

TABLE 1
FORMER OWL CREEK 7, 7-5 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽⁴⁾ (mg/kg)	1, 2, 4 -TMB (mg/kg)	Fluorene (mg/kg)	1-M (mg/kg)
Residential SSL ^(1,2)			1.2	490	5.8	58	2	500	30	240	18
Protection of Groundwater SSL ^(1,2,3)			0.0026	0.69	0.78	9.9	0.0038	500	0.0081	0.54	0.006
AST01 @ 0-6"	1/28/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.010	1,150	NA	NA	NA
SEP-DL01 @ 6'	1/28/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50	NA	NA	NA
SEP-FL01 @ 6'	1/28/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50	NA	NA	NA
PWV01-B @ 6'	1/28/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50	NA	NA	NA
PWV01-W @ 2.5'	1/28/2021	2.5 ft. bgs	<0.0020	<0.0050	0.011	<0.010	0.075	2,580	1.1	0.624	4.38
WDL01 @ 4'	1/28/2021	4 ft. bgs	0.040	<0.0050	0.0064	0.024	<0.010	3.7	NA	NA	NA
SS01 @ 7'	2/16/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS02 @ 3'	2/16/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS03 @ 5'	2/16/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS04 @ 3'	2/16/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS05 @ 5'	2/16/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS06 @ 3'	2/16/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS07 @ 5'	2/16/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS08 @ 7'	2/16/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS09 @ 3'	2/16/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS10 @ 5'	2/16/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS11 @ 3'	2/17/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS12 @ 5'	2/17/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS13 @ 3'	2/17/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS14 @ 5'	2/17/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS15 @ 7'	2/17/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS16 @ 7'	2/17/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS17 @ 3'	2/17/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	0.00526
SS18 @ 6'	2/17/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS19 @ 7'	2/17/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS20 @ 3'	2/17/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS21 @ 6'	2/17/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS22 @ 7'	2/17/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS23 @ 7'	2/18/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS24 @ 7'	2/18/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS25 @ 3'	2/18/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS26 @ 6'	2/18/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS27 @ 3'	2/18/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS28 @ 6'	2/18/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS29 @ 3'	2/18/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS30 @ 6'	2/18/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS31 @ 7'	2/18/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS32 @ 3'	2/18/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS33 @ 6'	2/18/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS34 @ 7'	2/18/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS35 @ 3'	2/18/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS36 @ 6'	2/18/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS37 @ 7'	2/19/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS38 @ 7'	2/19/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS39 @ 3'	2/19/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	0.0187	<0.00500
SS40 @ 6'	2/19/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS41 @ 7'	2/19/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS42 @ 3'	2/19/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS43 @ 6'	2/19/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS44 @ 7'	2/19/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS45 @ 3'	2/19/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS46 @ 6'	2/19/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS47 @ 3'	2/19/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS48 @ 6'	2/19/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS49 @ 7'	2/19/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500
SS50 @ 7.5'	2/22/2021	7.5 ft bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.0050	<0.00500	<0.00500

TABLE 1
FORMER OWL CREEK 7, 7-5 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Notes:

- 1. Compounds referenced from the COGCC 2 CCR 404-1, Table 915-1, effective January 15, 2021.
 - 2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
 - 3. SSLs are applicable if a pathway for communication with groundwater is present.
 - 4. Value calculated by adding TVPH-GRO, TEPH-DRO, and TEPH-ORO concentrations.
- COGCC = Colorado Oil and Gas Conservation Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
TVPH-GRO = Total volatile petroleum hydrocarbons - gasoline range organics
TEPH-DRO = Total extractable petroleum hydrocarbons - diesel range organics
TEPH-ORO = Total extactable petroleum hydrocarbons - oil range organics
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1-M = 1-methylnaphthalene
mg/kg = Milligrams per kilogram
ft. = Feet
in. = Inches
bgs = Below ground surface
NA= Constituent not analyzed
BOLD = Analytical result is in exceedance of applicable standard.

TABLE 2
FORMER OWL CREEK 7, 7-5 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS - VOC & PAHs

Sample ID	Date Sampled	Depth	1, 2, 4 -TMB (mg/kg)	1, 3, 5 TMB (mg/kg)	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)			30	27	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)			0.0081	0.0087	0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
PWV01-W @ 2.5'	1/28/2021	2.5 ft. bgs	1.1	<0.0050	<0.00500	1.24	<0.00500	<0.00500	0.0131	<0.00500	0.115	<0.00500	<0.00500	0.624	<0.00500	0.0417	4.38	<0.00500

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benzo(a) = Benzantracene

Benzo(a) = Benzopyrene

Benzo(b) = Benzo(a)fluoranthene

Benzo(k) = Benzo(a)fluoranthene

A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

mg/kg = Milligrams per kilogram

ft. = Feet

in. = Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 3
FORMER OWL CREEK 7, 7-5 TANK BATTERY
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
PWV01-W @ 2.5'	1/28/2021	2.5 ft bgs	5.35	74.8	<0.250	<0.30	7.58	5.22	7.86	0.490	0.0266	30.3
BKG-TB @ 2.5'	1/29/2021	2.5 ft bgs	2.78	82.0	<0.240	<0.30	5.45	5.90	5.87	1.63	<0.0240	25.8

Notes:

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

2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.

3. SSLs are applicable if a pathway for communication with groundwater is present.

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

in. - Inches

bgs = Below ground surface

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 4
FORMER OWL CREEK 7, 7-5 TANK BATTERY
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
PWV01-W @ 2.5'	1/28/2021	2.5 ft bgs	8.39	0.377	2.80	0.324
BKG-TB @ 2.5'	1/29/2021	2.5 ft bgs	8.50	0.744	1.61	<0.0100

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

ft. = Feet

in. = Inches

bgs = Below ground surface

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

BOLD = Analytical result is in exceedance of applicable standard.

TABLE 5
FORMER OWL CREEK 7, 7-5 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
ORGANIC COMPOUNDS

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	Depth to Water ⁽²⁾ (ft.)	Groundwater Elevation (ft. AMSL)
COGCC Table 915-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	140	67	67	-	-
GW01	2/22/2021	<1.0	<1.0	2.9	5.9	2.8	12	1.8	~ 4.5	NM

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 915-1, January 15, 2021.

