

TABLE 1
FORMER BOOTH 7-26 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE

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
WH01 @ 6'	6/30/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR01-B @ 7'	6/30/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
FLR01-S @ 3'	6/30/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SB01 @ 7-8'	06/02/2022	7-8 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SB02 @ 3-4'	06/02/2022	3-4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SB03 @ 3-4'	06/02/2022	3-4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SB04 @ 3-4'	06/02/2022	3-4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50
SB05 @ 3-4'	06/02/2022	3-4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50

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 groundwater is present.

4. 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 extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

TMB = Trimethylbenzene

ft. = Feet

bgs = Below ground surface

TABLE 2
FORMER BOOTH 7-26 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitabilty for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
FLR01 @ 2.5'	6/30/2021	2.5 ft. bgs	8.31	0.389	0.868	0.102
BKG01 @ 2.5'	6/30/2021	2.5 ft. bgs	8.58	NA	NA	NA
SB01 @ 7-8'	06/02/2022	7-8 ft. bgs	8.59	0.422	0.414	0.113
SB02 @ 3-4'	06/02/2022	3-4 ft. bgs	8.48	0.468	0.403	0.121
SB03 @ 3-4'	06/02/2022	3-4 ft. bgs	8.49	0.564	0.545	0.136
SB04 @ 3-4'	06/02/2022	3-4 ft. bgs	8.64	0.471	0.291	0.103
SB05 @ 3-4'	06/02/2022	3-4 ft. bgs	8.65	0.401	0.141	0.120

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

BOLD = Analytical result is in exceedance of applicable standard.

NA = Constituent not analyzed

TABLE 3
FORMER BOOTH 7-26 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
SB01 @ 7-8'	06/02/2022	7-8 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
SB02 @ 3-4'	06/02/2022	3-4 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
SB03 @ 3-4'	06/02/2022	3-4 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
SB04 @ 3-4'	06/02/2022	3-4 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
SB05 @ 3-4'	06/02/2022	3-4 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:

- 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
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) = Benzo(a)fluoranthene
Benzo(k) = Benzo(a)fluoranthene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
M = Methylanthracene
mg/kg = Milligrams per kilogram
ft. = Feet
bgs = Below ground surface

TABLE 4
FORMER BOOTH 7-26 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
SB01 @ 7-8'	06/02/2022	7-8 ft. bgs	2.46	289	<0.220	<0.30 ⁽⁴⁾	4.34	4.70	5.34	0.590	0.0276	20.7
SB02 @ 3-4'	06/02/2022	3-4 ft. bgs	2.18	37.7	<0.232	<0.30 ⁽⁴⁾	4.36	4.20	5.95	0.381	<0.0232	18.6
SB03 @ 3-4'	06/02/2022	3-4 ft. bgs	2.10	28.6	<0.218	<0.30 ⁽⁴⁾	3.62	3.96	4.87	0.435	<0.0218	17.2
SB04 @ 3-4'	06/02/2022	3-4 ft. bgs	2.99	34.3	<0.223	<0.30 ⁽⁴⁾	5.03	3.55	5.60	0.470	<0.0223	17.3
SB05 @ 3-4'	06/02/2022	3-4 ft. bgs	2.14	32.6	<0.223	<0.30 ⁽⁴⁾	4.27	4.37	5.29	0.476	0.0228	20.0
BKG02 @ 3-4'	06/02/2022	3-4 ft. bgs	2.35	45.9	<0.229	<0.30 ⁽⁴⁾	4.68	4.60	5.13	0.398	<0.0229	20.4
BKG02 @ 7-8'	06/02/2022	7-8 ft. bgs	2.48	84.6	<0.223	<0.30 ⁽⁴⁾	4.57	5.21	6.43	0.547	0.0224	21.3
BKG03 @ 3-4'	06/02/2022	3-4 ft. bgs	3.18	83.0	<0.237	<0.30 ⁽⁴⁾	3.72	5.34	5.45	0.673	<0.0237	33.0
BKG03 @ 7-8'	06/02/2022	7-8 ft. bgs	2.00	56.3	<0.222	<0.30 ⁽⁴⁾	3.89	3.88	4.56	0.419	<0.0222	17.1
BKG04 @ 3-4'	06/02/2022	3-4 ft. bgs	2.67	27.6	<0.248	<0.30 ⁽⁴⁾	4.30	6.12	5.26	0.722	<0.0248	46.1
BKG04 @ 7-8'	06/02/2022	7-8 ft. bgs	3.37	94.2	<0.236	<0.30 ⁽⁴⁾	7.99	5.32	9.18	0.530	0.0314	27.8
BKG05 @ 3-4'	06/02/2022	3-4 ft. bgs	2.87	120	<0.237	<0.30 ⁽⁴⁾	6.00	4.97	6.80	0.567	0.0327	22.7
BKG05 @ 7-8'	06/02/2022	7-8 ft. bgs	2.89	144	<0.237	<0.30 ⁽⁴⁾	7.39	6.25	7.97	0.647	0.0417	28.2
BKG06 @ 3-4'	06/02/2022	3-4 ft. bgs	2.36	75.4	<0.231	<0.30 ⁽⁴⁾	5.49	4.28	6.96	0.520	<0.0231	22.3
BKG06 @ 7-8'	06/02/2022	7-8 ft. bgs	4.22	151	0.262	<0.30 ⁽⁴⁾	7.87	5.42	10.3	0.537	0.0543	25.0

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

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.

Metals Evaluation:

Arsenic:

The mean arsenic concentration observed in background soil samples is 2.839 mg/kg. One of the five soil samples collected from the soil borings is above the mean native arsenic concentration, however, all are below 1.25x the mean arsenic concentration of 3.549 mg/kg (1.25x 2.839 mg/kg is 3.549 mg/kg).

Barium:

The mean barium concentration observed in background soil samples is 88.2 mg/kg. One of the five soil samples collected from the soil borings is above 1.25x the mean native barium concentration of 110.25 mg/kg (1.25x 88.2 mg/kg is 110.25 mg/kg). The remaining barium exceedance will require further evaluation through supplemental site investigation activities.

Selenium:

The mean selenium concentration observed in background soil samples is 0.556 mg/kg. One of the five soil samples collected from the soil borings is above the mean native selenium concentration, however, all are below 1.25x the mean selenium concentration of 0.695 mg/kg (1.25x 0.556 mg/kg is 0.695 mg/kg).

TABLE 5
FORMER BOOTH 7-26 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
WH01 @ 6'	6/30/2021	6 ft. bgs	40.551493	-104.628959	1.1	3.4
FLR01 @ 2.5'	6/30/2021	2.5 ft. bgs	40.551500	-104.628954	1.1	0.3
FLR01-B @ 7'	6/30/2021	7 ft. bgs	40.551501	-104.628941	1.0	3.6
WHS01-N @ 0-6"	6/30/2021	0-6 in. bgs	40.551504	-104.628933	1.1	0.0
WHS01-E @ 0-6"	6/30/2021	0-6 in. bgs	40.551475	-104.628904	1.1	0.0
WHS01-W @ 0-6"	6/30/2021	0-6 in. bgs	40.551523	-104.628989	1.1	0.1
BKG01 @ 2.5'	6/30/2021	2.5 ft. bgs	40.551342	-104.629175	1.1	0.1
FL01-01 @ 4'	6/30/2021	4 ft. bgs	40.552747	-104.629592	1.1	0.0
FLR01-N @ 3'	6/30/2021	3' bgs	40.551506	-104.628943	1.1	0.0
FLR01-E @ 3'	6/30/2021	3' bgs	40.551474	-104.628936	1.0	0.2
FLR01-S @ 3'	6/30/2021	3' bgs	40.551463	-104.628982	1.1	0.3
FLR01-W @ 3'	6/30/2021	3' bgs	40.551501	-104.628981	1.1	0.0
SB01 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551494	-104.6289462	NC	0.0
SB02 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551510	-104.628946	NC	0.1
SB03 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551492	-104.628984	NC	0.0
SB04 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551467	-104.628956	NC	0.0
SB05 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551482	-104.628918	NC	0.0
BKG02 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551450	-104.629214	NC	0.0
BKG02 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551450	-104.629214	NC	0.0
BKG03 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551507	-104.629218	NC	0.0
BKG03 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551507	-104.629218	NC	0.0
BKG04 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551363	-104.629130	NC	0.0
BKG04 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551363	-104.629130	NC	0.0
BKG05 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551364	-104.629213	NC	0.0
BKG05 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551364	-104.629213	NC	0.0
BKG06 @ 3-4'	06/02/2022	3-4 ft. bgs	40.551408	-104.629158	NC	0.0
BKG06 @ 7-8'	06/02/2022	7-8 ft. bgs	40.551408	-104.629158	NC	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
in. = Inches
bgs = Below ground surface
NC = Data not collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 02, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Booth 25-26 Wellheads

