

TABLE 1
FIELD DATA SUMMARY TABLE
PDC ENERGY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data		PDOP Value	VOC Concentration (ppm) ²
			Latitude/Longitude ¹			
FLR01-S@3'	6/20/2024	3	40.399845	-104.889315	1.7	0.4
FLR01-W@3'	6/20/2024	3	40.401004	-104.890109	1.4	0.5
FL01-01@4'	6/21/2024	4	40.400887	-104.890057	1.0	1.0
FL01-02@4'	6/21/2024	4	40.400682	-104.889918	1.3	0.7
FL01-03@4'	6/21/2024	4	40.400456	-104.889761	1.0	2.6
FL01-04@4'	6/21/2024	4	40.400159	-104.889560	0.9	1.7
BKG01@3' ³	6/24/2024	3	40.400785	-104.889548	1.2	0.8
BKG01@4' ³	6/24/2024	4	40.400785	-104.889548	1.2	0.9
BKG01@5' ³	6/24/2024	5	40.400785	-104.889548	1.2	0.8
BKG01@6' ³	6/24/2024	6	40.400785	-104.889548	1.2	1.0
BKG01@4' ⁴	10/3/2023	4	40.400518	-104.889586	0.9	0.0
BKG01@6' ⁴	10/3/2023	6	40.400518	-104.889586	0.9	0.1
BKG02@4' ⁴	10/3/2023	4	40.400365	-104.890114	0.9	0.0
BKG02@6' ⁴	10/3/2023	6	40.400365	-104.890114	0.9	0.0

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.
2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).
3. Background samples collected at the nearby Village 42-16 Wellhead, Remediation # 35278.
4. Background samples collected at the nearby Village 31-16DU & 41-16DU Wellheads, Remediation # 31056.

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

NC = Data not collected

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC ENERGY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
FLR01-S@3'	6/20/2024	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FLR01-W@3'	6/20/2024	3	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL01-02@4'	6/21/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50
FL01-03@4'	6/21/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<0.50	<50	<50

Notes:

1. **Bold** values exceed the ECMC Table 915-1 limit(s).
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
3. * Indicates laboratory minimum detection limit in excess of SSL.
4. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg.

ECMC = Energy & Carbon Management Commission

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

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC ENERGY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FLR01-S@3'	6/20/2024	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FLR01-W@3'	6/20/2024	3	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-02@4'	6/21/2024	4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-03@4'	6/21/2024	4	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

1. **Bold** values exceed the ECMC Table 915-1 limit(s).
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
3. * Indicates laboratory minimum detection limit in excess of SSL.

ECMC = Colorado Energy & Carbon Management Commission

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

ft. = Feet

bgs = Below ground surface

mg/kg = Milligrams per kilogram

NA = Constituent not analyzed

 = Source material characterization sample, excavated and transported off site for disposal.

 = Material excavated and transported off site for disposal.

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC ENERBY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
FLR01-S@3'	6/20/2024	3	8.42	0.216	0.0362	<2.00
FLR01-W@3'	6/20/2024	3	8.38	0.155	0.0232	<2.00
FL01-02@4'	6/21/2024	4	8.59	0.444	2.14	<2.00
FL01-03@4'	6/21/2024	4	8.72	0.256	0.827	<2.00
BKG01@3' ⁴	6/24/2024	3	8.75	0.187	0.441	<2.00
BKG01@4' ⁴	6/24/2024	4	8.90	0.299	1.65	<2.00
BKG01@5' ⁴	6/24/2024	5	8.63	0.366	1.19	<2.00
BKG01@6' ⁴	6/24/2024	6	9.08	0.404	2.54	<2.00

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC ENERGY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
BKG01@4' ⁵	10/3/2023	4	8.49	NA	NA	NA
BKG01@6' ⁵	10/3/2023	6	8.70	NA	NA	NA
BKG02@4' ⁵	10/3/2023	4	8.83	NA	NA	NA
BKG02@6' ⁵	10/3/2023	6	9.01	NA	NA	NA
Maximum Background Concentration			9.08	-	-	-
Mean Background Concentration			8.80	-	-	-

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within background concentrations.
2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
3. Brown highlighted soil analytical values indicate a regulatory exceedance.
4. Background samples collected at the nearby Village 42-16 Wellhead, Remediation # 35278.
5. Background samples collected at the nearby Village 31-16DU & 41-16DU Wellheads, Remediation # 31056.

ECMC = Colorado Energy & Carbon Management Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

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

ft. = Feet

bgs = Below ground surface

NA = Constituent not analyzed

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC ENERGY, INC. - 69175
FORMER VILLAGE 16S-DU WELLHEAD, WELD COUNTY, COLORADO
REM # 35522

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FLR01-S@3'	6/20/2024	3	5.08	194	0.576	<0.30*	13.2	10.5	15.7	<0.260	0.0580	49.7
FLR01-W@3'	6/20/2024	3	6.09	179	0.341	<0.30*	31.0	30.9	17.1	<0.260	0.160	53.5
FL01-02@4'	6/21/2024	4	4.94	166	0.313	<0.30*	6.73	9.82	8.02	<0.260	0.0985	25.2
FL01-03@4'	6/21/2024	4	5.11	198	0.316	<0.30*	6.98	10.2	8.36	<0.260	0.115	25.5
BKG01@3' ⁶	6/24/2024	3	1.05	164	0.332	<0.30*	2.42	8.41	3.16	<0.260	0.0581	9.18
BKG01@4' ⁶	6/24/2024	4	1.01	241	0.362	<0.30*	2.58	8.63	3.22	<0.260	0.0411	9.54
BKG01@5' ⁶	6/24/2024	5	1.16	252	0.347	<0.30*	2.89	9.65	3.47	0.301	0.115	10.3
BKG01@6' ⁶	6/24/2024	6	0.996	170	0.322	<0.30*	2.57	9.00	3.14	0.264	0.0581	9.57
BKG01@4' ⁷	10/3/2023	4	5.24	277	0.338	<0.30*	7.38	10.9	8.55	<0.260	0.0635	27.5
BKG01@6' ⁷	10/3/2023	6	5.43	213	0.344	<0.30*	6.98	9.82	7.85	<0.260	0.0591	25.8
BKG02@4' ⁷	10/3/2023	4	5.79	203	0.326	<0.30*	6.89	10.0	8.11	<0.260	0.0560	26.0
BKG02@6' ⁷	10/3/2023	6	5.64	179	0.330	<0.30*	6.83	10.2	8.09	<0.260	0.0562	25.8
Maximum Background Concentration			5.79	277	0.362	-	-	10.90	-	-	-	-
Maximum Background Concentration X 1.25			7.24	346	0.453	-	-	13.63	-	-	-	-

Notes:

- 1. Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
- 2. Bold** faced values exceed the ECMC Table 915-1 limit(s) and native background concentrations.
- Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL).
- Compound falls within ECMC Table 915-1 Footnote 9.
- Non-detect background results accounted for in the highest background concentration by using the reporting limit.
- Background samples collected at the nearby Village 42-16 Wellhead, Remediation # 35278.
- Background samples collected at the nearby Village 31-16DU & 41-16DU Wellheads, Remediation # 31056.

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

* Indicates laboratory minimum detection limit in excess of SSL

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 08, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Village 16SDU Wellhead

Work Order #2406309

Enclosed are the results of analyses for samples received by Summit Scientific on 06/20/24 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: PDC - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01-W@3'	2406309-01	Soil	06/20/24 09:55	06/20/24 17:55
FLR01-S@3'	2406309-02	Soil	06/20/24 10:40	06/20/24 17:55



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

Lab ID	Page 1 of 1
2406309	

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:	
City/State/Zip: Broomfield / CO / 80020				AFE#: PX-900292	
Phone: 303-487-1228		Project Name: Village 165-DU Wainrac		PO/Billing Codes:	
Sampler Name: Shannon Walrus		Project Number:		Contact: Karen Olson SW Debra Pace	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR		metals-95
1	FL201-W203	6/20/24	0955	3			X			X		X	X	X	X	X	X	X	
2	FL201-S203	6/20/24	1040	X			X			X		X	X	X	X	X	X	X	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: Shannon Walrus	Date/Time: 6/20/24 1500	Received by: tasman lockbox	Date/Time: 6/20/24 1500	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 6/20/24 1755	Received by: [Signature]	Date/Time: 6/20/24 1755	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 10.1	Corrected Temperature: 8	IR gun #:		HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2406309

Client: Bob Casman Client Project ID: Village 165-DU Wellhead

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

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

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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"/>	once
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 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

6/20/24
Date/Time



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

Project: PDC - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-W@3'
2406309-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHF0705	06/23/24	06/25/24	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: **06/20/24 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0409	102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0367	91.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHF0710	06/23/24	06/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.86	54.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-W@3'
2406309-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0676	06/21/24	06/23/24	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: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0679	06/21/24	06/26/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-W@3'
2406309-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	6.09	0.200	mg/kg dry	1	BHF0673	06/21/24	06/28/24	EPA 6020B
Barium	179	0.400	"	"	"	"	"	"
Cadmium	0.341	0.200	"	"	"	"	"	"
Copper	31.0	0.400	"	"	"	"	"	"
Lead	30.9	0.200	"	"	"	"	"	"
Nickel	17.1	0.400	"	"	"	"	"	"
Silver	0.160	0.0200	"	"	"	"	"	"
Zinc	53.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0792	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	122	0.0500	mg/L dry	1	BHF0773	06/24/24	06/26/24	EPA 6020B	
Magnesium	13.1	0.0500	"	"	"	"	"	"	
Sodium	1.01	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0232	0.00100	units	1	BHF0910	06/27/24	06/27/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-W@3'
2406309-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.4	%	1	BHF0726	06/24/24	06/24/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.155	0.0100	mmhos/cm	1	BHF0778	06/24/24	06/25/24	EPA 120.1	

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

Date Sampled: **06/20/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.38		pH Units	1	BHF0777	06/24/24	06/25/24	EPA 9045D	

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-S@3'
2406309-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHF0705	06/23/24	06/25/24	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: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0393	98.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0377	94.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0355	88.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHF0710	06/23/24	06/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.77	62.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-S@3'
2406309-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0676	06/21/24	06/23/24	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: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0157	47.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0679	06/21/24	06/26/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-S@3'
2406309-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.08	0.200	mg/kg dry	1	BHF0673	06/21/24	06/28/24	EPA 6020B
Barium	194	0.400	"	"	"	"	"	"
Cadmium	0.576	0.200	"	"	"	"	"	"
Copper	13.2	0.400	"	"	"	"	"	"
Lead	10.5	0.200	"	"	"	"	"	"
Nickel	15.7	0.400	"	"	"	"	"	"
Silver	0.0580	0.0200	"	"	"	"	"	"
Zinc	49.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0795	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.3	0.0500	mg/L dry	1	BHF0773	06/24/24	06/26/24	EPA 6020B	
Magnesium	20.7	0.0500	"	"	"	"	"	"	
Sodium	1.15	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0362	0.00100	units	1	BHF0910	06/27/24	06/27/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

FLR01-S@3'
2406309-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.4	%	1	BHF0726	06/24/24	06/24/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.216	0.0100	mmhos/cm	1	BHF0778	06/24/24	06/25/24	EPA 120.1	

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

Date Sampled: **06/20/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BHF0777	06/24/24	06/25/24	EPA 9045D	

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHF0705 - EPA 5030 Soil MS

Blank (BHF0705-BLK1)

Prepared: 06/23/24 Analyzed: 06/24/24

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	0.0424		"	0.0400		106	50-150				
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	50-150				
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0400		91.2	50-150				

LCS (BHF0705-BS1)

Prepared: 06/23/24 Analyzed: 06/24/24

Benzene	0.114	0.0020	mg/kg	0.100		114	70-130				
Toluene	0.113	0.0050	"	0.100		113	70-130				
Ethylbenzene	0.109	0.0050	"	0.100		109	70-130				
m,p-Xylene	0.222	0.010	"	0.200		111	70-130				
o-Xylene	0.108	0.0050	"	0.100		108	70-130				
1,2,4-Trimethylbenzene	0.109	0.0050	"	0.100		109	70-130				
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130				
Naphthalene	0.102	0.0038	"	0.100		102	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	50-150				
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	50-150				
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	50-150				

Matrix Spike (BHF0705-MS1)

Source: 2406307-21

Prepared: 06/23/24 Analyzed: 06/24/24

Benzene	0.0971	0.0020	mg/kg	0.100	ND	97.1	70-130				
Toluene	0.100	0.0050	"	0.100	ND	100	70-130				
Ethylbenzene	0.0966	0.0050	"	0.100	ND	96.6	70-130				
m,p-Xylene	0.196	0.010	"	0.200	ND	97.8	70-130				
o-Xylene	0.0983	0.0050	"	0.100	ND	98.3	70-130				
1,2,4-Trimethylbenzene	0.0871	0.0050	"	0.100	ND	87.1	70-130				
1,3,5-Trimethylbenzene	0.0874	0.0050	"	0.100	ND	87.4	70-130				
Naphthalene	0.0763	0.0038	"	0.100	ND	76.3	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0389		"	0.0400		97.2	50-150				
Surrogate: Toluene-d8	0.0379		"	0.0400		94.8	50-150				
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	50-150				