2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

TMB = Trimethylbenzene

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft. = Feet

AMSL = Above Mean Sea Level

TABLE 6
FORMER OWL CREEK 7, 7-5 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
AST01 @ 0-6"	1/28/2021	0-6 in. bgs	40.51344575	-104.56536757	1.6	0.0
SEP-DL01 @ 6'	1/28/2021	6 ft. bgs	40.51347882	-104.56497238	1.3	0.0
SEP-FL01 @ 6'	1/28/2021	6 ft. bgs	40.51346602	-104.56503559	1.3	0.0
PWV01-B @ 6'	1/28/2021	6 ft. bgs	40.51342929	-104.56531227	1.1	5.0
PWV01-W @ 2.5'	1/28/2021	2.5 ft. bgs	40.51342638	-104.56534359	1.1	474.2
PWV01-N @ 2.5'	1/28/2021	2.5 ft. bgs	40.51344939	-104.56531126	1.1	0.0
PWV01-S @ 2.5'	1/28/2021	2.5 ft. bgs	40.51340554	-104.56530929	1.1	19.7
PWV01-E @ 2.5'	1/28/2021	2.5 ft. bgs	40.51342777	-104.56526681	1.1	0.1
ECD01 @ 0-6"	1/28/2021	0-6 in. bgs	40.51345270	-104.56492714	1.3	0.0
MH01 @ 0-6"	1/28/2021	0-6 in. bgs	40.51360749	-104.56465103	1.3	0.1
BKG-TB @ 2.5'	1/29/2021	2.5 ft bgs	NC	NC	NC	0.0
SS01 @ 7'	2/16/2021	7 ft. bgs	NC	NC	NC	0.1
SS02 @ 3'	2/16/2021	3 ft. bgs	40.51346095	-104.5652274	NC	0.2
SS03 @ 5'	2/16/2021	5 ft. bgs	40.51346095	-104.5652274	NC	0.1
SS04 @ 3'	2/16/2021	3 ft. bgs	40.51343572	-104.5651897	1.2	0.0
SS05 @ 5'	2/16/2021	5 ft. bgs	40.51343572	-104.5651897	1.2	0.3
SS06 @ 3'	2/16/2021	3 ft. bgs	40.51339899	-104.5652176	1.2	0.0
SS07 @ 5'	2/16/2021	3 ft. bgs	40.51339899	-104.5652176	1.2	0.1
SS08 @ 7'	2/16/2021	7 ft. bgs	NC	NC	NC	1.9
SS09 @ 3'	2/16/2021	3 ft. bgs	40.51338186	-104.5652854	1.2	0.8
SS10 @ 5'	2/16/2021	5 ft. bgs	40.51338186	-104.5652854	1.2	2.6
SS11 @ 3'	2/17/2021	3 ft. bgs	40.51334959	-104.5653327	1.1	0.2
SS12 @ 5'	2/17/2021	5 ft. bgs	40.51334959	-104.5653327	1.1	0.5
SS13 @ 3'	2/17/2021	3 ft. bgs	40.5133206	-104.5653875	1.1	4.1
SS14 @ 5'	2/17/2021	5 ft. bgs	40.5133206	-104.5653875	1.1	0.0
SS15 @ 7'	2/17/2021	7 ft. bgs	NC	NC	NC	0.4
SS16 @ 7'	2/17/2021	7 ft. bgs	NC	NC	NC	0.8
SS17 @ 3'	2/17/2021	3 ft. bgs	40.51330355	-104.5654541	1.0	0.9
SS18 @ 6'	2/17/2021	6 ft. bgs	40.51330355	-104.5654541	1.0	7.3
SS19 @ 7'	2/17/2021	7 ft. bgs	NC	NC	NC	0.1
SS20 @ 3'	2/17/2021	3 ft. bgs	40.51332055	-104.5655276	1.1	0.6
SS21 @ 6'	2/17/2021	6 ft. bgs	40.51332055	-104.5655276	1.1	0.6
SS22 @ 7'	2/17/2021	7 ft. bgs	NC	NC	NC	0.4
SS23 @ 7'	2/18/2021	7 ft. bgs	NC	NC	NC	0.7
SS24 @ 7'	2/18/2021	7 ft. bgs	NC	NC	NC	0.9
SS25 @ 3'	2/18/2021	3 ft. bgs	40.51334101	-104.5655924	1.1	0.4
SS26 @ 6'	2/18/2021	6 ft. bgs	40.51334101	-104.5655924	1.1	0.1
SS27 @ 3'	2/18/2021	3 ft. bgs	40.51335525	-104.5656535	0.9	1.5
SS28 @ 6'	2/18/2021	6 ft. bgs	40.51335525	-104.5656535	0.9	0.2
SS29 @ 3'	2/18/2021	3 ft. bgs	40.51338551	-104.5656766	0.9	0.9
SS30 @ 6'	2/18/2021	6 ft. bgs	40.51338551	-104.5656766	0.9	1.1

TABLE 6
FORMER OWL CREEK 7, 7-5 TANK BATTERY
FIELD DATA SUMMARY TABLE

Sample ID	Date Sampled	Depth	GPS Data ⁽¹⁾ Latitude / Longitude		PDOP Value	VOC Concentration ⁽²⁾ (ppm)
SS31 @ 7'	2/18/2021	7 ft. bgs	NC	NC	NC	0.5
SS32 @ 3'	2/18/2021	3 ft. bgs	40.51347893	-104.5653368	1.0	2.4
SS33 @ 6'	2/18/2021	6 ft. bgs	40.51347893	-104.5653368	1.0	2.7
SS34 @ 7'	2/18/2021	7 ft. bgs	NC	NC	NC	0.1
SS35 @ 3'	2/18/2021	3 ft. bgs	40.51348663	-104.5654132	1.0	5.8
SS36 @ 6'	2/18/2021	6 ft. bgs	40.51348663	-104.5654132	1.0	3.1
SS37 @ 7'	2/19/2021	7 ft. bgs	NC	NC	NC	0.6
SS38 @ 7'	2/19/2021	7 ft. bgs	NC	NC	NC	0.0
SS39 @ 3'	2/19/2021	3 ft. bgs	40.51349092	-104.5654785	1.5	3.9
SS40 @ 6'	2/19/2021	6 ft. bgs	40.51349092	-104.5654785	1.5	2.0
SS41 @ 7'	2/19/2021	7 ft. bgs	NC	NC	NC	0.6
SS42 @ 3'	2/19/2021	3 ft. bgs	40.51348411	-104.5655354	1.6	0.5
SS43 @ 6'	2/19/2021	6 ft. bgs	40.51348411	-104.5655354	1.6	0.7
SS44 @ 7'	2/19/2021	7 ft. bgs	NC	NC	NC	0.0
SS45 @ 3'	2/19/2021	3 ft. bgs	40.51348078	-104.5656071	1.5	0.9
SS46 @ 6'	2/19/2021	6 ft. bgs	40.51348078	-104.5656071	1.5	1.1
SS47 @ 3'	2/19/2021	3 ft. bgs	40.51344371	-104.5656594	1.5	0.2
SS48 @ 6'	2/19/2021	6 ft. bgs	40.51344371	-104.5656594	1.5	0.7
SS49 @ 7'	2/19/2021	7 ft. bgs	NC	NC	NC	0.9
SS50 @ 7.5'	2/22/2021	7.5 ft bgs	NC	NC	NC	0.5

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).

ft. = Feet

in. = inches

bgs = Below ground surface

PDOP = Position Dilution of Precision

ppm = Parts per million

NC = Data not collected

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 22, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2101283

Enclosed are the results of analyses for samples received by Summit Scientific on 01/28/21 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premier For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-B@6'	2101283-01	Soil	01/28/21 16:20	01/28/21 18:30
PWV01-W@2.5'	2101283-02	Soil	01/28/21 16:35	01/28/21 18:30
WDL01@4'	2101283-03	Soil	01/28/21 15:27	01/28/21 18:30

