

TABLE 1
FORMER CHURCHILL 5 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	30	27	2	500
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500
WH04 @ 6'	10/20/2021	6 ft. bgs	<0.0020	0.025	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR04 @ 3'	10/20/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR04-01 @ 3'	10/21/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR04-02 @ 3'	10/21/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR04-03 @ 3'	10/21/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR04-05 @ 3'	10/21/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

Notes:

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.
- Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.

COGCC = Colorado Oil and Gas Conservation Commission

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

TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH-ORO = Total extactable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

bgs = Below ground surface

= Source material characterization sample

TABLE 2
FORMER CHURCHILL 5 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
WH04 @ 6'	10/20/2021	6 ft. bgs	8.16	0.513	2.01	0.0468
FLR04 @ 3'	10/20/2021	3 ft. bgs	7.60	0.182	0.683	0.0299
BKG01 @ 3'	10/22/2021	3 ft. bgs	7.23	0.0827	0.110	NA
BKG01 @ 6'	10/22/2021	6 ft. bgs	7.58	0.278	1.87	NA

Notes:

1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

ft. = Feet

bgs = Below ground surface

NA = Constituent not analyzed

= Source material characterization sample

TABLE 3
FORMER CHURCHILL 5 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - PAHs

Sample ID	Date Sampled	Depth	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ^(1,2)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^(1,2,3)			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
WH04 @ 6'	10/20/2021	6 ft. bgs	<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
FLR04 @ 3'	10/20/2021	3 ft. bgs	<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. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with
COGCC = Colorado Oil and Gas Conservation Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
PAHs = Polycyclic aromatic hydrocarbons
Benz(a) = Benzanthracene
Benzo(a) = Benzopyrene
Benzo(b) = Benzofluoranthene
Benzo(k) = Benzofluoranthene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
M = Methylnaphthalene
mg/kg = Milligrams per kilogram
= Source material characterization sample
ft. = Feet
bgs = Below ground surface

TABLE 4
FORMER CHURCHILL 5 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
METALS

Sample ID	Date Sampled	Depth	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ^(1,2)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^(1,2,3)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
WH04 @ 6'	10/20/2021	6 ft. bgs	0.810	36.4	<0.226	<0.30 ⁽⁴⁾	5.02	5.92	3.42	0.467	<0.0226	16.9
BKG01 @ 3'	10/22/2021	3 ft. bgs	0.397	NA	NA	NA	NA	NA	NA	0.591	NA	NA
BKG01 @ 6'	10/22/2021	6 ft. bgs	0.492	NA	NA	NA	NA	NA	NA	0.602	NA	NA

Notes:

- Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.
- Compound falls within COGCC Table 915-1 Footnote 9.

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = Milligrams per kilogram

= Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

BOLD = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.

NA = Constituent not analyzed

TABLE 5
FORMER CHURCHILL 5 WELLHEAD
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water ⁽²⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	140	67	67	-	-
GW05	10/19/2021	7.1	13	<1.0	11	<1.0	1.3	<1.0	6	NA

Notes:

- Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.
- Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

BOLD = Analytical result is in exceedance of applicable standard.

NA = Not applicable

TABLE 6
FORMER CHURCHILL 5 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
WH04 @ 6'	10/20/2021	6 ft. bgs	40.37425307	-104.55931	1.1	0.2
FLR04 @ 3'	10/20/2021	3 ft. bgs	40.37428254	-104.5593361	1.2	0.6
FLR04-01 @ 3'	10/21/2021	3 ft. bgs	40.37520112	-104.5594969	1.1	0.1
FLR04-02 @ 3'	10/21/2021	3 ft. bgs	40.37535082	-104.5605277	1.1	0.2
FLR04-03 @ 3'	10/21/2021	3 ft. bgs	40.37558823	-104.5613817	1.0	0.0
FLR01-05 @ 3'	10/21/2021	3 ft. bgs	40.37620837	-104.5622737	0.9	0.3
BKG01 @ 3'	10/22/2021	3 ft. bgs	40.37434642	-104.5595071	0.8	0.1
BKG01 @ 6'	10/22/2021	6 ft. bgs	40.37434642	-104.5595071	0.8	0.0

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using World Geodetic System (WGS) 84 UTM Zone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

WH04 @ 6' = Source material characterization sample

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 01, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

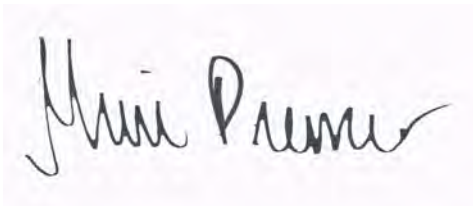
Denver, CO 80203

RE: Churchill 5 Wellhead

Work Order #2110333

Enclosed are the results of analyses for samples received by Summit Scientific on 10/20/21 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer", is displayed on a light purple rectangular background.

Muri Premer For Paul Shrewsbury
President



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH04@6'	2110333-01	Soil	10/20/21 10:05	10/20/21 17:00
FLR04@3'	2110333-02	Soil	10/20/21 10:16	10/20/21 17:00
GW05	2110333-03	Water	10/20/21 10:13	10/20/21 17:00

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.