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0705 - EPA 5030 Soil MS

Matrix Spike Dup (BHF0705-MSD1)	Source: 2406307-21			Prepared: 06/23/24 Analyzed: 06/24/24						
Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	7.07	30	
Toluene	0.106	0.0050	"	0.100	ND	106	70-130	5.42	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	7.59	30	
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130	5.36	30	
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130	3.48	30	
1,2,4-Trimethylbenzene	0.0872	0.0050	"	0.100	ND	87.2	70-130	0.207	30	
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100	ND	94.4	70-130	7.72	30	
Naphthalene	0.0751	0.0038	"	0.100	ND	75.1	70-130	1.58	30	
Surrogate: 1,2-Dichloroethane-d4	0.0397		"	0.0400		99.2	50-150			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0710 - EPA 3550A

Blank (BHF0710-BLK1)

Prepared: 06/23/24 Analyzed: 06/24/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	8.22		"	12.5	65.8		30-150			

LCS (BHF0710-BS1)

Prepared: 06/23/24 Analyzed: 06/24/24

C10-C28 (DRO)	607	50	mg/kg	500	121		70-130			
Surrogate: <i>o</i> -Terphenyl	9.15		"	12.5	73.2		30-150			

Matrix Spike (BHF0710-MS1)

Source: 2406307-21

Prepared: 06/23/24 Analyzed: 06/24/24

C10-C28 (DRO)	578	50	mg/kg	500	6.35	114	70-130			
Surrogate: <i>o</i> -Terphenyl	6.83		"	12.5	54.6		30-150			

Matrix Spike Dup (BHF0710-MSD1)

Source: 2406307-21

Prepared: 06/23/24 Analyzed: 06/24/24

C10-C28 (DRO)	590	50	mg/kg	500	6.35	117	70-130	2.09	20	
Surrogate: <i>o</i> -Terphenyl	7.71		"	12.5	61.6		30-150			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHF0676 - EPA 5030 Soil MS

Blank (BHF0676-BLK1)

Prepared & Analyzed: 06/21/24

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	0.0162		"	0.0333		48.6	40-150			
Surrogate: Fluoranthene-d10	0.0235		"	0.0333		70.6	40-150			

LCS (BHF0676-BS1)

Prepared & Analyzed: 06/21/24

Acenaphthene	0.0202	0.00500	mg/kg	0.0333		60.6	31-137			
Anthracene	0.0221	0.00500	"	0.0333		66.2	30-120			
Benzo (a) anthracene	0.0225	0.00500	"	0.0333		67.6	30-120			
Benzo (a) pyrene	0.0185	0.00500	"	0.0333		55.6	30-120			
Benzo (b) fluoranthene	0.0177	0.00500	"	0.0333		53.0	30-120			
Benzo (k) fluoranthene	0.0205	0.00500	"	0.0333		61.5	30-120			
Chrysene	0.0234	0.00500	"	0.0333		70.3	30-120			
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333		46.8	30-120			
Fluoranthene	0.0221	0.00500	"	0.0333		66.3	30-120			
Fluorene	0.0217	0.00500	"	0.0333		65.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333		51.0	30-120			
Pyrene	0.0240	0.00500	"	0.0333		72.0	35-142			
1-Methylnaphthalene	0.0221	0.00500	"	0.0333		66.2	35-142			
2-Methylnaphthalene	0.0203	0.00500	"	0.0333		60.9	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.1	40-150			
Surrogate: Fluoranthene-d10	0.0232		"	0.0333		69.6	40-150			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0676 - EPA 5030 Soil MS

Matrix Spike (BHF0676-MS1)	Source: 2406283-41			Prepared & Analyzed: 06/21/24								
Acenaphthene	0.0169	0.00500	mg/kg	0.0333	ND	50.6	31-137					
Anthracene	0.0212	0.00500	"	0.0333	ND	63.7	30-120					
Benzo (a) anthracene	0.0220	0.00500	"	0.0333	ND	66.0	30-120					
Benzo (a) pyrene	0.0174	0.00500	"	0.0333	ND	52.1	30-120					
Benzo (b) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	30-120					
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	57.0	30-120					
Chrysene	0.0229	0.00500	"	0.0333	ND	68.8	30-120					
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.6	30-120					
Fluoranthene	0.0214	0.00500	"	0.0333	ND	64.3	30-120					
Fluorene	0.0169	0.00500	"	0.0333	ND	50.6	30-120					
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120					
Pyrene	0.0234	0.00500	"	0.0333	ND	70.1	35-142					
1-Methylnaphthalene	0.0157	0.00500	"	0.0333	ND	47.1	15-130					
2-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.8	15-130					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0167</i>		<i>"</i>	<i>0.0333</i>		<i>50.2</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0227</i>		<i>"</i>	<i>0.0333</i>		<i>68.1</i>	<i>40-150</i>					

Matrix Spike Dup (BHF0676-MSD1)	Source: 2406283-41			Prepared & Analyzed: 06/21/24								
Acenaphthene	0.0162	0.00500	mg/kg	0.0333	ND	48.5	31-137	4.13	30			
Anthracene	0.0158	0.00500	"	0.0333	ND	47.4	30-120	29.4	30			
Benzo (a) anthracene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	14.7	30			
Benzo (a) pyrene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	2.91	30			
Benzo (b) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	5.31	30			
Benzo (k) fluoranthene	0.0210	0.00500	"	0.0333	ND	63.1	30-120	10.1	30			
Chrysene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	13.6	30			
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	10.5	30			
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.0	30-120	31.1	30			QR-02
Fluorene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	4.46	30			
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.1	30-120	2.37	30			
Pyrene	0.0216	0.00500	"	0.0333	ND	64.8	35-142	7.94	30			
1-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.8	15-130	1.59	50			
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.8	15-130	8.86	50			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0155</i>		<i>"</i>	<i>0.0333</i>		<i>46.4</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0168</i>		<i>"</i>	<i>0.0333</i>		<i>50.3</i>	<i>40-150</i>					

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0679 - EPA 3050B

Blank (BHF0679-BLK1)

Prepared: 06/21/24 Analyzed: 06/26/24

Boron ND 2.00 mg/L

LCS (BHF0679-BS1)

Prepared: 06/21/24 Analyzed: 06/26/24

Boron 4.62 2.00 mg/L 5.00 92.5 80-120

Duplicate (BHF0679-DUP1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/26/24

Boron 0.436 2.00 mg/L 0.438 0.488 20

Matrix Spike (BHF0679-MS1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/26/24

Boron 5.50 2.00 mg/L 5.03 0.438 101 75-125

Matrix Spike Dup (BHF0679-MSD1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/26/24

Boron 5.53 2.00 mg/L 5.03 0.438 101 75-125 0.558 25

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0673 - EPA 3050B

Blank (BHF0673-BLK1)

Prepared: 06/21/24 Analyzed: 06/28/24

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 (BHF0673-BS1)

Prepared: 06/21/24 Analyzed: 06/28/24

Arsenic	40.6	0.200	mg/kg wet	40.0		101	80-120			
Barium	44.5	0.400	"	40.0		111	80-120			
Cadmium	2.13	0.200	"	2.00		106	80-120			
Copper	42.8	0.400	"	40.0		107	80-120			
Lead	22.2	0.200	"	20.0		111	80-120			
Nickel	42.1	0.400	"	40.0		105	80-120			
Silver	2.01	0.0200	"	2.00		101	80-120			
Zinc	41.9	0.400	"	40.0		105	80-120			
Selenium	4.20	0.260	"	4.00		105	80-120			

Duplicate (BHF0673-DUP1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/28/24

Arsenic	3.31	0.200	mg/kg dry	2.71		19.9	20			
Barium	81.6	0.400	"	65.5		21.9	20			QR-04
Cadmium	0.283	0.200	"	0.242		15.7	20			
Copper	10.0	0.400	"	12.8		24.7	20			QR-04
Lead	54.1	0.200	"	50.4		6.98	20			
Nickel	7.55	0.400	"	6.69		12.0	20			
Silver	0.0366	0.0200	"	0.0368		0.593	20			
Zinc	34.8	0.400	"	32.1		8.20	20			
Selenium	ND	0.260	"	ND			20			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0673 - EPA 3050B

Matrix Spike (BHF0673-MS1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/28/24

Arsenic	60.6	0.200	mg/kg dry	46.8	2.71	124	75-125			
Barium	144	0.400	"	46.8	65.5	168	75-125			QM-07
Cadmium	3.28	0.200	"	2.34	0.242	130	75-125			QM-07
Copper	69.1	0.400	"	46.8	12.8	120	75-125			
Lead	82.2	0.200	"	23.4	50.4	136	75-125			QM-07
Nickel	65.4	0.400	"	46.8	6.69	125	75-125			
Silver	2.91	0.0200	"	2.34	0.0368	123	75-125			
Zinc	102	0.400	"	46.8	32.1	149	75-125			QM-07
Selenium	6.10	0.260	"	4.68	ND	130	75-125			QM-07

Matrix Spike Dup (BHF0673-MSD1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/28/24

Arsenic	50.6	0.200	mg/kg dry	44.4	2.71	108	75-125	18.1	25	
Barium	131	0.400	"	44.4	65.5	147	75-125	9.57	25	QM-07
Cadmium	2.83	0.200	"	2.22	0.242	117	75-125	14.9	25	
Copper	56.1	0.400	"	44.4	12.8	97.5	75-125	20.8	25	
Lead	263	0.200	"	22.2	50.4	957	75-125	105	25	QM-07
Nickel	54.3	0.400	"	44.4	6.69	107	75-125	18.4	25	
Silver	2.53	0.0200	"	2.22	0.0368	112	75-125	13.9	25	
Zinc	80.8	0.400	"	44.4	32.1	110	75-125	22.8	25	
Selenium	5.30	0.260	"	4.44	ND	119	75-125	14.0	25	

Post Spike (BHF0673-PS1)

Source: 2406305-01

Prepared: 06/21/24 Analyzed: 06/28/24

Arsenic	114		ug/l	100	5.75	108	75-125			
Barium	239		"	100	139	99.7	75-125			
Cadmium	6.04		"	5.00	0.512	111	75-125			
Copper	132		"	100	27.2	105	75-125			
Lead	163		"	50.0	107	112	75-125			
Nickel	120		"	100	14.2	105	75-125			
Silver	5.50		"	5.00	0.0780	108	75-125			
Zinc	174		"	100	68.0	106	75-125			
Selenium	12.1		"	10.0	0.288	118	75-125			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0792 - 3060A Mod

Blank (BHF0792-BLK1)		Prepared & Analyzed: 06/25/24									
Chromium, Hexavalent	ND	0.30	mg/kg wet								
LCS (BHF0792-BS1)		Prepared & Analyzed: 06/25/24									
Chromium, Hexavalent	24.8	0.30	mg/kg wet	25.0	99.4	80-120					
Duplicate (BHF0792-DUP1)		Source: 2406163-01		Prepared & Analyzed: 06/25/24							
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND					20	
Matrix Spike (BHF0792-MS1)		Source: 2406163-01		Prepared & Analyzed: 06/25/24							
Chromium, Hexavalent	32.2	0.30	mg/kg dry	33.5	ND	96.2	75-125				
Matrix Spike Dup (BHF0792-MSD1)		Source: 2406163-01		Prepared & Analyzed: 06/25/24							
Chromium, Hexavalent	33.1	0.30	mg/kg dry	33.5	ND	98.8	75-125	2.67		20	

Batch BHF0795 - 3060A Mod

Blank (BHF0795-BLK1)		Prepared & Analyzed: 06/25/24									
Chromium, Hexavalent	ND	0.30	mg/kg wet								
LCS (BHF0795-BS1)		Prepared & Analyzed: 06/25/24									
Chromium, Hexavalent	24.4	0.30	mg/kg wet	25.0	97.8	80-120					
Duplicate (BHF0795-DUP1)		Source: 2406309-02		Prepared & Analyzed: 06/25/24							
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND					20	
Matrix Spike (BHF0795-MS1)		Source: 2406309-02		Prepared & Analyzed: 06/25/24							
Chromium, Hexavalent	29.4	0.30	mg/kg dry	30.7	ND	95.8	75-125				

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

Hexavalent Chromium by EPA Method 7196 - Quality Control

Summit Scientific

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

Batch BHF0795 - 3060A Mod

Matrix Spike Dup (BHF0795-MSD1)

Source: 2406309-02

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent	29.1	0.30	mg/kg dry	30.7	ND	94.6	75-125	1.26	20	
----------------------	------	------	-----------	------	----	------	--------	------	----	--

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0773 - General Preparation

Blank (BHF0773-BLK1)

Prepared: 06/24/24 Analyzed: 06/26/24

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

LCS (BHF0773-BS1)

Prepared: 06/24/24 Analyzed: 06/26/24

Calcium	5.28	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.54	0.0500	"	5.00	111	70-130
Sodium	5.14	0.0500	"	5.00	103	70-130

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 - Village 16SDU Wellhead

Project Number: [none]
 Project Manager: Karen Olson

Reported:
 07/08/24 08:27

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

Summit Scientific

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

Batch BHF0726 - General Preparation

Duplicate (BHF0726-DUP2)		Source: 2405183-01			Prepared & Analyzed: 06/24/24			
% Solids	78.6		%		76.7		2.42	20

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0778 - General Preparation

Blank (BHF0778-BLK1)

Prepared: 06/24/24 Analyzed: 06/25/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHF0778-BS1)

Prepared: 06/24/24 Analyzed: 06/25/24

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BHF0778-DUP1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/25/24

Specific Conductance (EC) 3.77 0.0100 mmhos/cm 3.80 0.951 20

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

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 BHF0777 - General Preparation

LCS (BHF0777-BS1)

Prepared: 06/24/24 Analyzed: 06/25/24

pH	9.15	pH Units	9.18	99.7	95-105
----	------	----------	------	------	--------

Duplicate (BHF0777-DUP1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/25/24

pH	7.59	pH Units	7.61	0.263	20
----	------	----------	------	-------	----

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/08/24 08:27

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 09, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Village 16SDU Wellhead

Work Order #2406344

Enclosed are the results of analyses for samples received by Summit Scientific on 06/21/24 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: PDC - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-02@4'	2406344-01	Soil	06/21/24 12:00	06/21/24 17:55
FL01-03@4'	2406344-02	Soil	06/21/24 12:05	06/21/24 17:55



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

Lab ID	Page 1 of 1
2406344	

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:
City/State/Zip: Broomfield / CO / 80020		AFE#: PY-900292
Phone: 303-487-1228	Project Name: Vantage 165-DD Westfield	PO/Billing Codes:
Sampler Name: Shannon Waits	Project Number:	Contact: Karen Olson (initials) Deborah Pace

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	
1	FLOI-02 @ 4'	6/21/24	1200	3			X			X			X	X	X	X	X	
2	FLOI-03 @ 4'	L	1205	1			X			X			X	X	X	X	X	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by: Shannon Waits 1700	Date/Time: 6/21/24	Received by: Tasman Techbox 1700	Date/Time: 6/21/24	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Techbox 1755	Date/Time: 6/21/24	Received by: [Signature]	Date/Time: 6/21/24	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: 89	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2406344

Client: Pactasman Client Project ID: Village US-DU Wellwood

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

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

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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"/>	once
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 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

6/21/24
Date/Time



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

Project: PDC - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-02@4'
2406344-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHF0885	06/26/24	06/28/24	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: **06/21/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0454	114 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	97.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHF0883	06/26/24	06/28/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.4	99.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-02@4'
2406344-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0846	06/26/24	06/27/24	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: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0162	48.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-02@4'
2406344-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	4.94	0.200	mg/kg dry	1	BHF0757	06/24/24	06/27/24	EPA 6020B
Barium	166	0.400	"	"	"	"	"	"
Cadmium	0.313	0.200	"	"	"	"	"	"
Copper	6.73	0.400	"	"	"	"	"	"
Lead	9.82	0.200	"	"	"	"	"	"
Nickel	8.02	0.400	"	"	"	"	"	"
Silver	0.0985	0.0200	"	"	"	"	"	"
Zinc	25.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0882	06/26/24	06/27/24	EPA 7196A	

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

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.1	0.0500	mg/L dry	1	BHF0871	06/26/24	06/28/24	EPA 6020B	
Magnesium	17.4	0.0500	"	"	"	"	"	"	
Sodium	53.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.14	0.00100	units	1	BHG0038	07/01/24	07/01/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-02@4'
2406344-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.6	%	1	BHF0766	06/24/24	06/25/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.444	0.0100	mmhos/cm	1	BHF0877	06/26/24	06/28/24	EPA 120.1	

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

Date Sampled: **06/21/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.59		pH Units	1	BHF0878	06/26/24	06/28/24	EPA 9045D	

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-03@4'
2406344-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHF0885	06/26/24	06/28/24	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: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0414	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0376	94.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHF0883	06/26/24	06/28/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.1	113 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-03@4'
2406344-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0846	06/26/24	06/27/24	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: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-03@4'
2406344-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.11	0.200	mg/kg dry	1	BHF0757	06/24/24	06/27/24	EPA 6020B
Barium	198	0.400	"	"	"	"	"	"
Cadmium	0.316	0.200	"	"	"	"	"	"
Copper	6.98	0.400	"	"	"	"	"	"
Lead	10.2	0.200	"	"	"	"	"	"
Nickel	8.36	0.400	"	"	"	"	"	"
Silver	0.115	0.0200	"	"	"	"	"	"
Zinc	25.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0882	06/26/24	06/27/24	EPA 7196A	

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

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	44.8	0.0500	mg/L dry	1	BHF0871	06/26/24	06/28/24	EPA 6020B	
Magnesium	8.43	0.0500	"	"	"	"	"	"	
Sodium	23.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.827	0.00100	units	1	BHG0038	07/01/24	07/01/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

FL01-03@4'
2406344-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	87.3	%	1	BHF0766	06/24/24	06/25/24	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.256	0.0100	mmhos/cm	1	BHF0877	06/26/24	06/28/24	EPA 120.1	

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

Date Sampled: **06/21/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.72		pH Units	1	BHF0878	06/26/24	06/28/24	EPA 9045D	

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHF0885 - EPA 5030 Soil MS

Blank (BHF0885-BLK1)

Prepared: 06/26/24 Analyzed: 06/28/24

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	0.0408		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0	50-150			

LCS (BHF0885-BS1)

Prepared: 06/26/24 Analyzed: 06/28/24

Benzene	0.118	0.0020	mg/kg	0.100		118	70-130			
Toluene	0.111	0.0050	"	0.100		111	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.196	0.010	"	0.200		98.0	70-130			
o-Xylene	0.0936	0.0050	"	0.100		93.6	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.0988	0.0050	"	0.100		98.8	70-130			
Naphthalene	0.106	0.0038	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0455		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.4	50-150			

Matrix Spike (BHF0885-MS1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/28/24

Benzene	ND	0.0020	mg/kg	0.100	ND		70-130			QM-07
Toluene	ND	0.0050	"	0.100	ND		70-130			QM-07
Ethylbenzene	0.0361	0.0050	"	0.100	ND	36.1	70-130			QM-07
m,p-Xylene	0.0206	0.010	"	0.200	ND	10.3	70-130			QM-07
o-Xylene	0.0382	0.0050	"	0.100	ND	38.2	70-130			QM-07
1,2,4-Trimethylbenzene	ND	0.0050	"	0.100	ND		70-130			QM-07
1,3,5-Trimethylbenzene	0.0688	0.0050	"	0.100	ND	68.8	70-130			QM-07
Naphthalene	ND	0.0038	"	0.100	ND		70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	50-150			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHF0885 - EPA 5030 Soil MS

Matrix Spike Dup (BHF0885-MSD1)	Source: 2406339-01			Prepared: 06/26/24 Analyzed: 06/28/24						
Benzene	ND	0.0020	mg/kg	0.100	ND		70-130		30	QM-07
Toluene	ND	0.0050	"	0.100	ND		70-130		30	QM-07
Ethylbenzene	0.0474	0.0050	"	0.100	ND	47.4	70-130	27.1	30	QM-07
m,p-Xylene	0.0296	0.010	"	0.200	ND	14.8	70-130	35.7	30	QM-07
o-Xylene	0.0382	0.0050	"	0.100	ND	38.2	70-130	0.0785	30	QM-07
1,2,4-Trimethylbenzene	ND	0.0050	"	0.100	ND		70-130		30	QM-07
1,3,5-Trimethylbenzene	0.0708	0.0050	"	0.100	ND	70.8	70-130	2.79	30	
Naphthalene	ND	0.0038	"	0.100	ND		70-130		30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0441</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.1</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>50-150</i>			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHF0883 - EPA 3550A

Blank (BHF0883-BLK1)

Prepared: 06/26/24 Analyzed: 06/27/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.5		"	12.5		116	30-150				

LCS (BHF0883-BS1)

Prepared: 06/26/24 Analyzed: 06/27/24

C10-C28 (DRO)	401	50	mg/kg	500		80.2	70-130				
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.7	30-150				

Matrix Spike (BHF0883-MS1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/27/24

C10-C28 (DRO)	494	50	mg/kg	500	ND	98.7	70-130				
Surrogate: <i>o</i> -Terphenyl	8.71		"	12.5		69.7	30-150				

Matrix Spike Dup (BHF0883-MSD1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/27/24

C10-C28 (DRO)	473	50	mg/kg	500	ND	94.5	70-130	4.35	20		
Surrogate: <i>o</i> -Terphenyl	8.85		"	12.5		70.8	30-150				

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0846 - EPA 5030 Soil MS

Blank (BHF0846-BLK1)

Prepared & Analyzed: 06/26/24

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	0.0207		"	0.0333	62.0	40-150				
Surrogate: Fluoranthene-d10	0.0205		"	0.0333	61.5	40-150				

LCS (BHF0846-BS1)

Prepared & Analyzed: 06/26/24

Acenaphthene	0.0229	0.00500	mg/kg	0.0333	68.7	31-137				
Anthracene	0.0226	0.00500	"	0.0333	67.8	30-120				
Benzo (a) anthracene	0.0240	0.00500	"	0.0333	71.9	30-120				
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	65.9	30-120				
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	69.2	30-120				
Benzo (k) fluoranthene	0.0228	0.00500	"	0.0333	68.3	30-120				
Chrysene	0.0228	0.00500	"	0.0333	68.4	30-120				
Dibenz (a,h) anthracene	0.0201	0.00500	"	0.0333	60.4	30-120				
Fluoranthene	0.0228	0.00500	"	0.0333	68.2	30-120				
Fluorene	0.0230	0.00500	"	0.0333	68.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0200	0.00500	"	0.0333	59.9	30-120				
Pyrene	0.0239	0.00500	"	0.0333	71.6	35-142				
1-Methylnaphthalene	0.0229	0.00500	"	0.0333	68.6	35-142				
2-Methylnaphthalene	0.0258	0.00500	"	0.0333	77.3	35-142				
Surrogate: 2-Methylnaphthalene-d10	0.0216		"	0.0333	64.9	40-150				
Surrogate: Fluoranthene-d10	0.0223		"	0.0333	66.9	40-150				

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0846 - EPA 5030 Soil MS

Matrix Spike (BHF0846-MS1)	Source: 2406342-01			Prepared & Analyzed: 06/26/24						
Acenaphthene	0.0182	0.00500	mg/kg	0.0333	ND	54.7	31-137			
Anthracene	0.0183	0.00500	"	0.0333	ND	54.8	30-120			
Benzo (a) anthracene	0.0192	0.00500	"	0.0333	ND	57.5	30-120			
Benzo (a) pyrene	0.0179	0.00500	"	0.0333	ND	53.7	30-120			
Benzo (b) fluoranthene	0.0180	0.00500	"	0.0333	ND	54.1	30-120			
Benzo (k) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120			
Chrysene	0.0180	0.00500	"	0.0333	ND	53.9	30-120			
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120			
Fluoranthene	0.0185	0.00500	"	0.0333	ND	55.5	30-120			
Fluorene	0.0183	0.00500	"	0.0333	ND	54.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.2	30-120			
Pyrene	0.0192	0.00500	"	0.0333	ND	57.5	35-142			
1-Methylnaphthalene	0.0164	0.00500	"	0.0333	ND	49.3	15-130			
2-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.8	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0178</i>		<i>"</i>	<i>0.0333</i>		<i>53.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0181</i>		<i>"</i>	<i>0.0333</i>		<i>54.4</i>	<i>40-150</i>			

Matrix Spike Dup (BHF0846-MSD1)	Source: 2406342-01			Prepared: 06/26/24 Analyzed: 06/27/24						
Acenaphthene	0.0180	0.00500	mg/kg	0.0333	ND	54.1	31-137	1.12	30	
Anthracene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	0.526	30	
Benzo (a) anthracene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	0.689	30	
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	1.39	30	
Benzo (b) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	2.38	30	
Benzo (k) fluoranthene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	1.71	30	
Chrysene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	0.502	30	
Dibenz (a,h) anthracene	0.0170	0.00500	"	0.0333	ND	50.9	30-120	1.93	30	
Fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7	30-120	0.299	30	
Fluorene	0.0183	0.00500	"	0.0333	ND	54.9	30-120	0.107	30	
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	0.719	30	
Pyrene	0.0194	0.00500	"	0.0333	ND	58.1	35-142	1.20	30	
1-Methylnaphthalene	0.0208	0.00500	"	0.0333	ND	62.5	15-130	23.6	50	
2-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	72.1	15-130	20.2	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0207</i>		<i>"</i>	<i>0.0333</i>		<i>62.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0184</i>		<i>"</i>	<i>0.0333</i>		<i>55.1</i>	<i>40-150</i>			