Work Order #2106544

Enclosed are the results of analyses for samples received by Summit Scientific on 06/30/21 18:10. 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: Booth 25-26 Wellheads

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH01@6'	2106544-01	Soil	06/30/21 11:31	06/30/21 18:10
FLR01@2.5'	2106544-02	Soil	06/30/21 11:38	06/30/21 18:10
BKG01@2.5'	2106544-03	Soil	06/30/21 11:48	06/30/21 18:10

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

S₂

2106544

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@PDCE.com
City/State/Zip:	Broomfield/ CO/ 80020		
Phone:	303-487-1228	Project Name:	Booth 25-26 wellheads
Sampler Name:	Tyler Murrel	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	Other						
1	WH01 @ 6'	6/30/21	11:31	3			X			X				X	X	X								pH, EC, SAR by saturated paste
2	FLR01 @ 2.5'	↓	11:38	1			X			X							X	X						
3	BK G01 @ 2.5'	↓	11:48	1			X			X										X				
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes:
lym	6/30/21 17:46	Tasman's Lock Box	6/30/21 18:10	Same Day	72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Tasman's Lock Box	6/30/21 18:10	[Signature]	6/30/21 18:10	48 hours	X	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	Temperature Upon Receipt:	
					7	
				Samples Intact:	Yes No	

Sample Receipt Checklist

S2 Work Order 2106544

Client: PDC/Troman

Client Project ID: Booth 25-26 wellheads

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

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C) 7

Thermometer ID: 61857155-K

	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 provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice.</u>
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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, H2SO4, NaOH, HNO3, ect	<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.

JB
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6/30/21
Date/Time



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

Project: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

WH01@6'
2106544-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/30/21 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0044	07/02/21	07/03/21	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: **06/30/21 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		125 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/30/21 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0045	07/02/21	07/02/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/30/21 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.9 %	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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

FLR01@2.5'
2106544-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0560	0.0100	mg/L	1	BEG0072	07/06/21	07/07/21	EPA 6020B	

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

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.0	0.0565	mg/L dry	1	BEG0063	07/05/21	07/07/21	EPA 6020B	
Magnesium	9.28	0.0565	"	"	"	"	"	"	
Sodium	24.0	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.888	0.00100	units	1	BEG0146	07/08/21	07/08/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.4		%	1	BEG0157	07/09/21	07/09/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.289	0.0100	mmhos/cm	1	BEG0096	07/07/21	07/07/21	EPA 120.1	

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

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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

FLR01@2.5'
2106544-02 (Soil)

Summit Scientific

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

Date Sampled: **06/30/21 11:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.31			pH Units	1	BEG0094	07/07/21	07/07/21	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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

BKG01@2.5'
2106544-03 (Soil)

Summit Scientific

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

Date Sampled: **06/30/21 11:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.58			pH Units	1	BEG0525	07/29/21	07/29/21	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: Booth 25-26 Wellheads

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0044 - EPA 5030 Soil MS

Blank (BEG0044-BLK1)

Prepared: 07/02/21 Analyzed: 07/03/21

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	0.0265		"	0.0400		66.2	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.6	21-167			

LCS (BEG0044-BS1)

Prepared: 07/02/21 Analyzed: 07/03/21

Benzene	0.0699	0.0020	mg/kg	0.0750		93.2	70-130			
Toluene	0.0837	0.0050	"	0.0750		112	70-130			
Ethylbenzene	0.0968	0.0050	"	0.0750		129	70-130			
m,p-Xylene	0.175	0.010	"	0.150		116	70-130			
o-Xylene	0.0821	0.0050	"	0.0750		109	70-130			
1,2,4-Trimethylbenzene	0.0902	0.0050	"	0.0750		120	70-130			
1,3,5-Trimethylbenzene	0.0938	0.0050	"	0.0750		125	70-130			
Naphthalene	0.0556	0.0038	"	0.0750		74.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0210		"	0.0400		52.4	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0366		"	0.0400		91.4	21-167			

Matrix Spike (BEG0044-MS1)

Source: 2106543-03

Prepared: 07/02/21 Analyzed: 07/03/21

Benzene	0.0700	0.0020	mg/kg	0.0750	ND	93.4	70-130			
Toluene	0.0796	0.0050	"	0.0750	ND	106	70-130			
Ethylbenzene	0.0962	0.0050	"	0.0750	ND	128	70-130			
m,p-Xylene	0.178	0.010	"	0.150	ND	119	70-130			
o-Xylene	0.0822	0.0050	"	0.0750	ND	110	70-130			
1,2,4-Trimethylbenzene	0.0904	0.0050	"	0.0750	ND	121	70-130			
1,3,5-Trimethylbenzene	0.0926	0.0050	"	0.0750	ND	124	70-130			
Naphthalene	0.0659	0.0038	"	0.0750	ND	87.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0233		"	0.0400		58.3	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0361		"	0.0400		90.2	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: Booth 25-26 Wellheads

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0044 - EPA 5030 Soil MS

Matrix Spike Dup (BEG0044-MSD1)	Source: 2106543-03			Prepared: 07/02/21 Analyzed: 07/03/21						
Benzene	0.0716	0.0020	mg/kg	0.0750	ND	95.5	70-130	2.20	30	
Toluene	0.0790	0.0050	"	0.0750	ND	105	70-130	0.757	30	
Ethylbenzene	0.0890	0.0050	"	0.0750	ND	119	70-130	7.81	30	
m,p-Xylene	0.181	0.010	"	0.150	ND	121	70-130	1.45	30	
o-Xylene	0.0837	0.0050	"	0.0750	ND	112	70-130	1.81	30	
1,2,4-Trimethylbenzene	0.0931	0.0050	"	0.0750	ND	124	70-130	2.91	30	
1,3,5-Trimethylbenzene	0.0957	0.0050	"	0.0750	ND	128	70-130	3.22	30	
Naphthalene	0.0697	0.0038	"	0.0750	ND	92.9	70-130	5.53	30	
Surrogate: 1,2-Dichloroethane-d4	0.0239		"	0.0400		59.8	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0363		"	0.0400		90.7	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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0045 - EPA 3550A

Blank (BEG0045-BLK1)

Prepared & Analyzed: 07/02/21

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

LCS (BEG0045-BS1)

Prepared & Analyzed: 07/02/21

C10-C28 (DRO)	470	50	mg/kg	500	93.9	70-130
---------------	-----	----	-------	-----	------	--------

Matrix Spike (BEG0045-MS1)

Source: 2106543-03

Prepared & Analyzed: 07/02/21

C10-C28 (DRO)	435	50	mg/kg	500	16.3	83.8	70-130
---------------	-----	----	-------	-----	------	------	--------

Matrix Spike Dup (BEG0045-MSD1)

Source: 2106543-03

Prepared & Analyzed: 07/02/21

C10-C28 (DRO)	445	50	mg/kg	500	16.3	85.8	70-130	2.35	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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0072 - EPA 3050B

Blank (BEG0072-BLK1)

Prepared: 07/06/21 Analyzed: 07/07/21

Boron ND 0.0100 mg/L

LCS (BEG0072-BS1)

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.03 0.0100 mg/L 5.00 101 80-120

Duplicate (BEG0072-DUP1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 0.426 0.0100 mg/L 0.492 14.5 20

Matrix Spike (BEG0072-MS1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.03 0.0100 mg/L 5.00 0.492 90.9 75-125

Matrix Spike Dup (BEG0072-MSD1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.00 0.0100 mg/L 5.00 0.492 90.1 75-125 0.755 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: Booth 25-26 Wellheads

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

08/02/21 12:14

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 BEG0063 - General Preparation

Blank (BEG0063-BLK1)

Prepared: 07/05/21 Analyzed: 07/07/21

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

LCS (BEG0063-BS1)

Prepared: 07/05/21 Analyzed: 07/07/21

Calcium	5.54	0.0500	mg/L wet	5.00	111	70-130
Magnesium	5.67	0.0500	"	5.00	113	70-130
Sodium	5.29	0.0500	"	5.00	106	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: Booth 25-26 Wellheads

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0157 - General Preparation

Duplicate (BEG0157-DUP1)		Source: 2106543-01		Prepared & Analyzed: 07/09/21						
% Solids	84.3		%		84.3			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: Booth 25-26 Wellheads
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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 BEG0096 - General Preparation

Blank (BEG0096-BLK1)

Prepared & Analyzed: 07/07/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEG0096-BS1)

Prepared & Analyzed: 07/07/21

Specific Conductance (EC) 0.141 0.0100 mmhos/cm 0.150 93.9 90-110

Duplicate (BEG0096-DUP1)

Source: 2106525-02

Prepared & Analyzed: 07/07/21

Specific Conductance (EC) 0.310 0.0100 mmhos/cm 0.311 0.193 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: Booth 25-26 Wellheads

