

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 27, 2025

AJ Engelhardt

Tasman Geosciences

6855 W. 119th Ave.

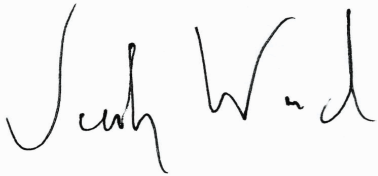
Broomfield, CO 80020

RE: PDC - Orr State 40-36 Pad

Work Order #2501173

Enclosed are the results of analyses for samples received by Summit Scientific on 01/14/25 18:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS09@7'	2501173-01	Soil	01/14/25 11:45	01/14/25 18:16

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

Lab ID	Page 1 of 1
2501173	

Client: Chevron/Tasman	Send Data To: Project Manager: AJ Engelhardt	Send Invoice To: Company: Chevron / PDC
Address: 6855 W. 119th Avenue	E-Mail: tas-chevron-3@tasman-geo.com	Project Name/Location: Orr State 40-36 PAD
City/State/Zip: Broomfield, CO 80020	RbuenFZ7@chevron.com	AFE#:
Phone: 479-966-5192	Project Name: Orr State 40-36 PAD	PO/Billing Codes:
Sampler Name: Jess Groh	Project Number:	Contact: Karen Olson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested						Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915-VOC	915-PAH	915-TPH	pH, EC, SAR		Boron	915-Metals		
1	5509 @ 7'	1/14/25	145	2			X			X				X	X	X	X	X			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Jess Groh	Date/Time: 1/14/25 1310	Received by: Tasman Lockbox	Date/Time: 1/14/25 1310	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 1/14/25 1810	Received by: [Signature]	Date/Time: 1/14/25 1810	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 3.9	Corrected Temperature: 0	IR gun #:	HNO3 lot #:	Standard	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 0501173

Client: Chevron/Casman Client Project ID: Orv State 40-36 Pad

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

-

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

Temp (°C) 3.9 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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>an 20E</u>
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽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.

AS
Custodian Printed Name
1/14/25
Date/Time

3/20/20



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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

SS09@7'
2501173-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0621	01/14/25	01/14/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0435	109 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	97.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIA0623	01/14/25	01/14/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.29	66.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2501173-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0634	01/15/25	01/22/25	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: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0176	52.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIA0702	01/15/25	01/16/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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01/27/25 11:00

SS09@7'
2501173-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	4.20	0.200	mg/kg dry	1	BIA0655	01/15/25	01/15/25	EPA 6020B
Barium	199	0.400	"	"	"	"	"	"
Cadmium	0.332	0.200	"	"	"	"	"	"
Copper	6.99	0.400	"	"	"	"	"	"
Lead	7.74	0.200	"	"	"	"	"	"
Nickel	8.04	0.400	"	"	"	"	"	"
Silver	0.0523	0.0200	"	"	"	"	"	"
Zinc	25.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0663	01/15/25	01/15/25	EPA 7196A	

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

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.9	0.0500	mg/L dry	1	BIA0624	01/14/25	01/15/25	EPA 6020B	
Magnesium	18.0	0.0500	"	"	"	"	"	"	
Sodium	17.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.521	0.00100	units	1	BIA0818	01/17/25	01/17/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: [none]
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01/27/25 11:00

SS09@7'
2501173-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.8	%	1	BIA0652	01/15/25	01/16/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/14/25 11:45**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.442	0.0100	mmhos/cm	1	BIA0625	01/14/25	01/16/25	EPA 120.1	

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

Date Sampled: **01/14/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BIA0626	01/14/25	01/16/25	EPA 9045D	

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Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BIA0621 - EPA 5030 Soil MS

Blank (BIA0621-BLK1)

Prepared: 01/14/25 Analyzed: 01/15/25

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0428		"	0.0400		107	50-150			
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0387		"	0.0400		96.8	50-150			

LCS (BIA0621-BS1)