2110333.1

-4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PLDCL.com

City/State/Zip: Broomfield/ CO/ 80020

Project Name Churchill 5 Wellhead

Phone: 303-487-1228

Project Number:

Sampler Name: Sam Anderson

Sampler Name: <i>Sam Anderson</i>					Project Number:					Analysis Requested										Special Instructions			
ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								pH, EC, SAR by saturated paste		
					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 <i>see</i>					
1	WH04 @ 6'	10/20/21	1005	3			X			X				X	X	X	X	X	X				
2	FLR04 @ 3'	↓	1016	3			X			X				X	X	X	X	X	X				
3																							
4																							
5																							
6																							
7																							
8																							
9	..																						
10																							

Relinquished by: *[Signature]*
Date/Time: 1700 10/20/21

Received by: Tasman's Lock Box
Date/Time: 1700 10/20/21

Turn Around Time (Check)
Same Day *Xst* 72 hours
24 hours — Standard *SA*
48 hours —

Relinquished by: Tasman's Lock Box
Date/Time:

Received by: *[Signature]*
Date/Time: 18:20:21 1700

Sample Integrity: 4.7
Temperature Upon Receipt:
Samples Intact: *(Yes)* No

Notes:

Summit Scientific

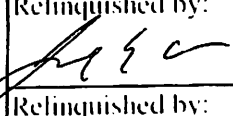
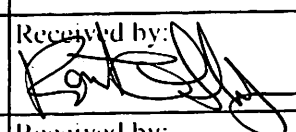
2110333.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 2 of 2

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCf.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Churchill 5 Wellhead
Sampler Name: Sam Anderson Project Number:

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	6W05	10/20/21	1013	3	X				X					X	X	X								pH, EC, SAR by saturated paste
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Relinquished by: 	Date/Time: 1700 10/20/21	Received by: Tasman's Lock Box	Date/Time: 1700 10/20/21	Turn Around Time (Check) Same Day <u>X</u> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by: 	Date/Time: 1620 21 1700	Sample Integrity: 4.7	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>4.7</u> Samples Intact: <u>Yes</u> No	

S₂

2/2

Sample Receipt Checklist

S2 Work Order# _____

2110333

Client: DOC Tasman Client Project ID: Churchill S wellheadShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: _____
(Describe)


Temp (°C)

4.7

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Is a chain-of-custody (COC) form present and filled out completely ⁽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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

 Custodian Printed Name or Initials

 102021
 Date/Time



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

WH04@6'
2110333-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0495	10/25/21	10/26/21	EPA 8260B	
Toluene	0.025	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: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0496	10/25/21	10/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		117 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

WH04@6'
2110333-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEJ0425	10/22/21	10/24/21	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: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0468	0.0100	mg/L	1	BEJ0511	10/26/21	10/27/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/20/21 10:05**

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

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

WH04@6'
2110333-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.810	0.226	mg/kg dry	1	BEJ0603	10/29/21	10/29/21	EPA 6020B
Barium	36.4	0.453	"	"	"	"	"	"
Cadmium	ND	0.226	"	"	"	"	"	"
Copper	5.02	0.453	"	"	"	"	"	"
Lead	5.92	0.226	"	"	"	"	"	"
Nickel	3.42	0.453	"	"	"	"	"	"
Selenium	0.467	0.294	"	"	"	"	"	"
Silver	ND	0.0226	"	"	"	"	"	"
Zinc	16.9	0.453	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEK0007	11/01/21	11/01/21	EPA 7196A	

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

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	82.3	0.0566	mg/L dry	1	BEJ0455	10/22/21	10/26/21	EPA 6020B	
Magnesium	18.5	0.0566	"	"	"	"	"	"	
Sodium	77.7	0.0566	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.01	0.00100	units	1	BEJ0542	10/27/21	10/27/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

WH04@6'
2110333-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.3		%	1	BEJ0416	10/21/21	10/21/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.513	0.0100	mmhos/cm	1	BEJ0486	10/25/21	10/25/21	EPA 120.1	

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

Date Sampled: **10/20/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BEJ0487	10/25/21	10/25/21	EPA 9045D	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

FLR04@3'
2110333-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEJ0495	10/25/21	10/26/21	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: **10/20/21 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0496	10/25/21	10/25/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

FLR04@3'
2110333-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEJ0425	10/22/21	10/24/21	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: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		76.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		75.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0299	0.0100	mg/L	1	BEJ0511	10/26/21	10/27/21	EPA 6020B	

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

Date Sampled: **10/20/21 10:16**

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

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

FLR04@3'
2110333-02 (Soil)

Summit Scientific

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

Calcium	11.6	0.0512	mg/L dry	1	BEJ0455	10/22/21	10/26/21	EPA 6020B
Magnesium	4.03	0.0512	"	"	"	"	"	"
Sodium	10.6	0.0512	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.683	0.00100	units	1	BEJ0542	10/27/21	10/27/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.6		%	1	BEJ0416	10/21/21	10/21/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.182	0.0100	mmhos/cm	1	BEJ0486	10/25/21	10/25/21	EPA 120.1	

