

TABLE 1
FORMER KERBS 1-20 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
CONTAMINANTS OF CONCERN

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)	Acenaphthen e (mg/kg)	Anthracene (mg/kg)	Fluorene (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)
Residential SSL^(1,2)			1.2	490	5.8	58	30	27	2	500	360	1,800	240	180	18	24	0.68	15,000	400	390
Protection of Groundwater SSL^(2,3,4)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	0.55	5.8	0.54	1.3	0.006	0.019	0.29	82	14	0.26
SS01 @ 4"	5/13/2021	4 ft. bgs	0.56	0.17	0.53	6.6	2.3	1.3	0.26	34	0.0336	0.0807	0.0406	0.00710	0.314	0.576	6.88	101	34.6	1.11
SS02 @ 13"	5/13/2021	13 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	310	<0.00500	<0.00500	<0.00500	0.00765	<0.00500	<0.00500	<0.200	13.7	1.46	0.275
SS03 @ 4"	6/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.514	46.3	4.02	0.491
SS04 @ 12"	6/23/2021	12 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.200	29.2	2.30	0.455
SS05 @ 4"	6/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.939	83.9	15.5	0.605
SS06 @ 12"	6/23/2021	12 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.244	22.1	2.66	0.279
SS07 @ 4"	6/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.20	126	8.77	0.742
SS08 @ 12"	6/23/2021	12 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.200	13.6	1.67	0.290
SS09 @ 4"	6/23/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	58	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	1.47	96.1	16.3	0.652
SS10 @ 12"	6/23/2021	12 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.200	14.4	2.20	<0.260

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.

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

Source material characterization sample

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard and above 1.25x background concentration.

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

TABLE 2
FORMER KERBS 1-20 WELLHEAD
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth	pH (units)	EC (mmhos/cm)	SAR (units)	Boron (mg/L)
Soil Suitability for Reclamation Standard ⁽¹⁾			6-8.3	<4	<6	2
SS01 @ 4'	5/13/2021	4 ft. bgs	9.08	0.902	0.722	0.976
SS11 @ 2.5'	6/23/2021	2.5 ft. bgs	7.98	0.359	0.739	0.115
BKG02 @ 4'	1/20/2022	4 ft. bgs	7.41	NA	NA	NA
BKG02 @ 12'	1/20/2022	12 ft. bgs	8.10	NA	NA	NA
BKG02 @ 13'	1/20/2022	13 ft. bgs	8.24	NA	NA	NA
BKG03 @ 4'	1/20/2022	4 ft. bgs	6.80	NA	NA	NA
BKG03 @ 12'	1/20/2022	12 ft. bgs	6.01	NA	NA	NA
BKG03 @ 13'	1/20/2022	13 ft. bgs	6.96	NA	NA	NA
BKG04 @ 4'	1/20/2022	4 ft. bgs	7.09	NA	NA	NA
BKG04 @ 12'	1/20/2022	12 ft. bgs	8.38	NA	NA	NA
BKG04 @ 13'	1/20/2022	13 ft. bgs	8.67	NA	NA	NA

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

NA = Not analyzed

TABLE 3
FORMER KERBS 1-20 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
SS01 @ 4'	5/13/2021	4 ft. bgs	0.0336	0.0807	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0406	<0.00500	0.00710	0.314	0.576

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.

TMB = Trimethylbenzene

PAHs = Polycyclic aromatic hydrocarbons

Benzo(a) = Benzantracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

M = Methylanththalene

mg/kg = Milligrams per kilogram

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 4
FORMER KERBS 1-20 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
SS01 @ 4'	5/13/2021	4 ft. bgs	6.88	101	<0.267	<0.30 ⁽⁴⁾	15.1	34.6	18.0	1.11	0.0581	76.5
SS02 @ 13'	5/13/2021	13 ft. bgs	<0.200	13.7	NA	NA	NA	1.46	NA	0.275	NA	NA
SS03 @ 4'	6/23/2021	4 ft. bgs	0.514	46.3	NA	NA	NA	4.02	NA	0.491	NA	NA
SS04 @ 12'	6/23/2021	12 ft. bgs	<0.200	29.2	NA	NA	NA	2.30	NA	0.455	NA	NA
SS05 @ 4'	6/23/2021	4 ft. bgs	0.939	83.9	NA	NA	NA	15.5	NA	0.605	NA	NA
SS06 @ 12'	6/23/2021	12 ft. bgs	0.244	22.1	NA	NA	NA	2.66	NA	0.279	NA	NA
SS07 @ 4'	6/23/2021	4 ft. bgs	1.20	126	NA	NA	NA	8.77	NA	0.742	NA	NA
SS08 @ 12'	6/23/2021	12 ft. bgs	<0.200	13.6	NA	NA	NA	1.67	NA	0.290	NA	NA
SS09 @ 4'	6/23/2021	4 ft. bgs	1.47	96.1	NA	NA	NA	16.3	NA	0.652	NA	NA
SS10 @ 12'	6/23/2021	12 ft. bgs	<0.200	14.4	NA	NA	NA	2.20	NA	<0.260	NA	NA
BKG01 @ 4'	6/23/2021	4 ft. bgs	1.14	68.7	<0.209	<0.30 ⁽⁴⁾	5.17	5.44	4.81	0.725	0.0425	23.1
BKG02 @ 4'	1/20/2022	4 ft. bgs	1.49	34.3	<0.157	<0.30 ⁽⁴⁾	2.92	3.22	2.92	1.54	<0.118	13.4
BKG02 @ 12'	1/20/2022	12 ft. bgs	0.990	22.3	<0.163	<0.30 ⁽⁴⁾	2.57	2.86	2.06	1.16	<0.122	10.1
BKG02 @ 13'	1/20/2022	13 ft. bgs	1.12	22.7	<0.159	<0.30 ⁽⁴⁾	2.46	2.67	1.86	1.10	<0.120	9.78
BKG03 @ 4'	1/20/2022	4 ft. bgs	2.00	43.9	<0.161	<0.30 ⁽⁴⁾	3.47	4.00	3.66	1.59	<0.121	14.2
BKG03 @ 12'	1/20/2022	12 ft. bgs	1.06	23.1	<0.164	<0.30 ⁽⁴⁾	2.25	5.23	1.42	1.10	<0.123	9.10
BKG03 @ 13'	1/20/2022	13 ft. bgs	1.21	22.8	<0.150	<0.30 ⁽⁴⁾	1.97	2.75	1.90	1.02	<0.113	9.66
BKG04 @ 4'	1/20/2022	4 ft. bgs	1.36	22.8	<0.170	<0.30 ⁽⁴⁾	2.12	2.89	2.10	1.14	<0.128	10.1
BKG04 @ 12'	1/20/2022	12 ft. bgs	2.05	55.3	<0.151	<0.30 ⁽⁴⁾	4.38	4.48	4.18	1.60	<0.113	21.9
BKG04 @ 13'	1/20/2022	13 ft. bgs	1.44	27.5	<0.158	<0.30 ⁽⁴⁾	2.99	3.63	2.23	1.30	<0.119	14.1

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = Milligrams per kilogram

Source material characterization sample

ft. = Feet

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

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

NA = Not analyzed

TABLE 5
FORMER KERBS 1-20 WELLHEAD
SOIL VAPOR SURVEY RESULTS SUMMARY TABLE

SVP ID	Date	Time	Depth	CH4 (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)
Ambient air	1/21/2022	12:27	NA	0.0	0.1	21.0	0	0
SVP01	1/21/2022	12:30	5 ft. bgs	0.0	4.6	16.5	0	0
SVP01	1/21/2022	12:32	5 ft. bgs	0.0	4.5	16.5	0	0
SVP01	1/21/2022	12:34	5 ft. bgs	0.0	4.6	16.6	0	0
SVP02	1/21/2022	12:37	5 ft. bgs	0.0	4.4	17.3	0	0
SVP02	1/21/2022	12:39	5 ft. bgs	0.0	4.2	17.5	0	0
SVP02	1/21/2022	12:41	5 ft. bgs	0.0	4.2	17.6	0	0
SVP03	1/21/2022	12:45	5 ft. bgs	0.0	1.3	19.3	0	0
SVP03	1/21/2022	12:47	5 ft. bgs	0.0	1.2	19.4	0	0
SVP03	1/21/2022	12:49	5 ft. bgs	0.0	1.2	19.4	0	0
SVP04	1/21/2022	12:52	5 ft. bgs	0.0	4.1	18.0	0	0
SVP04	1/21/2022	12:54	5 ft. bgs	0.0	4.1	18.0	0	0
SVP04	1/21/2022	12:56	5 ft. bgs	0.0	4.1	18.1	0	0
SVP05	1/21/2022	12:58	5 ft. bgs	0.0	3.8	18.2	0	0
SVP05	1/21/2022	13:00	5 ft. bgs	0.0	3.8	18.2	0	0
SVP05	1/21/2022	13:02	5 ft. bgs	0.0	3.8	18.2	0	0
Ambient air	1/21/2022	13:05	NA	0.0	0.1	22.1	0	0

Notes:

Sampling conducted a minimum of 24 hours after soil vapor point installation

Sampled at 1, 3, and 5 minutes per soil vapor point

Sampled using the LANDTEC GEM 5000

GEM 5000 automatically purges between readings

Ambient air readings are collected above ground surface at the first and last wells sampled

SVP = Soil vapor point

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

NA = Not applicable

TABLE 6
FORMER KERBS 1-20 WELLHEAD
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
SS01 @ 4'	5/13/2021	4 ft. bgs	40.301587	-104.805238	1.3	580.0
SS02 @ 13'	6/22/2021	13 ft. bgs	NC	NC	NC	130.1
FL01-01 @ 4'	6/22/2021	4 ft. bgs	40.301446	-104.804936	1.0	0.2
SS03 @ 4'	6/23/2021	4 ft. bgs	40.301552	-104.805234	1.0	1.3
SS04 @ 12'	6/23/2021	12 ft. bgs	40.301552	-104.805234	1.0	1.8
SS05 @ 4'	6/23/2021	4 ft. bgs	40.301573	-104.805201	1.0	4.7
SS06 @ 12'	6/23/2021	12 ft. bgs	40.301573	-104.805201	1.0	1.2
SS07 @ 4'	6/23/2021	4 ft. bgs	40.301605	-104.805223	1.0	3.6
SS08 @ 12'	6/23/2021	12 ft. bgs	40.301605	-104.805223	1.0	2.3
SS09 @ 4'	6/23/2021	4 ft. bgs	40.301582	-104.805263	1.1	1.2
SS10 @ 12'	6/23/2021	12 ft. bgs	40.301582	-104.805263	1.1	3.5
SS11 @ 2.5'	6/23/2021	2.5 ft. bgs	40.301552	-104.805234	1.0	0.7
SS12 @ 15'	6/23/2021	15 ft. bgs	NC	NC	NC	17.3
SS13 @ 14'	6/23/2021	14 ft. bgs	40.301552	-104.805234	1.0	0.7
SS14 @ 14'	6/23/2021	14 ft. bgs	40.301573	-104.805201	1.0	1.3
SS15 @ 14'	6/23/2021	14 ft. bgs	40.301605	-104.805223	1.0	0.6
SS16 @ 14'	6/23/2021	14 ft. bgs	40.301582	-104.805263	1.1	0.6
BKG01 @ 4'	6/23/2021	4 ft. bgs	40.301659	-104.805365	1.0	0.7
BKG02 @ 4'	1/20/2022	4 ft. bgs	40.301484	-104.805364	NC	0.0
BKG02 @ 12'	1/20/2022	12 ft. bgs	40.301484	-104.805364	NC	0.0
BKG02 @ 13'	1/20/2022	13 ft. bgs	40.301484	-104.805364	NC	0.0
BKG03 @ 4'	1/20/2022	4 ft. bgs	40.301622	-104.805367	NC	0.0
BKG03 @ 12'	1/20/2022	12 ft. bgs	40.301622	-104.805367	NC	0.0
BKG03 @ 13'	1/20/2022	13 ft. bgs	40.301622	-104.805367	NC	0.0
BKG04 @ 4'	1/20/2022	4 ft. bgs	40.301637	-104.805104	NC	0.0
BKG04 @ 12'	1/20/2022	12 ft. bgs	40.301637	-104.805104	NC	0.0
BKG04 @ 13'	1/20/2022	13 ft. bgs	40.301637	-104.805104	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

 = Source material characterization sample

ft. = Feet

bgs = Below ground surface

NC = Data not collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 20, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

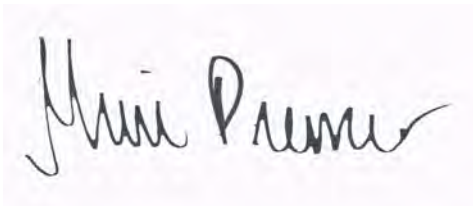
Denver, CO 80203

RE: Kerbs 1-20 Wellhead

Work Order #2105180

Enclosed are the results of analyses for samples received by Summit Scientific on 05/13/21 18:24. 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 Premer", is shown on a light pink background.