Prepared: 01/14/25 Analyzed: 01/15/25

Benzene	0.0985	0.0020	mg/kg	0.100		98.5	70-130			
Toluene	0.0949	0.0050	"	0.100		94.9	70-130			
Ethylbenzene	0.0966	0.0050	"	0.100		96.6	70-130			
m,p-Xylene	0.187	0.010	"	0.200		93.7	70-130			
o-Xylene	0.0958	0.0050	"	0.100		95.8	70-130			
1,2,4-Trimethylbenzene	0.0927	0.0050	"	0.100		92.7	70-130			
1,3,5-Trimethylbenzene	0.0915	0.0050	"	0.100		91.5	70-130			
Naphthalene	0.0853	0.0038	"	0.100		85.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0437		"	0.0400		109	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0398		"	0.0400		99.5	50-150			

Matrix Spike (BIA0621-MS1)

Source: 2501167-01

Prepared: 01/14/25 Analyzed: 01/15/25

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.0970	0.0050	"	0.100	ND	97.0	70-130			
Ethylbenzene	0.0997	0.0050	"	0.100	ND	99.7	70-130			
m,p-Xylene	0.193	0.010	"	0.200	ND	96.4	70-130			
o-Xylene	0.0994	0.0050	"	0.100	ND	99.4	70-130			
1,2,4-Trimethylbenzene	0.0944	0.0050	"	0.100	ND	94.4	70-130			
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130			
Naphthalene	0.0834	0.0038	"	0.100	ND	83.4	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0423		"	0.0400		106	50-150			
<i>Surrogate: Toluene-d8</i>	0.0398		"	0.0400		99.4	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0403		"	0.0400		101	50-150			

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Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BIA0621 - EPA 5030 Soil MS

Matrix Spike Dup (BIA0621-MSD1)	Source: 2501167-01			Prepared: 01/14/25 Analyzed: 01/15/25						
Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130	0.238	30	
Toluene	0.0973	0.0050	"	0.100	ND	97.3	70-130	0.309	30	
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	2.26	30	
m,p-Xylene	0.196	0.010	"	0.200	ND	98.1	70-130	1.79	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	1.85	30	
1,2,4-Trimethylbenzene	0.0962	0.0050	"	0.100	ND	96.2	70-130	1.86	30	
1,3,5-Trimethylbenzene	0.0969	0.0050	"	0.100	ND	96.9	70-130	2.06	30	
Naphthalene	0.0845	0.0038	"	0.100	ND	84.5	70-130	1.36	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0391</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

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Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BIA0623 - EPA 3550A

Blank (BIA0623-BLK1)

Prepared: 01/14/25 Analyzed: 01/15/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.2		"	12.5		97.2	30-150			

LCS (BIA0623-BS1)

Prepared: 01/14/25 Analyzed: 01/15/25

C10-C28 (DRO)	581	50	mg/kg	500		116	70-130			
Surrogate: <i>o</i> -Terphenyl	12.9		"	12.5		103	30-150			

Matrix Spike (BIA0623-MS1)

Source: 2501167-01

Prepared: 01/14/25 Analyzed: 01/15/25

C10-C28 (DRO)	583	50	mg/kg	500	21.8	112	70-130			
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		83.2	30-150			

Matrix Spike Dup (BIA0623-MSD1)

Source: 2501167-01

Prepared: 01/14/25 Analyzed: 01/15/25

C10-C28 (DRO)	489	50	mg/kg	500	21.8	93.4	70-130	17.5	20	
Surrogate: <i>o</i> -Terphenyl	10.2		"	12.5		81.8	30-150			

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Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BIA0634 - EPA 5030 Soil MS

Blank (BIA0634-BLK1)

Prepared: 01/15/25 Analyzed: 01/21/25

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0199		"	0.0333		59.8	40-140			
<i>Surrogate: Fluoranthene-d10</i>	0.0292		"	0.0333		87.7	40-140			

LCS (BIA0634-BS1)