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

Date Sampled: **10/20/21 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.60		pH Units	1	BEJ0487	10/25/21	10/25/21	EPA 9045D	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

GW05
2110333-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/21 10:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	7.1	1.0		ug/l	1	BEJ0395	10/20/21	10/20/21	EPA 8260B	
Toluene	13	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	11	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	1.3	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **10/20/21 10:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		113 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %		21-167		"	"	"	"	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEJ0395 - EPA 5030 Water MS

Blank (BEJ0395-BLK1)

Prepared: 10/20/21 Analyzed: 10/21/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.3		"	13.3		115	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.6	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	21-167			

LCS (BEJ0395-BS1)

Prepared: 10/20/21 Analyzed: 10/21/21

Benzene	36.9	1.0	ug/l	33.3		111	51-132			
Toluene	42.3	1.0	"	33.3		127	51-138			
Ethylbenzene	42.4	1.0	"	33.3		127	58-146			
m,p-Xylene	82.1	2.0	"	66.7		123	57-144			
o-Xylene	42.1	1.0	"	33.3		126	53-146			
Naphthalene	37.6	1.0	"	33.3		113	70-130			
1,2,4-Trimethylbenzene	40.0	1.0	"	33.3		120	70-130			
1,3,5-Trimethylbenzene	38.9	1.0	"	33.3		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	16.0		"	13.3		120	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.6	21-167			

Matrix Spike (BEJ0395-MS1)

Source: 2110337-02

Prepared: 10/20/21 Analyzed: 10/21/21

Benzene	36.8	1.0	ug/l	33.3	ND	110	34-141			
Toluene	39.7	1.0	"	33.3	ND	119	27-151			
Ethylbenzene	43.0	1.0	"	33.3	ND	129	29-160			
m,p-Xylene	83.2	2.0	"	66.7	ND	125	20-166			
o-Xylene	42.5	1.0	"	33.3	ND	127	33-159			
Naphthalene	38.6	1.0	"	33.3	ND	116	70-130			
1,2,4-Trimethylbenzene	40.9	1.0	"	33.3	ND	123	70-130			
1,3,5-Trimethylbenzene	39.8	1.0	"	33.3	ND	119	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.5		"	13.3		116	23-173			
Surrogate: Toluene-d8	13.5		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.8	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

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

Batch BEJ0395 - EPA 5030 Water MS

Matrix Spike Dup (BEJ0395-MSD1)	Source: 2110337-02			Prepared: 10/20/21		Analyzed: 10/21/21				
Benzene	36.7	1.0	ug/l	33.3	ND	110	34-141	0.435	30	
Toluene	39.3	1.0	"	33.3	ND	118	27-151	1.04	30	
Ethylbenzene	43.2	1.0	"	33.3	ND	130	29-160	0.394	30	
m,p-Xylene	86.2	2.0	"	66.7	ND	129	20-166	3.55	30	
o-Xylene	45.8	1.0	"	33.3	ND	137	33-159	7.44	30	
Naphthalene	36.3	1.0	"	33.3	ND	109	70-130	6.25	30	
1,2,4-Trimethylbenzene	34.4	1.0	"	33.3	ND	103	70-130	17.1	30	
1,3,5-Trimethylbenzene	42.9	1.0	"	33.3	ND	129	70-130	7.45	30	
Surrogate: 1,2-Dichloroethane-d4	16.4		"	13.3		123	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		107	21-167			

Batch BEJ0495 - EPA 5030 Soil MS

Blank (BEJ0495-BLK1)				Prepared: 10/25/21		Analyzed: 10/26/21				
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	0.0410		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEJ0495 - EPA 5030 Soil MS

LCS (BEJ0495-BS1)

Prepared: 10/25/21 Analyzed: 10/26/21

Benzene	0.0800	0.0020	mg/kg	0.100		80.0	70-130			
Toluene	0.122	0.0050	"	0.100		122	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.258	0.010	"	0.200		129	70-130			
o-Xylene	0.116	0.0050	"	0.100		116	70-130			
1,2,4-Trimethylbenzene	0.128	0.0050	"	0.100		128	70-130			
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.100		124	70-130			
Naphthalene	0.111	0.0038	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		99.9	21-167			

Matrix Spike (BEJ0495-MS1)

Source: 2110333-01

Prepared: 10/25/21 Analyzed: 10/26/21

Benzene	0.0785	0.0020	mg/kg	0.100	ND	78.5	70-130			
Toluene	0.141	0.0050	"	0.100	0.0249	116	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.258	0.010	"	0.200	ND	129	70-130			
o-Xylene	0.115	0.0050	"	0.100	ND	115	70-130			
1,2,4-Trimethylbenzene	0.129	0.0050	"	0.100	ND	129	70-130			
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130			
Naphthalene	0.121	0.0038	"	0.100	ND	121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

Matrix Spike Dup (BEJ0495-MSD1)