Summit Scientific

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

Summit Scientific

S₂

2101283

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

Page 1 of 1

Client: PDL/Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDL.com
City/State/Zip: Broomfield CO 80020
Phone: 303-487-1228 Project Name: Dw/ Creek 7,7-5
Sampler Name: _____ Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	TPH C6-36	PH/EC	SAR	Boron			
1	PWV01-BE 6'	1/28/21	1620	2			X			X				X	X	X					
2	PWV01-W 2.5'		1635	4			X			X				X	X	X	X	X	X		
3	WDL01e 4'		1527	2			X			X				X	X	X					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u>	Date/Time: <u>1/28/21 1810</u>	Received by: <u>[Signature]</u>	Date/Time: <u>01/28/2021 1810</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours <u>—</u> 24 hours <u>—</u> Standard <u>—</u> 48 hours <u>—</u> Sample Integrity: Temperature Upon Receipt: <u>35</u> Samples Intact: <u>Yes</u> No <u>—</u>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2101283

Client: POC/TARMAN Client Project ID: OWL Creek 7-7-5

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

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

Temp (°C)	<u>35</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.	<u>X</u>			
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?			<u>X</u>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<u>X</u>			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<u>X</u>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<u>X</u>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>X</u>	

Additional Comments (if any):

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

TB
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

01/28/2021
Date/Time



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

PWV01-B@6'
2101283-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 16:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEA0326	01/28/21	01/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/28/21 16:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		143 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 16:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEA0329	01/28/21	01/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 16:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.2 %	30-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

PWV01-W@2.5'
2101283-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEA0326	01/28/21	01/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.011	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	1.1	0.050	"	10	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	1	"	"	"	"	
Naphthalene	0.075	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2400	50	"	100	"	"	"	"	

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		135 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		912 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	180	50	mg/kg	1	BEA0329	01/28/21	01/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.6 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

PWV01-W@2.5'
2101283-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEB0255	02/17/21	02/18/21	EPA 8270D SIM	
Anthracene	1.24	0.250	"	50	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	1	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0131	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.115	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.624	0.250	"	50	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	"	"	
Pyrene	0.0417	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	4.38	0.250	"	50	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	1	"	"	"	"	

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		94.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		88.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.35	0.250	mg/kg dry	1	BEB0264	02/17/21	02/18/21	EPA 6020B	
Barium	74.8	0.500	"	"	"	"	"	"	
Boron	0.324	0.0100	mg/L	"	BEB0151	02/10/21	02/11/21	"	
Cadmium	ND	0.250	mg/kg dry	"	BEB0264	02/17/21	02/18/21	"	
Copper	7.58	0.500	"	"	"	"	"	"	
Lead	5.22	0.250	"	"	"	"	"	"	
Nickel	7.86	0.500	"	"	"	"	"	"	
Selenium	0.490	0.325	"	"	"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

PWV01-W@2.5'
2101283-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Silver	0.0266	0.0250	mg/kg dry	1	BEB0264	02/17/21	02/18/21	EPA 6020B
Zinc	30.3	0.500	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEB0272	02/18/21	02/18/21	EPA 7196A	

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

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.4	0.0624	mg/L dry	1	BEB0152	02/10/21	02/11/21	EPA 6020B	
Magnesium	9.96	0.0624	"	"	"	"	"	"	
Sodium	73.8	0.0624	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.80	0.100	units	1	BEB0201	02/12/21	02/12/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.1		%	1	BEA0332	01/28/21	01/29/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

PWV01-W@2.5'
2101283-02 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.377	0.0100		mmhos/cm	1	BEB0186	02/10/21	02/11/21	EPA 120.1	

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

Date Sampled: **01/28/21 16:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.39			pH Units	1	BEB0187	02/10/21	02/11/21	EPA 9045D	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

WDL01@4'
2101283-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 15:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.040	0.0020	mg/kg	1	BEA0326	01/28/21	01/28/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0064	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.024	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.7	0.50	"	"	"	"	"	"	

Date Sampled: **01/28/21 15:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 15:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEA0329	01/28/21	01/28/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 15:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.6 %	30-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEA0326 - EPA 5030 Soil MS

Blank (BEA0326-BLK1)

Prepared: 01/28/21 Analyzed: 01/29/21

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	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.6	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	21-167			

LCS (BEA0326-BS1)

Prepared: 01/28/21 Analyzed: 01/29/21

Benzene	0.137	0.0020	mg/kg	0.150		91.6	70-130			
Toluene	0.136	0.0050	"	0.150		90.7	70-130			
Ethylbenzene	0.131	0.0050	"	0.150		87.3	70-130			
m,p-Xylene	0.263	0.010	"	0.300		87.6	70-130			
o-Xylene	0.136	0.0050	"	0.150		90.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.5	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	21-167			

Matrix Spike (BEA0326-MS1)

Source: 2101281-05

Prepared: 01/28/21 Analyzed: 01/29/21

Benzene	0.130	0.0020	mg/kg	0.150	ND	86.6	70-130			
Toluene	0.125	0.0050	"	0.150	ND	83.4	70-130			
Ethylbenzene	0.118	0.0050	"	0.150	ND	78.5	70-130			
m,p-Xylene	0.235	0.010	"	0.300	ND	78.3	70-130			
o-Xylene	0.120	0.0050	"	0.150	ND	80.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.5	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	21-167			

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEA0326 - EPA 5030 Soil MS

Matrix Spike Dup (BEA0326-MSD1)	Source: 2101281-05			Prepared: 01/28/21 Analyzed: 01/29/21						
Benzene	0.129	0.0020	mg/kg	0.150	ND	85.8	70-130	0.882	30	
Toluene	0.124	0.0050	"	0.150	ND	82.7	70-130	0.915	30	
Ethylbenzene	0.114	0.0050	"	0.150	ND	75.8	70-130	3.58	30	
m,p-Xylene	0.228	0.010	"	0.300	ND	76.0	70-130	2.89	30	
o-Xylene	0.116	0.0050	"	0.150	ND	77.4	70-130	3.65	30	
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEA0329 - EPA 3550A

Blank (BEA0329-BLK1)

Prepared & Analyzed: 01/28/21

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

LCS (BEA0329-BS1)

Prepared & Analyzed: 01/28/21

C10-C28 (DRO)	469	50	mg/kg	500	93.8	70-130					
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Matrix Spike (BEA0329-MS1)

Source: 2101282-01

Prepared & Analyzed: 01/28/21

C10-C28 (DRO)	409	50	mg/kg	500	14.9	78.7	70-130				
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Matrix Spike Dup (BEA0329-MSD1)

Source: 2101282-01

Prepared & Analyzed: 01/28/21

C10-C28 (DRO)	420	50	mg/kg	500	14.9	80.9	70-130	2.64	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0255 - EPA 5030 Soil MS

Blank (BEB0255-BLK1)

Prepared & Analyzed: 02/17/21

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	0.0181		"	0.0333		54.4		40-150			
Surrogate: Fluoranthene-d10	0.0172		"	0.0333		51.5		40-150			

LCS (BEB0255-BS1)