Muri Premer For Paul Shrewsbury
President



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@4'	2105180-01	Soil	05/13/21 16:54	05/13/21 18:24

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.

2105180

Summit Scientific

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: Kerbs 1-20 Wellhead
Sampler Name: Kevin Fletcher 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	GBTEXN - 8260B	TPH - (C6 - C36)	pH, EC, SAR 915	Boron - HWS 915	VOC - 915	PAH - 915	Metals - 915		
1	SS01@4'	5/13/21	1654	3			X			X				X	X	X	X	X	X	X	pH, EC, SAR by saturated paste
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: Kevin Fletcher	Date/Time: 5/13/21 1815	Received by: Tasman's Lock Box	Date/Time: 5/13/21 1815	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 5/13/21 1815	Received by: John Doe	Date/Time: 5/13/21 1815	Sample Integrity: 4	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order 2105180

Client: POL / Tasman Client Project ID: Kerbs 1-20 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>4</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

5/13/21
Date/Time



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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

SS01@4'
2105180-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.56	0.0020	mg/kg	1	BEE0240	05/13/21	05/14/21	EPA 8260B	
Toluene	0.17	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.53	0.0050	"	"	"	"	"	"	
Xylenes (total)	6.6	0.10	"	10	"	"	"	"	
1,2,4-Trimethylbenzene	2.3	0.050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	1.3	0.050	"	"	"	"	"	"	
Naphthalene	0.26	0.0038	"	1	"	"	"	"	
Gasoline Range Hydrocarbons	34	0.50	"	"	"	"	"	"	

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEE0241	"	05/13/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		116 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

SS01@4'
2105180-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0336	0.00500	mg/kg	1	BEE0273	05/17/21	05/18/21	EPA 8270D SIM	
Anthracene	0.0807	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	0.0406	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00710	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.314	0.0500	"	10	"	"	"	"	
2-Methylnaphthalene	0.576	0.0500	"	"	"	"	"	"	

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		71.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.976	0.0100	mg/L	1	BEE0254	05/14/21	05/15/21	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/13/21 16:54**

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

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

SS01@4'
2105180-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	6.88	0.267	mg/kg dry	1	BEE0288	05/17/21	05/18/21	EPA 6020B
Barium	101	0.533	"	"	"	"	"	"
Cadmium	ND	0.267	"	"	"	"	"	"
Copper	15.1	0.533	"	"	"	"	"	"
Lead	34.6	0.267	"	"	"	"	"	"
Nickel	18.0	0.533	"	"	"	"	"	"
Selenium	1.11	0.347	"	"	"	"	"	"
Silver	0.0581	0.0267	"	"	"	"	"	"
Zinc	76.5	0.533	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEE0261	05/14/21	05/17/21	EPA 7196A	

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

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.5	0.0667	mg/L dry	1	BEE0262	05/14/21	05/17/21	EPA 6020B	
Magnesium	4.02	0.0667	"	"	"	"	"	"	
Sodium	18.2	0.0667	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.722	0.00100	units	1	BEE0312	05/18/21	05/18/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/13/21 16:54**

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

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

SS01@4'
2105180-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	75.0	%	1	BEE0250	05/14/21	05/14/21	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.902	0.0100	mmhos/cm	1	BEE0286	05/17/21	05/17/21	EPA 120.1	

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

Date Sampled: **05/13/21 16:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.08		pH Units	1	BEE0287	05/17/21	05/17/21	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEE0240 - EPA 5030 Soil MS

Blank (BEE0240-BLK1)

Prepared: 05/13/21 Analyzed: 05/14/21

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	0.0320		"	0.0400		80.0	23-173			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0327		"	0.0400		81.8	21-167			

LCS (BEE0240-BS1)

Prepared: 05/13/21 Analyzed: 05/14/21

Benzene	0.0955	0.0020	mg/kg	0.100		95.5	70-130			
Toluene	0.107	0.0050	"	0.100		107	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.258	0.010	"	0.200		129	70-130			
o-Xylene	0.125	0.0050	"	0.100		125	70-130			
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100		124	70-130			
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100		121	70-130			
Naphthalene	0.121	0.0038	"	0.100		121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0323		"	0.0400		80.7	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0343		"	0.0400		85.6	21-167			

Matrix Spike (BEE0240-MS1)

Source: 2105176-01

Prepared: 05/13/21 Analyzed: 05/14/21

Benzene	0.0954	0.0020	mg/kg	0.100	ND	95.4	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
m,p-Xylene	0.236	0.010	"	0.200	ND	118	70-130			
o-Xylene	0.117	0.0050	"	0.100	ND	117	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
Naphthalene	0.124	0.0038	"	0.100	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.3	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0328		"	0.0400		82.0	21-167			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0240 - EPA 5030 Soil MS

Matrix Spike Dup (BEE0240-MSD1)

Source: 2105176-01

Prepared: 05/13/21 Analyzed: 05/14/21

Benzene	0.0929	0.0020	mg/kg	0.100	ND	92.9	70-130	2.58	30	
Toluene	0.0923	0.0050	"	0.100	ND	92.3	70-130	11.3	30	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	7.28	30	
m,p-Xylene	0.239	0.010	"	0.200	ND	120	70-130	1.39	30	
o-Xylene	0.111	0.0050	"	0.100	ND	111	70-130	5.37	30	
1,2,4-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	1.69	30	
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	0.695	30	
Naphthalene	0.121	0.0038	"	0.100	ND	121	70-130	2.20	30	
Surrogate: 1,2-Dichloroethane-d4	0.0359		"	0.0400		89.8	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0343		"	0.0400		85.7	21-167			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEE0241 - EPA 3550A

Blank (BEE0241-BLK1)

Prepared: 05/13/21 Analyzed: 05/14/21

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

LCS (BEE0241-BS1)

Prepared: 05/13/21 Analyzed: 05/14/21

C10-C28 (DRO)	434	50	mg/kg	500	86.8	70-130
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Matrix Spike (BEE0241-MS1)

Source: 2105176-01

Prepared: 05/13/21 Analyzed: 05/14/21

C10-C28 (DRO)	465	50	mg/kg	500	11.2	90.8	70-130
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Matrix Spike Dup (BEE0241-MSD1)

Source: 2105176-01

Prepared: 05/13/21 Analyzed: 05/14/21

C10-C28 (DRO)	454	50	mg/kg	500	11.2	88.6	70-130	2.44	20
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Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0273 - EPA 5030 Soil MS

Blank (BEE0273-BLK1)

Prepared & Analyzed: 05/17/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0276		"	0.0333		82.7	40-150			
Surrogate: Fluoranthene-d10	0.0272		"	0.0333		81.7	40-150			

LCS (BEE0273-BS1)

Prepared & Analyzed: 05/17/21

Acenaphthene	0.0300	0.00500	mg/kg	0.0333		89.9	31-137			
Anthracene	0.0295	0.00500	"	0.0333		88.4	30-120			
Benzo (a) anthracene	0.0285	0.00500	"	0.0333		85.4	30-120			
Benzo (a) pyrene	0.0321	0.00500	"	0.0333		96.4	30-120			
Benzo (b) fluoranthene	0.0350	0.00500	"	0.0333		105	30-120			
Benzo (k) fluoranthene	0.0335	0.00500	"	0.0333		101	30-120			
Chrysene	0.0288	0.00500	"	0.0333		86.3	30-120			
Dibenz (a,h) anthracene	0.0356	0.00500	"	0.0333		107	30-120			
Fluoranthene	0.0274	0.00500	"	0.0333		82.1	30-120			
Fluorene	0.0330	0.00500	"	0.0333		99.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0333	0.00500	"	0.0333		100	30-120			
Pyrene	0.0254	0.00500	"	0.0333		76.1	35-142			
1-Methylnaphthalene	0.0275	0.00500	"	0.0333		82.6	35-142			
2-Methylnaphthalene	0.0296	0.00500	"	0.0333		88.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0273		"	0.0333		82.0	40-150			
Surrogate: Fluoranthene-d10	0.0302		"	0.0333		90.5	40-150			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEE0273 - EPA 5030 Soil MS

Matrix Spike (BEE0273-MS1)

Source: 2105092-01

Prepared & Analyzed: 05/17/21

Acenaphthene	0.0309	0.00500	mg/kg	0.0333	ND	92.7	31-137		
Anthracene	0.0299	0.00500	"	0.0333	ND	89.6	30-120		
Benzo (a) anthracene	0.0284	0.00500	"	0.0333	ND	85.3	30-120		
Benzo (a) pyrene	0.0320	0.00500	"	0.0333	ND	96.1	30-120		
Benzo (b) fluoranthene	0.0353	0.00500	"	0.0333	ND	106	30-120		
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333	ND	103	30-120		
Chrysene	0.0291	0.00500	"	0.0333	ND	87.2	30-120		
Dibenz (a,h) anthracene	0.0356	0.00500	"	0.0333	ND	107	30-120		
Fluoranthene	0.0273	0.00500	"	0.0333	ND	82.0	30-120		
Fluorene	0.0341	0.00500	"	0.0333	ND	102	30-120		
Indeno (1,2,3-cd) pyrene	0.0336	0.00500	"	0.0333	ND	101	30-120		
Pyrene	0.0258	0.00500	"	0.0333	ND	77.5	35-142		
1-Methylnaphthalene	0.0282	0.00500	"	0.0333	ND	84.7	15-130		
2-Methylnaphthalene	0.0300	0.00500	"	0.0333	ND	90.0	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0256		"	0.0333		76.8	40-150		
Surrogate: Fluoranthene-d10	0.0271		"	0.0333		81.3	40-150		

Matrix Spike Dup (BEE0273-MSD1)