Source: 2110333-01

Prepared: 10/25/21 Analyzed: 10/26/21

Benzene	0.0760	0.0020	mg/kg	0.100	ND	76.0	70-130	3.18	30	
Toluene	0.135	0.0050	"	0.100	0.0249	110	70-130	4.08	30	
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	3.72	30	
m,p-Xylene	0.249	0.010	"	0.200	ND	125	70-130	3.36	30	
o-Xylene	0.112	0.0050	"	0.100	ND	112	70-130	2.45	30	
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	4.41	30	
1,3,5-Trimethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130	3.56	30	
Naphthalene	0.114	0.0038	"	0.100	ND	114	70-130	5.93	30	
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEJ0496 - EPA 3550A

Blank (BEJ0496-BLK1)

Prepared: 10/25/21 Analyzed: 10/26/21

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BEJ0496-BS1)

Prepared: 10/25/21 Analyzed: 10/26/21

C10-C28 (DRO)	431	50	mg/kg	500	86.2	70-130
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Matrix Spike (BEJ0496-MS1)

Source: 2110333-02

Prepared: 10/25/21 Analyzed: 10/26/21

C10-C28 (DRO)	412	50	mg/kg	500	ND	82.4	70-130
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Matrix Spike Dup (BEJ0496-MSD1)

Source: 2110333-02

Prepared: 10/25/21 Analyzed: 10/26/21

C10-C28 (DRO)	439	50	mg/kg	500	ND	87.9	70-130	6.41	20
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Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEJ0425 - EPA 5030 Soil MS

Blank (BEJ0425-BLK1)

Prepared: 10/22/21 Analyzed: 10/24/21

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	0.0335		"	0.0333		100	40-150			
Surrogate: Fluoranthene-d10	0.0332		"	0.0333		99.5	40-150			

LCS (BEJ0425-BS1)

Prepared: 10/22/21 Analyzed: 10/24/21

Acenaphthene	0.0358	0.00500	mg/kg	0.0333	108	31-137
Anthracene	0.0315	0.00500	"	0.0333	94.5	30-120
Benzo (a) anthracene	0.0302	0.00500	"	0.0333	90.7	30-120
Benzo (a) pyrene	0.0311	0.00500	"	0.0333	93.4	30-120
Benzo (b) fluoranthene	0.0355	0.00500	"	0.0333	107	30-120
Benzo (k) fluoranthene	0.0378	0.00500	"	0.0333	114	30-120
Chrysene	0.0305	0.00500	"	0.0333	91.4	30-120
Dibenz (a,h) anthracene	0.0247	0.00500	"	0.0333	74.1	30-120
Fluoranthene	0.0341	0.00500	"	0.0333	102	30-120
Fluorene	0.0375	0.00500	"	0.0333	113	30-120
Indeno (1,2,3-cd) pyrene	0.0146	0.00500	"	0.0333	43.7	30-120
Pyrene	0.0330	0.00500	"	0.0333	99.1	35-142
1-Methylnaphthalene	0.0374	0.00500	"	0.0333	112	35-142
2-Methylnaphthalene	0.0371	0.00500	"	0.0333	111	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0406		"	0.0333	122	40-150
Surrogate: Fluoranthene-d10	0.0392		"	0.0333	118	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEJ0425 - EPA 5030 Soil MS

Matrix Spike (BEJ0425-MS1)

Source: 2110333-01

Prepared: 10/22/21 Analyzed: 10/24/21

Acenaphthene	0.0208	0.00500	mg/kg	0.0333	ND	62.5	31-137				
Anthracene	0.0204	0.00500	"	0.0333	ND	61.1	30-120				
Benzo (a) anthracene	0.0221	0.00500	"	0.0333	ND	66.4	30-120				
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	66.0	30-120				
Benzo (b) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.5	30-120				
Benzo (k) fluoranthene	0.0265	0.00500	"	0.0333	ND	79.4	30-120				
Chrysene	0.0219	0.00500	"	0.0333	ND	65.6	30-120				
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333	ND	54.1	30-120				
Fluoranthene	0.0242	0.00500	"	0.0333	ND	72.6	30-120				
Fluorene	0.0238	0.00500	"	0.0333	ND	71.3	30-120				
Indeno (1,2,3-cd) pyrene	0.0117	0.00500	"	0.0333	ND	35.0	30-120				
Pyrene	0.0243	0.00500	"	0.0333	ND	73.0	35-142				
1-Methylnaphthalene	0.0209	0.00500	"	0.0333	ND	62.8	15-130				
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.3	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0243		"	0.0333		72.8	40-150				
Surrogate: Fluoranthene-d10	0.0287		"	0.0333		86.1	40-150				

Matrix Spike Dup (BEJ0425-MSD1)