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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

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

Batch BEG0094 - General Preparation

LCS (BEG0094-BS1)

Prepared & Analyzed: 07/07/21

pH	9.24		pH Units	9.21	100	95-105
----	------	--	----------	------	-----	--------

Duplicate (BEG0094-DUP1)

Source: 2106525-02

Prepared & Analyzed: 07/07/21

pH	8.08		pH Units	8.09		0.124	20
----	------	--	----------	------	--	-------	----

Batch BEG0525 - General Preparation

LCS (BEG0525-BS1)

Prepared & Analyzed: 07/29/21

pH	9.33		pH Units	9.21	101	95-105
----	------	--	----------	------	-----	--------

Duplicate (BEG0525-DUP1)

Source: 2107230-03

Prepared & Analyzed: 07/29/21

pH	8.60		pH Units	8.96		4.10	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: Booth 25-26 Wellheads

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/02/21 12:14

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

July 09, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

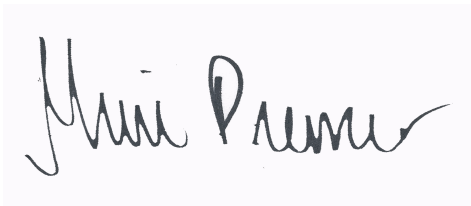
Denver, CO 80203

RE: Booth 7-26 Wellhead

Work Order #2106527

Enclosed are the results of analyses for samples received by Summit Scientific on 06/30/21 18:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FLR01-B@7'	2106527-01	Soil	06/30/21 15:25	06/30/21 18:10
FLR01-S@3'	2106527-04	Soil	06/30/21 15:31	06/30/21 18:10
WH01@6'	2106527-06	Soil	06/30/21 12:06	06/30/21 18:10
FLR01@2.5'	2106527-07	Soil	06/30/21 12:13	06/30/21 18:10

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

2106527

S₂

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@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Booth 7-26 wellhead
 Sampler Name: TX1-LR Muffel Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions
					HCl	HNO ₃	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	FLR01-B 07'	6/30/21	15:25	3			X			X			X	X	X			pH, EC, SAR by saturated paste
2	FLR01-N 03'		15:29	3													X	
3	FLR01-E 03'		15:30	3													X	
4	FLR01-S 03'		15:31	3									X	X	X			
5	FLR01-W 03'		15:32	3													X	
6	WH01 06'		12:06	3									X	X	X			
7	FLR01 02.5		12:13	1												X	X	
8																		
9																		
10																		

Relinquished by: <u>Tasman</u> Date/Time: <u>6/30/21 17:58</u>	Received by: <u>Tasman's Lock Box</u> Date/Time: <u>6/30/21 1810</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: <u>7</u> Temperature Upon Receipt: <u>7</u> Samples Intact: <u>Yes</u> No ___	Notes:
Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>6/30/21 1810</u>	Received by: <u>[Signature]</u> Date/Time: <u>6/30/21 1810</u>		
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

Sample Receipt Checklist

S2 Work Order 2106527

Client: PDC / Tasman Client Project ID: Booth 7-26 wellhead

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

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	<u>7</u>
-----------	----------

Thermometer ID: 61857155-K

	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 provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>On ice</u>
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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	<u>Same day.</u>
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, H2SO4, NaOH, HNO3, ect	<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.

JB
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6/30/12
Date/Time



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

FLR01-B@7'
2106527-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/30/21 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEF0624	06/30/21	06/30/21	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: **06/30/21 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/30/21 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0625	06/30/21	06/30/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/30/21 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.6 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

FLR01-S@3'
2106527-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/30/21 15:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0624	06/30/21	06/30/21	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: **06/30/21 15:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/30/21 15:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0625	06/30/21	06/30/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/30/21 15:31**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.1 %	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

WH01@6'
2106527-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/30/21 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0624	06/30/21	06/30/21	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: **06/30/21 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/30/21 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0625	06/30/21	06/30/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/30/21 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.8 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

FLR01@2.5'
2106527-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.102	0.0100	mg/L	1	BEG0072	07/06/21	07/07/21	EPA 6020B	

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

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.4	0.0582	mg/L dry	1	BEG0031	07/01/21	07/02/21	EPA 6020B	
Magnesium	14.3	0.0582	"	"	"	"	"	"	
Sodium	25.0	0.0582	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.868	0.00100	units	1	BEG0146	07/08/21	07/08/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.0		%	1	BEG0070	07/06/21	07/07/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.389	0.0100	mmhos/cm	1	BEG0053	07/02/21	07/04/21	EPA 120.1	

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

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

FLR01@2.5'
2106527-07 (Soil)

Summit Scientific

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

Date Sampled: **06/30/21 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.31			pH Units	1	BEG0054	07/02/21	07/04/21	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

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 BEF0624 - EPA 5030 Soil MS

Blank (BEF0624-BLK1)

Prepared: 06/30/21 Analyzed: 07/01/21

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	0.0406		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

LCS (BEF0624-BS1)

Prepared: 06/30/21 Analyzed: 07/01/21

Benzene	0.107	0.0020	mg/kg	0.100		107	70-130			
Toluene	0.111	0.0050	"	0.100		111	70-130			
Ethylbenzene	0.0970	0.0050	"	0.100		97.0	70-130			
m,p-Xylene	0.187	0.010	"	0.200		93.6	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.0939	0.0050	"	0.100		93.9	70-130			
1,3,5-Trimethylbenzene	0.0866	0.0050	"	0.100		86.6	70-130			
Naphthalene	0.0813	0.0038	"	0.100		81.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	21-167			

Matrix Spike (BEF0624-MS1)

Source: 2106526-01

Prepared: 06/30/21 Analyzed: 07/01/21

Benzene	0.113	0.0020	mg/kg	0.100	0.0179	95.2	70-130			
Toluene	0.0841	0.0050	"	0.100	0.00627	77.8	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.201	0.010	"	0.200	ND	101	70-130			
o-Xylene	0.0805	0.0050	"	0.100	ND	80.5	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
1,3,5-Trimethylbenzene	0.0963	0.0050	"	0.100	ND	96.3	70-130			
Naphthalene	0.0958	0.0038	"	0.100	ND	95.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

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 BEF0624 - EPA 5030 Soil MS

Matrix Spike Dup (BEF0624-MSD1)	Source: 2106526-01			Prepared: 06/30/21 Analyzed: 07/01/21						
Benzene	0.117	0.0020	mg/kg	0.100	0.0179	99.3	70-130	3.52	30	
Toluene	0.103	0.0050	"	0.100	0.00627	96.6	70-130	20.1	30	
Ethylbenzene	0.0906	0.0050	"	0.100	ND	90.6	70-130	13.8	30	
m,p-Xylene	0.170	0.010	"	0.200	ND	85.0	70-130	16.7	30	
o-Xylene	0.0944	0.0050	"	0.100	ND	94.4	70-130	16.0	30	
1,2,4-Trimethylbenzene	0.0888	0.0050	"	0.100	ND	88.8	70-130	14.0	30	
1,3,5-Trimethylbenzene	0.0815	0.0050	"	0.100	ND	81.5	70-130	16.6	30	
Naphthalene	0.0837	0.0038	"	0.100	ND	83.7	70-130	13.5	30	
Surrogate: 1,2-Dichloroethane-d4	0.0415		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEF0625 - EPA 3550A

Blank (BEF0625-BLK1)

Prepared & Analyzed: 06/30/21

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

LCS (BEF0625-BS1)

Prepared: 06/30/21 Analyzed: 07/01/21

C10-C28 (DRO)	505	50	mg/kg	500	101	70-130
---------------	-----	----	-------	-----	-----	--------

Matrix Spike (BEF0625-MS1)

Source: 2106526-01

Prepared: 06/30/21 Analyzed: 07/01/21

C10-C28 (DRO)	477	50	mg/kg	500	16.1	92.1	70-130
---------------	-----	----	-------	-----	------	------	--------

Matrix Spike Dup (BEF0625-MSD1)

Source: 2106526-01

Prepared: 06/30/21 Analyzed: 07/01/21

C10-C28 (DRO)	496	50	mg/kg	500	16.1	96.0	70-130	3.98	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

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 BEG0072 - EPA 3050B

Blank (BEG0072-BLK1)

Prepared: 07/06/21 Analyzed: 07/07/21

Boron ND 0.0100 mg/L

LCS (BEG0072-BS1)

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.03 0.0100 mg/L 5.00 101 80-120

Duplicate (BEG0072-DUP1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 0.426 0.0100 mg/L 0.492 14.5 20

Matrix Spike (BEG0072-MS1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.03 0.0100 mg/L 5.00 0.492 90.9 75-125

Matrix Spike Dup (BEG0072-MSD1)

Source: 2106519-01

Prepared: 07/06/21 Analyzed: 07/07/21

Boron 5.00 0.0100 mg/L 5.00 0.492 90.1 75-125 0.755 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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

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 BEG0031 - General Preparation

Blank (BEG0031-BLK1)

Prepared: 07/01/21 Analyzed: 07/02/21

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

LCS (BEG0031-BS1)

Prepared: 07/01/21 Analyzed: 07/02/21

Calcium	5.26	0.0500	mg/L wet	5.00	105	70-130
Magnesium	5.24	0.0500	"	5.00	105	70-130
Sodium	5.17	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.