Prepared & Analyzed: 02/17/21

Acenaphthene	0.0248	0.00500	mg/kg	0.0333		74.3		31-137			
Anthracene	0.0278	0.00500	"	0.0333		83.4		30-120			
Benzo (a) anthracene	0.0245	0.00500	"	0.0333		73.5		30-120			
Benzo (a) pyrene	0.0211	0.00500	"	0.0333		63.3		30-120			
Benzo (b) fluoranthene	0.0240	0.00500	"	0.0333		72.1		30-120			
Benzo (k) fluoranthene	0.0265	0.00500	"	0.0333		79.4		30-120			
Chrysene	0.0223	0.00500	"	0.0333		66.8		30-120			
Dibenz (a,h) anthracene	0.0127	0.00500	"	0.0333		38.2		30-120			
Fluoranthene	0.0222	0.00500	"	0.0333		66.5		30-120			
Fluorene	0.0252	0.00500	"	0.0333		75.7		30-120			
Indeno (1,2,3-cd) pyrene	0.0129	0.00500	"	0.0333		38.6		30-120			
Pyrene	0.0201	0.00500	"	0.0333		60.3		35-142			
1-Methylnaphthalene	0.0246	0.00500	"	0.0333		73.8		35-142			
2-Methylnaphthalene	0.0239	0.00500	"	0.0333		71.7		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0305		"	0.0333		91.6		40-150			
Surrogate: Fluoranthene-d10	0.0309		"	0.0333		92.6		40-150			

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0255 - EPA 5030 Soil MS

Matrix Spike (BEB0255-MS1)			Source: 2102206-01		Prepared & Analyzed: 02/17/21					
Acenaphthene	0.0248	0.00500	mg/kg	0.0333	ND	74.3	31-137			
Anthracene	0.0275	0.00500	"	0.0333	ND	82.5	30-120			
Benzo (a) anthracene	0.0244	0.00500	"	0.0333	ND	73.1	30-120			
Benzo (a) pyrene	0.0205	0.00500	"	0.0333	ND	61.6	30-120			
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120			
Benzo (k) fluoranthene	0.0260	0.00500	"	0.0333	ND	77.9	30-120			
Chrysene	0.0228	0.00500	"	0.0333	ND	68.4	30-120			
Dibenz (a,h) anthracene	0.0125	0.00500	"	0.0333	ND	37.4	30-120			
Fluoranthene	0.0230	0.00500	"	0.0333	ND	69.0	30-120			
Fluorene	0.0253	0.00500	"	0.0333	ND	76.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0125	0.00500	"	0.0333	ND	37.5	30-120			
Pyrene	0.0205	0.00500	"	0.0333	ND	61.6	35-142			
1-Methylnaphthalene	0.0249	0.00500	"	0.0333	ND	74.8	15-130			
2-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.0	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0273		"	0.0333		82.0	40-150			
Surrogate: Fluoranthene-d10	0.0295		"	0.0333		88.6	40-150			

Matrix Spike Dup (BEB0255-MSD1)			Source: 2102206-01		Prepared & Analyzed: 02/17/21					
Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.8	31-137	12.2	30	
Anthracene	0.0256	0.00500	"	0.0333	ND	76.8	30-120	7.19	30	
Benzo (a) anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120	9.77	30	
Benzo (a) pyrene	0.0185	0.00500	"	0.0333	ND	55.4	30-120	10.5	30	
Benzo (b) fluoranthene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	10.5	30	
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	10.6	30	
Chrysene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	11.0	30	
Dibenz (a,h) anthracene	0.0116	0.00500	"	0.0333	ND	34.7	30-120	7.40	30	
Fluoranthene	0.0216	0.00500	"	0.0333	ND	64.8	30-120	6.32	30	
Fluorene	0.0221	0.00500	"	0.0333	ND	66.3	30-120	13.6	30	
Indeno (1,2,3-cd) pyrene	0.0116	0.00500	"	0.0333	ND	34.8	30-120	7.44	30	
Pyrene	0.0193	0.00500	"	0.0333	ND	58.0	35-142	6.09	30	
1-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.4	15-130	5.95	50	
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130	9.28	50	
Surrogate: 2-Methylnaphthalene-d10	0.0257		"	0.0333		77.2	40-150			
Surrogate: Fluoranthene-d10	0.0280		"	0.0333		84.1	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0151 - EPA 3050B

Blank (BEB0151-BLK1)

Prepared: 02/10/21 Analyzed: 02/11/21

Boron ND 0.0100 mg/L

LCS (BEB0151-BS1)

Prepared: 02/10/21 Analyzed: 02/11/21

Boron 4.92 0.0100 mg/L 5.00 98.4 80-120

Duplicate (BEB0151-DUP1)

Source: 2101283-02

Prepared: 02/10/21 Analyzed: 02/11/21

Boron 0.307 0.0100 mg/L 0.324 5.39 20

Matrix Spike (BEB0151-MS1)

Source: 2101283-02

Prepared: 02/10/21 Analyzed: 02/11/21

Boron 4.85 0.0100 mg/L 5.00 0.324 90.5 75-125

Matrix Spike Dup (BEB0151-MSD1)

Source: 2101283-02

Prepared: 02/10/21 Analyzed: 02/11/21

Boron 4.92 0.0100 mg/L 5.00 0.324 92.0 75-125 1.50 25

Batch BEB0264 - EPA 3050B

Blank (BEB0264-BLK1)

Prepared: 02/17/21 Analyzed: 02/18/21

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 "

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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0264 - EPA 3050B

LCS (BEB0264-BS1)

Prepared: 02/17/21 Analyzed: 02/18/21

Arsenic	45.0	0.200	mg/kg wet	40.0		112	80-120			
Barium	38.9	0.400	"	40.0		97.2	80-120			
Cadmium	2.05	0.200	"	2.00		103	80-120			
Copper	43.3	0.400	"	40.0		108	80-120			
Lead	20.0	0.200	"	20.0		99.9	80-120			
Nickel	42.9	0.400	"	40.0		107	80-120			
Selenium	4.31	0.260	"	4.00		108	80-120			
Silver	2.03	0.0200	"	2.00		101	80-120			
Zinc	46.2	0.400	"	40.0		115	80-120			

Duplicate (BEB0264-DUP1)

Source: 2101283-02

Prepared: 02/17/21 Analyzed: 02/18/21

Arsenic	5.43	0.250	mg/kg dry		5.35			1.52	30	
Barium	100	0.500	"		74.8			29.1	30	
Cadmium	0.155	0.250	"		0.151			2.49	30	
Copper	7.66	0.500	"		7.58			1.05	30	
Lead	5.73	0.250	"		5.22			9.37	30	
Nickel	7.88	0.500	"		7.86			0.165	30	
Selenium	0.540	0.325	"		0.490			9.58	30	
Silver	0.0287	0.0250	"		0.0266			7.57	30	
Zinc	31.4	0.500	"		30.3			3.40	30	

Matrix Spike (BEB0264-MS1)

Source: 2101283-02

Prepared: 02/17/21 Analyzed: 02/18/21

Arsenic	57.1	0.250	mg/kg dry	50.0	5.35	104	75-125			
Barium	130	0.500	"	50.0	74.8	110	75-125			
Cadmium	2.62	0.250	"	2.50	0.151	98.7	75-125			
Copper	62.8	0.500	"	50.0	7.58	111	75-125			
Lead	26.4	0.250	"	25.0	5.22	85.0	75-125			
Nickel	58.5	0.500	"	50.0	7.86	101	75-125			
Selenium	5.52	0.325	"	5.00	0.490	101	75-125			
Silver	2.42	0.0250	"	2.50	0.0266	95.7	75-125			
Zinc	90.3	0.500	"	50.0	30.3	120	75-125			

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0264 - EPA 3050B

Matrix Spike Dup (BEB0264-MSD1)		Source: 2101283-02			Prepared: 02/17/21 Analyzed: 02/18/21					
Arsenic	54.6	0.250	mg/kg dry	50.0	5.35	98.6	75-125	4.52	25	
Barium	120	0.500	"	50.0	74.8	90.4	75-125	7.67	25	
Cadmium	2.53	0.250	"	2.50	0.151	95.2	75-125	3.35	25	
Copper	54.7	0.500	"	50.0	7.58	94.2	75-125	13.9	25	
Lead	24.9	0.250	"	25.0	5.22	78.9	75-125	5.93	25	
Nickel	55.1	0.500	"	50.0	7.86	94.5	75-125	6.00	25	
Selenium	5.04	0.325	"	5.00	0.490	91.0	75-125	9.22	25	
Silver	2.36	0.0250	"	2.50	0.0266	93.4	75-125	2.39	25	
Zinc	87.0	0.500	"	50.0	30.3	114	75-125	3.65	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0272 - 3060A Mod

Blank (BEB0272-BLK1)

Prepared & Analyzed: 02/18/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEB0272-BS1)

Prepared & Analyzed: 02/18/21

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

Duplicate (BEB0272-DUP1)

Source: 2101283-02

Prepared & Analyzed: 02/18/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEB0272-MS1)

Source: 2101283-02

Prepared & Analyzed: 02/18/21

Chromium, Hexavalent 29.7 0.30 mg/kg dry 31.2 ND 95.0 75-125

Matrix Spike Dup (BEB0272-MSD1)

Source: 2101283-02

Prepared & Analyzed: 02/18/21

Chromium, Hexavalent 29.8 0.30 mg/kg dry 31.2 ND 95.4 75-125 0.420 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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0152 - General Preparation

Blank (BEB0152-BLK1)

Prepared: 02/10/21 Analyzed: 02/11/21

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

LCS (BEB0152-BS1)

Prepared: 02/10/21 Analyzed: 02/11/21

Calcium	4.56	0.0500	mg/L wet	5.00	91.2	70-130
Magnesium	5.34	0.0500	"	5.00	107	70-130
Sodium	4.96	0.0500	"	5.00	99.1	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: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEA0332 - General Preparation

Duplicate (BEA0332-DUP1)		Source: 2101283-02		Prepared: 01/28/21 Analyzed: 01/29/21	
% Solids	79.8		%	80.1	0.403 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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

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 BEB0186 - General Preparation

Blank (BEB0186-BLK1)

Prepared & Analyzed: 02/11/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEB0186-BS1)

Prepared & Analyzed: 02/11/21

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.6 90-110

Duplicate (BEB0186-DUP1)

Source: 2101283-02

Prepared & Analyzed: 02/11/21

Specific Conductance (EC) 0.377 0.0100 mmhos/cm 0.377 0.159 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: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

02/22/21 10:24

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 BEB0187 - General Preparation

LCS (BEB0187-BS1)

Prepared & Analyzed: 02/11/21

pH	9.41	pH Units	9.21	102	95-105
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Duplicate (BEB0187-DUP1)

Source: 2101283-02

Prepared & Analyzed: 02/11/21

pH	8.38	pH Units	8.39	0.119	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/22/21 10:24

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
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

February 05, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

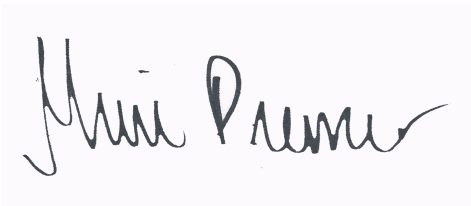
Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2101291

Enclosed are the results of analyses for samples received by Summit Scientific on 01/28/21 18:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premier For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST01@0-6"	2101291-01	Soil	01/28/21 14:05	01/28/21 18:10
SEP-DL01@6'	2101291-02	Soil	01/28/21 14:25	01/28/21 18:10
SEP-FL01@6'	2101291-03	Soil	01/28/21 14:45	01/28/21 18:10

Summit Scientific

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

Summit Scientific

S₂

2101291

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

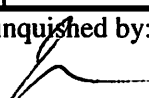
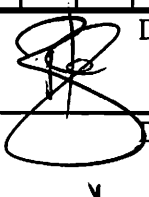
Phone: 303-487-1228

Project Name: Owl Creek ZF-S

Sampler Name:

Project Number:

					Preservative				Matrix				Analysis Requested						Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH/EC	Naphthalene	TPH (UG-36)		
1	ASTO1 @ 0-6"	1/28/21	1405	2			X			X			X				X	X		
2	SEP-DLO1 @ 6'	↓	1425	↓			↓			↓			↓				↓	↓		
3	SEP-FL01 @ 6'	↓	1445	↓			↓			↓			↓				↓	↓		
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 1/28/21 1810	Received by: 	Date/Time: 01/28/2021 1810	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>3.5</u> Samples Intact: <u>Yes</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2101291

Client: DOC/TASMAN Client Project ID: OWL Creek 7, 7-5

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

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

Temp (°C)	<u>3.5</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.	X			
Were all samples received intact ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			X	
Are samples with holding times due within 48 hours sample due within 48 hours present?		X		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			X	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			X	
If dissolved metals are requested, were samples field filtered?			X	

Additional Comments (if any):

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

28
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6/28/2021
Date/Time



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

AST01@0-6"
2101291-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEB0044	02/03/21	02/03/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	770	50	mg/kg	1	BEB0045	"	02/04/21	EPA 8015M	
C28-C36 (ORO)	380	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.9 %	30-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

SEP-DL01@6'
2101291-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0044	02/03/21	02/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		138 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0045	"	02/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		91.8 %	30-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

SEP-FL01@6'
2101291-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/28/21 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0044	02/03/21	02/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		132 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/28/21 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0045	"	02/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/28/21 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		89.8 %	30-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

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 BEB0044 - EPA 5030 Soil MS

Blank (BEB0044-BLK1)

Prepared & Analyzed: 02/03/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Naphthalene	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0509		"	0.0400		127	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		94.9	21-167			

LCS (BEB0044-BS1)

Prepared & Analyzed: 02/03/21

Benzene	0.0714	0.0020	mg/kg	0.100		71.4	70-130			
Toluene	0.0774	0.0050	"	0.100		77.4	70-130			
Ethylbenzene	0.0871	0.0050	"	0.100		87.1	70-130			
m,p-Xylene	0.167	0.010	"	0.200		83.4	70-130			
o-Xylene	0.0854	0.0050	"	0.100		85.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.8	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

Matrix Spike (BEB0044-MS1)

Source: 2101291-01

Prepared & Analyzed: 02/03/21

Benzene	0.0778	0.0020	mg/kg	0.100	ND	77.8	70-130			
Toluene	0.0831	0.0050	"	0.100	ND	83.1	70-130			
Ethylbenzene	0.0963	0.0050	"	0.100	ND	96.3	70-130			
m,p-Xylene	0.181	0.010	"	0.200	ND	90.6	70-130			
o-Xylene	0.0910	0.0050	"	0.100	ND	91.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

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 BEB0044 - EPA 5030 Soil MS

Matrix Spike Dup (BEB0044-MSD1)	Source: 2101291-01			Prepared & Analyzed: 02/03/21						
Benzene	0.0732	0.0020	mg/kg	0.100	ND	73.2	70-130	6.00	30	
Toluene	0.0762	0.0050	"	0.100	ND	76.2	70-130	8.59	30	
Ethylbenzene	0.0917	0.0050	"	0.100	ND	91.7	70-130	4.88	30	
m,p-Xylene	0.172	0.010	"	0.200	ND	86.0	70-130	5.13	30	
o-Xylene	0.0879	0.0050	"	0.100	ND	87.9	70-130	3.45	30	
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.2	23-173			
Surrogate: Toluene-d8	0.0369		"	0.0400		92.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.2	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

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 BEB0045 - EPA 3550A

Blank (BEB0045-BLK1)

Prepared: 02/03/21 Analyzed: 02/04/21

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

LCS (BEB0045-BS1)

Prepared: 02/03/21 Analyzed: 02/04/21

C10-C28 (DRO)	475	50	mg/kg	500	95.1	70-130
---------------	-----	----	-------	-----	------	--------

Matrix Spike (BEB0045-MS1)

Source: 2101291-01

Prepared: 02/03/21 Analyzed: 02/04/21

C10-C28 (DRO)	768	50	mg/kg	500	771	NR	70-130			QM-07
---------------	-----	----	-------	-----	-----	----	--------	--	--	-------

Matrix Spike Dup (BEB0045-MSD1)

Source: 2101291-01

Prepared: 02/03/21 Analyzed: 02/04/21

C10-C28 (DRO)	857	50	mg/kg	500	771	17.1	70-130	10.9	20	QM-07
---------------	-----	----	-------	-----	-----	------	--------	------	----	-------

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/05/21 15:17

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 25, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

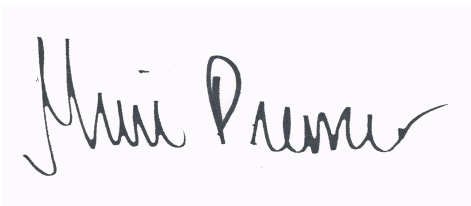
Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2101305

Enclosed are the results of analyses for samples received by Summit Scientific on 01/29/21 16:00. 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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BCKG-TB@2.5'	2101305-01	Soil	01/29/21 14:03	01/29/21 16:00

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

S₂

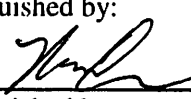
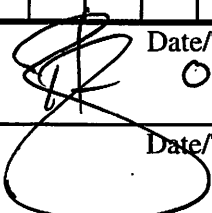
2101305

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: Owl Creek F, 7-5
Sampler Name: Max Dahlgren Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	\$260B GBTEXN	\$8015 DRO	pH / EC	Full 915 Suite	On Hold		
1	BCKG-TB @ 2.5'	1/29/21	1403	4			X			X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 1/29/21 1600	Received by: 	Date/Time: 01/29/2021 1600	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: 5.2 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

2101305

Sample Receipt Checklist

S2 Work Order _____

Client: POC/TAMM Client Project ID: BWL CREEK 7, 7.5Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☒ ☐ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)

5.2

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"/>	
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , 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.

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

01/29/2001



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

BCKG-TB@2.5'
2101305-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.78	0.240	mg/kg dry	1	BEB0340	02/23/21	02/24/21	EPA 6020B	
Barium	82.0	0.480	"	"	"	"	"	"	
Boron	ND	0.0100	mg/L	"	BEB0334	02/23/21	02/24/21	"	
Cadmium	ND	0.240	mg/kg dry	"	BEB0340	02/23/21	02/24/21	"	
Copper	5.45	0.480	"	"	"	"	"	"	
Lead	5.90	0.240	"	"	"	"	"	"	
Nickel	5.87	0.480	"	"	"	"	"	"	
Selenium	1.63	0.312	"	"	"	"	"	"	
Silver	ND	0.0240	"	"	"	"	"	"	
Zinc	25.8	0.480	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEB0333	02/23/21	02/24/21	EPA 7196A	

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

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	69.3	0.0600	mg/L dry	1	BEB0326	02/22/21	02/24/21	EPA 6020B	
Magnesium	30.1	0.0600	"	"	"	"	"	"	
Sodium	63.8	0.0600	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.61	0.100	units	1	BEB0366	02/24/21	02/24/21	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

BCKG-TB@2.5'
2101305-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.4		%	1	BEB0356	02/24/21	02/24/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.744	0.0100	mmhos/cm	1	BEB0345	02/23/21	02/23/21	EPA 120.1	

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

Date Sampled: **01/29/21 14:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BEB0346	02/23/21	02/23/21	EPA 9045D	

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0334 - EPA 3050B

Blank (BEB0334-BLK1)

Prepared: 02/23/21 Analyzed: 02/24/21

Boron	ND	0.0100	mg/L
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LCS (BEB0334-BS1)

Prepared: 02/23/21 Analyzed: 02/24/21

Boron	4.18	0.0100	mg/L	5.00	83.5	80-120
-------	------	--------	------	------	------	--------

Duplicate (BEB0334-DUP1)

Source: 2102219-01

Prepared: 02/23/21 Analyzed: 02/24/21

Boron	0.0544	0.0100	mg/L	0.0532	2.08	20
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Matrix Spike (BEB0334-MS1)

Source: 2102219-01

Prepared: 02/23/21 Analyzed: 02/24/21

Boron	4.25	0.0100	mg/L	5.00	0.0532	84.0	75-125
-------	------	--------	------	------	--------	------	--------

Matrix Spike Dup (BEB0334-MSD1)

Source: 2102219-01

Prepared: 02/23/21 Analyzed: 02/24/21

Boron	4.07	0.0100	mg/L	5.00	0.0532	80.4	75-125	4.29	25
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Batch BEB0340 - EPA 3050B

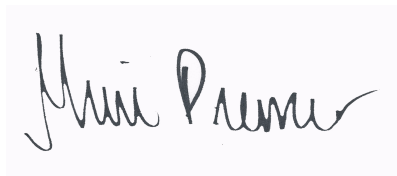
Blank (BEB0340-BLK1)

Prepared: 02/23/21 Analyzed: 02/24/21

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	"

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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0340 - EPA 3050B

LCS (BEB0340-BS1)

Prepared: 02/23/21 Analyzed: 02/24/21

Arsenic	37.9	0.200	mg/kg wet	40.0		94.8	80-120			
Barium	36.0	0.400	"	40.0		90.1	80-120			
Cadmium	1.85	0.200	"	2.00		92.4	80-120			
Copper	35.7	0.400	"	40.0		89.4	80-120			
Lead	18.2	0.200	"	20.0		91.2	80-120			
Nickel	35.3	0.400	"	40.0		88.3	80-120			
Selenium	4.37	0.260	"	4.00		109	80-120			
Silver	1.80	0.0200	"	2.00		90.1	80-120			
Zinc	37.4	0.400	"	40.0		93.4	80-120			

Duplicate (BEB0340-DUP1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Arsenic	3.42	0.231	mg/kg dry		3.82			11.0	30	
Barium	85.6	0.462	"		68.2			22.6	30	
Cadmium	0.189	0.231	"		0.195			3.09	30	
Copper	7.07	0.462	"		8.16			14.3	30	
Lead	6.35	0.231	"		7.54			17.1	30	
Nickel	7.36	0.462	"		8.39			13.1	30	
Selenium	1.37	0.300	"		1.73			23.3	30	
Silver	0.0331	0.0231	"		0.0322			2.82	30	
Zinc	29.1	0.462	"		36.8			23.2	30	

Matrix Spike (BEB0340-MS1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Arsenic	44.9	0.231	mg/kg dry	46.2	3.82	89.0	75-125			
Barium	121	0.462	"	46.2	68.2	115	75-125			
Cadmium	2.11	0.231	"	2.31	0.195	82.8	75-125			
Copper	47.5	0.462	"	46.2	8.16	85.2	75-125			
Lead	27.3	0.231	"	23.1	7.54	85.6	75-125			
Nickel	47.7	0.462	"	46.2	8.39	85.1	75-125			
Selenium	5.20	0.300	"	4.62	1.73	75.1	75-125			
Silver	1.88	0.0231	"	2.31	0.0322	80.3	75-125			
Zinc	77.6	0.462	"	46.2	36.8	88.5	75-125			

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0340 - EPA 3050B

Matrix Spike Dup (BEB0340-MSD1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Arsenic	48.7	0.231	mg/kg dry	46.2	3.82	97.3	75-125	8.20	25	
Barium	120	0.462	"	46.2	68.2	113	75-125	0.757	25	
Cadmium	2.35	0.231	"	2.31	0.195	93.5	75-125	11.1	25	
Copper	56.6	0.462	"	46.2	8.16	105	75-125	17.6	25	
Lead	26.2	0.231	"	23.1	7.54	80.9	75-125	4.02	25	
Nickel	52.6	0.462	"	46.2	8.39	95.8	75-125	9.81	25	
Selenium	5.91	0.300	"	4.62	1.73	90.5	75-125	12.7	25	
Silver	2.17	0.0231	"	2.31	0.0322	92.8	75-125	14.2	25	
Zinc	81.7	0.462	"	46.2	36.8	97.3	75-125	5.14	25	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0333 - 3060A Mod

Blank (BEB0333-BLK1)

Prepared: 02/23/21 Analyzed: 02/24/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEB0333-BS1)

Prepared: 02/23/21 Analyzed: 02/24/21

Chromium, Hexavalent 23.0 0.30 mg/kg wet 25.0 91.8 80-120

Duplicate (BEB0333-DUP1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BEB0333-MS1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Chromium, Hexavalent 26.2 0.30 mg/kg dry 28.8 ND 91.0 75-125

Matrix Spike Dup (BEB0333-MSD1)

Source: 2101298-03

Prepared: 02/23/21 Analyzed: 02/24/21

Chromium, Hexavalent 26.1 0.30 mg/kg dry 28.8 ND 90.6 75-125 0.441 20

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0326 - General Preparation

Blank (BEB0326-BLK1)

Prepared: 02/22/21 Analyzed: 02/24/21

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

LCS (BEB0326-BS1)

Prepared: 02/22/21 Analyzed: 02/24/21

Calcium	3.83	0.0500	mg/L wet	5.00	76.6	70-130
Magnesium	5.30	0.0500	"	5.00	106	70-130
Sodium	4.95	0.0500	"	5.00	99.0	70-130

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0356 - General Preparation

Duplicate (BEB0356-DUP1)

Source: 2101305-01

Prepared & Analyzed: 02/24/21

% Solids	83.6	%	83.4	0.234	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0345 - General Preparation

Blank (BEB0345-BLK1)

Prepared & Analyzed: 02/23/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEB0345-BS1)

Prepared & Analyzed: 02/23/21

Specific Conductance (EC) 0.147 0.0100 mmhos/cm 0.150 98.1 90-110

Duplicate (BEB0345-DUP1)

Source: 2101305-01

Prepared & Analyzed: 02/23/21

Specific Conductance (EC) 0.735 0.0100 mmhos/cm 0.744 1.20 20

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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 BEB0346 - General Preparation

LCS (BEB0346-BS1)

Prepared & Analyzed: 02/23/21

pH	9.23	pH Units	9.21	100	95-105
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Duplicate (BEB0346-DUP1)

Source: 2101305-01

Prepared & Analyzed: 02/23/21

pH	8.51	pH Units	8.50	0.118	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: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/25/21 11:35

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

March 02, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

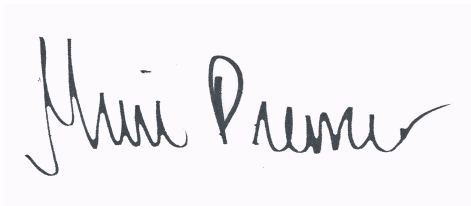
Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2102205

Enclosed are the results of analyses for samples received by Summit Scientific on 02/16/21 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premer For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@7'	2102205-01	Soil	02/16/21 11:00	02/16/21 16:30
SS02@3'	2102205-02	Soil	02/16/21 11:05	02/16/21 16:30
SS03@5'	2102205-03	Soil	02/16/21 11:07	02/16/21 16:30
SS04@3'	2102205-04	Soil	02/16/21 11:15	02/16/21 16:30
SS05@5'	2102205-05	Soil	02/16/21 11:17	02/16/21 16:30
SS06@3'	2102205-06	Soil	02/16/21 11:25	02/16/21 16:30
SS07@5'	2102205-07	Soil	02/16/21 11:27	02/16/21 16:30
SS08@7'	2102205-08	Soil	02/16/21 15:00	02/16/21 16:30
SS09@3'	2102205-09	Soil	02/16/21 15:05	02/16/21 16:30
SS10@5'	2102205-10	Soil	02/16/21 15:10	02/16/21 16:30

Summit Scientific

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

Summit Scientific

S₂

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

Page 1 of 1

Client: PDC/Tasman

Project Manager: Mark Longhurst

Address:

E-Mail:

City/State/Zip:

Phone:

Project Name: Owl Creek 7, 7-5

Sampler Name: Max Dahlgren

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions		
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GPX N-8260B	TPH (16-C36)							
1	SS01 @ 7'	2/16/21	1100	2			X			X				X	X						Additional analysis may be required pending results of full 915 analysis of sample provided from this location.
2	SS02 @ 3'		1105																		
3	SS03 @ 5'		1107																		
4	SS04 @ 3'		1115																		
5	SS05 @ 5'		1117																		
6	SS06 @ 3'		1125																		
7	SS07 @ 5'		1127																		
8	SS08 @ 7'		1500																		
9	SS09 @ 3'		1505																		
10	SS10 @ 5'		1510																		

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes:
	2/16/21 1630		02/16/2021 1630	Same Day	X 72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours		
				Sample Integrity:		
				Temperature Upon Receipt:		3.8
				Samples Intact:		Yes No

Sample Receipt Checklist

S2 Work Order 210220S

Client: DOC/TASMAN Client Project ID: Dwl Creek 7-7-5

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>3.8</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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian Printed Name or Initials [Signature]

Signature of Custodian [Signature]

Date/Time 02/16/2021



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS01@7'
2102205-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		86.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		73.0 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS01@7'
2102205-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		50.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.7 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS02@3'
2102205-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		123 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		79.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS02@3'
2102205-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		49.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.1 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS03@5'
2102205-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		80.9 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS03@5'
2102205-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		54.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS04@3'
2102205-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.3 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS04@3'
2102205-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		54.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS05@5'
2102205-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		83.7 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS05@5'
2102205-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		51.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.9 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS06@3'
2102205-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		81.5 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS06@3'
2102205-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		55.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.1 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS07@5'
2102205-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		82.7 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS07@5'
2102205-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 11:27**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		56.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.8 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS08@7'
2102205-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.6 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS08@7'
2102205-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		58.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		54.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS09@3'
2102205-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS09@3'
2102205-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		51.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS10@5'
2102205-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0247	02/16/21	02/16/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0249	02/16/21	02/16/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		90.9 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