Prepared: 01/15/25 Analyzed: 01/21/25

Acenaphthene	0.0253	0.00500	mg/kg	0.0333		75.8	40-140			
Anthracene	0.0267	0.00500	"	0.0333		80.2	40-140			
Benzo (a) anthracene	0.0272	0.00500	"	0.0333		81.5	40-140			
Benzo (a) pyrene	0.0259	0.00500	"	0.0333		77.6	40-140			
Benzo (b) fluoranthene	0.0270	0.00500	"	0.0333		80.9	40-140			
Benzo (k) fluoranthene	0.0281	0.00500	"	0.0333		84.3	40-140			
Chrysene	0.0272	0.00500	"	0.0333		81.5	40-140			
Dibenz (a,h) anthracene	0.0243	0.00500	"	0.0333		72.9	40-140			
Fluoranthene	0.0269	0.00500	"	0.0333		80.8	40-140			
Fluorene	0.0258	0.00500	"	0.0333		77.5	40-140			
Indeno (1,2,3-cd) pyrene	0.0159	0.00500	"	0.0333		47.7	40-140			
Pyrene	0.0296	0.00500	"	0.0333		88.8	40-140			
1-Methylnaphthalene	0.0197	0.00500	"	0.0333		59.2	40-140			
2-Methylnaphthalene	0.0215	0.00500	"	0.0333		64.6	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0205		"	0.0333		61.6	40-140			
<i>Surrogate: Fluoranthene-d10</i>	0.0295		"	0.0333		88.6	40-140			

Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BIA0634 - EPA 5030 Soil MS

Matrix Spike (BIA0634-MS1)		Source: 2501073-01			Prepared: 01/15/25 Analyzed: 01/21/25	
Acenaphthene	0.0248	0.00500	mg/kg	0.0333	ND	74.3 40-140
Anthracene	0.0242	0.00500	"	0.0333	ND	72.5 40-140
Benzo (a) anthracene	0.0256	0.00500	"	0.0333	ND	76.7 40-140
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.7 40-140
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	ND	75.3 40-140
Benzo (k) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.8 40-140
Chrysene	0.0255	0.00500	"	0.0333	ND	76.4 40-140
Dibenz (a,h) anthracene	0.0240	0.00500	"	0.0333	ND	72.0 40-140
Fluoranthene	0.0248	0.00500	"	0.0333	ND	74.4 40-140
Fluorene	0.0250	0.00500	"	0.0333	ND	74.9 40-140
Indeno (1,2,3-cd) pyrene	0.0154	0.00500	"	0.0333	ND	46.3 40-140
Pyrene	0.0269	0.00500	"	0.0333	ND	80.7 40-140
1-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.9 40-140
2-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.0 40-140
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0213</i>		"	<i>0.0333</i>		<i>64.0 40-140</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0268</i>		"	<i>0.0333</i>		<i>80.5 40-140</i>

Matrix Spike Dup (BIA0634-MSD1)		Source: 2501073-01			Prepared: 01/15/25 Analyzed: 01/21/25	
Acenaphthene	0.0233	0.00500	mg/kg	0.0333	ND	69.9 40-140 6.10 30
Anthracene	0.0236	0.00500	"	0.0333	ND	70.8 40-140 2.34 30
Benzo (a) anthracene	0.0239	0.00500	"	0.0333	ND	71.6 40-140 6.94 30
Benzo (a) pyrene	0.0221	0.00500	"	0.0333	ND	66.2 40-140 6.46 30
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3 40-140 8.24 30
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333	ND	70.4 40-140 8.80 30
Chrysene	0.0238	0.00500	"	0.0333	ND	71.5 40-140 6.63 30
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	ND	66.2 40-140 8.40 30
Fluoranthene	0.0242	0.00500	"	0.0333	ND	72.7 40-140 2.37 30
Fluorene	0.0234	0.00500	"	0.0333	ND	70.1 40-140 6.62 30
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.6 40-140 6.03 30
Pyrene	0.0257	0.00500	"	0.0333	ND	77.1 40-140 4.58 30
1-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.4 40-140 7.06 30
2-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7 40-140 2.42 30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0231</i>		"	<i>0.0333</i>		<i>69.4 40-140</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0256</i>		"	<i>0.0333</i>		<i>76.7 40-140</i>

Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

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

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

Batch BIA0702 - EPA 3050B

Blank (BIA0702-BLK1)

Prepared & Analyzed: 01/15/25

Boron ND 2.00 mg/L

LCS (BIA0702-BS1)

Prepared & Analyzed: 01/15/25

Boron 5.06 2.00 mg/L 5.00 101 80-120

Duplicate (BIA0702-DUP1)

Source: 2412094-01

Prepared: 01/15/25 Analyzed: 01/16/25

Boron 0.203 2.00 mg/L 0.246 19.5 20

Matrix Spike (BIA0702-MS1)

Source: 2412094-01

Prepared: 01/15/25 Analyzed: 01/16/25

Boron 5.10 2.00 mg/L 5.00 0.246 97.1 75-125

Matrix Spike Dup (BIA0702-MSD1)

Source: 2412094-01

Prepared: 01/15/25 Analyzed: 01/16/25

Boron 5.31 2.00 mg/L 5.00 0.246 101 75-125 4.02 25

Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIA0655 - EPA 3050B

Blank (BIA0655-BLK1)

Prepared & Analyzed: 01/15/25

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	ND	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

LCS (BIA0655-BS1)

Prepared & Analyzed: 01/15/25

Arsenic	36.0	0.200	mg/kg wet	41.0	87.8	80-120
Barium	36.8	0.400	"	41.0	89.7	80-120
Cadmium	1.86	0.200	"	2.05	90.7	80-120
Copper	40.3	0.400	"	41.0	98.4	80-120
Lead	18.3	0.200	"	20.5	89.5	80-120
Nickel	40.0	0.400	"	41.0	97.5	80-120
Silver	1.83	0.0200	"	2.05	89.5	80-120
Zinc	39.5	0.400	"	41.0	96.4	80-120
Selenium	3.84	0.260	"	4.10	93.8	80-120

Duplicate (BIA0655-DUP1)

Source: 2412038-06

Prepared & Analyzed: 01/15/25

Arsenic	4.45	0.200	mg/kg dry	4.38	1.45	20
Barium	165	0.400	"	168	1.61	20
Cadmium	0.555	0.200	"	0.567	2.05	20
Copper	12.4	0.400	"	11.9	3.91	20
Lead	21.5	0.200	"	22.0	2.32	20
Nickel	6.22	0.400	"	6.10	1.90	20
Silver	0.217	0.0200	"	0.222	2.30	20
Zinc	48.5	0.400	"	47.3	2.48	20
Selenium	0.212	0.260	"	0.197	7.64	20

Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIA0655 - EPA 3050B

Matrix Spike (BIA0655-MS1)

Source: 2412038-06

Prepared & Analyzed: 01/15/25

Arsenic	45.4	0.200	mg/kg dry	48.4	4.38	84.7	75-125				
Barium	205	0.400	"	48.4	168	77.1	75-125				
Cadmium	2.73	0.200	"	2.42	0.567	89.5	75-125				
Copper	35.5	0.400	"	48.4	11.9	48.6	75-125				QM-05
Lead	41.7	0.200	"	24.2	22.0	81.3	75-125				
Nickel	29.9	0.400	"	48.4	6.10	49.0	75-125				QM-05
Silver	2.32	0.0200	"	2.42	0.222	86.6	75-125				
Zinc	71.4	0.400	"	48.4	47.3	49.8	75-125				QM-05
Selenium	3.47	0.260	"	4.84	0.197	67.5	75-125				QM-05

Matrix Spike Dup (BIA0655-MSD1)