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

Project: Booth 7-26 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/09/21 14:18

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 BEG0070 - General Preparation

Duplicate (BEG0070-DUP1)		Source: 2106485-10			Prepared: 07/06/21 Analyzed: 07/07/21					
% Solids	84.4		%		83.8			0.647	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/21 14:18

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 BEG0053 - General Preparation

Blank (BEG0053-BLK1)

Prepared: 07/02/21 Analyzed: 07/04/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEG0053-BS1)

Prepared: 07/02/21 Analyzed: 07/04/21

Specific Conductance (EC) 0.140 0.0100 mmhos/cm 0.150 93.1 90-110

Duplicate (BEG0053-DUP1)

Source: 2106513-01

Prepared: 07/02/21 Analyzed: 07/04/21

Specific Conductance (EC) 0.844 0.0100 mmhos/cm 0.845 0.0829 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: Booth 7-26 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/09/21 14:18

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

Summit Scientific

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

Batch BEG0054 - General Preparation

LCS (BEG0054-BS1)

Prepared: 07/02/21 Analyzed: 07/04/21

pH	9.21	pH Units	9.21	100	95-105
----	------	----------	------	-----	--------

Duplicate (BEG0054-DUP1)

Source: 2106513-01

Prepared: 07/02/21 Analyzed: 07/04/21

pH	8.06	pH Units	8.11	0.618	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: Booth 7-26 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/09/21 14:18

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

July 05, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Booth 7-26 Wellhead

Work Order #2206059

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/22 17:48. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@7-8'	2206059-01	Soil	06/02/22 10:02	06/02/22 17:48
SB02@3-4'	2206059-02	Soil	06/02/22 09:52	06/02/22 17:48
SB03@3-4'	2206059-03	Soil	06/02/22 09:28	06/02/22 17:48
SB04@3-4'	2206059-04	Soil	06/02/22 10:23	06/02/22 17:48
SB05@3-4'	2206059-05	Soil	06/02/22 10:16	06/02/22 17:48
BKG02@3-4'	2206059-06	Soil	06/02/22 10:32	06/02/22 17:48
BKG02@7-8'	2206059-07	Soil	06/02/22 10:59	06/02/22 17:48
BKG03@3-4'	2206059-08	Soil	06/02/22 11:03	06/02/22 17:48
BKG03@7-8'	2206059-09	Soil	06/02/22 11:28	06/02/22 17:48
BKG04@3-4'	2206059-10	Soil	06/02/22 10:45	06/02/22 17:48
BKG04@7-8'	2206059-11	Soil	06/02/22 11:11	06/02/22 17:48
BKG05@3-4'	2206059-12	Soil	06/02/22 11:38	06/02/22 17:48
BKG05@7-8'	2206059-13	Soil	06/02/22 12:01	06/02/22 17:48
BKG06@3-4'	2206059-14	Soil	06/02/22 12:26	06/02/22 17:48
BKG06@7-8'	2206059-15	Soil	06/02/22 12:50	06/02/22 17:48

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

S₂

2206059.1

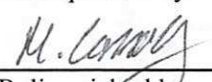
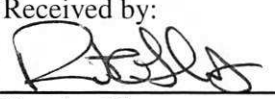
4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 2

Client: PDC / Tasman
Address: 6855 W 119th Ave
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228
Sampler Name: Mike Connolly

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCE.com
Project Name: Booth 7-26 Wellhead
Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested										Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs	Metals	On Hold			
1	SB01 @ 7-8'	6/2/22	1002	3			X			X			X	X	X	X	X	X	X		pH, EC, SAR by saturated paste		
2	SB02 @ 3-4'		952	3			X			X			X	X	X	X	X	X					
3	SB03 @ 3-4'		928	3			X			X			X	X	X	X	X	X					
4	SB04 @ 3-4'		1023	3			X			X			X	X	X	X	X	X					
5	SB05 @ 3-4'		1016	3			X			X			X	X	X	X	X	X					
6	BK602 @ 3-4'		1032	2			X			X								X	X				
7	BK602 @ 7-8'		1059	2			X			X								X	X				
8	BK603 @ 3-4'		1103	2			X			X								X	X				
9	BK603 @ 7-8'		1128	2			X			X								X	X				
10	BK604 @ 3-4'		1045	2			X			X								X	X				

Relinquished by: 	Date/Time: 6/2/22 1500	Received by: Tasman's Lock Box	Date/Time: 6/2/22 1500	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>6.4</u> Samples Intact: <u>Yes</u> No	Notes: * On hold for inorganics
Relinquished by: Tasman's Lock Box	Date/Time: 6/2/22 1748	Received by: 	Date/Time: 6/2/22 1748		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Summit Scientific

S₂

2206059.2

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@PDCE.com

City/State/Zip: Broomfield/ CO/ 80020

Phone: 303-487-1228

Project Name: Booth 7-26 wellhead

Sampler Name: Mike Connolly

Project Number: N/A

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	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	On Hold		
1	BK604 @ 7-8'	6/2/22	1111	2			X			X								X	X	pH, EC, SAR by saturated paste	
2	BK605 @ 3-4'		1138	2			X			X							X	X			
3	BK605 @ 7-8'		1201	2			X			X							X	X			
4	BK606 @ 3-4'		1226	2			X			X							X	X			
5	BK606 @ 7-8'		1250	2			X			X							X	X			
6																					
7																					
8																					
9																					
10																					

Relinquished by: <i>M. Connolly</i>	Date/Time: 6/2/22	Received by: Tasman's Lock Box	Date/Time: 6/2/22	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>6.4</u> Samples Intact: <u>Yes</u> No	Notes: * On hold for inorganics
Relinquished by: Tasman's Lock Box	Date/Time: 6/2/22 1748	Received by: <i>[Signature]</i>	Date/Time: 6/2/22 1748		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S2 Work Order# 2206059

Client: Bob Toeman Client Project ID: Booth 7-26 Wellhead

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

	1			
--	---	--	--	--

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

Temp ($^{\circ}\text{C}$)	94
-----------------------------	----

Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature $< 6^{\circ}\text{C}$ ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	—			once
Were all samples received intact ⁽¹⁾ ?	—			
Was adequate sample volume provided ⁽¹⁾ ?	—			
If custody seals are present, are they intact ⁽¹⁾ ?	—			
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⁾ ?	—			
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⁾ ?	—			
Is the COC properly relinquished by the client w/ date and time recorded ⁽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_2SO_4 , NaOH, HNO_3 , etc.			—	
If samples are acid preserved for metals, is the $\text{pH} \leq 2$ ⁽¹⁾ ? Record the pH in Comments.			—	
If dissolved metals are requested, were samples field filtered?			—	
<u>Additional Comments (if any):</u>				

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

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

[Handwritten signature]

Custodian Printed Name

0.2.22

Date/Time



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB01@7-8'
2206059-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFF0081	06/03/22	06/03/22	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: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0083	06/03/22	06/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		114 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB01@7-8'
2206059-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0235	06/09/22	06/13/22	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: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		61.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.113	0.0100	mg/L	1	BFF0222	06/08/22	06/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:02**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB01@7-8'
2206059-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.37	0.236	mg/kg dry	1	BFF0425	06/15/22	06/16/22	EPA 6020B
Barium	94.2	0.473	"	"	"	"	"	"
Cadmium	ND	0.236	"	"	"	"	"	"
Copper	7.99	0.473	"	"	"	"	"	"
Lead	5.32	0.236	"	"	"	"	"	"
Nickel	9.18	0.473	"	"	"	"	"	"
Selenium	0.530	0.307	"	"	"	"	"	"
Silver	0.0314	0.0236	"	"	"	"	"	"
Zinc	27.8	0.473	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0340	06/13/22	06/13/22	EPA 7196A	

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

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1440	0.0591	mg/L dry	1	BFF0323	06/13/22	06/15/22	EPA 6020B	
Magnesium	173	0.0591	"	"	"	"	"	"	
Sodium	62.4	0.0591	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.414	0.00100	units	1	BFF0430	06/16/22	06/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:02**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB01@7-8'
2206059-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.6	%	1	BFF0223	06/08/22	06/09/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.422	0.0100	mmhos/cm	1	BFF0325	06/13/22	06/14/22	EPA 120.1	

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

Date Sampled: **06/02/22 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.59		pH Units	1	BFF0326	06/13/22	06/14/22	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB02@3-4'
2206059-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0081	06/03/22	06/04/22	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: **06/02/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0083	06/03/22	06/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		115 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB02@3-4'
2206059-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0235	06/09/22	06/13/22	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: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		62.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.121	0.0100	mg/L	1	BFF0222	06/08/22	06/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/22 09:52**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB02@3-4'
2206059-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.87	0.237	mg/kg dry	1	BFF0425	06/15/22	06/17/22	EPA 6020B
Barium	120	0.475	"	"	"	"	"	"
Cadmium	ND	0.237	"	"	"	"	"	"
Copper	6.00	0.475	"	"	"	"	"	"
Lead	4.97	0.237	"	"	"	"	"	"
Nickel	6.80	0.475	"	"	"	"	"	"
Selenium	0.567	0.308	"	"	"	"	"	"
Silver	0.0327	0.0237	"	"	"	"	"	"
Zinc	22.7	0.475	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0340	06/13/22	06/13/22	EPA 7196A	

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

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1400	0.0593	mg/L dry	1	BFF0323	06/13/22	06/15/22	EPA 6020B	
Magnesium	174	0.0593	"	"	"	"	"	"	
Sodium	60.1	0.0593	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.403	0.00100	units	1	BFF0430	06/16/22	06/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 09:52**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB02@3-4'
2206059-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.3	%	1	BFF0223	06/08/22	06/09/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.468	0.0100	mmhos/cm	1	BFF0325	06/13/22	06/14/22	EPA 120.1	

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

Date Sampled: **06/02/22 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.48		pH Units	1	BFF0326	06/13/22	06/14/22	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB03@3-4'
2206059-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0081	06/03/22	06/04/22	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: **06/02/22 09:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		92.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0083	06/03/22	06/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		115 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB03@3-4'
2206059-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0235	06/09/22	06/13/22	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: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		65.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.136	0.0100	mg/L	1	BFF0222	06/08/22	06/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/22 09:28**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB03@3-4'
2206059-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.89	0.237	mg/kg dry	1	BFF0425	06/15/22	06/17/22	EPA 6020B
Barium	144	0.473	"	"	"	"	"	"
Cadmium	ND	0.237	"	"	"	"	"	"
Copper	7.39	0.473	"	"	"	"	"	"
Lead	6.25	0.237	"	"	"	"	"	"
Nickel	7.97	0.473	"	"	"	"	"	"
Selenium	0.647	0.308	"	"	"	"	"	"
Silver	0.0417	0.0237	"	"	"	"	"	"
Zinc	28.2	0.473	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0340	06/13/22	06/13/22	EPA 7196A	

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

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1090	0.0592	mg/L dry	1	BFF0323	06/13/22	06/15/22	EPA 6020B	
Magnesium	186	0.0592	"	"	"	"	"	"	
Sodium	74.0	0.0592	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.545	0.00100	units	1	BFF0430	06/16/22	06/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 09:28**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB03@3-4'
2206059-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.5	%	1	BFF0223	06/08/22	06/09/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.564	0.0100	mmhos/cm	1	BFF0325	06/13/22	06/14/22	EPA 120.1	

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

Date Sampled: **06/02/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BFF0326	06/13/22	06/14/22	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB04@3-4'
2206059-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0081	06/03/22	06/04/22	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: **06/02/22 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		89.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		92.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0083	06/03/22	06/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		115 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB04@3-4'
2206059-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0235	06/09/22	06/13/22	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: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.103	0.0100	mg/L	1	BFF0222	06/08/22	06/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:23**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB04@3-4'
2206059-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.36	0.231	mg/kg dry	1	BFF0425	06/15/22	06/17/22	EPA 6020B
Barium	75.4	0.462	"	"	"	"	"	"
Cadmium	ND	0.231	"	"	"	"	"	"
Copper	5.49	0.462	"	"	"	"	"	"
Lead	4.28	0.231	"	"	"	"	"	"
Nickel	6.96	0.462	"	"	"	"	"	"
Selenium	0.520	0.300	"	"	"	"	"	"
Silver	ND	0.0231	"	"	"	"	"	"
Zinc	22.3	0.462	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0340	06/13/22	06/13/22	EPA 7196A	

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

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1010	0.0577	mg/L dry	1	BFF0323	06/13/22	06/15/22	EPA 6020B	
Magnesium	153	0.0577	"	"	"	"	"	"	
Sodium	37.6	0.0577	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.291	0.00100	units	1	BFF0430	06/16/22	06/16/22	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB04@3-4'
2206059-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BFF0223	06/08/22	06/09/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.471	0.0100	mmhos/cm	1	BFF0325	06/13/22	06/14/22	EPA 120.1	

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

Date Sampled: **06/02/22 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.64		pH Units	1	BFF0326	06/13/22	06/14/22	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB05@3-4'
2206059-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFF0081	06/03/22	06/04/22	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: **06/02/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		89.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		93.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFF0083	06/03/22	06/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		119 %	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB05@3-4'
2206059-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFF0235	06/09/22	06/13/22	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: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.120	0.0100	mg/L	1	BFF0222	06/08/22	06/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:16**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB05@3-4'
2206059-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	4.22	0.225	mg/kg dry	1	BFF0425	06/15/22	06/17/22	EPA 6020B
Barium	151	0.451	"	"	"	"	"	"
Cadmium	0.262	0.225	"	"	"	"	"	"
Copper	7.87	0.451	"	"	"	"	"	"
Lead	5.42	0.225	"	"	"	"	"	"
Nickel	10.3	0.451	"	"	"	"	"	"
Selenium	0.537	0.293	"	"	"	"	"	"
Silver	0.0543	0.0225	"	"	"	"	"	"
Zinc	25.0	0.451	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0340	06/13/22	06/13/22	EPA 7196A	

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

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2520	0.0564	mg/L dry	1	BFF0323	06/13/22	06/15/22	EPA 6020B	
Magnesium	193	0.0564	"	"	"	"	"	"	
Sodium	27.2	0.0564	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.141	0.00100	units	1	BFF0430	06/16/22	06/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:16**

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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

SB05@3-4'
2206059-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.7	%	1	BFF0295	06/10/22	06/10/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.401	0.0100	mmhos/cm	1	BFF0325	06/13/22	06/14/22	EPA 120.1	

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

Date Sampled: **06/02/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.65		pH Units	1	BFF0326	06/13/22	06/14/22	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG02@3-4'
2206059-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.46	0.220	mg/kg dry	1	BFF0795	06/30/22	07/02/22	EPA 6020B	
Barium	289	0.440	"	"	"	"	"	"	
Cadmium	ND	0.220	"	"	"	"	"	"	
Copper	4.34	0.440	"	"	"	"	"	"	
Lead	4.70	0.220	"	"	"	"	"	"	
Nickel	5.34	0.440	"	"	"	"	"	"	
Selenium	0.590	0.286	"	"	"	"	"	"	
Silver	0.0276	0.0220	"	"	"	"	"	"	
Zinc	20.7	0.440	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.9		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG02@7-8'
2206059-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.18	0.232	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	37.7	0.465	"	"	"	"	"	"	
Cadmium	ND	0.232	"	"	"	"	"	"	
Copper	4.36	0.465	"	"	"	"	"	"	
Lead	4.20	0.232	"	"	"	"	"	"	
Nickel	5.95	0.465	"	"	"	"	"	"	
Selenium	0.381	0.302	"	"	"	"	"	"	
Silver	ND	0.0232	"	"	"	"	"	"	
Zinc	18.6	0.465	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	86.1		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG03@3-4'
2206059-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 11:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.10	0.218	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	28.6	0.435	"	"	"	"	"	"	
Cadmium	ND	0.218	"	"	"	"	"	"	
Copper	3.62	0.435	"	"	"	"	"	"	
Lead	3.96	0.218	"	"	"	"	"	"	
Nickel	4.87	0.435	"	"	"	"	"	"	
Selenium	0.435	0.283	"	"	"	"	"	"	
Silver	ND	0.0218	"	"	"	"	"	"	
Zinc	17.2	0.435	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 11:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 11:03**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	91.9		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG03@7-8'
2206059-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.99	0.223	mg/kg dry	1	BFF0763	06/29/22	07/02/22	EPA 6020B	
Barium	34.3	0.445	"	"	"	"	"	"	
Cadmium	ND	0.223	"	"	"	"	"	"	
Copper	5.03	0.445	"	"	"	"	"	"	
Lead	3.55	0.223	"	"	"	"	"	"	
Nickel	5.60	0.445	"	"	"	"	"	"	
Selenium	0.470	0.289	"	"	"	"	"	"	
Silver	ND	0.0223	"	"	"	"	"	"	
Zinc	17.3	0.445	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 11:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.8		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG04@3-4'
2206059-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.14	0.223	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	32.6	0.446	"	"	"	"	"	"	
Cadmium	ND	0.223	"	"	"	"	"	"	
Copper	4.27	0.446	"	"	"	"	"	"	
Lead	4.37	0.223	"	"	"	"	"	"	
Nickel	5.29	0.446	"	"	"	"	"	"	
Selenium	0.476	0.290	"	"	"	"	"	"	
Silver	0.0228	0.0223	"	"	"	"	"	"	
Zinc	20.0	0.446	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.6		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG04@7-8'
2206059-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 11:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.35	0.229	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	45.9	0.458	"	"	"	"	"	"	
Cadmium	ND	0.229	"	"	"	"	"	"	
Copper	4.68	0.458	"	"	"	"	"	"	
Lead	4.60	0.229	"	"	"	"	"	"	
Nickel	5.13	0.458	"	"	"	"	"	"	
Selenium	0.398	0.298	"	"	"	"	"	"	
Silver	ND	0.0229	"	"	"	"	"	"	
Zinc	20.4	0.458	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 11:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 11:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.3		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG05@3-4'
2206059-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.48	0.223	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	84.6	0.447	"	"	"	"	"	"	
Cadmium	ND	0.223	"	"	"	"	"	"	
Copper	4.57	0.447	"	"	"	"	"	"	
Lead	5.21	0.223	"	"	"	"	"	"	
Nickel	6.43	0.447	"	"	"	"	"	"	
Selenium	0.547	0.290	"	"	"	"	"	"	
Silver	0.0224	0.0223	"	"	"	"	"	"	
Zinc	21.3	0.447	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 11:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.5		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG05@7-8'
2206059-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 12:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.18	0.237	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	83.0	0.473	"	"	"	"	"	"	
Cadmium	ND	0.237	"	"	"	"	"	"	
Copper	3.72	0.473	"	"	"	"	"	"	
Lead	5.34	0.237	"	"	"	"	"	"	
Nickel	5.45	0.473	"	"	"	"	"	"	
Selenium	0.673	0.308	"	"	"	"	"	"	
Silver	ND	0.0237	"	"	"	"	"	"	
Zinc	33.0	0.473	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 12:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 12:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	84.5		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG06@3-4'
2206059-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.00	0.222	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	56.3	0.444	"	"	"	"	"	"	
Cadmium	ND	0.222	"	"	"	"	"	"	
Copper	3.89	0.444	"	"	"	"	"	"	
Lead	3.88	0.222	"	"	"	"	"	"	
Nickel	4.56	0.444	"	"	"	"	"	"	
Selenium	0.419	0.288	"	"	"	"	"	"	
Silver	ND	0.0222	"	"	"	"	"	"	
Zinc	17.1	0.444	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.1		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

BKG06@7-8'
2206059-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/02/22 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.67	0.248	mg/kg dry	1	BFF0795	06/30/22	07/03/22	EPA 6020B	
Barium	27.6	0.496	"	"	"	"	"	"	
Cadmium	ND	0.248	"	"	"	"	"	"	
Copper	4.30	0.496	"	"	"	"	"	"	
Lead	6.12	0.248	"	"	"	"	"	"	
Nickel	5.26	0.496	"	"	"	"	"	"	
Selenium	0.722	0.322	"	"	"	"	"	"	
Silver	ND	0.0248	"	"	"	"	"	"	
Zinc	46.1	0.496	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/22 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFG0029	07/05/22	07/05/22	EPA 7196A	I-04

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/22 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.7		%	1	BFF0788	06/30/22	06/30/22	Calculation	

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0081 - EPA 5030 Soil MS

Blank (BFF0081-BLK1)

Prepared & Analyzed: 06/03/22

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	0.0439		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0365		"	0.0400		91.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.7	50-150			

LCS (BFF0081-BS1)

Prepared & Analyzed: 06/03/22

Benzene	0.141	0.0020	mg/kg	0.125		112	70-130			
Toluene	0.0950	0.0050	"	0.125		76.0	70-130			
Ethylbenzene	0.157	0.0050	"	0.125		125	70-130			
m,p-Xylene	0.278	0.010	"	0.250		111	70-130			
o-Xylene	0.134	0.0050	"	0.125		107	70-130			
1,2,4-Trimethylbenzene	0.154	0.0050	"	0.125		123	70-130			
1,3,5-Trimethylbenzene	0.155	0.0050	"	0.125		124	70-130			
Naphthalene	0.143	0.0038	"	0.125		114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0376		"	0.0400		94.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0365		"	0.0400		91.2	50-150			

Matrix Spike (BFF0081-MS1)

Source: 2206012-01

Prepared & Analyzed: 06/03/22

Benzene	0.139	0.0020	mg/kg	0.125	ND	111	70-130			
Toluene	0.0944	0.0050	"	0.125	ND	75.5	70-130			
Ethylbenzene	0.152	0.0050	"	0.125	ND	122	70-130			
m,p-Xylene	0.270	0.010	"	0.250	ND	108	70-130			
o-Xylene	0.132	0.0050	"	0.125	ND	106	70-130			
1,2,4-Trimethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130			
1,3,5-Trimethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130			
Naphthalene	0.152	0.0038	"	0.125	ND	122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0374		"	0.0400		93.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.0	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0081 - EPA 5030 Soil MS

Matrix Spike Dup (BFF0081-MSD1)		Source: 2206012-01			Prepared & Analyzed: 06/03/22					
Benzene	0.137	0.0020	mg/kg	0.125	ND	110	70-130	1.39	30	
Toluene	0.0943	0.0050	"	0.125	ND	75.4	70-130	0.0954	30	
Ethylbenzene	0.156	0.0050	"	0.125	ND	124	70-130	2.16	30	
m,p-Xylene	0.278	0.010	"	0.250	ND	111	70-130	3.14	30	
o-Xylene	0.133	0.0050	"	0.125	ND	106	70-130	0.634	30	
1,2,4-Trimethylbenzene	0.158	0.0050	"	0.125	ND	126	70-130	2.39	30	
1,3,5-Trimethylbenzene	0.160	0.0050	"	0.125	ND	128	70-130	3.69	30	
Naphthalene	0.159	0.0038	"	0.125	ND	128	70-130	4.56	30	
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		97.9	50-150			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		93.0	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFF0083 - EPA 3550A

Blank (BFF0083-BLK1)

Prepared & Analyzed: 06/03/22

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

LCS (BFF0083-BS1)

Prepared & Analyzed: 06/03/22

C10-C28 (DRO)	560	50	mg/kg	500	112	70-130
---------------	-----	----	-------	-----	-----	--------

Matrix Spike (BFF0083-MS1)

Source: 2206012-01

Prepared & Analyzed: 06/03/22

C10-C28 (DRO)	537	50	mg/kg	500	29.0	102	70-130
---------------	-----	----	-------	-----	------	-----	--------

Matrix Spike Dup (BFF0083-MSD1)

Source: 2206012-01

Prepared & Analyzed: 06/03/22

C10-C28 (DRO)	539	50	mg/kg	500	29.0	102	70-130	0.319	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0235 - EPA 5030 Soil MS

Blank (BFF0235-BLK1)

Prepared: 06/09/22 Analyzed: 06/12/22

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	0.0325		"	0.0333		97.5	40-150			
Surrogate: Fluoranthene-d10	0.0298		"	0.0333		89.5	40-150			

LCS (BFF0235-BS1)

Prepared: 06/09/22 Analyzed: 06/12/22

Acenaphthene	0.0306	0.00500	mg/kg	0.0333		91.9	31-137			
Anthracene	0.0324	0.00500	"	0.0333		97.2	30-120			
Benzo (a) anthracene	0.0281	0.00500	"	0.0333		84.2	30-120			
Benzo (a) pyrene	0.0302	0.00500	"	0.0333		90.6	30-120			
Benzo (b) fluoranthene	0.0310	0.00500	"	0.0333		93.1	30-120			
Benzo (k) fluoranthene	0.0353	0.00500	"	0.0333		106	30-120			
Chrysene	0.0307	0.00500	"	0.0333		92.1	30-120			
Dibenz (a,h) anthracene	0.0272	0.00500	"	0.0333		81.5	30-120			
Fluoranthene	0.0312	0.00500	"	0.0333		93.7	30-120			
Fluorene	0.0297	0.00500	"	0.0333		89.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333		51.1	30-120			
Pyrene	0.0292	0.00500	"	0.0333		87.7	35-142			
1-Methylnaphthalene	0.0232	0.00500	"	0.0333		69.6	35-142			
2-Methylnaphthalene	0.0354	0.00500	"	0.0333		106	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0310		"	0.0333		92.9	40-150			
Surrogate: Fluoranthene-d10	0.0299		"	0.0333		89.6	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFF0235 - EPA 5030 Soil MS