Source: 2105092-01

Prepared & Analyzed: 05/17/21

Acenaphthene	0.0315	0.00500	mg/kg	0.0333	ND	94.5	31-137	1.89	30
Anthracene	0.0303	0.00500	"	0.0333	ND	90.9	30-120	1.37	30
Benzo (a) anthracene	0.0293	0.00500	"	0.0333	ND	88.0	30-120	3.08	30
Benzo (a) pyrene	0.0327	0.00500	"	0.0333	ND	98.2	30-120	2.15	30
Benzo (b) fluoranthene	0.0359	0.00500	"	0.0333	ND	108	30-120	1.70	30
Benzo (k) fluoranthene	0.0347	0.00500	"	0.0333	ND	104	30-120	0.647	30
Chrysene	0.0296	0.00500	"	0.0333	ND	88.9	30-120	1.91	30
Dibenz (a,h) anthracene	0.0365	0.00500	"	0.0333	ND	110	30-120	2.45	30
Fluoranthene	0.0279	0.00500	"	0.0333	ND	83.7	30-120	1.99	30
Fluorene	0.0345	0.00500	"	0.0333	ND	103	30-120	1.16	30
Indeno (1,2,3-cd) pyrene	0.0342	0.00500	"	0.0333	ND	102	30-120	1.60	30
Pyrene	0.0264	0.00500	"	0.0333	ND	79.2	35-142	2.17	30
1-Methylnaphthalene	0.0290	0.00500	"	0.0333	ND	86.9	15-130	2.59	50
2-Methylnaphthalene	0.0318	0.00500	"	0.0333	ND	95.4	15-130	5.82	50
Surrogate: 2-Methylnaphthalene-d10	0.0269		"	0.0333		80.7	40-150		
Surrogate: Fluoranthene-d10	0.0295		"	0.0333		88.5	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0254 - EPA 3050B

Blank (BEE0254-BLK1)

Prepared: 05/14/21 Analyzed: 05/15/21

Boron ND 0.0100 mg/L

LCS (BEE0254-BS1)

Prepared: 05/14/21 Analyzed: 05/15/21

Boron 5.21 0.0100 mg/L 5.00 104 80-120

Duplicate (BEE0254-DUP1)

Source: 2105149-01

Prepared: 05/14/21 Analyzed: 05/15/21

Boron 0.492 0.0100 mg/L 0.464 5.81 20

Matrix Spike (BEE0254-MS1)

Source: 2105149-01

Prepared: 05/14/21 Analyzed: 05/15/21

Boron 6.42 0.0100 mg/L 5.00 0.464 119 75-125

Matrix Spike Dup (BEE0254-MSD1)

Source: 2105149-01

Prepared: 05/14/21 Analyzed: 05/15/21

Boron 6.74 0.0100 mg/L 5.00 0.464 125 75-125 4.77 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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0288 - EPA 3050B

Blank (BEE0288-BLK1)

Prepared: 05/17/21 Analyzed: 05/18/21

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

LCS (BEE0288-BS1)

Prepared: 05/17/21 Analyzed: 05/18/21

Arsenic	34.7	0.200	mg/kg wet	40.0	86.8	80-120
Barium	33.1	0.400	"	40.0	82.6	80-120
Cadmium	1.65	0.200	"	2.00	82.7	80-120
Copper	32.9	0.400	"	40.0	82.2	80-120
Lead	16.6	0.200	"	20.0	83.1	80-120
Nickel	35.8	0.400	"	40.0	89.5	80-120
Selenium	3.27	0.260	"	4.00	81.8	80-120
Silver	1.63	0.0200	"	2.00	81.3	80-120
Zinc	34.7	0.400	"	40.0	86.8	80-120

Duplicate (BEE0288-DUP1)

Source: 2105149-01

Prepared: 05/17/21 Analyzed: 05/18/21

Arsenic	1.52	0.245	mg/kg dry	1.56	2.73	20
Barium	70.6	0.489	"	71.9	1.79	20
Cadmium	0.261	0.245	"	0.246	5.98	20
Copper	13.4	0.489	"	14.4	7.80	20
Lead	16.7	0.245	"	13.8	19.4	20
Nickel	5.23	0.489	"	4.69	10.9	20
Selenium	0.576	0.318	"	0.584	1.48	20
Silver	0.152	0.0245	"	0.130	15.3	20
Zinc	49.7	0.489	"	47.9	3.62	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0288 - EPA 3050B

Matrix Spike (BEE0288-MS1)		Source: 2105149-01			Prepared: 05/17/21		Analyzed: 05/18/21			
Arsenic	46.9	0.245	mg/kg dry	48.9	1.56	92.8	75-125			
Barium	127	0.489	"	48.9	71.9	112	75-125			
Cadmium	2.56	0.245	"	2.45	0.246	94.5	75-125			
Copper	60.1	0.489	"	48.9	14.4	93.4	75-125			
Lead	37.2	0.245	"	24.5	13.8	95.9	75-125			
Nickel	48.5	0.489	"	48.9	4.69	89.5	75-125			
Selenium	5.00	0.318	"	4.89	0.584	90.2	75-125			
Silver	2.39	0.0245	"	2.45	0.130	92.5	75-125			
Zinc	96.5	0.489	"	48.9	47.9	99.5	75-125			

Matrix Spike Dup (BEE0288-MSD1)		Source: 2105149-01			Prepared: 05/17/21		Analyzed: 05/18/21			
Arsenic	48.7	0.245	mg/kg dry	48.9	1.56	96.4	75-125	3.69	25	
Barium	129	0.489	"	48.9	71.9	117	75-125	2.06	25	
Cadmium	2.67	0.245	"	2.45	0.246	99.3	75-125	4.50	25	
Copper	63.5	0.489	"	48.9	14.4	100	75-125	5.50	25	
Lead	38.5	0.245	"	24.5	13.8	101	75-125	3.29	25	
Nickel	51.0	0.489	"	48.9	4.69	94.6	75-125	5.00	25	
Selenium	5.30	0.318	"	4.89	0.584	96.3	75-125	5.78	25	
Silver	2.49	0.0245	"	2.45	0.130	96.5	75-125	3.96	25	
Zinc	106	0.489	"	48.9	47.9	119	75-125	9.32	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0261 - 3060A Mod

Blank (BEE0261-BLK1)

Prepared: 05/14/21 Analyzed: 05/17/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEE0261-BS1)

Prepared: 05/14/21 Analyzed: 05/17/21

Chromium, Hexavalent 23.6 0.30 mg/kg wet 25.0 94.6 80-120

Duplicate (BEE0261-DUP1)

Source: 2105143-02

Prepared: 05/14/21 Analyzed: 05/17/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEE0261-MS1)

Source: 2105143-02

Prepared: 05/14/21 Analyzed: 05/17/21

Chromium, Hexavalent 25.8 0.30 mg/kg dry 27.4 ND 94.0 75-125

Matrix Spike Dup (BEE0261-MSD1)

Source: 2105143-02

Prepared: 05/14/21 Analyzed: 05/17/21

Chromium, Hexavalent 25.7 0.30 mg/kg dry 27.4 ND 93.8 75-125 0.213 20

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0262 - General Preparation

Blank (BEE0262-BLK1)

Prepared: 05/14/21 Analyzed: 05/17/21

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

LCS (BEE0262-BS1)

Prepared: 05/14/21 Analyzed: 05/17/21

Calcium	4.89	0.0500	mg/L wet	5.00	97.7	70-130
Magnesium	6.40	0.0500	"	5.00	128	70-130
Sodium	5.61	0.0500	"	5.00	112	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: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0250 - General Preparation

Duplicate (BEE0250-DUP1)

Source: 2105142-26

Prepared & Analyzed: 05/14/21

% Solids	83.8	%	84.0	0.229	20
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Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 BEE0286 - General Preparation

Blank (BEE0286-BLK1)

Prepared & Analyzed: 05/17/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEE0286-BS1)

Prepared & Analyzed: 05/17/21

Specific Conductance (EC) 0.163 0.0100 mmhos/cm 0.150 109 90-110

Duplicate (BEE0286-DUP1)

Source: 2105149-01

Prepared & Analyzed: 05/17/21

Specific Conductance (EC) 3.22 0.0100 mmhos/cm 3.24 0.775 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: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

05/20/21 17:28

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 BEE0287 - General Preparation

LCS (BEE0287-BS1)

Prepared & Analyzed: 05/17/21

pH	9.33	pH Units	9.21	101	95-105
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Duplicate (BEE0287-DUP1)

Source: 2105149-01

Prepared & Analyzed: 05/17/21

pH	8.34	pH Units	8.33	0.120	20
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Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
05/20/21 17:28

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 20, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

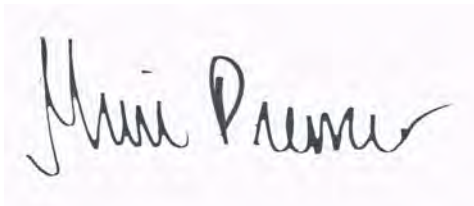
Denver, CO 80203

RE: Kerbs 1-20 Wellhead

Work Order #2106411

Enclosed are the results of analyses for samples received by Summit Scientific on 06/22/21 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02@13'	2106411-01	Soil	06/22/21 11:42	06/22/21 17:15

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.

Sample Receipt Checklist

S2 Work Order 2106411

Client: PDC / Tasman Client Project ID: Kerbs 1-20 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>4</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

6/22/21
Date/Time



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

SS02@13'
2106411-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEF0471	06/22/21	06/22/21	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: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		49.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		75.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		148 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	310	50	mg/kg	1	BEF0472	06/22/21	06/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

SS02@13'
2106411-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEF0497	06/23/21	06/24/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00765	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		73.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	13.7	0.400	"	"	"	"	"	"	
Lead	1.46	0.200	"	"	"	"	"	"	
Selenium	0.275	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/22/21 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.2		%	1	BEG0256	07/15/21	07/15/21	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: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEF0471 - EPA 5030 Soil MS

Blank (BEF0471-BLK1)

Prepared: 06/22/21 Analyzed: 06/23/21

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	0.0381		"	0.0400		95.2	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

LCS (BEF0471-BS1)

Prepared: 06/22/21 Analyzed: 06/23/21

Benzene	0.0798	0.0020	mg/kg	0.100		79.8	70-130			
Toluene	0.0851	0.0050	"	0.100		85.1	70-130			
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130			
m,p-Xylene	0.210	0.010	"	0.200		105	70-130			
o-Xylene	0.106	0.0050	"	0.100		106	70-130			
1,2,4-Trimethylbenzene	0.126	0.0050	"	0.100		126	70-130			
1,3,5-Trimethylbenzene	0.123	0.0050	"	0.100		123	70-130			
Naphthalene	0.102	0.0038	"	0.100		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0400		96.8	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	21-167			

Matrix Spike (BEF0471-MS1)

Source: 2106395-01

Prepared: 06/22/21 Analyzed: 06/23/21

Benzene	0.0803	0.0020	mg/kg	0.100	ND	80.3	70-130			
Toluene	0.0867	0.0050	"	0.100	ND	86.7	70-130			
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
m,p-Xylene	0.219	0.010	"	0.200	ND	109	70-130			
o-Xylene	0.110	0.0050	"	0.100	ND	110	70-130			
1,2,4-Trimethylbenzene	0.128	0.0050	"	0.100	ND	128	70-130			
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130			
Naphthalene	0.111	0.0038	"	0.100	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		96.9	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