Source: 2412038-06

Prepared & Analyzed: 01/15/25

Arsenic	45.9	0.200	mg/kg dry	49.2	4.38	84.4	75-125	1.15	25		
Barium	209	0.400	"	49.2	168	83.3	75-125	1.77	25		
Cadmium	2.83	0.200	"	2.46	0.567	92.1	75-125	3.61	25		
Copper	37.2	0.400	"	49.2	11.9	51.3	75-125	4.66	25		QM-05
Lead	41.5	0.200	"	24.6	22.0	79.5	75-125	0.333	25		
Nickel	31.5	0.400	"	49.2	6.10	51.6	75-125	5.41	25		QM-05
Silver	2.35	0.0200	"	2.46	0.222	86.4	75-125	1.26	25		
Zinc	74.2	0.400	"	49.2	47.3	54.7	75-125	3.88	25		QM-05
Selenium	3.63	0.260	"	4.92	0.197	69.8	75-125	4.72	25		QM-05

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BIA0663 - 3060A Mod

Blank (BIA0663-BLK1)

Prepared & Analyzed: 01/15/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIA0663-BS1)

Prepared & Analyzed: 01/15/25

Chromium, Hexavalent 25.1 0.30 mg/kg wet 24.8 101 80-120

Duplicate (BIA0663-DUP1)

Source: 2412404-01

Prepared & Analyzed: 01/15/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIA0663-MS1)

Source: 2412404-01

Prepared & Analyzed: 01/15/25

Chromium, Hexavalent 30.1 0.30 mg/kg dry 29.7 ND 101 75-125

Matrix Spike Dup (BIA0663-MSD1)

Source: 2412404-01

Prepared & Analyzed: 01/15/25

Chromium, Hexavalent 31.5 0.30 mg/kg dry 30.6 ND 103 75-125 4.65 20

Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

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

Summit Scientific

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

Batch BIA0624 - General Preparation

Blank (BIA0624-BLK1)

Prepared: 01/14/25 Analyzed: 01/15/25

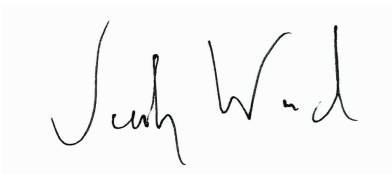
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BIA0624-BS1)

Prepared: 01/14/25 Analyzed: 01/15/25

Calcium	5.51	0.0500	mg/L wet	5.00		110	70-130			
Magnesium	5.24	0.0500	"	5.00		105	70-130			
Sodium	5.24	0.0500	"	5.00		105	70-130			

Summit Scientific



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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

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

Summit Scientific

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

Batch BIA0652 - General Preparation


Duplicate (BIA0652-DUP1)

Source: 2412432-01

Prepared: 01/15/25 Analyzed: 01/16/25

% Solids	80.6		%		80.9			0.350	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

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

Summit Scientific

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

Batch BIA0625 - General Preparation

Blank (BIA0625-BLK1)

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

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIA0625-BS1)

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

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

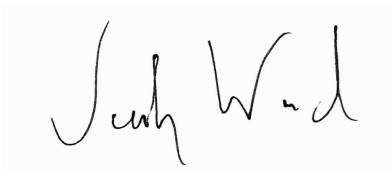
Duplicate (BIA0625-DUP1)

Source: 2501155-01

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

Specific Conductance (EC) 0.374 0.0100 mmhos/cm 0.380 1.33 20

Summit Scientific



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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
 Project Manager: AJ Engelhardt

Reported:
 01/27/25 11:00

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

Summit Scientific

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

Batch BIA0626 - General Preparation

LCS (BIA0626-BS1)

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

pH	9.21	pH Units	9.18	100	95-105
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Duplicate (BIA0626-DUP1)

Source: 2501155-01

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

pH	8.20	pH Units	8.20	0.00	20
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Summit Scientific

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

Project: PDC - Orr State 40-36 Pad

Project Number: [none]
Project Manager: AJ Engelhardt

Reported:
01/27/25 11:00

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference