/24	09/13/24	EPA 6020B	
Magnesium	9.11	0.0500	"	"	"	"	"	"	
Sodium	5.01	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.166	0.00100	units	1	BHI0426	09/13/24	09/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

SEP01-FL05@4.5'
2409123-18 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	77.0	%	1	BHI0344	09/11/24	09/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.469	0.0100	mmhos/cm	1	BHI0370	09/11/24	09/12/24	EPA 120.1	

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

Date Sampled: **09/09/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.24		pH Units	1	BHI0369	09/11/24	09/12/24	EPA 9045D	

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHI0307 - EPA 5030 Soil MS

Blank (BHI0307-BLK1)

Prepared & Analyzed: 09/10/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		98.9	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	50-150			

LCS (BHI0307-BS1)

Prepared & Analyzed: 09/10/24

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.100	0.0050	"	0.100		100	70-130			
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130			
m,p-Xylene	0.203	0.010	"	0.200		102	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
Naphthalene	0.0918	0.0038	"	0.100		91.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0397		"	0.0400		99.3	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.3	50-150			

Matrix Spike (BHI0307-MS1)

Source: 2409116-01

Prepared & Analyzed: 09/10/24

Benzene	0.0918	0.0020	mg/kg	0.100	ND	91.8	70-130			
Toluene	0.0893	0.0050	"	0.100	ND	89.3	70-130			
Ethylbenzene	0.0901	0.0050	"	0.100	ND	90.1	70-130			
m,p-Xylene	0.177	0.010	"	0.200	ND	88.4	70-130			
o-Xylene	0.0876	0.0050	"	0.100	ND	87.6	70-130			
1,2,4-Trimethylbenzene	0.0825	0.0050	"	0.100	ND	82.5	70-130			
1,3,5-Trimethylbenzene	0.0830	0.0050	"	0.100	ND	83.0	70-130			
Naphthalene	0.0706	0.0038	"	0.100	ND	70.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150			

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

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

Batch BHI0307 - EPA 5030 Soil MS

Matrix Spike Dup (BHI0307-MSD1)		Source: 2409116-01			Prepared & Analyzed: 09/10/24					
Benzene	0.0971	0.0020	mg/kg	0.100	ND	97.1	70-130	5.65	30	
Toluene	0.0934	0.0050	"	0.100	ND	93.4	70-130	4.50	30	
Ethylbenzene	0.0892	0.0050	"	0.100	ND	89.2	70-130	0.970	30	
m,p-Xylene	0.170	0.010	"	0.200	ND	85.1	70-130	3.82	30	
o-Xylene	0.0866	0.0050	"	0.100	ND	86.6	70-130	1.14	30	
1,2,4-Trimethylbenzene	0.0812	0.0050	"	0.100	ND	81.2	70-130	1.58	30	
1,3,5-Trimethylbenzene	0.0809	0.0050	"	0.100	ND	80.9	70-130	2.60	30	
Naphthalene	0.0708	0.0038	"	0.100	ND	70.8	70-130	0.297	30	
Surrogate: 1,2-Dichloroethane-d4		0.0488	"	0.0400		122	50-150			
Surrogate: Toluene-d8		0.0408	"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene		0.0400	"	0.0400		100	50-150			

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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHI0310 - EPA 3550A

Blank (BHI0310-BLK1)

Prepared: 09/10/24 Analyzed: 09/13/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.5		"	12.5		100	30-150			

LCS (BHI0310-BS1)

Prepared: 09/10/24 Analyzed: 09/13/24

C10-C28 (DRO)	449	50	mg/kg	500		89.8	70-130			
Surrogate: o-Terphenyl	11.3		"	12.5		90.6	30-150			

Matrix Spike (BHI0310-MS1)

Source: 2409116-02

Prepared: 09/10/24 Analyzed: 09/13/24

C10-C28 (DRO)	377	50	mg/kg	500	34.0	68.7	70-130			QM-05
Surrogate: o-Terphenyl	10.9		"	12.5		87.0	30-150			

Matrix Spike Dup (BHI0310-MSD1)

Source: 2409116-02

Prepared: 09/10/24 Analyzed: 09/13/24

C10-C28 (DRO)	413	50	mg/kg	500	34.0	75.9	70-130	9.09	20	
Surrogate: o-Terphenyl	10.4		"	12.5		83.6	30-150			

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHI0325 - EPA 5030 Soil MS

Blank (BHI0325-BLK1)

Prepared & Analyzed: 09/11/24

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	0.0235		"	0.0333		70.5	40-150			
Surrogate: Fluoranthene-d10	0.0258		"	0.0333		77.5	40-150			

LCS (BHI0325-BS1)

Prepared & Analyzed: 09/11/24

Acenaphthene	0.0251	0.00500	mg/kg	0.0333		75.4	31-137			
Anthracene	0.0256	0.00500	"	0.0333		76.9	30-120			
Benzo (a) anthracene	0.0256	0.00500	"	0.0333		76.9	30-120			
Benzo (a) pyrene	0.0237	0.00500	"	0.0333		71.2	30-120			
Benzo (b) fluoranthene	0.0242	0.00500	"	0.0333		72.6	30-120			
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333		74.2	30-120			
Chrysene	0.0257	0.00500	"	0.0333		77.1	30-120			
Dibenz (a,h) anthracene	0.0272	0.00500	"	0.0333		81.6	30-120			
Fluoranthene	0.0251	0.00500	"	0.0333		75.2	30-120			
Fluorene	0.0246	0.00500	"	0.0333		73.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0197	0.00500	"	0.0333		59.2	30-120			
Pyrene	0.0277	0.00500	"	0.0333		83.1	35-142			
1-Methylnaphthalene	0.0226	0.00500	"	0.0333		67.7	35-142			
2-Methylnaphthalene	0.0183	0.00500	"	0.0333		54.8	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0251		"	0.0333		75.3	40-150			

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHI0325 - EPA 5030 Soil MS

Matrix Spike (BHI0325-MS1)

Source: 2409123-01

Prepared & Analyzed: 09/11/24

Acenaphthene	0.0220	0.00500	mg/kg	0.0333	ND	66.1	31-137		
Anthracene	0.0224	0.00500	"	0.0333	ND	67.3	30-120		
Benzo (a) anthracene	0.0214	0.00500	"	0.0333	ND	64.3	30-120		
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	ND	60.5	30-120		
Benzo (b) fluoranthene	0.0193	0.00500	"	0.0333	ND	57.9	30-120		
Benzo (k) fluoranthene	0.0193	0.00500	"	0.0333	ND	58.0	30-120		
Chrysene	0.0218	0.00500	"	0.0333	ND	65.3	30-120		
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333	ND	60.6	30-120		
Fluoranthene	0.0215	0.00500	"	0.0333	ND	64.4	30-120		
Fluorene	0.0240	0.00500	"	0.0333	ND	72.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0209	0.00500	"	0.0333	ND	62.7	30-120		
Pyrene	0.0229	0.00500	"	0.0333	ND	68.8	35-142		
1-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	15-130		
2-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.5	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0211		"	0.0333		63.3	40-150		
Surrogate: Fluoranthene-d10	0.0215		"	0.0333		64.4	40-150		

Matrix Spike Dup (BHI0325-MSD1)

Source: 2409123-01

Prepared & Analyzed: 09/11/24

Acenaphthene	0.0232	0.00500	mg/kg	0.0333	ND	69.5	31-137	5.03	30
Anthracene	0.0233	0.00500	"	0.0333	ND	70.0	30-120	4.02	30
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	10.4	30
Benzo (a) pyrene	0.0215	0.00500	"	0.0333	ND	64.6	30-120	6.65	30
Benzo (b) fluoranthene	0.0221	0.00500	"	0.0333	ND	66.2	30-120	13.3	30
Benzo (k) fluoranthene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	14.9	30
Chrysene	0.0235	0.00500	"	0.0333	ND	70.6	30-120	7.78	30
Dibenz (a,h) anthracene	0.0251	0.00500	"	0.0333	ND	75.3	30-120	21.7	30
Fluoranthene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	8.51	30
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	7.79	30
Indeno (1,2,3-cd) pyrene	0.0277	0.00500	"	0.0333	ND	83.0	30-120	27.8	30
Pyrene	0.0278	0.00500	"	0.0333	ND	83.5	35-142	19.2	30
1-Methylnaphthalene	0.0223	0.00500	"	0.0333	ND	66.8	15-130	4.58	50
2-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.4	15-130	5.91	50
Surrogate: 2-Methylnaphthalene-d10	0.0228		"	0.0333		68.4	40-150		
Surrogate: Fluoranthene-d10	0.0233		"	0.0333		70.0	40-150		

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

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

Batch BHI0286 - EPA 3050B

Blank (BHI0286-BLK1)

Prepared: 09/10/24 Analyzed: 09/11/24

Boron ND 2.00 mg/L

LCS (BHI0286-BS1)

Prepared: 09/10/24 Analyzed: 09/11/24

Boron 6.05 2.00 mg/L 5.00 121 80-120 QM-01

Duplicate (BHI0286-DUP1)

Source: 2409122-01

Prepared: 09/10/24 Analyzed: 09/11/24

Boron 0.208 2.00 mg/L 0.255 20.2 20 QR-01

Matrix Spike (BHI0286-MS1)

Source: 2409122-01

Prepared: 09/10/24 Analyzed: 09/11/24

Boron 5.88 2.00 mg/L 5.04 0.255 112 75-125

Matrix Spike Dup (BHI0286-MSD1)

Source: 2409122-01

Prepared: 09/10/24 Analyzed: 09/11/24

Boron 5.65 2.00 mg/L 5.04 0.255 107 75-125 3.97 25

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHI0335 - EPA 3050B

Blank (BHI0335-BLK1)

Prepared & Analyzed: 09/11/24

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 (BHI0335-BS1)

Prepared & Analyzed: 09/11/24

Arsenic	36.6	0.200	mg/kg wet	38.8	94.3	80-120
Barium	37.6	0.400	"	38.8	97.1	80-120
Cadmium	1.85	0.200	"	1.94	95.3	80-120
Copper	40.1	0.400	"	38.8	104	80-120
Lead	18.5	0.200	"	19.4	95.5	80-120
Nickel	40.0	0.400	"	38.8	103	80-120
Silver	1.86	0.0200	"	1.94	95.8	80-120
Zinc	38.1	0.400	"	38.8	98.3	80-120
Selenium	4.18	0.260	"	3.88	108	80-120

Duplicate (BHI0335-DUP1)

Source: 2409123-01

Prepared & Analyzed: 09/11/24

Arsenic	1.55	0.200	mg/kg dry	2.40	42.9	20	QR-01
Barium	65.1	0.400	"	51.1	24.1	20	QR-02
Cadmium	0.157	0.200	"	0.185	16.6	20	
Copper	4.88	0.400	"	6.90	34.2	20	QR-02
Lead	5.76	0.200	"	7.02	19.7	20	
Nickel	3.03	0.400	"	3.61	17.5	20	
Silver	0.0389	0.0200	"	0.0314	21.3	20	QR-01
Zinc	16.3	0.400	"	16.3	0.146	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHI0335 - EPA 3050B

Matrix Spike (BHI0335-MS1)

Source: 2409123-01

Prepared & Analyzed: 09/11/24

Arsenic	40.8	0.181	mg/kg dry	43.6	2.40	88.2	75-125			
Barium	120	0.362	"	43.6	51.1	158	75-125			QM-05
Cadmium	2.28	0.181	"	2.18	0.185	96.3	75-125			
Copper	33.1	0.362	"	43.6	6.90	60.2	75-125			QM-05
Lead	26.9	0.181	"	21.8	7.02	91.3	75-125			
Nickel	31.3	0.362	"	43.6	3.61	63.5	75-125			QM-05
Silver	2.07	0.0181	"	2.18	0.0314	93.8	75-125			
Zinc	47.1	0.362	"	43.6	16.3	70.8	75-125			QM-05
Selenium	4.70	0.236	"	4.36	ND	108	75-125			