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 BEF0471 - EPA 5030 Soil MS

Matrix Spike Dup (BEF0471-MSD1)		Source: 2106395-01			Prepared: 06/22/21 Analyzed: 06/23/21					
Benzene	0.0772	0.0020	mg/kg	0.100	ND	77.2	70-130	3.92	30	
Toluene	0.0818	0.0050	"	0.100	ND	81.8	70-130	5.88	30	
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	7.00	30	
m,p-Xylene	0.205	0.010	"	0.200	ND	103	70-130	6.39	30	
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	5.65	30	
1,2,4-Trimethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130	6.02	30	
1,3,5-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130	7.09	30	
Naphthalene	0.110	0.0038	"	0.100	ND	110	70-130	1.49	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

Summit Scientific

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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEF0472 - EPA 3550A

Blank (BEF0472-BLK1)

Prepared: 06/22/21 Analyzed: 06/23/21

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

LCS (BEF0472-BS1)

Prepared: 06/22/21 Analyzed: 06/23/21

C10-C28 (DRO)	454	50	mg/kg	500	90.8	70-130
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Matrix Spike (BEF0472-MS1)

Source: 2106395-01

Prepared: 06/22/21 Analyzed: 06/23/21

C10-C28 (DRO)	519	50	mg/kg	500	14.7	101	70-130
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Matrix Spike Dup (BEF0472-MSD1)

Source: 2106395-01

Prepared: 06/22/21 Analyzed: 06/23/21

C10-C28 (DRO)	484	50	mg/kg	500	14.7	94.0	70-130	6.84	20
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Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

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 BEF0497 - EPA 5030 Soil MS

Blank (BEF0497-BLK1)

Prepared: 06/23/21 Analyzed: 06/24/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Naphthalene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0245		"	0.0333		73.4	40-150			
Surrogate: Fluoranthene-d10	0.0266		"	0.0333		79.9	40-150			

LCS (BEF0497-BS1)

Prepared: 06/23/21 Analyzed: 06/24/21

Acenaphthene	0.0309	0.00500	mg/kg	0.0333		92.7	31-137			
Anthracene	0.0315	0.00500	"	0.0333		94.6	30-120			
Benzo (a) anthracene	0.0310	0.00500	"	0.0333		93.1	30-120			
Benzo (a) pyrene	0.0313	0.00500	"	0.0333		93.8	30-120			
Benzo (b) fluoranthene	0.0288	0.00500	"	0.0333		86.5	30-120			
Benzo (k) fluoranthene	0.0303	0.00500	"	0.0333		90.9	30-120			
Chrysene	0.0309	0.00500	"	0.0333		92.7	30-120			
Dibenz (a,h) anthracene	0.0307	0.00500	"	0.0333		92.1	30-120			
Fluoranthene	0.0279	0.00500	"	0.0333		83.8	30-120			
Fluorene	0.0316	0.00500	"	0.0333		94.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0311	0.00500	"	0.0333		93.4	30-120			
Naphthalene	0.0283	0.00500	"	0.0333		84.8	30-120			
Pyrene	0.0277	0.00500	"	0.0333		83.0	35-142			
1-Methylnaphthalene	0.0290	0.00500	"	0.0333		87.0	35-142			
2-Methylnaphthalene	0.0320	0.00500	"	0.0333		96.1	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0234		"	0.0333		70.2	40-150			
Surrogate: Fluoranthene-d10	0.0316		"	0.0333		94.9	40-150			

Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

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 BEF0497 - EPA 5030 Soil MS

Matrix Spike (BEF0497-MS1)

Source: 2106333-01

Prepared: 06/23/21 Analyzed: 06/24/21

Acenaphthene	0.0337	0.00500	mg/kg	0.0333	ND	101	31-137		
Anthracene	0.0333	0.00500	"	0.0333	ND	100	30-120		
Benzo (a) anthracene	0.0336	0.00500	"	0.0333	ND	101	30-120		
Benzo (a) pyrene	0.0341	0.00500	"	0.0333	ND	102	30-120		
Benzo (b) fluoranthene	0.0308	0.00500	"	0.0333	ND	92.5	30-120		
Benzo (k) fluoranthene	0.0325	0.00500	"	0.0333	ND	97.5	30-120		
Chrysene	0.0337	0.00500	"	0.0333	ND	101	30-120		
Dibenz (a,h) anthracene	0.0333	0.00500	"	0.0333	ND	100	30-120		
Fluoranthene	0.0307	0.00500	"	0.0333	ND	92.1	30-120		
Fluorene	0.0343	0.00500	"	0.0333	ND	103	30-120		
Indeno (1,2,3-cd) pyrene	0.0341	0.00500	"	0.0333	ND	102	30-120		
Naphthalene	0.0304	0.00500	"	0.0333	ND	91.3	30-120		
Pyrene	0.0292	0.00500	"	0.0333	ND	87.5	35-142		
1-Methylnaphthalene	0.0306	0.00500	"	0.0333	ND	91.8	15-130		
2-Methylnaphthalene	0.0345	0.00500	"	0.0333	ND	103	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0246		"	0.0333		73.7	40-150		
Surrogate: Fluoranthene-d10	0.0335		"	0.0333		100	40-150		

Matrix Spike Dup (BEF0497-MSD1)

Source: 2106333-01

Prepared: 06/23/21 Analyzed: 06/24/21

Acenaphthene	0.0327	0.00500	mg/kg	0.0333	ND	98.2	31-137	2.81	30
Anthracene	0.0330	0.00500	"	0.0333	ND	98.9	30-120	1.19	30
Benzo (a) anthracene	0.0313	0.00500	"	0.0333	ND	93.8	30-120	7.30	30
Benzo (a) pyrene	0.0321	0.00500	"	0.0333	ND	96.4	30-120	6.06	30
Benzo (b) fluoranthene	0.0319	0.00500	"	0.0333	ND	95.8	30-120	3.58	30
Benzo (k) fluoranthene	0.0312	0.00500	"	0.0333	ND	93.7	30-120	3.97	30
Chrysene	0.0318	0.00500	"	0.0333	ND	95.4	30-120	5.91	30
Dibenz (a,h) anthracene	0.0317	0.00500	"	0.0333	ND	95.0	30-120	5.15	30
Fluoranthene	0.0293	0.00500	"	0.0333	ND	87.9	30-120	4.70	30
Fluorene	0.0334	0.00500	"	0.0333	ND	100	30-120	2.73	30
Indeno (1,2,3-cd) pyrene	0.0320	0.00500	"	0.0333	ND	96.0	30-120	6.40	30
Naphthalene	0.0300	0.00500	"	0.0333	ND	89.9	30-120	1.55	30
Pyrene	0.0278	0.00500	"	0.0333	ND	83.3	35-142	4.95	30
1-Methylnaphthalene	0.0294	0.00500	"	0.0333	ND	88.1	15-130	4.21	50
2-Methylnaphthalene	0.0326	0.00500	"	0.0333	ND	97.8	15-130	5.60	50
Surrogate: 2-Methylnaphthalene-d10	0.0233		"	0.0333		69.9	40-150		
Surrogate: Fluoranthene-d10	0.0320		"	0.0333		95.9	40-150		

Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

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 BEG0254 - EPA 3050B

Blank (BEG0254-BLK1)

Prepared & Analyzed: 07/15/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Lead	ND	0.200	"
Selenium	ND	0.260	"

LCS (BEG0254-BS1)

Prepared & Analyzed: 07/15/21

Arsenic	40.9	0.200	mg/kg wet	40.0	102	80-120
Barium	40.0	0.400	"	40.0	99.9	80-120
Lead	19.7	0.200	"	20.0	98.7	80-120
Selenium	3.89	0.260	"	4.00	97.2	80-120

Duplicate (BEG0254-DUP1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	ND	0.200	mg/kg dry	ND			20
Barium	11.8	0.400	"	13.7		15.0	20
Lead	1.49	0.200	"	1.46		1.57	20
Selenium	ND	0.260	"	0.275			20

QR-01

Matrix Spike (BEG0254-MS1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	36.8	0.200	mg/kg dry	41.1	ND	89.4	75-125
Barium	49.1	0.400	"	41.1	13.7	86.2	75-125
Lead	18.2	0.200	"	20.6	1.46	81.5	75-125
Selenium	3.78	0.260	"	4.11	0.275	85.2	75-125

Matrix Spike Dup (BEG0254-MSD1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	38.0	0.200	mg/kg dry	41.1	ND	92.4	75-125	3.25	25
Barium	59.2	0.400	"	41.1	13.7	111	75-125	18.6	25
Lead	21.1	0.200	"	20.6	1.46	95.3	75-125	14.4	25
Selenium	4.73	0.260	"	4.11	0.275	108	75-125	22.4	25

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

07/20/21 10:18

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 BEG0256 - General Preparation

Duplicate (BEG0256-DUP1)

Source: 2106410-01

Prepared & Analyzed: 07/15/21

% Solids	79.1	%		78.3		1.06	20
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Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/20/21 10:18

Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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 16, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

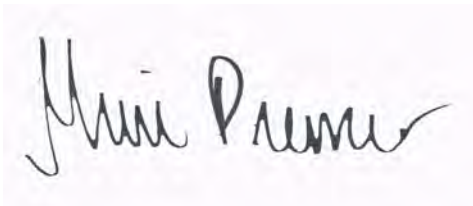
Denver, CO 80203

RE: Kerbs 1-20 Wellhead

Work Order #2106417

Enclosed are the results of analyses for samples received by Summit Scientific on 06/23/21 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer". The signature is written in a cursive style with a large, stylized "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03@4'	2106417-01	Soil	06/23/21 09:26	06/23/21 18:00
SS04@12'	2106417-02	Soil	06/23/21 09:30	06/23/21 18:00
SS05@4'	2106417-03	Soil	06/23/21 09:36	06/23/21 18:00
SS06@12'	2106417-04	Soil	06/23/21 09:40	06/23/21 18:00
SS07@4'	2106417-05	Soil	06/23/21 09:46	06/23/21 18:00
SS08@12'	2106417-06	Soil	06/23/21 09:50	06/23/21 18:00
SS09@4'	2106417-07	Soil	06/23/21 10:02	06/23/21 18:00
SS10@12'	2106417-08	Soil	06/23/21 10:06	06/23/21 18:00
SS11@2.5'	2106417-09	Soil	06/23/21 10:45	06/23/21 18:00
BKG01@4'	2106417-11	Soil	06/23/21 09:12	06/23/21 18:00

Summit Scientific

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

Summit Scientific

2106417.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: PDC / Tasman

Project Manager: Mark Longhurst

Address: 6855 W 119th Ave

E-Mail: mark.longhurst@PDCE.com

City/State/Zip: Broomfield/ CO/ 80020

Phone: 303-487-1228

Project Name: Kerbs 1-20 Wellhead

Sampler Name: Cody Miller

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	GBTEXN - 8260B ⁹¹⁵	TPH - (C6 - C36) ⁹¹⁵	pH, EC, SAR ⁹¹⁵	Boron - HWS ⁹¹⁵	VOC - 915	PAH - 915 CM	Metals - 915	7MB5 (134) (135) ⁹¹⁵	
1	SS03 @ 4'	6/23/21	0926	3			X			X				X	X			X	X	pH, EC, SAR by saturated paste PAH = Akenaphthene, Anthracene, Fluorene, Pyrene, 1 & 2 Methylanthracene Hold	
2	SS04 @ 12'		0930	3			X			X				X	X			X	X		
3	SS05 @ 4'		0936	3			X			X				X	X			X	X		
4	SS06 @ 12'		0940	3			X			X				X	X			X	X		
5	SS07 @ 4'		0946	3			X			X				X	X			X	X		
6	SS08 @ 12'		0950	3			X			X				X	X			X	X		
7	SS09 @ 4'		1002	3			X			X				X	X			X	X		
8	SS10 @ 12'		1006	3			X			X				X	X			X	X		
9	SS11 @ 2.5'		1045	1			X			X				X	X						
10	BKG01 @ 2.5'	↓	1052	1			X			X									X		
Relinquished by: Cody Miller		Date/Time: 6/23/21 1415		Received by: Tasman's Lock Box		Date/Time: 6/23/21 1415		Turn Around Time (Check)				Notes:									
								Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>													
								24 hours <input type="checkbox"/> Standard <input type="checkbox"/>													
Relinquished by: Tasman's Lock Box		Date/Time: 6/23/21 1800		Received by: [Signature]		Date/Time: 6/23/21 1800		48 hours <input type="checkbox"/>				Sample Integrity: 5									
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: 5													
								Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													

2106417.2

303-277-9310

Page 2 of 2

Project Manager: Mark Longhurst

E-Mail: mark.longhurst@PDCE.com

Phone: 303-487-1228

Project Name: Kerbs 1-20 Wellhead

Sampler Name: Cody Miller

Project Number:

Sample Name: <u>COY 5115</u>					Preservative				Matrix				Analysis Requested								Special Instructions						
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	⁹¹⁵ GBTEXN - 8260B	⁹¹⁵ TPH - (C6 - C36)	⁹¹⁵ pH, EC, SAR	⁹¹⁵ Boron - HWS	VOC - 915	PAH - 915	Metals - 915	^{714B, 913, 914, 915}	⁹¹⁵	pH, EC, SAR by saturated paste <u>Hold</u>					
1	BKG01 @ 4'	6/23/21	0912	1			X			X										X							
2	BKG01 @ 12'	↓	0924	1			X			X													X				
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
Relinquished by: <u>Cody Miller</u>		Date/Time: <u>6/23/21 1415</u>		Received by: <u>Tasman's Lock Box</u>		Date/Time: <u>6/23/21 1415</u>		Turn Around Time (Check)				Notes:															
Relinquished by: <u>Tasman's Lock Box</u>		Date/Time: <u>6/23/21 1800</u>		Received by: <u>[Signature]</u>		Date/Time: <u>6/23/21 1800</u>		Same Day <u>X</u>														72 hours <u> </u>					
								24 hours <u> </u>														Standard <u> </u>					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:																			
Temperature Upon Receipt: <u>5</u>																											
Samples Intact: <u>(Yes)</u>																											

Sample Receipt Checklist

S2 Work Order 2106417

Client: POC / Tasman Client Project ID: Kerbs 1-20 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)	5
-----------	---

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"/>	On ice.
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input 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"/>	Same day.
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input 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 of Custodian

6/23/21
Date/Time



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS03@4'
2106417-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS03@4'
2106417-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		68.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.514	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	46.3	0.400	"	"	"	"	"	"	
Lead	4.02	0.200	"	"	"	"	"	"	
Selenium	0.491	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS04@12'
2106417-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:30**

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

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS04@12'
2106417-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	29.2	0.400	"	"	"	"	"	"	
Lead	2.30	0.200	"	"	"	"	"	"	
Selenium	0.455	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS05@4'
2106417-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:36**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS05@4'
2106417-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.939	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	83.9	0.400	"	"	"	"	"	"	
Lead	15.5	0.200	"	"	"	"	"	"	
Selenium	0.605	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS06@12'
2106417-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS06@12'
2106417-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.244	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	22.1	0.400	"	"	"	"	"	"	
Lead	2.66	0.200	"	"	"	"	"	"	
Selenium	0.279	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BEG0256	07/15/21	07/15/21	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS07@4'
2106417-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:46**

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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS07@4'
2106417-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		64.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.20	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	126	0.400	"	"	"	"	"	"	
Lead	8.77	0.200	"	"	"	"	"	"	
Selenium	0.742	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.3		%	1	BEG0256	07/15/21	07/15/21	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS08@12'
2106417-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		112 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS08@12'
2106417-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	13.6	0.400	"	"	"	"	"	"	
Lead	1.67	0.200	"	"	"	"	"	"	
Selenium	0.290	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.6		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS09@4'
2106417-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	58	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS09@4'
2106417-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.47	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	96.1	0.400	"	"	"	"	"	"	
Lead	16.3	0.200	"	"	"	"	"	"	
Selenium	0.652	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 10:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS10@12'
2106417-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEF0498	06/23/21	06/23/21	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: **06/23/21 10:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEF0499	06/23/21	06/23/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		110 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS10@12'
2106417-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEG0109	07/07/21	07/11/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.200	mg/kg dry	1	BEG0254	07/15/21	07/15/21	EPA 6020B	
Barium	14.4	0.400	"	"	"	"	"	"	
Lead	2.20	0.200	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 10:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.5		%	1	BEG0256	07/15/21	07/15/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS11@2.5'
2106417-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.115	0.0100	mg/L	1	BEF0557	06/28/21	06/29/21	EPA 6020B	

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

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.0	0.0530	mg/L dry	1	BEF0562	06/28/21	06/29/21	EPA 6020B	
Magnesium	7.15	0.0530	"	"	"	"	"	"	
Sodium	16.5	0.0530	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.739	0.00100	units	1	BEG0046	07/02/21	07/02/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BEF0509	06/24/21	06/24/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.359	0.0100	mmhos/cm	1	BEF0578	06/29/21	06/29/21	EPA 120.1	

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

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

SS11@2.5'
2106417-09 (Soil)

Summit Scientific

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

Date Sampled: **06/23/21 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.98			pH Units	1	BEF0577	06/29/21	06/29/21	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

BKG01@4'
2106417-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **06/23/21 09:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.14	0.209	mg/kg dry	1	BEF0517	06/24/21	06/25/21	EPA 6020B	
Barium	68.7	0.418	"	"	"	"	"	"	
Cadmium	ND	0.209	"	"	"	"	"	"	
Copper	5.17	0.418	"	"	"	"	"	"	
Lead	5.44	0.209	"	"	"	"	"	"	
Nickel	4.81	0.418	"	"	"	"	"	"	
Selenium	0.725	0.272	"	"	"	"	"	"	
Silver	0.0425	0.0209	"	"	"	"	"	"	
Zinc	23.1	0.418	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/23/21 09:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEF0552	06/28/21	06/29/21	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/23/21 09:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	95.6		%	1	BEF0509	06/24/21	06/24/21	Calculation	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0498 - EPA 5030 Soil MS

Blank (BEF0498-BLK1)

Prepared & Analyzed: 06/23/21

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	0.0458	"	0.0400	114	23-173
Surrogate: Toluene-d8	0.0562	"	0.0400	140	20-170
Surrogate: 4-Bromofluorobenzene	0.0459	"	0.0400	115	21-167

LCS (BEF0498-BS1)

Prepared: 06/23/21 Analyzed: 06/24/21

Benzene	0.0882	0.0020	mg/kg	0.100	88.2	70-130
Toluene	0.0979	0.0050	"	0.100	97.9	70-130
Ethylbenzene	0.100	0.0050	"	0.100	100	70-130
m,p-Xylene	0.188	0.010	"	0.200	93.8	70-130
o-Xylene	0.0943	0.0050	"	0.100	94.3	70-130
1,2,4-Trimethylbenzene	0.0926	0.0050	"	0.100	92.6	70-130
1,3,5-Trimethylbenzene	0.0909	0.0050	"	0.100	90.9	70-130
Naphthalene	0.0833	0.0038	"	0.100	83.3	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0303	"	0.0400	75.7	23-173
Surrogate: Toluene-d8	0.0475	"	0.0400	119	20-170
Surrogate: 4-Bromofluorobenzene	0.0455	"	0.0400	114	21-167

Matrix Spike (BEF0498-MS1)

Source: 2106414-02

Prepared: 06/23/21 Analyzed: 06/24/21

Benzene	0.0909	0.0020	mg/kg	0.100	ND	90.9	70-130
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130
m,p-Xylene	0.185	0.010	"	0.200	ND	92.6	70-130
o-Xylene	0.0951	0.0050	"	0.100	ND	95.1	70-130
1,2,4-Trimethylbenzene	0.0908	0.0050	"	0.100	ND	90.8	70-130
1,3,5-Trimethylbenzene	0.0897	0.0050	"	0.100	ND	89.7	70-130
Naphthalene	0.0985	0.0038	"	0.100	ND	98.5	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0345	"	0.0400	86.3	23-173
Surrogate: Toluene-d8	0.0441	"	0.0400	110	20-170
Surrogate: 4-Bromofluorobenzene	0.0429	"	0.0400	107	21-167

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0498 - EPA 5030 Soil MS

Matrix Spike Dup (BEF0498-MSD1)		Source: 2106414-02			Prepared: 06/23/21 Analyzed: 06/24/21					
Benzene	0.0922	0.0020	mg/kg	0.100	ND	92.2	70-130	1.41	30	
Toluene	0.0926	0.0050	"	0.100	ND	92.6	70-130	1.48	30	
Ethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130	6.27	30	
m,p-Xylene	0.174	0.010	"	0.200	ND	87.1	70-130	6.13	30	
o-Xylene	0.0890	0.0050	"	0.100	ND	89.0	70-130	6.65	30	
1,2,4-Trimethylbenzene	0.0872	0.0050	"	0.100	ND	87.2	70-130	3.98	30	
1,3,5-Trimethylbenzene	0.0852	0.0050	"	0.100	ND	85.2	70-130	5.14	30	
Naphthalene	0.103	0.0038	"	0.100	ND	103	70-130	4.73	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		98.9	23-173			
Surrogate: Toluene-d8	0.0447		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	21-167			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEF0499 - EPA 3550A

Blank (BEF0499-BLK1)

Prepared & Analyzed: 06/23/21

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

LCS (BEF0499-BS1)

Prepared & Analyzed: 06/23/21

C10-C28 (DRO)	477	50	mg/kg	500	95.4	70-130
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Matrix Spike (BEF0499-MS1)

Source: 2106414-02

Prepared: 06/23/21 Analyzed: 06/24/21

C10-C28 (DRO)	499	50	mg/kg	500	20.5	95.7	70-130
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Matrix Spike Dup (BEF0499-MSD1)

Source: 2106414-02

Prepared: 06/23/21 Analyzed: 06/24/21

C10-C28 (DRO)	470	50	mg/kg	500	20.5	89.8	70-130	6.12	20
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Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEG0109 - EPA 5030 Soil MS

Blank (BEG0109-BLK1)

Prepared: 07/07/21 Analyzed: 07/11/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Naphthalene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0185		"	0.0333		55.5	40-150			
Surrogate: Fluoranthene-d10	0.0229		"	0.0333		68.7	40-150			

LCS (BEG0109-BS1)

Prepared: 07/07/21 Analyzed: 07/11/21

Acenaphthene	0.0270	0.00500	mg/kg	0.0333		81.1	31-137			
Anthracene	0.0261	0.00500	"	0.0333		78.3	30-120			
Benzo (a) anthracene	0.0261	0.00500	"	0.0333		78.4	30-120			
Benzo (a) pyrene	0.0258	0.00500	"	0.0333		77.3	30-120			
Benzo (b) fluoranthene	0.0289	0.00500	"	0.0333		86.6	30-120			
Benzo (k) fluoranthene	0.0400	0.00500	"	0.0333		120	30-120			
Chrysene	0.0255	0.00500	"	0.0333		76.5	30-120			
Dibenz (a,h) anthracene	0.0251	0.00500	"	0.0333		75.2	30-120			
Fluoranthene	0.0250	0.00500	"	0.0333		75.1	30-120			
Fluorene	0.0280	0.00500	"	0.0333		84.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0248	0.00500	"	0.0333		74.3	30-120			
Naphthalene	0.0278	0.00500	"	0.0333		83.4	30-120			
Pyrene	0.0323	0.00500	"	0.0333		96.8	35-142			
1-Methylnaphthalene	0.0260	0.00500	"	0.0333		78.0	35-142			
2-Methylnaphthalene	0.0225	0.00500	"	0.0333		67.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0257		"	0.0333		77.0	40-150			
Surrogate: Fluoranthene-d10	0.0268		"	0.0333		80.4	40-150			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEG0109 - EPA 5030 Soil MS

Matrix Spike (BEG0109-MS1)

Source: 2106417-01

Prepared: 07/07/21 Analyzed: 07/11/21

Acenaphthene	0.0254	0.00500	mg/kg	0.0333	ND	76.3	31-137			
Anthracene	0.0261	0.00500	"	0.0333	ND	78.3	30-120			
Benzo (a) anthracene	0.0258	0.00500	"	0.0333	ND	77.4	30-120			
Benzo (a) pyrene	0.0254	0.00500	"	0.0333	ND	76.3	30-120			
Benzo (b) fluoranthene	0.0285	0.00500	"	0.0333	ND	85.4	30-120			
Benzo (k) fluoranthene	0.0393	0.00500	"	0.0333	ND	118	30-120			
Chrysene	0.0251	0.00500	"	0.0333	ND	75.4	30-120			
Dibenz (a,h) anthracene	0.0248	0.00500	"	0.0333	ND	74.4	30-120			
Fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120			
Fluorene	0.0268	0.00500	"	0.0333	ND	80.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0245	0.00500	"	0.0333	ND	73.5	30-120			
Naphthalene	0.0263	0.00500	"	0.0333	ND	78.8	30-120			
Pyrene	0.0304	0.00500	"	0.0333	ND	91.1	35-142			
1-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.5	15-130			
2-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.4	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0248		"	0.0333		74.4	40-150			
Surrogate: Fluoranthene-d10	0.0263		"	0.0333		78.8	40-150			

Matrix Spike Dup (BEG0109-MSD1)

Source: 2106417-01

Prepared: 07/07/21 Analyzed: 07/11/21

Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.5	31-137	5.11	30	
Anthracene	0.0247	0.00500	"	0.0333	ND	74.0	30-120	5.66	30	
Benzo (a) anthracene	0.0240	0.00500	"	0.0333	ND	72.0	30-120	7.17	30	
Benzo (a) pyrene	0.0236	0.00500	"	0.0333	ND	70.7	30-120	7.63	30	
Benzo (b) fluoranthene	0.0242	0.00500	"	0.0333	ND	72.7	30-120	16.2	30	
Benzo (k) fluoranthene	0.0368	0.00500	"	0.0333	ND	111	30-120	6.50	30	
Chrysene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	7.87	30	
Dibenz (a,h) anthracene	0.0207	0.00500	"	0.0333	ND	62.2	30-120	17.9	30	
Fluoranthene	0.0233	0.00500	"	0.0333	ND	70.0	30-120	4.82	30	
Fluorene	0.0252	0.00500	"	0.0333	ND	75.5	30-120	6.09	30	
Indeno (1,2,3-cd) pyrene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	17.2	30	
Naphthalene	0.0242	0.00500	"	0.0333	ND	72.6	30-120	8.19	30	
Pyrene	0.0282	0.00500	"	0.0333	ND	84.7	35-142	7.24	30	
1-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.1	15-130	8.97	50	
2-Methylnaphthalene	0.0203	0.00500	"	0.0333	ND	61.0	15-130	8.42	50	
Surrogate: 2-Methylnaphthalene-d10	0.0239		"	0.0333		71.7	40-150			
Surrogate: Fluoranthene-d10	0.0248		"	0.0333		74.3	40-150			

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0557 - EPA 3050B

Blank (BEF0557-BLK1)

Prepared: 06/28/21 Analyzed: 06/29/21

Boron ND 0.0100 mg/L

LCS (BEF0557-BS1)

Prepared: 06/28/21 Analyzed: 06/29/21

Boron 5.06 0.0100 mg/L 5.00 101 80-120

Duplicate (BEF0557-DUP1)

Source: 2106378-01

Prepared: 06/28/21 Analyzed: 06/29/21

Boron 0.425 0.0100 mg/L 0.397 6.86 20

Matrix Spike (BEF0557-MS1)

Source: 2106378-01

Prepared: 06/28/21 Analyzed: 06/29/21

Boron 5.20 0.0100 mg/L 5.00 0.397 96.0 75-125

Matrix Spike Dup (BEF0557-MSD1)

Source: 2106378-01

Prepared: 06/28/21 Analyzed: 06/29/21

Boron 5.23 0.0100 mg/L 5.00 0.397 96.6 75-125 0.586 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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0517 - EPA 3050B

Blank (BEF0517-BLK1)

Prepared: 06/24/21 Analyzed: 06/25/21

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

LCS (BEF0517-BS1)

Prepared: 06/24/21 Analyzed: 06/25/21

Arsenic	33.1	0.200	mg/kg wet	40.0	82.6	80-120
Barium	33.9	0.400	"	40.0	84.9	80-120
Cadmium	1.75	0.200	"	2.00	87.7	80-120
Copper	34.6	0.400	"	40.0	86.4	80-120
Lead	16.4	0.200	"	20.0	81.9	80-120
Nickel	34.3	0.400	"	40.0	85.9	80-120
Selenium	3.54	0.260	"	4.00	88.5	80-120
Silver	1.77	0.0200	"	2.00	88.5	80-120
Zinc	34.9	0.400	"	40.0	87.2	80-120

Duplicate (BEF0517-DUP1)

Source: 2105184-01

Prepared: 06/24/21 Analyzed: 06/25/21

Arsenic	1.40	0.239	mg/kg dry	1.50	7.19	20
Barium	25.2	0.478	"	28.6	12.4	20
Cadmium	0.245	0.239	"	0.253	3.42	20
Copper	14.7	0.478	"	15.5	5.44	20
Lead	14.0	0.239	"	13.2	5.83	20
Nickel	8.86	0.478	"	9.48	6.81	20
Selenium	1.49	0.311	"	1.49	0.127	20
Silver	0.0981	0.0239	"	0.109	10.2	20
Zinc	52.5	0.478	"	53.4	1.69	20

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0517 - EPA 3050B

Matrix Spike (BEF0517-MS1)

Source: 2105184-01

Prepared: 06/24/21 Analyzed: 06/25/21

Arsenic	38.2	0.239	mg/kg dry	47.8	1.50	76.8	75-125
Barium	66.0	0.478	"	47.8	28.6	78.4	75-125
Cadmium	2.09	0.239	"	2.39	0.253	77.0	75-125
Copper	53.7	0.478	"	47.8	15.5	79.8	75-125
Lead	32.3	0.239	"	23.9	13.2	79.9	75-125
Nickel	47.7	0.478	"	47.8	9.48	80.0	75-125
Selenium	5.65	0.311	"	4.78	1.49	86.9	75-125
Silver	2.36	0.0239	"	2.39	0.109	94.2	75-125
Zinc	105	0.478	"	47.8	53.4	107	75-125

Matrix Spike Dup (BEF0517-MSD1)

Source: 2105184-01

Prepared: 06/24/21 Analyzed: 06/25/21

Arsenic	38.3	0.239	mg/kg dry	47.8	1.50	77.0	75-125	0.214	25
Barium	65.9	0.478	"	47.8	28.6	78.0	75-125	0.284	25
Cadmium	2.10	0.239	"	2.39	0.253	77.2	75-125	0.205	25
Copper	55.2	0.478	"	47.8	15.5	82.9	75-125	2.70	25
Lead	32.3	0.239	"	23.9	13.2	79.7	75-125	0.107	25
Nickel	47.8	0.478	"	47.8	9.48	80.1	75-125	0.0855	25
Selenium	5.96	0.311	"	4.78	1.49	93.4	75-125	5.32	25
Silver	1.97	0.0239	"	2.39	0.109	77.8	75-125	18.2	25
Zinc	98.7	0.478	"	47.8	53.4	94.7	75-125	5.95	25

Batch BEG0254 - EPA 3050B

Blank (BEG0254-BLK1)

Prepared & Analyzed: 07/15/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Lead	ND	0.200	"
Selenium	ND	0.260	"

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEG0254 - EPA 3050B

LCS (BEG0254-BS1)

Prepared & Analyzed: 07/15/21

Arsenic	40.9	0.200	mg/kg wet	40.0		102	80-120
Barium	40.0	0.400	"	40.0		99.9	80-120
Lead	19.7	0.200	"	20.0		98.7	80-120
Selenium	3.89	0.260	"	4.00		97.2	80-120

Duplicate (BEG0254-DUP1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	ND	0.200	mg/kg dry		ND			20	
Barium	11.8	0.400	"		13.7		15.0	20	
Lead	1.49	0.200	"		1.46		1.57	20	
Selenium	ND	0.260	"		0.275			20	QR-01

Matrix Spike (BEG0254-MS1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	36.8	0.200	mg/kg dry	41.1	ND	89.4	75-125
Barium	49.1	0.400	"	41.1	13.7	86.2	75-125
Lead	18.2	0.200	"	20.6	1.46	81.5	75-125
Selenium	3.78	0.260	"	4.11	0.275	85.2	75-125

Matrix Spike Dup (BEG0254-MSD1)

Source: 2106411-01

Prepared & Analyzed: 07/15/21

Arsenic	38.0	0.200	mg/kg dry	41.1	ND	92.4	75-125	3.25	25
Barium	59.2	0.400	"	41.1	13.7	111	75-125	18.6	25
Lead	21.1	0.200	"	20.6	1.46	95.3	75-125	14.4	25
Selenium	4.73	0.260	"	4.11	0.275	108	75-125	22.4	25

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0552 - 3060A Mod

Blank (BEF0552-BLK1)

Prepared: 06/28/21 Analyzed: 06/29/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEF0552-BS1)

Prepared: 06/28/21 Analyzed: 06/29/21

Chromium, Hexavalent 22.0 0.30 mg/kg wet 25.0 88.0 80-120

Duplicate (BEF0552-DUP1)

Source: 2106414-01

Prepared: 06/28/21 Analyzed: 06/29/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEF0552-MS1)

Source: 2106414-01

Prepared: 06/28/21 Analyzed: 06/29/21

Chromium, Hexavalent 22.1 0.30 mg/kg dry 25.4 ND 87.0 75-125

Matrix Spike Dup (BEF0552-MSD1)

Source: 2106414-01

Prepared: 06/28/21 Analyzed: 06/29/21

Chromium, Hexavalent 22.0 0.30 mg/kg dry 25.4 ND 86.4 75-125 0.692 20

Summit Scientific

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

Project: Kerbs 1-20 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0562 - General Preparation

Blank (BEF0562-BLK1)

Prepared: 06/28/21 Analyzed: 06/29/21

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

LCS (BEF0562-BS1)

Prepared: 06/28/21 Analyzed: 06/29/21

Calcium	5.02	0.0500	mg/L wet	5.00	100	70-130
Magnesium	5.67	0.0500	"	5.00	113	70-130
Sodium	5.08	0.0500	"	5.00	102	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: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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

Summit Scientific

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

Batch BEF0509 - General Preparation

Duplicate (BEF0509-DUP1)

Source: 2106346-01

Prepared & Analyzed: 06/24/21

% Solids	94.5	%		94.5		0.00	20
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Batch BEG0256 - General Preparation

Duplicate (BEG0256-DUP1)

Source: 2106410-01

Prepared & Analyzed: 07/15/21

% Solids	79.1	%		78.3		1.06	20
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Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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 BEF0578 - General Preparation

Blank (BEF0578-BLK1)

Prepared & Analyzed: 06/29/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEF0578-BS1)

Prepared & Analyzed: 06/29/21

Specific Conductance (EC) 0.142 0.0100 mmhos/cm 0.150 94.8 90-110

Duplicate (BEF0578-DUP1)

Source: 2106414-01

Prepared & Analyzed: 06/29/21

Specific Conductance (EC) 2.83 0.0100 mmhos/cm 2.82 0.248 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: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

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

Summit Scientific

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

Batch BEF0577 - General Preparation

LCS (BEF0577-BS1)

Prepared & Analyzed: 06/29/21

pH	9.28	pH Units	9.21	101	95-105
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Duplicate (BEF0577-DUP1)

Source: 2106414-01

Prepared & Analyzed: 06/29/21

pH	6.71	pH Units	6.71	0.00	20
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Summit Scientific

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



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/16/21 10:49

Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
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

March 01, 2022

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

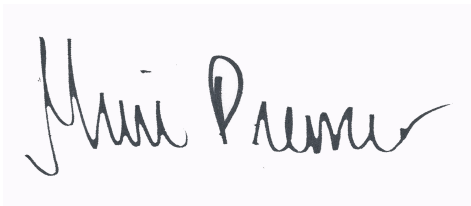
Denver, CO 80203

RE: Kerbs 1-20 Wellhead

Work Order #2201222

Enclosed are the results of analyses for samples received by Summit Scientific on 01/20/22 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer

Project Manager



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG02@4'	2201222-01	Soil	01/20/22 14:10	01/20/22 18:00
BKG02@12'	2201222-02	Soil	01/20/22 14:50	01/20/22 18:00
BKG02@13'	2201222-03	Soil	01/20/22 14:55	01/20/22 18:00
BKG03@4'	2201222-04	Soil	01/20/22 13:47	01/20/22 18:00
BKG03@12'	2201222-05	Soil	01/20/22 15:00	01/20/22 18:00
BKG03@13'	2201222-06	Soil	01/20/22 15:05	01/20/22 18:00
BKG04@4'	2201222-07	Soil	01/20/22 11:31	01/20/22 18:00
BKG04@12'	2201222-08	Soil	01/20/22 15:15	01/20/22 18:00
BKG04@13'	2201222-09	Soil	01/20/22 15:20	01/20/22 18:00

Summit Scientific

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Summit Scientific

2201222

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

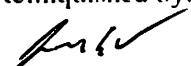
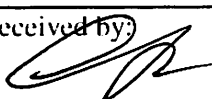
Phone: 303-487-1228

Project Name Karbs 1-20 wellhead

Sampler Name: Sam Anderson / Rob Acroft

Project Number:

Sample Name: BK602 / BK603 / BK604 / BK605					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	pH	Metals		pH, EC, SAR by saturated paste
1	BK602 e 4'	11/20/22	1410	1			X			X								X	X		
2	BK602 e 12'		1450	1			X			X								X	X		
3	BK602 e 13'		1455	1			X			X								X	X		
4	BK603 e 4'		1347	1			X			X								X	X		
5	BK603 e 12'		1500	1			X			X								X	X		
6	BK603 e 13'		1505	1			X			X								X	X		
7	BK604 e 4'		1131	1			X			X								X	X		
8	BK604 e 12'		1515	1			X			X								X	X		
9	BK604 e 13'	↓	1520	1			X			X								X	X		
10																					

Relinquished by: 	Date/Time: 11/20	Received by: Tasman's Lock Box	Date/Time: 11/20	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by: 	Date/Time: 11/20/22 18:00	Sample Integrity: <u>4/8</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>4/8</u> Samples Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>	

S₂

Sample Receipt Checklist

S2 Work Order# 2201222Client: PDC/Tasman Client Project ID: Kerbs 1-20 WellheadShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	4.8
-----------	-----

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

CS
Custodian Printed Name or Initials

1/20/22
Date/Time



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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG02@4'
2201222-01 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.41		pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG02@12'
2201222-02 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 14:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.10			pH Units	1	BFA0388	01/24/22	01/24/22	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: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG02@13'
2201222-03 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.24			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG03@4'
2201222-04 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 13:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 13:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	6.80			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG03@12'
2201222-05 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 15:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	6.01			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG03@13'
2201222-06 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 15:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	6.96			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG04@4'
2201222-07 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 11:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.09			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG04@12'
2201222-08 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 15:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.38			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

BKG04@13'
2201222-09 (Soil)

Summit Scientific

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/20/22 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFA0371	01/20/22	01/24/22	EPA 7196A	

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

Date Sampled: **01/20/22 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.67			pH Units	1	BFA0388	01/24/22	01/24/22	EPA 9045D	

Summit Scientific

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

Project: Kerbs 1-20 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

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 BFA0371 - 3060A_Mod

Blank (BFA0371-BLK1)

Prepared & Analyzed: 01/24/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFA0371-BS1)

Prepared & Analyzed: 01/24/22

Chromium, Hexavalent 24.0 0.30 mg/kg wet 25.0 96.0 80-120

Duplicate (BFA0371-DUP1)

Source: 2112323-13

Prepared & Analyzed: 01/24/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFA0371-MS1)

Source: 2112323-13

Prepared & Analyzed: 01/24/22

Chromium, Hexavalent 26.4 0.30 mg/kg dry 25.4 ND 104 75-125

Matrix Spike Dup (BFA0371-MSD1)

Source: 2112323-13

Prepared & Analyzed: 01/24/22

Chromium, Hexavalent 23.9 0.30 mg/kg dry 25.4 ND 94.0 75-125 10.1 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: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/01/22 14:19

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

Summit Scientific

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

Batch BFA0388 - General Preparation

LCS (BFA0388-BS1)

Prepared & Analyzed: 01/24/22

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

Duplicate (BFA0388-DUP1)

Source: 2201222-01

Prepared & Analyzed: 01/24/22

pH	7.45	pH Units	7.41	0.538	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.



Fremont
Analytical

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Summit Scientific
Paul Shrewsbury
4653 Table Mountain Dr
Golden, CO 80403

RE: 2201222
Work Order Number: 2201473

March 01, 2022

Attention Paul Shrewsbury:

Fremont Analytical, Inc. received 9 sample(s) on 1/28/2022 for the analyses presented in the following report.

pH by SM 4500H+B
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CC:
Muri Premer

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Revision v2

www.fremontanalytical.com

CLIENT: Summit Scientific
Project: 2201222
Work Order: 2201473

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2201473-001	BKG02@4'	01/20/2022 2:10 PM	01/28/2022 11:11 AM
2201473-001	BKG02@4'	01/20/2022 2:10 PM	01/28/2022 11:11 AM
2201473-002	BKG02@12'	01/20/2022 2:50 PM	01/28/2022 11:11 AM
2201473-002	BKG02@12'	01/20/2022 2:50 PM	01/28/2022 11:11 AM
2201473-003	BKG02@13'	01/20/2022 2:55 PM	01/28/2022 11:11 AM
2201473-003	BKG02@13'	01/20/2022 2:55 PM	01/28/2022 11:11 AM
2201473-004	BKG03@4'	01/20/2022 1:47 PM	01/28/2022 11:11 AM
2201473-004	BKG03@4'	01/20/2022 1:47 PM	01/28/2022 11:11 AM
2201473-005	BKG03@12'	01/20/2022 3:00 PM	01/28/2022 11:11 AM
2201473-005	BKG03@12'	01/20/2022 3:00 PM	01/28/2022 11:11 AM
2201473-006	BKG03@13'	01/20/2022 3:05 PM	01/28/2022 11:11 AM
2201473-006	BKG03@13'	01/20/2022 3:05 PM	01/28/2022 11:11 AM
2201473-007	BKG04@4'	01/20/2022 11:31 AM	01/28/2022 11:11 AM
2201473-007	BKG04@4'	01/20/2022 11:31 AM	01/28/2022 11:11 AM
2201473-008	BKG04@12'	01/20/2022 3:15 PM	01/28/2022 11:11 AM
2201473-008	BKG04@12'	01/20/2022 3:15 PM	01/28/2022 11:11 AM
2201473-009	BKG04@13'	01/20/2022 3:20 PM	01/28/2022 11:11 AM
2201473-009	BKG04@13'	01/20/2022 3:20 PM	01/28/2022 11:11 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: Summit Scientific**Project:** 2201222

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

3/1/2022: Revision 1 removes pH from report per client request.

3/28/2022: Revision 2 includes a correction to the metals data reported for "BKG03@13".

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 2:10:00 PM

Project: 2201222

Lab ID: 2201473-001

Matrix: Soil

Client Sample ID: BKG02@4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.49	0.0943		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Barium	34.3	0.472		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Cadmium	ND	0.157		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Copper	2.92	0.786		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Lead	3.22	0.157		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Nickel	2.92	0.393		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Selenium	1.54	0.157		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Silver	ND	0.118		mg/Kg-dry	1	2/9/2022 10:41:48 AM
Zinc	13.4	1.38		mg/Kg-dry	1	2/9/2022 10:41:48 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	4.34	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473

Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 2:50:00 PM

Project: 2201222

Lab ID: 2201473-002

Matrix: Soil

Client Sample ID: BKG02@12'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	0.990	0.0978		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Barium	22.3	0.489		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Cadmium	ND	0.163		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Copper	2.57	0.815		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Lead	2.86	0.163		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Nickel	2.06	0.407		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Selenium	1.16	0.163		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Silver	ND	0.122		mg/Kg-dry	1	2/9/2022 10:44:29 AM
Zinc	10.1	1.43		mg/Kg-dry	1	2/9/2022 10:44:29 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	1.79	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 2:55:00 PM

Project: 2201222

Lab ID: 2201473-003

Matrix: Soil

Client Sample ID: BKG02@13'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.12	0.0956		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Barium	22.7	0.478		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Cadmium	ND	0.159		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Copper	2.46	0.797		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Lead	2.67	0.159		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Nickel	1.86	0.398		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Selenium	1.10	0.159		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Silver	ND	0.120		mg/Kg-dry	1	2/9/2022 10:47:11 AM
Zinc	9.78	1.39		mg/Kg-dry	1	2/9/2022 10:47:11 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	1.97	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 1:47:00 PM

Project: 2201222

Lab ID: 2201473-004

Matrix: Soil

Client Sample ID: BKG03@4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	2.00	0.0968		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Barium	43.9	0.484		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Cadmium	ND	0.161		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Copper	3.47	0.807		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Lead	4.00	0.161		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Nickel	3.66	0.403		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Selenium	1.59	0.161		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Silver	ND	0.121		mg/Kg-dry	1	2/9/2022 10:49:52 AM
Zinc	14.2	1.41		mg/Kg-dry	1	2/9/2022 10:49:52 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	3.90	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 3:00:00 PM

Project: 2201222

Lab ID: 2201473-005

Matrix: Soil

Client Sample ID: BKG03@12'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.06	0.0983		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Barium	23.1	0.492		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Cadmium	ND	0.164		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Copper	2.25	0.819		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Lead	5.23	0.164		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Nickel	1.42	0.410		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Selenium	1.10	0.164		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Silver	ND	0.123		mg/Kg-dry	1	2/9/2022 10:58:53 AM
Zinc	9.10	1.43		mg/Kg-dry	1	2/9/2022 10:58:53 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	2.36	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 3:05:00 PM

Project: 2201222

Lab ID: 2201473-006

Matrix: Soil

Client Sample ID: BKG03@13'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.21	0.0903		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Barium	22.8	0.451	Q	mg/Kg-dry	1	2/8/2022 7:29:50 PM
Cadmium	ND	0.150		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Copper	1.97	0.752		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Lead	2.75	0.150		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Nickel	1.90	0.376		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Selenium	1.02	0.150		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Silver	ND	0.113		mg/Kg-dry	1	2/8/2022 7:29:50 PM
Zinc	9.66	1.32		mg/Kg-dry	1	2/8/2022 7:29:50 PM

NOTES:

Q - Associated calibration verification is above acceptance criteria. Result may be high-biased.