Source: 2110333-01

Prepared: 10/22/21 Analyzed: 10/24/21

Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.8	31-137	9.55	30		
Anthracene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	4.48	30		
Benzo (a) anthracene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	0.319	30		
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	0.527	30		
Benzo (b) fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	2.85	30		
Benzo (k) fluoranthene	0.0261	0.00500	"	0.0333	ND	78.3	30-120	1.39	30		
Chrysene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	0.0289	30		
Dibenz (a,h) anthracene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	1.29	30		
Fluoranthene	0.0244	0.00500	"	0.0333	ND	73.3	30-120	0.985	30		
Fluorene	0.0247	0.00500	"	0.0333	ND	74.0	30-120	3.66	30		
Indeno (1,2,3-cd) pyrene	0.0122	0.00500	"	0.0333	ND	36.7	30-120	4.74	30		
Pyrene	0.0239	0.00500	"	0.0333	ND	71.8	35-142	1.65	30		
1-Methylnaphthalene	0.0244	0.00500	"	0.0333	ND	73.1	15-130	15.0	50		
2-Methylnaphthalene	0.0260	0.00500	"	0.0333	ND	78.0	15-130	25.6	50		
Surrogate: 2-Methylnaphthalene-d10	0.0277		"	0.0333		83.0	40-150				
Surrogate: Fluoranthene-d10	0.0292		"	0.0333		87.6	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

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

Batch BEJ0511 - EPA 3050B

Blank (BEJ0511-BLK1)

Prepared: 10/26/21 Analyzed: 10/27/21

Boron ND 0.0100 mg/L

LCS (BEJ0511-BS1)

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 4.88 0.0100 mg/L 5.00 97.5 80-120

Duplicate (BEJ0511-DUP1)

Source: 2110321-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 0.127 0.0100 mg/L 0.131 2.88 20

Matrix Spike (BEJ0511-MS1)

Source: 2110321-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 5.27 0.0100 mg/L 5.00 0.131 103 75-125

Matrix Spike Dup (BEJ0511-MSD1)

Source: 2110321-01

Prepared: 10/26/21 Analyzed: 10/27/21

Boron 5.05 0.0100 mg/L 5.00 0.131 98.4 75-125 4.21 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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEJ0603 - EPA 3050B

Blank (BEJ0603-BLK1)

Prepared & Analyzed: 10/29/21

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	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BEJ0603-BS1)

Prepared & Analyzed: 10/29/21

Arsenic	42.0	0.200	mg/kg wet	40.0	105	80-120
Barium	39.1	0.400	"	40.0	97.8	80-120
Cadmium	2.03	0.200	"	2.00	102	80-120
Copper	39.0	0.400	"	40.0	97.4	80-120
Lead	19.5	0.200	"	20.0	97.7	80-120
Nickel	38.9	0.400	"	40.0	97.3	80-120
Selenium	4.23	0.260	"	4.00	106	80-120
Silver	2.10	0.0200	"	2.00	105	80-120
Zinc	42.3	0.400	"	40.0	106	80-120

Duplicate (BEJ0603-DUP1)

Source: 2110333-01

Prepared & Analyzed: 10/29/21

Arsenic	0.951	0.226	mg/kg dry	0.810	16.0	20
Barium	32.2	0.453	"	36.4	12.3	20
Cadmium	0.0832	0.226	"	0.0959	14.2	20
Copper	5.37	0.453	"	5.02	6.86	20
Lead	6.29	0.226	"	5.92	5.97	20
Nickel	3.18	0.453	"	3.42	7.31	20
Selenium	0.427	0.294	"	0.467	8.99	20
Silver	0.0161	0.0226	"	0.0192	17.4	20
Zinc	14.3	0.453	"	16.9	16.7	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEJ0603 - EPA 3050B

Matrix Spike (BEJ0603-MS1)		Source: 2110333-01			Prepared & Analyzed: 10/29/21					
Arsenic	49.7	0.226	mg/kg dry	45.3	0.810	108	75-125			
Barium	82.4	0.453	"	45.3	36.4	101	75-125			
Cadmium	2.58	0.226	"	2.26	0.0959	110	75-125			
Copper	50.7	0.453	"	45.3	5.02	101	75-125			
Lead	29.2	0.226	"	22.6	5.92	103	75-125			
Nickel	48.5	0.453	"	45.3	3.42	99.4	75-125			
Selenium	5.22	0.294	"	4.53	0.467	105	75-125			
Silver	2.46	0.0226	"	2.26	0.0192	108	75-125			
Zinc	66.3	0.453	"	45.3	16.9	109	75-125			

Matrix Spike Dup (BEJ0603-MSD1)		Source: 2110333-01			Prepared & Analyzed: 10/29/21					
Arsenic	48.2	0.226	mg/kg dry	45.3	0.810	105	75-125	2.99	25	
Barium	79.8	0.453	"	45.3	36.4	95.7	75-125	3.23	25	
Cadmium	2.48	0.226	"	2.26	0.0959	105	75-125	4.18	25	
Copper	49.2	0.453	"	45.3	5.02	97.5	75-125	3.06	25	
Lead	30.0	0.226	"	22.6	5.92	106	75-125	2.68	25	
Nickel	47.8	0.453	"	45.3	3.42	98.0	75-125	1.39	25	
Selenium	5.09	0.294	"	4.53	0.467	102	75-125	2.53	25	
Silver	2.33	0.0226	"	2.26	0.0192	102	75-125	5.66	25	
Zinc	64.4	0.453	"	45.3	16.9	105	75-125	2.89	25	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BEK0007 - 3060A Mod

Blank (BEK0007-BLK1)

Prepared & Analyzed: 11/01/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEK0007-BS1)