Matrix Spike (BFF0235-MS1)

Source: 2206044-01

Prepared: 06/09/22 Analyzed: 06/12/22

Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.5	31-137		
Anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120		
Benzo (a) anthracene	0.0149	0.00500	"	0.0333	ND	44.8	30-120		
Benzo (a) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120		
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.0	30-120		
Benzo (k) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Chrysene	0.0160	0.00500	"	0.0333	ND	48.1	30-120		
Dibenz (a,h) anthracene	0.0165	0.00500	"	0.0333	ND	49.5	30-120		
Fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120		
Fluorene	0.0187	0.00500	"	0.0333	ND	56.1	30-120		
Indeno (1,2,3-cd) pyrene	0.0148	0.00500	"	0.0333	ND	44.3	30-120		
Pyrene	0.0178	0.00500	"	0.0333	ND	53.6	35-142		
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.5	15-130		
2-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	57.0	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0182		"	0.0333		54.5	40-150		
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.1	40-150		

Matrix Spike Dup (BFF0235-MSD1)

Source: 2206044-01

Prepared: 06/09/22 Analyzed: 06/12/22

Acenaphthene	0.0188	0.00500	mg/kg	0.0333	ND	56.5	31-137	5.33	30
Anthracene	0.0190	0.00500	"	0.0333	ND	56.9	30-120	12.5	30
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	14.2	30
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	30-120	16.3	30
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	13.7	30
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	11.1	30
Chrysene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	13.0	30
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	13.3	30
Fluoranthene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	8.13	30
Fluorene	0.0186	0.00500	"	0.0333	ND	55.7	30-120	0.708	30
Indeno (1,2,3-cd) pyrene	0.0136	0.00500	"	0.0333	ND	40.9	30-120	8.05	30
Pyrene	0.0192	0.00500	"	0.0333	ND	57.6	35-142	7.32	30
1-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.6	15-130	5.68	50
2-Methylnaphthalene	0.0217	0.00500	"	0.0333	ND	65.1	15-130	13.1	50
Surrogate: 2-Methylnaphthalene-d10	0.0199		"	0.0333		59.7	40-150		
Surrogate: Fluoranthene-d10	0.0188		"	0.0333		56.5	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0222 - EPA 3050B

Blank (BFF0222-BLK1)

Prepared: 06/08/22 Analyzed: 06/13/22

Boron ND 0.0100 mg/L

LCS (BFF0222-BS1)

Prepared: 06/08/22 Analyzed: 06/13/22

Boron 5.85 0.0100 mg/L 5.00 117 80-120

Duplicate (BFF0222-DUP1)

Source: 2206044-01

Prepared: 06/08/22 Analyzed: 06/13/22

Boron 0.415 0.0100 mg/L 0.415 0.0875 20

Matrix Spike (BFF0222-MS1)

Source: 2206044-01

Prepared: 06/08/22 Analyzed: 06/13/22

Boron 6.04 0.0100 mg/L 5.00 0.415 112 75-125

Matrix Spike Dup (BFF0222-MSD1)

Source: 2206044-01

Prepared: 06/08/22 Analyzed: 06/13/22

Boron 6.09 0.0100 mg/L 5.00 0.415 114 75-125 0.928 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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFF0425 - EPA 3050B

Blank (BFF0425-BLK1)

Prepared: 06/15/22 Analyzed: 06/16/22

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 (BFF0425-BS1)

Prepared: 06/15/22 Analyzed: 06/16/22

Arsenic	47.9	0.200	mg/kg wet	40.0	120	80-120
Barium	44.4	0.400	"	40.0	111	80-120
Cadmium	2.12	0.200	"	2.00	106	80-120
Copper	47.5	0.400	"	40.0	119	80-120
Lead	19.6	0.200	"	20.0	98.2	80-120
Nickel	46.2	0.400	"	40.0	116	80-120
Selenium	3.95	0.260	"	4.00	98.7	80-120
Silver	2.08	0.0200	"	2.00	104	80-120
Zinc	44.6	0.400	"	40.0	111	80-120

Duplicate (BFF0425-DUP1)

Source: 2206059-01

Prepared: 06/15/22 Analyzed: 06/16/22

Arsenic	2.97	0.236	mg/kg dry	3.37	12.5	20
Barium	112	0.473	"	94.2	16.9	20
Cadmium	0.147	0.236	"	0.161	9.20	20
Copper	6.88	0.473	"	7.99	15.0	20
Lead	5.37	0.236	"	5.32	1.04	20
Nickel	8.41	0.473	"	9.18	8.79	20
Selenium	0.496	0.307	"	0.530	6.72	20
Silver	0.0282	0.0236	"	0.0314	10.9	20
Zinc	23.8	0.473	"	27.8	15.6	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0425 - EPA 3050B

Matrix Spike (BFF0425-MS1)		Source: 2206059-01			Prepared: 06/15/22 Analyzed: 06/16/22						
Arsenic	57.6	0.236	mg/kg dry	47.3	3.37	115	75-125				
Barium	191	0.473	"	47.3	94.2	205	75-125				QM-02
Cadmium	2.66	0.236	"	2.36	0.161	106	75-125				
Copper	64.3	0.473	"	47.3	7.99	119	75-125				
Lead	26.5	0.236	"	23.6	5.32	89.8	75-125				
Nickel	63.8	0.473	"	47.3	9.18	115	75-125				
Selenium	4.33	0.307	"	4.73	0.530	80.5	75-125				
Silver	2.41	0.0236	"	2.36	0.0314	101	75-125				
Zinc	87.7	0.473	"	47.3	27.8	127	75-125				QM-05

Matrix Spike Dup (BFF0425-MSD1)		Source: 2206059-01			Prepared: 06/15/22 Analyzed: 06/16/22						
Arsenic	57.5	0.236	mg/kg dry	47.3	3.37	114	75-125	0.196	25		
Barium	204	0.473	"	47.3	94.2	232	75-125	6.55	25		QM-02
Cadmium	2.62	0.236	"	2.36	0.161	104	75-125	1.84	25		
Copper	62.0	0.473	"	47.3	7.99	114	75-125	3.77	25		
Lead	27.3	0.236	"	23.6	5.32	92.8	75-125	2.66	25		
Nickel	62.3	0.473	"	47.3	9.18	112	75-125	2.41	25		
Selenium	4.41	0.307	"	4.73	0.530	82.0	75-125	1.65	25		
Silver	2.39	0.0236	"	2.36	0.0314	99.7	75-125	1.08	25		
Zinc	86.8	0.473	"	47.3	27.8	125	75-125	0.997	25		

Batch BFF0763 - EPA 3050B

Blank (BFF0763-BLK1)		Prepared: 06/29/22 Analyzed: 07/02/22									
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	"								

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0763 - EPA 3050B

LCS (BFF0763-BS1)

Prepared: 06/29/22 Analyzed: 07/02/22

Arsenic	45.2	0.200	mg/kg wet	40.0		113	80-120			
Barium	44.0	0.400	"	40.0		110	80-120			
Cadmium	2.20	0.200	"	2.00		110	80-120			
Copper	44.6	0.400	"	40.0		112	80-120			
Lead	20.0	0.200	"	20.0		99.8	80-120			
Nickel	43.4	0.400	"	40.0		109	80-120			
Selenium	4.24	0.260	"	4.00		106	80-120			
Silver	2.16	0.0200	"	2.00		108	80-120			
Zinc	45.8	0.400	"	40.0		115	80-120			

Duplicate (BFF0763-DUP1)

Source: 2206059-09

Prepared: 06/29/22 Analyzed: 07/02/22

Arsenic	2.62	0.223	mg/kg dry		2.99			12.9	20	
Barium	25.5	0.445	"		34.3			29.4	20	QM-02
Cadmium	0.106	0.223	"		0.120			12.3	20	
Copper	4.64	0.445	"		5.03			8.21	20	
Lead	3.57	0.223	"		3.55			0.464	20	
Nickel	4.71	0.445	"		5.60			17.2	20	
Selenium	0.430	0.289	"		0.470			8.99	20	
Silver	0.0159	0.0223	"		0.0164			2.98	20	
Zinc	17.0	0.445	"		17.3			1.60	20	

Matrix Spike (BFF0763-MS1)

Source: 2206059-09

Prepared: 06/29/22 Analyzed: 07/02/22

Arsenic	47.6	0.223	mg/kg dry	44.5	2.99	100	75-125			
Barium	123	0.445	"	44.5	34.3	200	75-125			QM-02
Cadmium	2.57	0.223	"	2.23	0.120	110	75-125			
Copper	51.2	0.445	"	44.5	5.03	104	75-125			
Lead	25.3	0.223	"	22.3	3.55	97.6	75-125			
Nickel	53.1	0.445	"	44.5	5.60	107	75-125			
Selenium	4.36	0.289	"	4.45	0.470	87.4	75-125			
Silver	2.29	0.0223	"	2.23	0.0164	102	75-125			
Zinc	65.5	0.445	"	44.5	17.3	108	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.