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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

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

Batch BHF0797 - EPA 3050B

Blank (BHF0797-BLK1)

Prepared: 06/25/24 Analyzed: 06/28/24

Boron ND 2.00 mg/L

LCS (BHF0797-BS1)

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.50 2.00 mg/L 5.00 110 80-120

Duplicate (BHF0797-DUP1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 0.162 2.00 mg/L 0.193 17.1 20

Matrix Spike (BHF0797-MS1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.50 2.00 mg/L 5.01 0.193 106 75-125

Matrix Spike Dup (BHF0797-MSD1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.67 2.00 mg/L 5.01 0.193 109 75-125 2.92 25

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0757 - EPA 3050B

Blank (BHF0757-BLK1)

Prepared: 06/24/24 Analyzed: 06/27/24

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 (BHF0757-BS1)

Prepared: 06/24/24 Analyzed: 06/27/24

Arsenic	35.9	0.200	mg/kg wet	40.0	89.9	80-120
Barium	38.3	0.400	"	40.0	95.7	80-120
Cadmium	1.93	0.200	"	2.00	96.3	80-120
Copper	42.3	0.400	"	40.0	106	80-120
Lead	20.0	0.200	"	20.0	100	80-120
Nickel	41.4	0.400	"	40.0	103	80-120
Silver	1.91	0.0200	"	2.00	95.3	80-120
Zinc	41.3	0.400	"	40.0	103	80-120
Selenium	3.66	0.260	"	4.00	91.4	80-120

Duplicate (BHF0757-DUP1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/27/24

Arsenic	10.8	0.180	mg/kg dry	11.7	7.94	20
Barium	15.1	0.360	"	16.9	11.0	20
Cadmium	0.540	0.180	"	0.552	2.29	20
Copper	6.44	0.360	"	7.54	15.8	20
Lead	11.2	0.180	"	9.04	21.5	20
Nickel	12.6	0.360	"	14.0	10.3	20
Silver	0.0198	0.0180	"	0.0195	1.24	20
Zinc	42.4	0.360	"	49.9	16.3	20
Selenium	0.401	0.234	"	0.404	0.644	20

QR-04

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0757 - EPA 3050B

Matrix Spike (BHF0757-MS1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/27/24

Arsenic	57.1	0.200	mg/kg dry	51.9	11.7	87.5	75-125				
Barium	60.5	0.400	"	51.9	16.9	84.1	75-125				
Cadmium	3.03	0.200	"	2.60	0.552	95.6	75-125				
Copper	37.9	0.400	"	51.9	7.54	58.5	75-125				QM-05
Lead	32.8	0.200	"	26.0	9.04	91.4	75-125				
Nickel	43.6	0.400	"	51.9	14.0	57.0	75-125				QM-05
Silver	2.52	0.0200	"	2.60	0.0195	96.5	75-125				
Zinc	75.5	0.400	"	51.9	49.9	49.3	75-125				QM-05
Selenium	5.33	0.260	"	5.19	0.404	94.8	75-125				

Matrix Spike Dup (BHF0757-MSD1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/27/24

Arsenic	53.4	0.200	mg/kg dry	51.1	11.7	81.6	75-125	6.67	25		
Barium	62.0	0.400	"	51.1	16.9	88.2	75-125	2.34	25		
Cadmium	3.02	0.200	"	2.56	0.552	96.5	75-125	0.483	25		
Copper	37.8	0.400	"	51.1	7.54	59.1	75-125	0.447	25		QM-05
Lead	34.3	0.200	"	25.6	9.04	98.9	75-125	4.64	25		
Nickel	43.1	0.400	"	51.1	14.0	56.9	75-125	1.21	25		QM-05
Silver	2.54	0.0200	"	2.56	0.0195	98.7	75-125	0.719	25		
Zinc	70.5	0.400	"	51.1	49.9	40.3	75-125	6.84	25		QM-05
Selenium	4.22	0.260	"	5.11	0.404	74.6	75-125	23.2	25		QM-07

Post Spike (BHF0757-PS1)

Source: 2406163-01

Prepared: 06/24/24 Analyzed: 06/27/24

Arsenic	116		ug/l	100	22.1	94.3	75-125				
Barium	123		"	100	32.0	91.0	75-125				
Cadmium	6.08		"	5.00	1.05	101	75-125				
Copper	78.6		"	100	14.3	64.3	75-125				QM-01
Lead	66.0		"	50.0	17.1	97.8	75-125				
Nickel	90.2		"	100	26.5	63.7	75-125				QM-01
Silver	5.06		"	5.00	0.0370	100	75-125				
Zinc	161		"	100	94.7	66.3	75-125				QM-01
Selenium	8.77		"	10.0	0.766	80.0	75-125				

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHF0882 - 3060A Mod

Blank (BHF0882-BLK1)

Prepared: 06/26/24 Analyzed: 06/27/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHF0882-BS1)

Prepared: 06/26/24 Analyzed: 06/27/24

Chromium, Hexavalent 24.0 0.30 mg/kg wet 25.0 96.2 80-120

Duplicate (BHF0882-DUP1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/27/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHF0882-MS1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/27/24

Chromium, Hexavalent 27.9 0.30 mg/kg dry 28.9 ND 96.6 75-125

Matrix Spike Dup (BHF0882-MSD1)

Source: 2406339-01

Prepared: 06/26/24 Analyzed: 06/27/24

Chromium, Hexavalent 27.8 0.30 mg/kg dry 28.9 ND 96.2 75-125 0.415 20

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0871 - General Preparation

Blank (BHF0871-BLK1)

Prepared: 06/26/24 Analyzed: 06/28/24

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

LCS (BHF0871-BS1)

Prepared: 06/26/24 Analyzed: 06/28/24

Calcium	5.27	0.0500	mg/L wet	5.00	105	70-130
Magnesium	5.05	0.0500	"	5.00	101	70-130
Sodium	4.89	0.0500	"	5.00	97.8	70-130

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 - Village 16SDU Wellhead

Project Number: [none]
 Project Manager: Karen Olson

Reported:
 07/09/24 07:03

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

Summit Scientific

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

Batch BHF0766 - General Preparation

Duplicate (BHF0766-DUP1)		Source: 2406342-01		Prepared: 06/24/24 Analyzed: 06/25/24	
% Solids	88.3	%		88.2	0.122 20

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0877 - General Preparation

Blank (BHF0877-BLK1)

Prepared: 06/26/24 Analyzed: 06/28/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHF0877-BS1)

Prepared: 06/26/24 Analyzed: 06/28/24

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

Duplicate (BHF0877-DUP1)

Source: 2406330-01

Prepared: 06/26/24 Analyzed: 06/28/24

Specific Conductance (EC) 0.270 0.0100 mmhos/cm 0.278 2.74 20

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

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 BHF0878 - General Preparation

LCS (BHF0878-BS1)

Prepared: 06/26/24 Analyzed: 06/28/24

pH	9.15	pH Units	9.18	99.7	95-105
----	------	----------	------	------	--------

Duplicate (BHF0878-DUP1)

Source: 2406330-01

Prepared: 06/26/24 Analyzed: 06/28/24

pH	8.27	pH Units	8.39	1.44	20
----	------	----------	------	------	----

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 - Village 16SDU Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 07:03

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 09, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Village 42-16U Wellhead

Work Order #2406371

Enclosed are the results of analyses for samples received by Summit Scientific on 06/24/24 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury

President



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

Project: PDC - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG01@3'	2406371-01	Soil	06/24/24 10:50	06/24/24 17:45
BKG01@4'	2406371-02	Soil	06/24/24 10:52	06/24/24 17:45
BKG01@5'	2406371-03	Soil	06/24/24 10:54	06/24/24 17:45
BKG01@6'	2406371-04	Soil	06/24/24 10:56	06/24/24 17:45

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.



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

Lab ID	Page of
2406371	

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:	
City/State/Zip: Broomfield / CO / 80020				AFE#: DX-900290	
Phone: 303-487-1228		Project Name: Village 42-1 @ wellhead		PO/Billing Codes:	
Sampler Name: Shannon Waus		Project Number:		Contact: Karen Olson SW Debra Pace	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil		Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	
1	BHGT01 @ 3'	6/24/24	1050	3			X			X					X	X	X	
2	BHGT01 @ 4'		1052															
3	BHGT01 @ 5'		1054															
4	BHGT01 @ 6'		1050															
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by: Shannon Waus	Date/Time: 6/24/24 1405	Received by: Tasman 1007100	Date/Time: 6/24/24 1400	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman 1007100	Date/Time: 6/24/24 1745	Received by: [Signature]	Date/Time: 6/24/24 1745	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: 7.7	Corrected Temperature: [Signature]	IR gun #:	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2406371

Client: Port Tasman Client Project ID: Village 42-keV wellhead

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

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

Temp (°C) 7.7 Thermometer #)

	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"/>	<u>on ice</u>
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 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.

AB
Custodian Printed Name
6/24/24
Date/Time



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

Project: PDC - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@3'
2406371-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.05	0.200		mg/kg dry	1	BHF0814	06/25/24	06/28/24	EPA 6020B	
Barium	164	0.400		"	"	"	"	"	"	
Cadmium	0.332	0.200		"	"	"	"	"	"	
Copper	2.42	0.400		"	"	"	"	"	"	
Lead	8.41	0.200		"	"	"	"	"	"	
Nickel	3.16	0.400		"	"	"	"	"	"	
Silver	0.0581	0.0200		"	"	"	"	"	"	
Zinc	9.18	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHF0815	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	55.2	0.0500		mg/L dry	1	BHF0889	06/26/24	06/28/24	EPA 6020B	
Magnesium	11.6	0.0500		"	"	"	"	"	"	
Sodium	13.8	0.0500		"	"	"	"	"	"	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@3'
2406371-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.441	0.00100	units	1	BHF0955	06/28/24	06/28/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.4		%	1	BHF0800	06/25/24	06/25/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.187	0.0100	mmhos/cm	1	BHF0891	06/26/24	06/27/24	EPA 120.1	

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

Date Sampled: **06/24/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.75		pH Units	1	BHF0892	06/26/24	06/27/24	EPA 9045D	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@4'
2406371-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.01	0.200	mg/kg dry	1	BHF0814	06/25/24	06/28/24	EPA 6020B	
Barium	241	0.400	"	"	"	"	"	"	
Cadmium	0.362	0.200	"	"	"	"	"	"	
Copper	2.58	0.400	"	"	"	"	"	"	
Lead	8.63	0.200	"	"	"	"	"	"	
Nickel	3.22	0.400	"	"	"	"	"	"	
Silver	0.0411	0.0200	"	"	"	"	"	"	
Zinc	9.54	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0815	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	41.5	0.0500	mg/L dry	1	BHF0889	06/26/24	06/28/24	EPA 6020B	
Magnesium	14.6	0.0500	"	"	"	"	"	"	
Sodium	48.4	0.0500	"	"	"	"	"	"	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@4'
2406371-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.65	0.00100	units	1	BHF0955	06/28/24	06/28/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.4		%	1	BHF0800	06/25/24	06/25/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.299	0.0100	mmhos/cm	1	BHF0891	06/26/24	06/27/24	EPA 120.1	

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

Date Sampled: **06/24/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.90		pH Units	1	BHF0892	06/26/24	06/27/24	EPA 9045D	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@5'
2406371-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.16	0.200	mg/kg dry	1	BHF0814	06/25/24	06/28/24	EPA 6020B	
Barium	252	0.400	"	"	"	"	"	"	
Cadmium	0.347	0.200	"	"	"	"	"	"	
Copper	2.89	0.400	"	"	"	"	"	"	
Lead	9.65	0.200	"	"	"	"	"	"	
Nickel	3.47	0.400	"	"	"	"	"	"	
Silver	0.115	0.0200	"	"	"	"	"	"	
Zinc	10.3	0.400	"	"	"	"	"	"	
Selenium	0.301	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0815	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	35.1	0.0500	mg/L dry	1	BHF0889	06/26/24	06/28/24	EPA 6020B	
Magnesium	11.5	0.0500	"	"	"	"	"	"	
Sodium	31.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@5'
2406371-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.19	0.00100	units	1	BHF0955	06/28/24	06/28/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.6		%	1	BHF0800	06/25/24	06/25/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.366	0.0100	mmhos/cm	1	BHF0891	06/26/24	06/27/24	EPA 120.1	

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

Date Sampled: **06/24/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.63		pH Units	1	BHF0892	06/26/24	06/27/24	EPA 9045D	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@6'
2406371-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHF0797	06/25/24	06/28/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.996	0.200	mg/kg dry	1	BHF0814	06/25/24	06/28/24	EPA 6020B	
Barium	170	0.400	"	"	"	"	"	"	
Cadmium	0.322	0.200	"	"	"	"	"	"	
Copper	2.57	0.400	"	"	"	"	"	"	
Lead	9.00	0.200	"	"	"	"	"	"	
Nickel	3.14	0.400	"	"	"	"	"	"	
Silver	0.0581	0.0200	"	"	"	"	"	"	
Zinc	9.57	0.400	"	"	"	"	"	"	
Selenium	0.264	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0815	06/25/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	44.6	0.0500	mg/L dry	1	BHF0889	06/26/24	06/28/24	EPA 6020B	
Magnesium	12.3	0.0500	"	"	"	"	"	"	
Sodium	74.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

BKG01@6'
2406371-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.54	0.00100	units	1	BHF0955	06/28/24	06/28/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.0		%	1	BHF0800	06/25/24	06/25/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.404	0.0100	mmhos/cm	1	BHF0891	06/26/24	06/27/24	EPA 120.1	

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

Date Sampled: **06/24/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.08		pH Units	1	BHF0892	06/26/24	06/27/24	EPA 9045D	

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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

Summit Scientific

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

Batch BHF0797 - EPA 3050B

Blank (BHF0797-BLK1)

Prepared: 06/25/24 Analyzed: 06/28/24

Boron ND 2.00 mg/L

LCS (BHF0797-BS1)

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.50 2.00 mg/L 5.00 110 80-120

Duplicate (BHF0797-DUP1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 0.162 2.00 mg/L 0.193 17.1 20

Matrix Spike (BHF0797-MS1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.50 2.00 mg/L 5.01 0.193 106 75-125

Matrix Spike Dup (BHF0797-MSD1)

Source: 2406338-01

Prepared: 06/25/24 Analyzed: 06/28/24

Boron 5.67 2.00 mg/L 5.01 0.193 109 75-125 2.92 25

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHF0814 - EPA 3050B

Blank (BHF0814-BLK1)

Prepared: 06/25/24 Analyzed: 06/28/24

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 (BHF0814-BS1)

Prepared: 06/25/24 Analyzed: 06/28/24

Arsenic	37.9	0.200	mg/kg wet	40.0	94.7	80-120
Barium	37.2	0.400	"	40.0	93.1	80-120
Cadmium	1.88	0.200	"	2.00	94.2	80-120
Copper	39.9	0.400	"	40.0	99.7	80-120
Lead	19.1	0.200	"	20.0	95.3	80-120
Nickel	39.2	0.400	"	40.0	98.0	80-120
Silver	1.88	0.0200	"	2.00	94.0	80-120
Zinc	38.6	0.400	"	40.0	96.5	80-120
Selenium	3.85	0.260	"	4.00	96.2	80-120

Duplicate (BHF0814-DUP1)

Source: 2406061-01RE1

Prepared: 06/25/24 Analyzed: 06/28/24

Arsenic	0.307	0.200	mg/kg wet	0.264	15.1	20	
Barium	14.5	0.400	"	15.1	4.07	20	
Cadmium	0.136	0.200	"	0.146	6.94	20	
Copper	1.15	0.400	"	1.04	9.71	20	
Lead	3.42	0.200	"	3.93	13.8	20	
Nickel	0.684	0.400	"	0.481	34.8	20	QR-04
Silver	0.0277	0.0200	"	0.0314	12.4	20	
Zinc	5.25	0.400	"	4.97	5.51	20	
Selenium	ND	0.260	"	0.240	200	20	QR-01

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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 BHF0814 - EPA 3050B

Matrix Spike (BHF0814-MS1)

Source: 2406061-01RE1 Prepared: 06/25/24 Analyzed: 06/28/24

Arsenic	12.8	0.200	mg/kg wet	38.5	0.264	32.7	75-125				QM-05
Barium	52.8	0.400	"	38.5	15.1	98.0	75-125				
Cadmium	2.02	0.200	"	1.92	0.146	97.4	75-125				
Copper	13.7	0.400	"	38.5	1.04	32.9	75-125				QM-05
Lead	20.4	0.200	"	19.2	3.93	85.7	75-125				
Nickel	13.2	0.400	"	38.5	0.481	33.1	75-125				QM-05
Silver	1.87	0.0200	"	1.92	0.0314	95.6	75-125				
Zinc	17.7	0.400	"	38.5	4.97	33.0	75-125				QM-05
Selenium	1.45	0.260	"	3.85	0.240	31.5	75-125				QM-05

Matrix Spike Dup (BHF0814-MSD1)

Source: 2406061-01RE1 Prepared: 06/25/24 Analyzed: 06/28/24

Arsenic	10.4	0.200	mg/kg wet	36.5	0.264	27.8	75-125	20.9	25		QM-05
Barium	53.4	0.400	"	36.5	15.1	105	75-125	1.12	25		
Cadmium	1.90	0.200	"	1.82	0.146	96.3	75-125	5.93	25		
Copper	11.4	0.400	"	36.5	1.04	28.3	75-125	18.3	25		QM-05
Lead	20.1	0.200	"	18.2	3.93	88.6	75-125	1.59	25		
Nickel	10.9	0.400	"	36.5	0.481	28.5	75-125	19.3	25		QM-05
Silver	1.73	0.0200	"	1.82	0.0314	92.9	75-125	7.91	25		
Zinc	15.6	0.400	"	36.5	4.97	29.1	75-125	12.3	25		QM-05
Selenium	1.22	0.260	"	3.65	0.240	26.9	75-125	17.1	25		QM-05

Post Spike (BHF0814-PS1)

Source: 2406061-01RE1 Prepared: 06/25/24 Analyzed: 06/28/24

Arsenic	33.5		ug/l	100	0.681	32.8	75-125				QM-01
Barium	134		"	100	39.0	95.5	75-125				
Cadmium	5.24		"	5.00	0.377	97.3	75-125				
Copper	34.9		"	100	2.68	32.2	75-125				QM-01
Lead	54.5		"	50.0	10.1	88.7	75-125				
Nickel	33.5		"	100	1.24	32.3	75-125				QM-01
Silver	4.92		"	5.00	0.0810	96.8	75-125				
Zinc	44.9		"	100	12.8	32.1	75-125				QM-01
Selenium	3.30		"	10.0	0.619	26.8	75-125				QM-01

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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 BHF0815 - 3060A Mod

Blank (BHF0815-BLK1)

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHF0815-BS1)

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent 25.2 0.30 mg/kg wet 25.0 101 80-120

Duplicate (BHF0815-DUP1)

Source: 2406338-01

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHF0815-MS1)

Source: 2406338-01

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent 29.6 0.30 mg/kg dry 30.1 ND 98.6 75-125

Matrix Spike Dup (BHF0815-MSD1)

Source: 2406338-01

Prepared & Analyzed: 06/25/24

Chromium, Hexavalent 29.8 0.30 mg/kg dry 30.1 ND 99.0 75-125 0.405 20

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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 BHF0889 - General Preparation

Blank (BHF0889-BLK1)

Prepared: 06/26/24 Analyzed: 06/28/24

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

LCS (BHF0889-BS1)

Prepared: 06/26/24 Analyzed: 06/28/24

Calcium	5.07	0.0500	mg/L wet	5.00	101	70-130
Magnesium	5.10	0.0500	"	5.00	102	70-130
Sodium	4.51	0.0500	"	5.00	90.2	70-130

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 - Village 42-16U Wellhead

Project Number: [none]
 Project Manager: Karen Olson

Reported:
 07/09/24 10:45

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

Summit Scientific

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

Batch BHF0800 - General Preparation

Duplicate (BHF0800-DUP1)		Source: 2406357-01			Prepared & Analyzed: 06/25/24			
% Solids	86.4		%		86.8		0.402	20

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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 BHF0891 - General Preparation

Blank (BHF0891-BLK1)

Prepared: 06/26/24 Analyzed: 06/27/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHF0891-BS1)

Prepared: 06/26/24 Analyzed: 06/27/24

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.7 95-105

Duplicate (BHF0891-DUP1)

Source: 2406363-01

Prepared: 06/26/24 Analyzed: 06/27/24

Specific Conductance (EC) 0.402 0.0100 mmhos/cm 0.414 2.97 20

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

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

Summit Scientific

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

Batch BHF0892 - General Preparation

LCS (BHF0892-BS1)

Prepared: 06/26/24 Analyzed: 06/27/24

pH	9.12	pH Units	9.18	99.3	95-105
----	------	----------	------	------	--------

Duplicate (BHF0892-DUP1)

Source: 2406363-01

Prepared: 06/26/24 Analyzed: 06/27/24

pH	8.37	pH Units	8.39	0.239	20
----	------	----------	------	-------	----

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 - Village 42-16U Wellhead

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/09/24 10:45

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 23, 2023

Mark Longhurst

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Village 41-16DU Wellhead

Work Order #2310057

Enclosed are the results of analyses for samples received by Summit Scientific on 10/03/23 18:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: PDC - Village 41-16DU Wellhead

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 10/23/23 12:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6'	2310057-01	Soil	10/03/23 12:18	10/03/23 18:06
FLR01@4'	2310057-02	Soil	10/03/23 12:20	10/03/23 18:06
FLR03@4'	2310057-03	Soil	10/03/23 13:30	10/03/23 18:06
BKG01@4'	2310057-04	Soil	10/03/23 11:53	10/03/23 18:06
BKG01@6'	2310057-05	Soil	10/03/23 11:55	10/03/23 18:06

Case Narrative

Bryce Goldade requested pH be added to samples BKG01@4' and BKG01@6' on 10/16/2023.
 This report includes those results.

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.



SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2310057	

Client: PDC / Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W 119th Ave		Project Manager: Mark Longhurst		Company: PDC Energy	
City/State/Zip: Broomfield / CO / 80220		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
Phone: 303-487-1228		Project Name: Village 41-16DU wellhead		AFE#:	
Sampler Name: DV, U		Project Number:		PO/Billing Codes:	
				Contact: Mark Longhurst	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					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	PAH - 915		Metals - 915
1	WH01 @ 6'	10/3/23	1218	2			X			X			X	X	X	X	X	X	X	
2	FLR01 @ 4'		1220	2																
3	FLR03 @ 4'		1330	2																
4	BKG01 @ 4'		1153	1																
5	BKG01 @ 6'		1155	1																
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>[Signature]</i>	Date/Time: 10/3/23 1500	Received by: Tasman Lockbox	Date/Time: 10/3/23 1500	TAT Business Days	Field DO	Notes:
Relinquished by: <i>[Signature]</i>	Date/Time: 10/3/23 1800	Received by: <i>[Signature]</i>	Date/Time: 10/3/23 1800	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: 10.1	Corrected Temperature: <i>[Signature]</i>	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2310057

Client: Proctusman Client Project ID: Village 41-100 DU wellhead

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			
If custody seals are present, are they intact? ⁽¹⁾	-			ON ICE
Are samples due within 48 hours present?		-		
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		-		
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	-			
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	-			
Were all samples received intact? ⁽¹⁾	✓			
Was adequate sample volume provided? ⁽¹⁾	✓			
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	✓			
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
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.			✓	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

AS
Custodian Printed Name

10/3/23
Date/Time

23



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

Project: PDC - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

WH01@6'
2310057-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0376	94.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0365	91.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.74	61.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

WH01@6'
2310057-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0309	92.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0320	96.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0285	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

WH01@6'
2310057-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.12	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	166	0.400	"	"	"	"	"	"	
Cadmium	0.330	0.200	"	"	"	"	"	"	
Copper	16.7	0.400	"	"	"	"	"	"	
Lead	30.6	0.200	"	"	"	"	"	"	
Nickel	8.02	0.400	"	"	"	"	"	"	
Silver	0.0723	0.0200	"	"	"	"	"	"	
Zinc	28.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0181	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.4	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	20.0	0.0500	"	"	"	"	"	"	
Sodium	39.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.25	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

WH01@6'
2310057-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.8	%	1	BGJ0349	10/09/23	10/10/23	Calculation
-----------------	-------------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.481	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR01@4'
2310057-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0367	91.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0352	88.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.64	69.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR01@4'
2310057-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0333	100 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0354	106 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0285	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR01@4'
2310057-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.83	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B
Barium	155	0.400	"	"	"	"	"	"
Cadmium	0.299	0.200	"	"	"	"	"	"
Copper	7.85	0.400	"	"	"	"	"	"
Lead	10.6	0.200	"	"	"	"	"	"
Nickel	8.63	0.400	"	"	"	"	"	"
Silver	0.0630	0.0200	"	"	"	"	"	"
Zinc	25.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 10/03/23 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0181	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: 10/03/23 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	11.6	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	19.6	0.0500	"	"	"	"	"	"	
Sodium	8.97	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 10/03/23 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.373	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 10/03/23 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR01@4'
2310057-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.8	%	1	BGJ0349	10/09/23	10/10/23	Calculation
-----------------	-------------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.235	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR03@4'
2310057-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0375	93.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0354	88.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.36	74.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR03@4'
2310057-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0320	96.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0363	109 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0285	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR03@4'
2310057-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	6.41	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B
Barium	202	0.400	"	"	"	"	"	"
Cadmium	0.363	0.200	"	"	"	"	"	"
Copper	7.48	0.400	"	"	"	"	"	"
Lead	10.5	0.200	"	"	"	"	"	"
Nickel	8.64	0.400	"	"	"	"	"	"
Silver	0.0546	0.0200	"	"	"	"	"	"
Zinc	26.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0181	10/04/23	10/04/23	EPA 7196A	