Prepared & Analyzed: 11/01/21

Chromium, Hexavalent 21.0 0.30 mg/kg wet 25.0 84.0 80-120

Duplicate (BEK0007-DUP1)

Source: 2110262-01

Prepared & Analyzed: 11/01/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEK0007-MS1)

Source: 2110262-01

Prepared & Analyzed: 11/01/21

Chromium, Hexavalent 27.7 0.30 mg/kg dry 29.5 ND 94.0 75-125

Matrix Spike Dup (BEK0007-MSD1)

Source: 2110262-01

Prepared & Analyzed: 11/01/21

Chromium, Hexavalent 27.7 0.30 mg/kg dry 29.5 ND 94.0 75-125 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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

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

Batch BEJ0455 - General Preparation

Blank (BEJ0455-BLK1)

Prepared: 10/22/21 Analyzed: 10/26/21

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

LCS (BEJ0455-BS1)

Prepared: 10/22/21 Analyzed: 10/26/21

Calcium	5.17	0.0500	mg/L wet	5.00	103	70-130
Magnesium	5.01	0.0500	"	5.00	100	70-130
Sodium	4.94	0.0500	"	5.00	98.8	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

Summit Scientific

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

Batch BEJ0416 - General Preparation

Duplicate (BEJ0416-DUP1)

Source: 2110190-04

Prepared & Analyzed: 10/21/21

% Solids	85.9	%		84.4		1.73	20
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Summit Scientific

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



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

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

Batch BEJ0486 - General Preparation

Blank (BEJ0486-BLK1)

Prepared & Analyzed: 10/25/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEJ0486-BS1)

Prepared & Analyzed: 10/25/21

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

Duplicate (BEJ0486-DUP1)

Source: 2110324-01

Prepared & Analyzed: 10/25/21

Specific Conductance (EC) 0.402 0.0100 mmhos/cm 0.402 0.0498 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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

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

Summit Scientific

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

Batch BEJ0487 - General Preparation

LCS (BEJ0487-BS1)

Prepared & Analyzed: 10/25/21

pH	9.19	pH Units	9.18	100	95-105
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Duplicate (BEJ0487-DUP1)

Source: 2110324-01

Prepared & Analyzed: 10/25/21

pH	8.23	pH Units	8.28	0.606	20
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Summit Scientific

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



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/01/21 17:43

Notes and Definitions

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

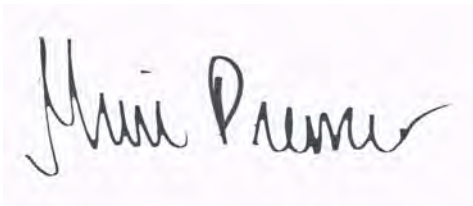
303.277.9310

November 02, 2021

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Churchill 5 Wellhead
Work Order #2110379

Enclosed are the results of analyses for samples received by Summit Scientific on 10/21/21 16:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive, flowing style. The first name "Muri" is written with a large, stylized 'M' and 'u'. The last name "Premer" is written with a large 'P' and a trailing flourish.

Muri Premer For Paul Shrewsbury
President



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL04-01@3'	2110379-01	Soil	10/21/21 09:26	10/21/21 16:50
FL04-02@3'	2110379-02	Soil	10/21/21 09:33	10/21/21 16:50
FL04-03@3'	2110379-03	Soil	10/21/21 09:37	10/21/21 16:50
FL04-05@3'	2110379-04	Soil	10/21/21 09:45	10/21/21 16:50

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.

S₂

2110379

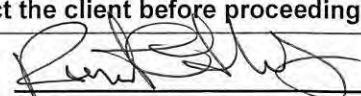
Sample Receipt Checklist

S2 Work Order# _____

Client: ROC / Tasman Client Project ID: Churchill 5 wellheadShipped Via: ☐ H.D. ☒ P.U. ☐ FedEx ☐ UPS ☐ USPS ☐ Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)Temp (°C) 7.7

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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):				
<p>⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.</p>				


 Custodian Printed Name or Initials

10-21-21
 Date/Time



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

FL04-01@3'
2110379-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/21/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEJ0519	10/26/21	10/27/21	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: **10/21/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		78.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/21/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0520	10/26/21	10/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

FL04-02@3'
2110379-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/21/21 09:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEJ0519	10/26/21	10/27/21	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: **10/21/21 09:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		81.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/21/21 09:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0520	10/26/21	10/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/21 09:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		113 %	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

FL04-03@3'
2110379-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/21/21 09:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEJ0519	10/26/21	10/27/21	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: **10/21/21 09:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		80.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/21/21 09:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0520	10/26/21	10/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/21 09:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		110 %	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

FL04-05@3'
2110379-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/21/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEJ0519	10/26/21	10/27/21	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: **10/21/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		78.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/21/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEJ0520	10/26/21	10/27/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/21/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEJ0519 - EPA 5030 Soil MS

Blank (BEJ0519-BLK1)

Prepared & Analyzed: 10/26/21

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	0.0308		"	0.0400		77.0	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0351		"	0.0400		87.7	21-167			

LCS (BEJ0519-BS1)