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

Project: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0763 - EPA 3050B

Matrix Spike Dup (BFF0763-MSD1)

Source: 2206059-09

Prepared: 06/29/22 Analyzed: 07/02/22

Arsenic	47.6	0.223	mg/kg dry	44.5	2.99	100	75-125	0.0117	25	QM-05
Barium	68.9	0.445	"	44.5	34.3	77.9	75-125	56.6	25	
Cadmium	2.42	0.223	"	2.23	0.120	103	75-125	6.13	25	
Copper	48.0	0.445	"	44.5	5.03	96.5	75-125	6.51	25	
Lead	23.7	0.223	"	22.3	3.55	90.5	75-125	6.51	25	
Nickel	48.8	0.445	"	44.5	5.60	97.0	75-125	8.50	25	
Selenium	4.20	0.289	"	4.45	0.470	83.7	75-125	3.83	25	
Silver	2.24	0.0223	"	2.23	0.0164	99.8	75-125	2.46	25	
Zinc	61.4	0.445	"	44.5	17.3	99.2	75-125	6.43	25	

Batch BFF0795 - EPA 3050B

Blank (BFF0795-BLK1)

Prepared: 06/30/22 Analyzed: 07/02/22

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 (BFF0795-BS1)

Prepared: 06/30/22 Analyzed: 07/02/22

Arsenic	46.4	0.200	mg/kg wet	40.0	116	80-120
Barium	44.3	0.400	"	40.0	111	80-120
Cadmium	2.24	0.200	"	2.00	112	80-120
Copper	43.8	0.400	"	40.0	109	80-120
Lead	21.2	0.200	"	20.0	106	80-120
Nickel	43.4	0.400	"	40.0	108	80-120
Selenium	4.60	0.260	"	4.00	115	80-120
Silver	2.20	0.0200	"	2.00	110	80-120
Zinc	47.2	0.400	"	40.0	118	80-120

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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0795 - EPA 3050B

Duplicate (BFF0795-DUP1)		Source: 2206059-06			Prepared: 06/30/22 Analyzed: 07/02/22						
Arsenic	2.35	0.220	mg/kg dry		2.46			4.54	20		
Barium	102	0.440	"		289			95.4	20		QM-02
Cadmium	0.131	0.220	"		0.143			8.25	20		
Copper	4.08	0.440	"		4.34			6.20	20		
Lead	4.66	0.220	"		4.70			0.806	20		
Nickel	5.29	0.440	"		5.34			0.898	20		
Selenium	0.468	0.286	"		0.590			23.0	20		QR-03
Silver	0.0235	0.0220	"		0.0276			15.7	20		
Zinc	20.0	0.440	"		20.7			3.83	20		

Matrix Spike (BFF0795-MS1)		Source: 2206059-06			Prepared: 06/30/22 Analyzed: 07/02/22						
Arsenic	47.2	0.220	mg/kg dry	44.0	2.46	102	75-125				
Barium	151	0.440	"	44.0	289	NR	75-125				QM-02
Cadmium	2.46	0.220	"	2.20	0.143	106	75-125				
Copper	46.7	0.440	"	44.0	4.34	96.4	75-125				
Lead	25.7	0.220	"	22.0	4.70	95.5	75-125				
Nickel	49.0	0.440	"	44.0	5.34	99.3	75-125				
Selenium	4.30	0.286	"	4.40	0.590	84.4	75-125				
Silver	2.21	0.0220	"	2.20	0.0276	99.1	75-125				
Zinc	67.5	0.440	"	44.0	20.7	106	75-125				

Matrix Spike Dup (BFF0795-MSD1)		Source: 2206059-06			Prepared: 06/30/22 Analyzed: 07/02/22						
Arsenic	49.1	0.220	mg/kg dry	44.0	2.46	106	75-125	3.98	25		
Barium	246	0.440	"	44.0	289	NR	75-125	47.8	25		QM-02
Cadmium	2.56	0.220	"	2.20	0.143	110	75-125	3.84	25		
Copper	48.4	0.440	"	44.0	4.34	100	75-125	3.48	25		
Lead	26.6	0.220	"	22.0	4.70	99.5	75-125	3.33	25		
Nickel	50.3	0.440	"	44.0	5.34	102	75-125	2.48	25		
Selenium	4.57	0.286	"	4.40	0.590	90.4	75-125	6.00	25		
Silver	2.28	0.0220	"	2.20	0.0276	102	75-125	3.09	25		
Zinc	69.5	0.440	"	44.0	20.7	111	75-125	2.84	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0340 - 3060A Mod

Blank (BFF0340-BLK1)

Prepared & Analyzed: 06/13/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFF0340-BS1)

Prepared & Analyzed: 06/13/22

Chromium, Hexavalent 29.2 0.30 mg/kg wet 25.0 117 80-120

Duplicate (BFF0340-DUP1)

Source: 2206054-01

Prepared & Analyzed: 06/13/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFF0340-MS1)

Source: 2206054-01

Prepared & Analyzed: 06/13/22

Chromium, Hexavalent 32.3 0.30 mg/kg dry 26.5 ND 122 75-125

Matrix Spike Dup (BFF0340-MSD1)

Source: 2206054-01

Prepared & Analyzed: 06/13/22

Chromium, Hexavalent 31.4 0.30 mg/kg dry 26.5 ND 119 75-125 2.83 20

Batch BFG0029 - 3060A Mod

Blank (BFG0029-BLK1)

Prepared & Analyzed: 07/05/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFG0029-BS1)

Prepared & Analyzed: 07/05/22

Chromium, Hexavalent 28.3 0.30 mg/kg wet 25.0 113 80-120

Duplicate (BFG0029-DUP1)

Source: 2206059-06

Prepared & Analyzed: 07/05/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFG0029-MS1)

Source: 2206059-06

Prepared & Analyzed: 07/05/22

Chromium, Hexavalent 30.1 0.30 mg/kg dry 27.5 ND 110 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.



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

Project: Booth 7-26 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/05/22 14:21

Hexavalent Chromium by EPA Method 7196 - Quality Control

Summit Scientific

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

Batch BFG0029 - 3060A Mod

Matrix Spike Dup (BFG0029-MSD1)		Source: 2206059-06			Prepared & Analyzed: 07/05/22					
Chromium, Hexavalent	31.9	0.30	mg/kg dry	27.5	ND	116	75-125	5.85	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0323 - General Preparation

Blank (BFF0323-BLK1)

Prepared: 06/13/22 Analyzed: 06/15/22

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

LCS (BFF0323-BS1)

Prepared: 06/13/22 Analyzed: 06/15/22

Calcium	557	0.0500	mg/L wet	500	111	70-130
Magnesium	579	0.0500	"	500	116	70-130
Sodium	524	0.0500	"	500	105	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: Booth 7-26 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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

Summit Scientific

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

Batch BFF0223 - General Preparation

Duplicate (BFF0223-DUP1) **Source: 2206044-01** Prepared: 06/08/22 Analyzed: 06/09/22

% Solids	80.0		%		80.0			0.00	20
----------	------	--	---	--	------	--	--	------	----

Batch BFF0295 - General Preparation

Duplicate (BFF0295-DUP1) **Source: 2206017-01** Prepared & Analyzed: 06/10/22

% Solids	86.5		%		86.3			0.229	20
----------	------	--	---	--	------	--	--	-------	----

Batch BFF0788 - General Preparation

Duplicate (BFF0788-DUP1) **Source: 2206059-06** Prepared & Analyzed: 06/30/22

% Solids	90.1		%		90.9			0.912	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: Booth 7-26 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0325 - General Preparation

Blank (BFF0325-BLK1)

Prepared: 06/13/22 Analyzed: 06/14/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFF0325-BS1)

Prepared: 06/13/22 Analyzed: 06/14/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFF0325-DUP1)

Source: 2206059-01

Prepared: 06/13/22 Analyzed: 06/14/22

Specific Conductance (EC) 0.400 0.0100 mmhos/cm 0.422 5.42 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.



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

Project: Booth 7-26 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

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 BFF0326 - General Preparation

LCS (BFF0326-BS1)

Prepared: 06/13/22 Analyzed: 06/14/22

pH	9.25	pH Units	9.18	101	95-105
----	------	----------	------	-----	--------

Duplicate (BFF0326-DUP1)

Source: 2206059-01

Prepared: 06/13/22 Analyzed: 06/14/22

pH	8.55	pH Units	8.59	0.467	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: Booth 7-26 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/05/22 14:21

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
I-04	Sample was analyzed out of recommended holding time per clients request.
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