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

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.7	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	24.9	0.0500	"	"	"	"	"	"	
Sodium	3.01	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.109	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

FLR03@4'
2310057-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.1	%	1	BGJ0349	10/09/23	10/10/23	Calculation
-----------------	-------------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.266	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

BKG01@4'
2310057-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/03/23 11:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.24	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	227	0.400	"	"	"	"	"	"	
Cadmium	0.338	0.200	"	"	"	"	"	"	
Copper	7.38	0.400	"	"	"	"	"	"	
Lead	10.9	0.200	"	"	"	"	"	"	
Nickel	8.55	0.400	"	"	"	"	"	"	
Silver	0.0635	0.0200	"	"	"	"	"	"	
Zinc	27.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 11:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0181	10/04/23	10/04/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 11:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	88.2		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

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

Date Sampled: **10/03/23 11:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.49		pH Units	1	BGJ0791	10/19/23	10/19/23	EPA 9045D	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

BKG01@6'
2310057-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/03/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.43	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	213	0.400	"	"	"	"	"	"	
Cadmium	0.344	0.200	"	"	"	"	"	"	
Copper	6.98	0.400	"	"	"	"	"	"	
Lead	9.82	0.200	"	"	"	"	"	"	
Nickel	7.85	0.400	"	"	"	"	"	"	
Silver	0.0591	0.0200	"	"	"	"	"	"	
Zinc	25.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0181	10/04/23	10/04/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.9		%	1	BGJ0349	10/09/23	10/10/23	Calculation	

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

Date Sampled: **10/03/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.70		pH Units	1	BGJ0791	10/19/23	10/19/23	EPA 9045D	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0156 - EPA 5030 Soil MS

Blank (BGJ0156-BLK1)

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0396		"	0.0400		99.0	50-150			
<i>Surrogate: Toluene-d8</i>	0.0391		"	0.0400		97.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0355		"	0.0400		88.7	50-150			

LCS (BGJ0156-BS1)

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.0899	0.0050	"	0.100		89.9	70-130			
Ethylbenzene	0.0944	0.0050	"	0.100		94.4	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.0	70-130			
o-Xylene	0.0901	0.0050	"	0.100		90.1	70-130			
1,2,4-Trimethylbenzene	0.0915	0.0050	"	0.100		91.5	70-130			
1,3,5-Trimethylbenzene	0.0932	0.0050	"	0.100		93.2	70-130			
Naphthalene	0.0711	0.0038	"	0.100		71.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0412		"	0.0400		103	50-150			
<i>Surrogate: Toluene-d8</i>	0.0369		"	0.0400		92.3	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0380		"	0.0400		94.9	50-150			

Matrix Spike (BGJ0156-MS1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	0.125	0.0020	mg/kg	0.100	ND	125	70-130			
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
Ethylbenzene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
m,p-Xylene	0.189	0.010	"	0.200	ND	94.5	70-130			
o-Xylene	0.0915	0.0050	"	0.100	ND	91.5	70-130			
1,2,4-Trimethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130			
1,3,5-Trimethylbenzene	0.0917	0.0050	"	0.100	ND	91.7	70-130			
Naphthalene	0.0768	0.0038	"	0.100	ND	76.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0474		"	0.0400		118	50-150			
<i>Surrogate: Toluene-d8</i>	0.0376		"	0.0400		94.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0369		"	0.0400		92.2	50-150			

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0156 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0156-MSD1)	Source: 2310049-01			Prepared: 10/04/23 Analyzed: 10/05/23						
Benzene	0.0938	0.0020	mg/kg	0.100	ND	93.8	70-130	28.4	30	
Toluene	0.0900	0.0050	"	0.100	ND	90.0	70-130	4.34	30	
Ethylbenzene	0.0865	0.0050	"	0.100	ND	86.5	70-130	8.35	30	
m,p-Xylene	0.175	0.010	"	0.200	ND	87.4	70-130	7.80	30	
o-Xylene	0.0830	0.0050	"	0.100	ND	83.0	70-130	9.70	30	
1,2,4-Trimethylbenzene	0.0868	0.0050	"	0.100	ND	86.8	70-130	4.62	30	
1,3,5-Trimethylbenzene	0.0877	0.0050	"	0.100	ND	87.7	70-130	4.45	30	
Naphthalene	0.0764	0.0038	"	0.100	ND	76.4	70-130	0.509	30	
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0400		91.7	50-150			

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0163 - EPA 3550A

Blank (BGJ0163-BLK1)

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.0		"	12.5		120		30-150			

LCS (BGJ0163-BS1)

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	411	50	mg/kg	500		82.1		70-130			
Surrogate: <i>o</i> -Terphenyl	4.98		"	12.5		39.9		30-150			

Matrix Spike (BGJ0163-MS1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	435	50	mg/kg	500	11.7	84.6		70-130			
Surrogate: <i>o</i> -Terphenyl	9.35		"	12.5		74.8		30-150			

Matrix Spike Dup (BGJ0163-MSD1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	466	50	mg/kg	500	11.7	90.9		70-130	7.04	20	
Surrogate: <i>o</i> -Terphenyl	11.3		"	12.5		90.2		30-150			

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0318 - EPA 5030 Soil MS

Blank (BGJ0318-BLK1)

Prepared & Analyzed: 10/09/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0223</i>		<i>"</i>	<i>0.0333</i>		<i>66.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0415</i>		<i>"</i>	<i>0.0333</i>		<i>124</i>	<i>40-150</i>			

LCS (BGJ0318-BS1)

Prepared & Analyzed: 10/09/23

Acenaphthene	0.0328	0.00500	mg/kg	0.0333		98.5	31-137			
Anthracene	0.0360	0.00500	"	0.0333		108	30-120			
Benzo (a) anthracene	0.0334	0.00500	"	0.0333		100	30-120			
Benzo (a) pyrene	0.0283	0.00500	"	0.0333		85.0	30-120			
Benzo (b) fluoranthene	0.0322	0.00500	"	0.0333		96.6	30-120			
Benzo (k) fluoranthene	0.0318	0.00500	"	0.0333		95.3	30-120			
Chrysene	0.0370	0.00500	"	0.0333		111	30-120			
Dibenz (a,h) anthracene	0.0312	0.00500	"	0.0333		93.7	30-120			
Fluoranthene	0.0351	0.00500	"	0.0333		105	30-120			
Fluorene	0.0385	0.00500	"	0.0333		116	30-120			
Indeno (1,2,3-cd) pyrene	0.0337	0.00500	"	0.0333		101	30-120			
Pyrene	0.0404	0.00500	"	0.0333		121	35-142			
1-Methylnaphthalene	0.0354	0.00500	"	0.0333		106	35-142			
2-Methylnaphthalene	0.0373	0.00500	"	0.0333		112	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0256</i>		<i>"</i>	<i>0.0333</i>		<i>76.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0347</i>		<i>"</i>	<i>0.0333</i>		<i>104</i>	<i>40-150</i>			

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0318 - EPA 5030 Soil MS

Matrix Spike (BGJ0318-MS1)	Source: 2310056-01			Prepared & Analyzed: 10/09/23						
Acenaphthene	0.0292	0.00500	mg/kg	0.0333	ND	87.7	31-137			
Anthracene	0.0322	0.00500	"	0.0333	ND	96.7	30-120			
Benzo (a) anthracene	0.0359	0.00500	"	0.0333	ND	108	30-120			
Benzo (a) pyrene	0.0294	0.00500	"	0.0333	ND	88.2	30-120			
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333	ND	86.4	30-120			
Benzo (k) fluoranthene	0.0269	0.00500	"	0.0333	ND	80.7	30-120			
Chrysene	0.0333	0.00500	"	0.0333	ND	100	30-120			
Dibenz (a,h) anthracene	0.0306	0.00500	"	0.0333	ND	91.9	30-120			
Fluoranthene	0.0337	0.00500	"	0.0333	ND	101	30-120			
Fluorene	0.0326	0.00500	"	0.0333	ND	97.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0376	0.00500	"	0.0333	ND	113	30-120			
Pyrene	0.0368	0.00500	"	0.0333	ND	111	35-142			
1-Methylnaphthalene	0.0390	0.00500	"	0.0333	ND	117	15-130			
2-Methylnaphthalene	0.0401	0.00500	"	0.0333	ND	120	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0337</i>		<i>"</i>	<i>0.0333</i>		<i>101</i>	<i>40-150</i>			

Matrix Spike Dup (BGJ0318-MSD1)	Source: 2310056-01			Prepared & Analyzed: 10/09/23						
Acenaphthene	0.0292	0.00500	mg/kg	0.0333	ND	87.7	31-137	0.0308	30	
Anthracene	0.0326	0.00500	"	0.0333	ND	97.7	30-120	1.04	30	
Benzo (a) anthracene	0.0346	0.00500	"	0.0333	ND	104	30-120	3.56	30	
Benzo (a) pyrene	0.0285	0.00500	"	0.0333	ND	85.5	30-120	3.04	30	
Benzo (b) fluoranthene	0.0275	0.00500	"	0.0333	ND	82.6	30-120	4.53	30	
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.2	30-120	8.41	30	
Chrysene	0.0306	0.00500	"	0.0333	ND	91.7	30-120	8.71	30	
Dibenz (a,h) anthracene	0.0306	0.00500	"	0.0333	ND	91.7	30-120	0.182	30	
Fluoranthene	0.0324	0.00500	"	0.0333	ND	97.2	30-120	4.03	30	
Fluorene	0.0367	0.00500	"	0.0333	ND	110	30-120	11.8	30	
Indeno (1,2,3-cd) pyrene	0.0371	0.00500	"	0.0333	ND	111	30-120	1.08	30	
Pyrene	0.0337	0.00500	"	0.0333	ND	101	35-142	9.02	30	
1-Methylnaphthalene	0.0335	0.00500	"	0.0333	ND	100	15-130	15.1	50	
2-Methylnaphthalene	0.0352	0.00500	"	0.0333	ND	106	15-130	13.0	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0325</i>		<i>"</i>	<i>0.0333</i>		<i>97.6</i>	<i>40-150</i>			

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0285 - EPA 3050B

Blank (BGJ0285-BLK1)

Prepared: 10/06/23 Analyzed: 10/07/23

Boron ND 2.00 mg/L

LCS (BGJ0285-BS1)

Prepared: 10/06/23 Analyzed: 10/07/23

Boron 5.16 2.00 mg/L 5.00 103 80-120

Duplicate (BGJ0285-DUP1)

Source: 2309580-02

Prepared: 10/06/23 Analyzed: 10/07/23

Boron 0.120 2.00 mg/L 0.123 2.96 20

Matrix Spike (BGJ0285-MS1)

Source: 2309580-02

Prepared: 10/06/23 Analyzed: 10/07/23

Boron 5.36 2.00 mg/L 5.00 0.123 105 75-125

Matrix Spike Dup (BGJ0285-MSD1)

Source: 2309580-02

Prepared: 10/06/23 Analyzed: 10/07/23

Boron 5.48 2.00 mg/L 5.00 0.123 107 75-125 2.13 25

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0324 - EPA 3050B

Blank (BGJ0324-BLK1)

Prepared: 10/09/23 Analyzed: 10/10/23

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

LCS (BGJ0324-BS1)

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	38.7	0.200	mg/kg wet	40.0	96.7	80-120
Barium	41.6	0.400	"	40.0	104	80-120
Cadmium	1.96	0.200	"	2.00	98.0	80-120
Copper	38.6	0.400	"	40.0	96.5	80-120
Lead	20.0	0.200	"	20.0	100	80-120
Nickel	38.0	0.400	"	40.0	95.0	80-120
Silver	1.92	0.0200	"	2.00	96.0	80-120
Zinc	38.7	0.400	"	40.0	96.8	80-120
Selenium	4.04	0.260	"	4.00	101	80-120

Duplicate (BGJ0324-DUP1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	0.496	0.200	mg/kg dry	0.404	20.5	20	QR-01
Barium	11.8	0.400	"	20.4	53.6	20	QR-01
Cadmium	0.0473	0.200	"	0.0460	2.74	20	
Copper	0.948	0.400	"	1.06	11.0	20	
Lead	1.28	0.200	"	1.52	17.4	20	
Nickel	0.184	0.400	"	0.401	73.9	20	QR-01
Silver	ND	0.0200	"	ND		20	
Zinc	4.42	0.400	"	6.52	38.4	20	QR-04
Selenium	ND	0.260	"	ND		20	

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0324 - EPA 3050B

Matrix Spike (BGJ0324-MS1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	49.8	0.200	mg/kg dry	42.6	0.404	116	75-125				
Barium	61.3	0.400	"	42.6	20.4	96.0	75-125				
Cadmium	2.71	0.200	"	2.13	0.0460	125	75-125				
Copper	43.5	0.400	"	42.6	1.06	99.7	75-125				
Lead	28.0	0.200	"	21.3	1.52	124	75-125				
Nickel	41.6	0.400	"	42.6	0.401	96.7	75-125				
Silver	2.47	0.0200	"	2.13	ND	116	75-125				
Zinc	47.0	0.400	"	42.6	6.52	95.1	75-125				
Selenium	6.28	0.260	"	4.26	ND	147	75-125				QM-07

Matrix Spike Dup (BGJ0324-MSD1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	48.2	0.200	mg/kg dry	42.6	0.404	112	75-125	3.21	25		
Barium	59.3	0.400	"	42.6	20.4	91.1	75-125	3.47	25		
Cadmium	2.56	0.200	"	2.13	0.0460	118	75-125	5.64	25		
Copper	42.9	0.400	"	42.6	1.06	98.3	75-125	1.40	25		
Lead	26.9	0.200	"	21.3	1.52	119	75-125	3.75	25		
Nickel	41.0	0.400	"	42.6	0.401	95.3	75-125	1.49	25		
Silver	2.40	0.0200	"	2.13	ND	113	75-125	2.85	25		
Zinc	46.3	0.400	"	42.6	6.52	93.3	75-125	1.64	25		
Selenium	6.20	0.260	"	4.26	ND	146	75-125	1.18	25		QM-07

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0181 - 3060A Mod

Blank (BGJ0181-BLK1)

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGJ0181-BS1)

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 22.6 0.30 mg/kg wet 25.0 90.6 80-120

Duplicate (BGJ0181-DUP1)

Source: 2310046-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGJ0181-MS1)

Source: 2310046-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 26.6 0.30 mg/kg dry 29.9 ND 89.0 75-125

Matrix Spike Dup (BGJ0181-MSD1)

Source: 2310046-01

Prepared & Analyzed: 10/04/23

Chromium, Hexavalent 26.6 0.30 mg/kg dry 29.9 ND 88.8 75-125 0.225 20

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0388 - General Preparation

Blank (BGJ0388-BLK1)

Prepared: 10/10/23 Analyzed: 10/12/23

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

LCS (BGJ0388-BS1)

Prepared: 10/10/23 Analyzed: 10/12/23

Calcium	4.20	0.0500	mg/L wet	5.00	84.1	70-130
Magnesium	5.83	0.0500	"	5.00	117	70-130
Sodium	5.79	0.0500	"	5.00	116	70-130

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 - Village 41-16DU Wellhead

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 10/23/23 12:47

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

Summit Scientific

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

Batch BGJ0349 - General Preparation

Duplicate (BGJ0349-DUP1)	Source: 2307244-17	Prepared: 10/09/23	Analyzed: 10/10/23
% Solids	91.0	%	90.8
			0.266
			20

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0430 - General Preparation

Blank (BGJ0430-BLK1)

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ0430-BS1)

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.9 95-105

Duplicate (BGJ0430-DUP1)

Source: 2310056-01

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) 1.44 0.0100 mmhos/cm 1.44 0.00 20

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 - Village 41-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

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 BGJ0431 - General Preparation

LCS (BGJ0431-BS1)

Prepared: 10/11/23 Analyzed: 10/12/23

pH 9.16 pH Units 9.18 99.8 95-105

Duplicate (BGJ0431-DUP1)

Source: 2310056-01

Prepared: 10/11/23 Analyzed: 10/12/23

pH 7.80 pH Units 7.79 0.128 20

Batch BGJ0791 - General Preparation

LCS (BGJ0791-BS1)

Prepared & Analyzed: 10/19/23

pH 9.13 pH Units 9.18 99.5 95-105

Duplicate (BGJ0791-DUP1)

Source: 2309545-01

Prepared & Analyzed: 10/19/23

pH 6.87 pH Units 6.77 1.47 20

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 - Village 41-16DU Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/23/23 12:47

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 23, 2023

Mark Longhurst

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: PDC - Village 31-16DU Wellhead

Work Order #2310058

Enclosed are the results of analyses for samples received by Summit Scientific on 10/03/23 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: PDC - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH02@6'	2310058-01	Soil	10/03/23 12:43	10/03/23 15:00
FLR02@4'	2310058-02	Soil	10/03/23 12:45	10/03/23 15:00
FLR04@4'	2310058-03	Soil	10/03/23 13:25	10/03/23 15:00
BKG02@4'	2310058-04	Soil	10/03/23 12:06	10/03/23 15:00
BKG02@6'	2310058-05	Soil	10/03/23 12:10	10/03/23 15:00

Case Narrative

Bryce Goldade requested pH be added to samples BKG02@4' and BKG02@6' on 10/16/2023.
This report includes those results.

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.


SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2310058	

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220		Project Name: Village 31-16 DU wellhead		AFE#:	
Phone: 303-487-1228		Project Number:		PO/Billing Codes:	
Sampler Name: DV, CL		Contact: Mark Longhurst			

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					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	PAH - 915		Metals - 915
1	WH02 @ 6'	10/3/23	1243	2			X			X			X	X	X	X	X	X		
2	FLR02 @ 4'		1245	2									X	X	X	X	X	X		
3	FLR04 @ 4'		1325	2									X	X	X	X	X	X		
4	BK602 @ 4'		1206	1														X	X	or
5	BK602 @ 6'		1210	1														X	X	or
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: 	Date/Time: 10/3/23 1500	Received by: Tasman Lockhart	Date/Time: 10/3/23 1500	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 10.1	Corrected Temperature: 0	IR gun #: 1 -	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2310058

Client: Rockman Client Project ID: Village 31-1000 wellhead

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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"/>	on ICE
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 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

10/3/23
Date/Time

23 11 23



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

Project: PDC - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

WH02@6'
2310058-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0371	92.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0391	97.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0357	89.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.4	83.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

WH02@6'
2310058-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0284	85.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0342	103 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0286	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

WH02@6'
2310058-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.64	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B
Barium	132	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.53	0.400	"	"	"	"	"	"
Lead	8.61	0.200	"	"	"	"	"	"
Nickel	8.44	0.400	"	"	"	"	"	"
Silver	0.0692	0.0200	"	"	"	"	"	"
Zinc	20.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0227	10/05/23	10/05/23	EPA 7196A	

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

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	11.3	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	18.8	0.0500	"	"	"	"	"	"	
Sodium	11.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.491	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

WH02@6'
2310058-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BGJ0381	10/10/23	10/10/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.228	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 12:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR02@4'
2310058-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0436	109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0374	93.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0357	89.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.17	65.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR02@4'
2310058-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0305	91.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0339	102 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0286	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR02@4'
2310058-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.91	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	148	0.400	"	"	"	"	"	"	
Cadmium	0.237	0.200	"	"	"	"	"	"	
Copper	9.22	0.400	"	"	"	"	"	"	
Lead	8.91	0.200	"	"	"	"	"	"	
Nickel	7.76	0.400	"	"	"	"	"	"	
Silver	0.0432	0.0200	"	"	"	"	"	"	
Zinc	23.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 10/03/23 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0227	10/05/23	10/05/23	EPA 7196A	

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

Date Sampled: 10/03/23 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.1	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	15.0	0.0500	"	"	"	"	"	"	
Sodium	4.91	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 10/03/23 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.183	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 10/03/23 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR02@4'
2310058-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.4	%	1	BGJ0381	10/10/23	10/10/23	Calculation
-----------------	-------------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.303	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR04@4'
2310058-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0156	10/04/23	10/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0369	92.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0360	89.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0163	10/04/23	10/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.22	65.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR04@4'
2310058-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0318	10/09/23	10/09/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0302	90.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0365	109 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0286	10/06/23	10/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR04@4'
2310058-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	5.01	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B
Barium	172	0.400	"	"	"	"	"	"
Cadmium	0.272	0.200	"	"	"	"	"	"
Copper	9.39	0.400	"	"	"	"	"	"
Lead	8.49	0.200	"	"	"	"	"	"
Nickel	7.54	0.400	"	"	"	"	"	"
Silver	0.0443	0.0200	"	"	"	"	"	"
Zinc	24.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0227	10/05/23	10/05/23	EPA 7196A	

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

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	14.2	0.0500	mg/L dry	1	BGJ0388	10/10/23	10/12/23	EPA 6020B	
Magnesium	54.7	0.0500	"	"	"	"	"	"	
Sodium	3.07	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0827	0.00100	units	1	BGJ0577	10/13/23	10/13/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

FLR04@4'
2310058-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.2	%	1	BGJ0381	10/10/23	10/10/23	Calculation
-----------------	-------------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.412	0.0100	mmhos/cm	1	BGJ0430	10/11/23	10/12/23	EPA 120.1	

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

Date Sampled: **10/03/23 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		pH Units	1	BGJ0431	10/11/23	10/12/23	EPA 9045D	

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

BKG02@4'
2310058-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.79	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	203	0.400	"	"	"	"	"	"	
Cadmium	0.326	0.200	"	"	"	"	"	"	
Copper	6.89	0.400	"	"	"	"	"	"	
Lead	10.0	0.200	"	"	"	"	"	"	
Nickel	8.11	0.400	"	"	"	"	"	"	
Silver	0.0560	0.0200	"	"	"	"	"	"	
Zinc	26.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0227	10/05/23	10/05/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.2		%	1	BGJ0381	10/10/23	10/10/23	Calculation	

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

Date Sampled: **10/03/23 12:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.83		pH Units	1	BGJ0791	10/19/23	10/19/23	EPA 9045D	

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

BKG02@6'
2310058-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/03/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.64	0.200	mg/kg dry	1	BGJ0324	10/09/23	10/10/23	EPA 6020B	
Barium	179	0.400	"	"	"	"	"	"	
Cadmium	0.330	0.200	"	"	"	"	"	"	
Copper	6.83	0.400	"	"	"	"	"	"	
Lead	10.2	0.200	"	"	"	"	"	"	
Nickel	8.09	0.400	"	"	"	"	"	"	
Silver	0.0562	0.0200	"	"	"	"	"	"	
Zinc	25.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0227	10/05/23	10/05/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.0		%	1	BGJ0381	10/10/23	10/10/23	Calculation	

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

Date Sampled: **10/03/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.01		pH Units	1	BGJ0791	10/19/23	10/19/23	EPA 9045D	

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0156 - EPA 5030 Soil MS

Blank (BGJ0156-BLK1)

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.0	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0355		"	0.0400		88.7	50-150			

LCS (BGJ0156-BS1)

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.0899	0.0050	"	0.100		89.9	70-130			
Ethylbenzene	0.0944	0.0050	"	0.100		94.4	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.0	70-130			
o-Xylene	0.0901	0.0050	"	0.100		90.1	70-130			
1,2,4-Trimethylbenzene	0.0915	0.0050	"	0.100		91.5	70-130			
1,3,5-Trimethylbenzene	0.0932	0.0050	"	0.100		93.2	70-130			
Naphthalene	0.0711	0.0038	"	0.100		71.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0369		"	0.0400		92.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		94.9	50-150			

Matrix Spike (BGJ0156-MS1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/05/23

Benzene	0.125	0.0020	mg/kg	0.100	ND	125	70-130			
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
Ethylbenzene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
m,p-Xylene	0.189	0.010	"	0.200	ND	94.5	70-130			
o-Xylene	0.0915	0.0050	"	0.100	ND	91.5	70-130			
1,2,4-Trimethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130			
1,3,5-Trimethylbenzene	0.0917	0.0050	"	0.100	ND	91.7	70-130			
Naphthalene	0.0768	0.0038	"	0.100	ND	76.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0474		"	0.0400		118	50-150			
Surrogate: Toluene-d8	0.0376		"	0.0400		94.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	50-150			

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0156 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0156-MSD1)	Source: 2310049-01			Prepared: 10/04/23 Analyzed: 10/05/23						
Benzene	0.0938	0.0020	mg/kg	0.100	ND	93.8	70-130	28.4	30	
Toluene	0.0900	0.0050	"	0.100	ND	90.0	70-130	4.34	30	
Ethylbenzene	0.0865	0.0050	"	0.100	ND	86.5	70-130	8.35	30	
m,p-Xylene	0.175	0.010	"	0.200	ND	87.4	70-130	7.80	30	
o-Xylene	0.0830	0.0050	"	0.100	ND	83.0	70-130	9.70	30	
1,2,4-Trimethylbenzene	0.0868	0.0050	"	0.100	ND	86.8	70-130	4.62	30	
1,3,5-Trimethylbenzene	0.0877	0.0050	"	0.100	ND	87.7	70-130	4.45	30	
Naphthalene	0.0764	0.0038	"	0.100	ND	76.4	70-130	0.509	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0367</i>		<i>"</i>	<i>0.0400</i>		<i>91.7</i>	<i>50-150</i>			