Prepared: 10/26/21 Analyzed: 10/27/21

Benzene	0.0643	0.0020	mg/kg	0.0750		85.7	70-130			
Toluene	0.0629	0.0050	"	0.0750		83.8	70-130			
Ethylbenzene	0.0765	0.0050	"	0.0750		102	70-130			
m,p-Xylene	0.146	0.010	"	0.150		97.5	70-130			
o-Xylene	0.0616	0.0050	"	0.0750		82.2	70-130			
1,2,4-Trimethylbenzene	0.0537	0.0050	"	0.0750		71.6	70-130			
1,3,5-Trimethylbenzene	0.0599	0.0050	"	0.0750		79.9	70-130			
Naphthalene	0.0657	0.0038	"	0.0750		87.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0282		"	0.0400		70.6	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0342		"	0.0400		85.6	21-167			

Matrix Spike (BEJ0519-MS1)

Source: 2110377-01

Prepared: 10/26/21 Analyzed: 10/27/21

Benzene	0.0602	0.0020	mg/kg	0.0750	ND	80.3	70-130			
Toluene	0.0621	0.0050	"	0.0750	ND	82.8	70-130			
Ethylbenzene	0.0819	0.0050	"	0.0750	ND	109	70-130			
m,p-Xylene	0.153	0.010	"	0.150	ND	102	70-130			
o-Xylene	0.0650	0.0050	"	0.0750	ND	86.6	70-130			
1,2,4-Trimethylbenzene	0.0599	0.0050	"	0.0750	ND	79.8	70-130			
1,3,5-Trimethylbenzene	0.0667	0.0050	"	0.0750	ND	88.9	70-130			
Naphthalene	0.0564	0.0038	"	0.0750	ND	75.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0182		"	0.0400		45.5	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0334		"	0.0400		83.4	21-167			

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

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

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

Batch BEJ0519 - EPA 5030 Soil MS

Matrix Spike Dup (BEJ0519-MSD1)		Source: 2110377-01			Prepared: 10/26/21 Analyzed: 10/27/21					
Benzene	0.0669	0.0020	mg/kg	0.0750	ND	89.2	70-130	10.4	30	
Toluene	0.0668	0.0050	"	0.0750	ND	89.1	70-130	7.40	30	
Ethylbenzene	0.0797	0.0050	"	0.0750	ND	106	70-130	2.67	30	
m,p-Xylene	0.151	0.010	"	0.150	ND	100	70-130	1.29	30	
o-Xylene	0.0652	0.0050	"	0.0750	ND	87.0	70-130	0.369	30	
1,2,4-Trimethylbenzene	0.0577	0.0050	"	0.0750	ND	76.9	70-130	3.73	30	
1,3,5-Trimethylbenzene	0.0651	0.0050	"	0.0750	ND	86.8	70-130	2.37	30	
Naphthalene	0.0642	0.0038	"	0.0750	ND	85.6	70-130	13.0	30	
Surrogate: 1,2-Dichloroethane-d4		0.0259	"	0.0400		64.6	23-173			
Surrogate: Toluene-d8		0.0413	"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene		0.0338	"	0.0400		84.4	21-167			

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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEJ0520 - EPA 3550A

Blank (BEJ0520-BLK1)

Prepared & Analyzed: 10/26/21

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BEJ0520-BS1)

Prepared & Analyzed: 10/26/21

C10-C28 (DRO)	430	50	mg/kg	500	86.0	70-130
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Matrix Spike (BEJ0520-MS1)

Source: 2110377-01

Prepared: 10/26/21 Analyzed: 10/27/21

C10-C28 (DRO)	453	50	mg/kg	500	41.2	82.3	70-130
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Matrix Spike Dup (BEJ0520-MSD1)

Source: 2110377-01

Prepared: 10/26/21 Analyzed: 10/27/21

C10-C28 (DRO)	452	50	mg/kg	500	41.2	82.2	70-130	0.109	20
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Summit Scientific

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



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/02/21 13:21

Notes and Definitions

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

December 07, 2021

Mark Longhurst
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Churchill 5 Wellhead
Work Order #2110415

Enclosed are the results of analyses for samples received by Summit Scientific on 10/22/21 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury
President



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG01@3'	2110415-01	Soil	10/22/21 13:35	10/22/21 16:00
BKG01@6'	2110415-02	Soil	10/22/21 13:38	10/22/21 16:00

Summit Scientific

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Summit Scientific

2110415

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PDCTE.com

City/State/Zip: Broomfield/ CO/ 80020



Phone: 303-487-1228

Project Name: Churchill 5 Wellhead

Sampler Name: Sam Anderson

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTENN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	Other			
1	BK601 @ 3'	6/22/21	1335	1				✓		✓										pH, EC, SAR by saturated paste	
2	BK601 @ 6'	↓	1338	1				✓		✓											
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 1600 11/22/21	Received by: Tasman's Lock Box	Date/Time: 1600 11/22/21	Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by: 	Date/Time: 102221 11/22/21	Sample Integrity: 6.8	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

2110415

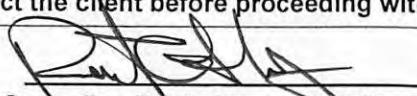
Sample Receipt Checklist

S2 Work Order# _____

Client: Pbc/Tasman Client Project ID: Churchill/S wellheadShipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)Temp (°C) 6.8

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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.				