Matrix Spike Dup (BHI0335-MSD1)

Source: 2409123-01

Prepared & Analyzed: 09/11/24

Arsenic	42.9	0.200	mg/kg dry	45.9	2.40	88.2	75-125	4.90	25	
Barium	90.6	0.400	"	45.9	51.1	86.1	75-125	27.7	25	QM-05
Cadmium	2.37	0.200	"	2.29	0.185	95.4	75-125	3.94	25	
Copper	38.4	0.400	"	45.9	6.90	68.6	75-125	14.6	25	QM-05
Lead	26.4	0.200	"	22.9	7.02	84.5	75-125	1.91	25	
Nickel	36.9	0.400	"	45.9	3.61	72.5	75-125	16.5	25	QM-05
Silver	2.20	0.0200	"	2.29	0.0314	94.6	75-125	6.02	25	
Zinc	47.9	0.400	"	45.9	16.3	68.9	75-125	1.64	25	QM-05
Selenium	5.07	0.260	"	4.59	ND	111	75-125	7.66	25	

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Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHI0292 - 3060A Mod

Blank (BHI0292-BLK1)

Prepared: 09/10/24 Analyzed: 09/11/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHI0292-BS1)

Prepared: 09/10/24 Analyzed: 09/11/24

Chromium, Hexavalent 26.0 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BHI0292-DUP1)

Source: 2409115-01

Prepared: 09/10/24 Analyzed: 09/11/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHI0292-MS1)

Source: 2409115-01

Prepared: 09/10/24 Analyzed: 09/11/24

Chromium, Hexavalent 31.4 0.30 mg/kg dry 28.6 ND 110 75-125

Matrix Spike Dup (BHI0292-MSD1)

Source: 2409115-01

Prepared: 09/10/24 Analyzed: 09/11/24

Chromium, Hexavalent 28.5 0.30 mg/kg dry 28.6 ND 99.6 75-125 9.74 20

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

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

Batch BHI0365 - General Preparation

Blank (BHI0365-BLK1)

Prepared: 09/11/24 Analyzed: 09/12/24

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

LCS (BHI0365-BS1)

Prepared: 09/11/24 Analyzed: 09/12/24

Calcium	5.58	0.0500	mg/L wet	5.00	112	70-130
Magnesium	5.01	0.0500	"	5.00	100	70-130
Sodium	5.02	0.0500	"	5.00	100	70-130

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

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

Batch BHI0344 - General Preparation

Duplicate (BHI0344-DUP1)		Source: 2409123-01			Prepared & Analyzed: 09/11/24					
% Solids	76.2		%		83.2		8.71		20	

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

Summit Scientific

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

Batch BHI0370 - General Preparation

Blank (BHI0370-BLK1)

Prepared: 09/11/24 Analyzed: 09/12/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHI0370-BS1)

Prepared: 09/11/24 Analyzed: 09/12/24

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHI0370-DUP1)

Source: 2409115-01

Prepared: 09/11/24 Analyzed: 09/12/24

Specific Conductance (EC) 0.569 0.0100 mmhos/cm 0.579 1.62 20

Summit Scientific

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

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

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

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

Batch BHI0369 - General Preparation

LCS (BHI0369-BS1)

Prepared: 09/11/24 Analyzed: 09/12/24

pH	9.15	pH Units	9.18	99.7	95-105
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Duplicate (BHI0369-DUP1)

Source: 2409115-01

Prepared: 09/11/24 Analyzed: 09/12/24

pH	8.03	pH Units	8.03	0.00	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

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

Project Number: [none]
Project Manager: Karen Olson

Reported:
09/16/24 14:43

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
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.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample 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