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	1.55	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473

Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 11:31:00 AM

Project: 2201222

Lab ID: 2201473-007

Matrix: Soil

Client Sample ID: BKG04@4'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.36	0.102		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Barium	22.8	0.511		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Cadmium	ND	0.170		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Copper	2.12	0.852		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Lead	2.89	0.170		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Nickel	2.10	0.426		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Selenium	1.14	0.170		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Silver	ND	0.128		mg/Kg-dry	1	2/9/2022 11:04:16 AM
Zinc	10.1	1.49		mg/Kg-dry	1	2/9/2022 11:04:16 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	7.54	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 3:15:00 PM

Project: 2201222

Lab ID: 2201473-008

Matrix: Soil

Client Sample ID: BKG04@12'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	2.05	0.0905		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Barium	55.3	0.452		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Cadmium	ND	0.151		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Copper	4.38	0.754		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Lead	4.48	0.151		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Nickel	4.18	0.377		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Selenium	1.60	0.151		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Silver	ND	0.113		mg/Kg-dry	1	2/9/2022 11:06:57 AM
Zinc	21.9	1.32		mg/Kg-dry	1	2/9/2022 11:06:57 AM

Sample Moisture (Percent Moisture)

Batch ID: R72967

Analyst: ALB

Percent Moisture	2.46	0.500		wt%	1	2/2/2022 12:33:38 PM
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Analytical Report

Work Order: 2201473
Date Reported: 3/1/2022

Client: Summit Scientific

Collection Date: 1/20/2022 3:20:00 PM

Project: 2201222

Lab ID: 2201473-009

Matrix: Soil

Client Sample ID: BKG04@13'

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Metals by EPA Method 6020B

Batch ID: 35292

Analyst: EH

Arsenic	1.44	0.0948		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Barium	27.5	0.474		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Cadmium	ND	0.158		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Copper	2.99	0.790		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Lead	3.63	0.158		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Nickel	2.23	0.395		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Selenium	1.30	0.158		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Silver	ND	0.119		mg/Kg-dry	1	2/9/2022 11:09:39 AM
Zinc	14.1	1.38		mg/Kg-dry	1	2/9/2022 11:09:39 AM

Sample Moisture (Percent Moisture)

Batch ID: R73003

Analyst: ALB

Percent Moisture	2.66	0.500		wt%	1	2/3/2022 10:52:36 AM
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Work Order: 2201473
CLIENT: Summit Scientific
Project: 2201222

QC SUMMARY REPORT

Total Metals by EPA Method 6020B

Sample ID: MB-35292		SampType: MBLK		Units: mg/Kg		Prep Date: 2/8/2022			RunNo: 73136		
Client ID: MBLKS		Batch ID: 35292					Analysis Date: 2/8/2022			SeqNo: 1493989	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	0.0968
Barium	ND	0.484
Cadmium	ND	0.161
Copper	ND	0.806
Lead	ND	0.161
Nickel	ND	0.403
Selenium	ND	0.161
Silver	ND	0.121
Zinc	ND	1.41

Sample ID: 2202135-002AMS		SampType: MS			Units: mg/Kg-dry		Prep Date: 2/8/2022			RunNo: 73136		
Client ID: BATCH		Batch ID: 35292			Analysis Date: 2/8/2022					SeqNo: 1493995		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Arsenic	84.5	0.176	73.30	3.479	111	75	125				
Barium	179	0.880	73.30	63.80	158	75	125				S
Cadmium	5.66	0.293	3.665	2.187	94.7	75	125				
Copper	127	1.47	73.30	37.52	122	75	125				
Lead	75.3	0.293	36.65	15.55	163	75	125				S
Nickel	98.6	0.733	73.30	2.839	131	75	125				S
Selenium	7.59	0.293	7.330	0	104	75	125				
Silver	3.93	0.220	3.665	0.1019	104	75	125				
Zinc	990	2.57	73.30	291.4	953	75	125				ES

NOTES:

S - Analyte concentration was too high for accurate spike recoveries (Ba, Pb, Zn).

S - Outlying spike recovery(ies) observed for Ni. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 2201473
CLIENT: Summit Scientific
Project: 2201222

QC SUMMARY REPORT

Total Metals by EPA Method 6020B

Sample ID: 2202135-002AMSD	SampType: MSD	Units: mg/Kg-dry				Prep Date: 2/8/2022			RunNo: 73136		
Client ID: BATCH	Batch ID: 35292	Analysis Date: 2/8/2022							SeqNo: 1493996		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	78.1	0.172	71.58	3.479	104	75	125	84.53	7.90	20	
Barium	163	0.859	71.58	63.80	138	75	125	179.4	9.76	20	S
Cadmium	5.63	0.286	3.579	2.187	96.2	75	125	5.659	0.522	20	
Copper	92.8	1.43	71.58	37.52	77.3	75	125	127.3	31.3	20	R
Lead	73.0	0.286	35.79	15.55	161	75	125	75.35	3.13	20	S
Nickel	72.2	0.716	71.58	2.839	96.9	75	125	98.61	30.9	20	R
Selenium	7.15	0.286	7.158	0	99.9	75	125	7.587	5.95	20	
Silver	3.78	0.215	3.579	0.1019	103	75	125	3.926	3.70	20	
Zinc	330	2.51	71.58	291.4	54.3	75	125	989.9	99.9	20	RS

NOTES:

S - Analyte concentration was too high for accurate spike recoveries (Ba, Pb, Zn).

R - High RPD observed.

Sample ID: LCS-35292	SampType: LCS	Units: mg/Kg				Prep Date: 2/8/2022			RunNo: 73136		
Client ID: LCSS	Batch ID: 35292	Analysis Date: 2/9/2022						SeqNo: 1494365			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.1	0.0952	39.68	0	96.1	80	120				
Barium	41.4	0.476	39.68	0	104	80	120				
Cadmium	1.91	0.159	1.984	0	96.5	80	120				
Copper	40.3	0.794	39.68	0	101	80	120				
Lead	20.6	0.159	19.84	0	104	80	120				
Nickel	39.7	0.397	39.68	0	99.9	80	120				
Selenium	4.10	0.159	3.968	0	103	80	120				
Silver	2.10	0.119	1.984	0	106	80	120				
Zinc	37.2	1.39	39.68	0	93.8	80	120				

Client Name: **SUMSCI**
 Logged by: **Clare Griggs**

Work Order Number: **2201473**
 Date Received: **1/28/2022 11:11:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
 2. How was the sample delivered? FedEx

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Present ☒
 6. Was an attempt made to cool the samples? Yes ☐ No ☒ NA ☐
 7. Were all items received at a temperature of >2°C to 6°C * Unknown prior to receipt. Yes ☐ No ☐ NA ☒
 8. Sample(s) in proper container(s)? Yes ☒ No ☐
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

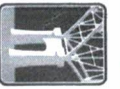
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Sample	9.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



Fremont
Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 01/25/22

Page: 1 of 1

Project Name: 2201222

Laboratory Project No (Internal): 2201473

Special Remarks:

Client: Summit Scientific

Address: 4653 Table Mountain Drive

City, State, Zip: Golden, CO. 80403

Telephone: 303-277-9310

Fax:

Project No:

Collected by:

Location:

Report To (PM):

PM Email:

mpremer@ss2scientific.com, pschremsbury@ss2scientific.com

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	PH	Metals	Comments
1 BK602 e 4'	1/20/22	1410	S	✓	✓	Metals: As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn
2 BK602 e 12'	1/20/22	1450	S	✓	✓	
3 BK602 e 13'	1/20/22	1455	S	✓	✓	
4 BK603 e 4'	1/20/22	1347	S	✓	✓	
5 BK603 e 12'	1/20/22	1500	S	✓	✓	
6 BK603 e 13'	1/20/22	1505	S	✓	✓	
7 BK604 e 4'	1/20/22	1131	S	✓	✓	
8 BK604 e 12'	1/20/22	1515	S	✓	✓	
9 BK604 e 13'	1/20/22	1520	S	✓	✓	
10						

Matrix: A = Air, AO = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water	Turn-around Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> Next Day <input type="checkbox"/> Same Day (specify)
---	---

**Metals (Circle):

Individual:

***Anions (Circle): ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Iod-Phosphate ☐ Fluoride ☐ Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished

Date/Time

Received

Date/Time

Shane Bahr

1/25/22

10:40

Received

1/28/22

1111

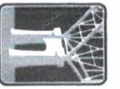
x

Date/Time

Received

Date/Time

Same Day (specify)



Fremont

Analytical

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 01/25/22 Page: 1 of 1

Project Name: 2201222

Laboratory Project No (Internal): 2201473
Special Remarks: Remove pH per M.P. 3/1/22 -BB

Client: Summit Scientific

Address: 4653 Table Mountain Drive

City, State, Zip: Golden, CO. 80403

Telephone: 303-277-9310

Fax:

Collected by:

Location:

Report To (PM):

PM Email:

mpremer@ss2scientific.com, pschremsbury@ss2scientific.com

Sample Disposal: ☐ Return to client ☒ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	PH	Metals	Comments
1 BK602 e 4'	1/20/22	1410	S	✓	✓	Metals: As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn
2 BK602 e 12'	1/20/22	1450	S	✓	✓	
3 BK602 e 13'	1/20/22	1455	S	✓	✓	
4 BK603 e 4'	1/20/22	1347	S	✓	✓	
5 BK603 e 12'	1/20/22	1500	S	✓	✓	
6 BK603 e 13'	1/20/22	1505	S	✓	✓	
7 BK604 e 4'	1/20/22	1131	S	✓	✓	
8 BK604 e 12'	1/20/22	1515	S	✓	✓	
9 BK604 e 13'	1/20/22	1520	S	✓	✓	
10						

Matrix: A = Air, AO = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water	Turn-around Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> Next Day <input type="checkbox"/> Same Day (specify)
---	---

**Metals (Circle):

Individual:

***Anions (Circle): ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Iod-Phosphate ☐ Fluoride ☐ Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x	1/25/22 10:40	x	1/28/22 1111
Relinquished	Date/Time	Received	Date/Time
x		x	



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

Project: Kerbs 1-20 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

03/01/22 14:19

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