 Custodian Printed Name or Initials

10.22.21
 Date/Time



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

BKG01@3'
2110415-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.397	0.200	mg/kg dry	1	BEK0616	11/30/21	12/02/21	EPA 6020B	
Selenium	0.591	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	4.68	0.0518	mg/L dry	1	BEK0048	11/02/21	11/03/21	EPA 6020B	
Magnesium	2.65	0.0518	"	"	"	"	"	"	
Sodium	1.20	0.0518	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.110	0.00100	units	1	BEK0100	11/04/21	11/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.5		%	1	BEJ0602	10/29/21	10/29/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.0827	0.0100	mmhos/cm	1	BEK0084	11/03/21	11/03/21	EPA 120.1	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

BKG01@3'
2110415-01 (Soil)

Summit Scientific

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

Date Sampled: **10/22/21 13:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.23			pH Units	1	BEK0085	11/03/21	11/03/21	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.



PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

BKG01@6'
2110415-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.492	0.200	mg/kg dry	1	BEK0616	11/30/21	12/02/21	EPA 6020B	
Selenium	0.602	0.260	"	"	"	"	"	"	

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

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	11.7	0.0536	mg/L dry	1	BEK0048	11/02/21	11/03/21	EPA 6020B	
Magnesium	5.40	0.0536	"	"	"	"	"	"	
Sodium	30.9	0.0536	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.87	0.00100	units	1	BEK0100	11/04/21	11/04/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.2		%	1	BEJ0602	10/29/21	10/29/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.278	0.0100	mmhos/cm	1	BEK0084	11/03/21	11/03/21	EPA 120.1	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

BKG01@6'
2110415-02 (Soil)

Summit Scientific

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

Date Sampled: **10/22/21 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.58			pH Units	1	BEK0085	11/03/21	11/03/21	EPA 9045D	

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BEK0616 - EPA 3050B

Blank (BEK0616-BLK1)				Prepared: 11/30/21 Analyzed: 12/02/21							
Arsenic	ND	0.200	mg/kg wet								
Selenium	ND	0.260	"								
LCS (BEK0616-BS1)				Prepared: 11/30/21 Analyzed: 12/02/21							
Arsenic	47.0	0.200	mg/kg wet	40.0		117	80-120				
Selenium	4.51	0.260	"	4.00		113	80-120				
Duplicate (BEK0616-DUP1)				Source: 2110147-05		Prepared: 11/30/21 Analyzed: 12/02/21					
Arsenic	13.7	0.200	mg/kg dry		14.2			3.11	20		
Selenium	1.73	0.260	"		1.93			10.8	20		
Matrix Spike (BEK0616-MS1)				Source: 2110147-05		Prepared: 11/30/21 Analyzed: 12/02/21					
Arsenic	35.7	0.200	mg/kg dry	20.9	14.2	103	75-125				
Selenium	3.20	0.260	"	2.09	1.93	61.1	75-125				QM-05
Matrix Spike Dup (BEK0616-MSD1)				Source: 2110147-05		Prepared: 11/30/21 Analyzed: 12/02/21					
Arsenic	35.4	0.200	mg/kg dry	20.9	14.2	102	75-125	0.624	25		
Selenium	3.15	0.260	"	2.09	1.93	58.4	75-125	1.82	25		QM-05

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

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

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

Batch BEK0048 - General Preparation

Blank (BEK0048-BLK1)

Prepared: 11/02/21 Analyzed: 11/03/21

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

LCS (BEK0048-BS1)

Prepared: 11/02/21 Analyzed: 11/03/21

Calcium	5.11	0.0500	mg/L wet	5.00	102	70-130
Magnesium	5.35	0.0500	"	5.00	107	70-130
Sodium	5.22	0.0500	"	5.00	104	70-130

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

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

Summit Scientific

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

Batch BEJ0602 - General Preparation

Duplicate (BEJ0602-DUP1)

Source: 2110262-01

Prepared & Analyzed: 10/29/21

% Solids	84.8	%	84.9	0.133	20
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Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

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

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

Batch BEK0084 - General Preparation

Blank (BEK0084-BLK1)

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEK0084-BS1)

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) 0.144 0.0100 mmhos/cm 0.150 95.9 95-105

Duplicate (BEK0084-DUP1)

Source: 2110415-01

Prepared & Analyzed: 11/03/21

Specific Conductance (EC) 0.0812 0.0100 mmhos/cm 0.0827 1.74 20

Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

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

Summit Scientific

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

Batch BEK0085 - General Preparation

LCS (BEK0085-BS1)

Prepared & Analyzed: 11/03/21

pH	9.11	pH Units	9.18	99.2	95-105
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Duplicate (BEK0085-DUP1)

Source: 2110415-01

Prepared & Analyzed: 11/03/21

pH	6.89	pH Units	7.23	4.82	20
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Summit Scientific

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PDC Energy
1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Churchill 5 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
12/07/21 07:45

Notes and Definitions

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.
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