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0163 - EPA 3550A

Blank (BGJ0163-BLK1)

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.0		"	12.5		120		30-150			

LCS (BGJ0163-BS1)

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	411	50	mg/kg	500		82.1		70-130			
Surrogate: <i>o</i> -Terphenyl	4.98		"	12.5		39.9		30-150			

Matrix Spike (BGJ0163-MS1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	435	50	mg/kg	500	11.7	84.6		70-130			
Surrogate: <i>o</i> -Terphenyl	9.35		"	12.5		74.8		30-150			

Matrix Spike Dup (BGJ0163-MSD1)

Source: 2310049-01

Prepared: 10/04/23 Analyzed: 10/07/23

C10-C28 (DRO)	466	50	mg/kg	500	11.7	90.9		70-130	7.04	20	
Surrogate: <i>o</i> -Terphenyl	11.3		"	12.5		90.2		30-150			

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0318 - EPA 5030 Soil MS

Blank (BGJ0318-BLK1)

Prepared & Analyzed: 10/09/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0223		"	0.0333	66.9	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0415		"	0.0333	124	40-150				

LCS (BGJ0318-BS1)

Prepared & Analyzed: 10/09/23

Acenaphthene	0.0328	0.00500	mg/kg	0.0333	98.5	31-137				
Anthracene	0.0360	0.00500	"	0.0333	108	30-120				
Benzo (a) anthracene	0.0334	0.00500	"	0.0333	100	30-120				
Benzo (a) pyrene	0.0283	0.00500	"	0.0333	85.0	30-120				
Benzo (b) fluoranthene	0.0322	0.00500	"	0.0333	96.6	30-120				
Benzo (k) fluoranthene	0.0318	0.00500	"	0.0333	95.3	30-120				
Chrysene	0.0370	0.00500	"	0.0333	111	30-120				
Dibenz (a,h) anthracene	0.0312	0.00500	"	0.0333	93.7	30-120				
Fluoranthene	0.0351	0.00500	"	0.0333	105	30-120				
Fluorene	0.0385	0.00500	"	0.0333	116	30-120				
Indeno (1,2,3-cd) pyrene	0.0337	0.00500	"	0.0333	101	30-120				
Pyrene	0.0404	0.00500	"	0.0333	121	35-142				
1-Methylnaphthalene	0.0354	0.00500	"	0.0333	106	35-142				
2-Methylnaphthalene	0.0373	0.00500	"	0.0333	112	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0256		"	0.0333	76.8	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0347		"	0.0333	104	40-150				

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0318 - EPA 5030 Soil MS

Matrix Spike (BGJ0318-MS1)		Source: 2310056-01			Prepared & Analyzed: 10/09/23						
Acenaphthene	0.0292	0.00500	mg/kg	0.0333	ND	87.7	31-137				
Anthracene	0.0322	0.00500	"	0.0333	ND	96.7	30-120				
Benzo (a) anthracene	0.0359	0.00500	"	0.0333	ND	108	30-120				
Benzo (a) pyrene	0.0294	0.00500	"	0.0333	ND	88.2	30-120				
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333	ND	86.4	30-120				
Benzo (k) fluoranthene	0.0269	0.00500	"	0.0333	ND	80.7	30-120				
Chrysene	0.0333	0.00500	"	0.0333	ND	100	30-120				
Dibenz (a,h) anthracene	0.0306	0.00500	"	0.0333	ND	91.9	30-120				
Fluoranthene	0.0337	0.00500	"	0.0333	ND	101	30-120				
Fluorene	0.0326	0.00500	"	0.0333	ND	97.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0376	0.00500	"	0.0333	ND	113	30-120				
Pyrene	0.0368	0.00500	"	0.0333	ND	111	35-142				
1-Methylnaphthalene	0.0390	0.00500	"	0.0333	ND	117	15-130				
2-Methylnaphthalene	0.0401	0.00500	"	0.0333	ND	120	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.4</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0337</i>		<i>"</i>	<i>0.0333</i>		<i>101</i>	<i>40-150</i>				

Matrix Spike Dup (BGJ0318-MSD1)		Source: 2310056-01			Prepared & Analyzed: 10/09/23						
Acenaphthene	0.0292	0.00500	mg/kg	0.0333	ND	87.7	31-137	0.0308	30		
Anthracene	0.0326	0.00500	"	0.0333	ND	97.7	30-120	1.04	30		
Benzo (a) anthracene	0.0346	0.00500	"	0.0333	ND	104	30-120	3.56	30		
Benzo (a) pyrene	0.0285	0.00500	"	0.0333	ND	85.5	30-120	3.04	30		
Benzo (b) fluoranthene	0.0275	0.00500	"	0.0333	ND	82.6	30-120	4.53	30		
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.2	30-120	8.41	30		
Chrysene	0.0306	0.00500	"	0.0333	ND	91.7	30-120	8.71	30		
Dibenz (a,h) anthracene	0.0306	0.00500	"	0.0333	ND	91.7	30-120	0.182	30		
Fluoranthene	0.0324	0.00500	"	0.0333	ND	97.2	30-120	4.03	30		
Fluorene	0.0367	0.00500	"	0.0333	ND	110	30-120	11.8	30		
Indeno (1,2,3-cd) pyrene	0.0371	0.00500	"	0.0333	ND	111	30-120	1.08	30		
Pyrene	0.0337	0.00500	"	0.0333	ND	101	35-142	9.02	30		
1-Methylnaphthalene	0.0335	0.00500	"	0.0333	ND	100	15-130	15.1	50		
2-Methylnaphthalene	0.0352	0.00500	"	0.0333	ND	106	15-130	13.0	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0265</i>		<i>"</i>	<i>0.0333</i>		<i>79.6</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0325</i>		<i>"</i>	<i>0.0333</i>		<i>97.6</i>	<i>40-150</i>				

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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

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

Batch BGJ0286 - EPA 3050B

Blank (BGJ0286-BLK1)

Prepared: 10/06/23 Analyzed: 10/08/23

Boron ND 2.00 mg/L

LCS (BGJ0286-BS1)

Prepared: 10/06/23 Analyzed: 10/08/23

Boron 5.29 2.00 mg/L 5.00 106 80-120

Duplicate (BGJ0286-DUP1)

Source: 2310058-01

Prepared: 10/06/23 Analyzed: 10/08/23

Boron 0.942 2.00 mg/L 0.924 1.92 20

Matrix Spike (BGJ0286-MS1)

Source: 2310058-01

Prepared: 10/06/23 Analyzed: 10/08/23

Boron 5.93 2.00 mg/L 5.00 0.924 100 75-125

Matrix Spike Dup (BGJ0286-MSD1)

Source: 2310058-01

Prepared: 10/06/23 Analyzed: 10/08/23

Boron 5.97 2.00 mg/L 5.00 0.924 101 75-125 0.632 25

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0324 - EPA 3050B

Blank (BGJ0324-BLK1)

Prepared: 10/09/23 Analyzed: 10/10/23

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

LCS (BGJ0324-BS1)

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	38.7	0.200	mg/kg wet	40.0	96.7	80-120				
Barium	41.6	0.400	"	40.0	104	80-120				
Cadmium	1.96	0.200	"	2.00	98.0	80-120				
Copper	38.6	0.400	"	40.0	96.5	80-120				
Lead	20.0	0.200	"	20.0	100	80-120				
Nickel	38.0	0.400	"	40.0	95.0	80-120				
Silver	1.92	0.0200	"	2.00	96.0	80-120				
Zinc	38.7	0.400	"	40.0	96.8	80-120				
Selenium	4.04	0.260	"	4.00	101	80-120				

Duplicate (BGJ0324-DUP1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	0.496	0.200	mg/kg dry	0.404		20.5	20			QR-01
Barium	11.8	0.400	"	20.4		53.6	20			QR-01
Cadmium	0.0473	0.200	"	0.0460		2.74	20			
Copper	0.948	0.400	"	1.06		11.0	20			
Lead	1.28	0.200	"	1.52		17.4	20			
Nickel	0.184	0.400	"	0.401		73.9	20			QR-01
Silver	ND	0.0200	"	ND			20			
Zinc	4.42	0.400	"	6.52		38.4	20			QR-04
Selenium	ND	0.260	"	ND			20			

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0324 - EPA 3050B

Matrix Spike (BGJ0324-MS1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	49.8	0.200	mg/kg dry	42.6	0.404	116	75-125				
Barium	61.3	0.400	"	42.6	20.4	96.0	75-125				
Cadmium	2.71	0.200	"	2.13	0.0460	125	75-125				
Copper	43.5	0.400	"	42.6	1.06	99.7	75-125				
Lead	28.0	0.200	"	21.3	1.52	124	75-125				
Nickel	41.6	0.400	"	42.6	0.401	96.7	75-125				
Silver	2.47	0.0200	"	2.13	ND	116	75-125				
Zinc	47.0	0.400	"	42.6	6.52	95.1	75-125				
Selenium	6.28	0.260	"	4.26	ND	147	75-125				QM-07

Matrix Spike Dup (BGJ0324-MSD1)

Source: 2308689-07

Prepared: 10/09/23 Analyzed: 10/10/23

Arsenic	48.2	0.200	mg/kg dry	42.6	0.404	112	75-125	3.21	25		
Barium	59.3	0.400	"	42.6	20.4	91.1	75-125	3.47	25		
Cadmium	2.56	0.200	"	2.13	0.0460	118	75-125	5.64	25		
Copper	42.9	0.400	"	42.6	1.06	98.3	75-125	1.40	25		
Lead	26.9	0.200	"	21.3	1.52	119	75-125	3.75	25		
Nickel	41.0	0.400	"	42.6	0.401	95.3	75-125	1.49	25		
Silver	2.40	0.0200	"	2.13	ND	113	75-125	2.85	25		
Zinc	46.3	0.400	"	42.6	6.52	93.3	75-125	1.64	25		
Selenium	6.20	0.260	"	4.26	ND	146	75-125	1.18	25		QM-07

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0227 - 3060A Mod

Blank (BGJ0227-BLK1)

Prepared & Analyzed: 10/05/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGJ0227-BS1)

Prepared & Analyzed: 10/05/23

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 97.0 80-120

Duplicate (BGJ0227-DUP1)

Source: 2309279-01

Prepared & Analyzed: 10/05/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGJ0227-MS1)

Source: 2309279-01

Prepared & Analyzed: 10/05/23

Chromium, Hexavalent 28.1 0.30 mg/kg dry 27.5 ND 102 75-125

Matrix Spike Dup (BGJ0227-MSD1)

Source: 2309279-01

Prepared & Analyzed: 10/05/23

Chromium, Hexavalent 28.1 0.30 mg/kg dry 27.5 ND 102 75-125 0.196 20

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0388 - General Preparation

Blank (BGJ0388-BLK1)

Prepared: 10/10/23 Analyzed: 10/12/23

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

LCS (BGJ0388-BS1)

Prepared: 10/10/23 Analyzed: 10/12/23

Calcium	4.20	0.0500	mg/L wet	5.00	84.1	70-130				
Magnesium	5.83	0.0500	"	5.00	117	70-130				
Sodium	5.79	0.0500	"	5.00	116	70-130				

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 - Village 31-16DU Wellhead

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 10/23/23 12:57

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

Summit Scientific

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

Batch BGJ0381 - General Preparation

Duplicate (BGJ0381-DUP1)

Source: 2310049-01

Prepared & Analyzed: 10/10/23

% Solids	77.4		%		76.8			0.821		20	
----------	------	--	---	--	------	--	--	-------	--	----	--

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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 BGJ0430 - General Preparation

Blank (BGJ0430-BLK1)

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ0430-BS1)

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.9 95-105

Duplicate (BGJ0430-DUP1)

Source: 2310056-01

Prepared: 10/11/23 Analyzed: 10/12/23

Specific Conductance (EC) 1.44 0.0100 mmhos/cm 1.44 0.00 20

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 - Village 31-16DU Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

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

Summit Scientific

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

Batch BGJ0431 - General Preparation

LCS (BGJ0431-BS1)

Prepared: 10/11/23 Analyzed: 10/12/23

pH	9.16		pH Units	9.18		99.8	95-105			
----	------	--	----------	------	--	------	--------	--	--	--

Duplicate (BGJ0431-DUP1)

Source: 2310056-01

Prepared: 10/11/23 Analyzed: 10/12/23

pH	7.80		pH Units		7.79			0.128	20	
----	------	--	----------	--	------	--	--	-------	----	--

Batch BGJ0791 - General Preparation

LCS (BGJ0791-BS1)

Prepared & Analyzed: 10/19/23

pH	9.13		pH Units	9.18		99.5	95-105			
----	------	--	----------	------	--	------	--------	--	--	--

Duplicate (BGJ0791-DUP1)

Source: 2309545-01

Prepared & Analyzed: 10/19/23

pH	6.87		pH Units		6.77			1.47	20	
----	------	--	----------	--	------	--	--	------	----	--

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 - Village 31-16DU Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
10/23/23 12:57

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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