SS10@5'
2102205-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0361	02/24/21	02/25/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/16/21 15:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		53.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.0 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

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 BEB0247 - EPA 5030 Soil MS

Blank (BEB0247-BLK1)

Prepared & Analyzed: 02/16/21

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	0.0354		"	0.0400		88.4	23-173			
Surrogate: Toluene-d8	0.0489		"	0.0400		122	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

LCS (BEB0247-BS1)

Prepared & Analyzed: 02/16/21

Benzene	0.0772	0.0020	mg/kg	0.100		77.2	70-130			
Toluene	0.0919	0.0050	"	0.100		91.9	70-130			
Ethylbenzene	0.0935	0.0050	"	0.100		93.5	70-130			
m,p-Xylene	0.183	0.010	"	0.200		91.5	70-130			
o-Xylene	0.0913	0.0050	"	0.100		91.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.7	23-173			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	21-167			

Matrix Spike (BEB0247-MS1)

Source: 2102205-01

Prepared & Analyzed: 02/16/21

Benzene	0.0713	0.0020	mg/kg	0.100	ND	71.3	70-130			
Toluene	0.0790	0.0050	"	0.100	ND	79.0	70-130			
Ethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130			
m,p-Xylene	0.173	0.010	"	0.200	ND	86.7	70-130			
o-Xylene	0.0865	0.0050	"	0.100	ND	86.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0332		"	0.0400		82.9	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.0	21-167			

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

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 BEB0247 - EPA 5030 Soil MS

Matrix Spike Dup (BEB0247-MSD1)	Source: 2102205-01			Prepared & Analyzed: 02/16/21						
Benzene	0.0713	0.0020	mg/kg	0.100	ND	71.3	70-130	0.00	30	
Toluene	0.0795	0.0050	"	0.100	ND	79.5	70-130	0.606	30	
Ethylbenzene	0.0905	0.0050	"	0.100	ND	90.5	70-130	0.463	30	
m,p-Xylene	0.174	0.010	"	0.200	ND	87.0	70-130	0.380	30	
o-Xylene	0.0867	0.0050	"	0.100	ND	86.7	70-130	0.312	30	
Surrogate: 1,2-Dichloroethane-d4	0.0341		"	0.0400		85.3	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0381		"	0.0400		95.3	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

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 BEB0249 - EPA 3550A

Blank (BEB0249-BLK1)

Prepared: 02/16/21 Analyzed: 02/17/21

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

LCS (BEB0249-BS1)

Prepared: 02/16/21 Analyzed: 02/17/21

C10-C28 (DRO)	471	50	mg/kg	500	94.2	70-130
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Matrix Spike (BEB0249-MS1)

Source: 2102205-01

Prepared: 02/16/21 Analyzed: 02/17/21

C10-C28 (DRO)	455	50	mg/kg	500	15.9	87.8	70-130
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Matrix Spike Dup (BEB0249-MSD1)

Source: 2102205-01

Prepared: 02/16/21 Analyzed: 02/17/21

C10-C28 (DRO)	393	50	mg/kg	500	15.9	75.4	70-130	14.6	20
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Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

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 BEB0361 - EPA 5030 Soil MS

Blank (BEB0361-BLK1)

Prepared: 02/24/21 Analyzed: 02/25/21

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	0.0162		"	0.0333		48.5	40-150			
Surrogate: Fluoranthene-d10	0.0161		"	0.0333		48.2	40-150			

LCS (BEB0361-BS1)

Prepared: 02/24/21 Analyzed: 02/25/21

Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.4	31-137			
Anthracene	0.0265	0.00500	"	0.0333		79.5	30-120			
Benzo (a) anthracene	0.0263	0.00500	"	0.0333		78.9	30-120			
Benzo (a) pyrene	0.0263	0.00500	"	0.0333		78.8	30-120			
Benzo (b) fluoranthene	0.0298	0.00500	"	0.0333		89.3	30-120			
Benzo (k) fluoranthene	0.0266	0.00500	"	0.0333		79.8	30-120			
Chrysene	0.0258	0.00500	"	0.0333		77.5	30-120			
Dibenz (a,h) anthracene	0.0224	0.00500	"	0.0333		67.3	30-120			
Fluoranthene	0.0223	0.00500	"	0.0333		67.0	30-120			
Fluorene	0.0262	0.00500	"	0.0333		78.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0208	0.00500	"	0.0333		62.5	30-120			
Pyrene	0.0206	0.00500	"	0.0333		61.7	35-142			
1-Methylnaphthalene	0.0226	0.00500	"	0.0333		67.8	35-142			
2-Methylnaphthalene	0.0232	0.00500	"	0.0333		69.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0288		"	0.0333		86.5	40-150			
Surrogate: Fluoranthene-d10	0.0313		"	0.0333		93.9	40-150			

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEB0361 - EPA 5030 Soil MS

Matrix Spike (BEB0361-MS1)

Source: 2102205-01

Prepared: 02/24/21 Analyzed: 02/25/21

Acenaphthene	0.0262	0.00500	mg/kg	0.0333	ND	78.7	31-137				
Anthracene	0.0258	0.00500	"	0.0333	ND	77.3	30-120				
Benzo (a) anthracene	0.0249	0.00500	"	0.0333	ND	74.8	30-120				
Benzo (a) pyrene	0.0248	0.00500	"	0.0333	ND	74.5	30-120				
Benzo (b) fluoranthene	0.0281	0.00500	"	0.0333	ND	84.2	30-120				
Benzo (k) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.9	30-120				
Chrysene	0.0243	0.00500	"	0.0333	ND	73.0	30-120				
Dibenz (a,h) anthracene	0.0207	0.00500	"	0.0333	ND	62.1	30-120				
Fluoranthene	0.0213	0.00500	"	0.0333	ND	64.0	30-120				
Fluorene	0.0265	0.00500	"	0.0333	ND	79.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0195	0.00500	"	0.0333	ND	58.5	30-120				
Pyrene	0.0190	0.00500	"	0.0333	ND	57.1	35-142				
1-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.3	15-130				
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0286		"	0.0333		85.8	40-150				
Surrogate: Fluoranthene-d10	0.0288		"	0.0333		86.5	40-150				

Matrix Spike Dup (BEB0361-MSD1)

Source: 2102205-01

Prepared: 02/24/21 Analyzed: 02/25/21

Acenaphthene	0.0268	0.00500	mg/kg	0.0333	ND	80.4	31-137	2.21	30		
Anthracene	0.0267	0.00500	"	0.0333	ND	80.1	30-120	3.53	30		
Benzo (a) anthracene	0.0262	0.00500	"	0.0333	ND	78.7	30-120	5.13	30		
Benzo (a) pyrene	0.0275	0.00500	"	0.0333	ND	82.5	30-120	10.1	30		
Benzo (b) fluoranthene	0.0303	0.00500	"	0.0333	ND	91.0	30-120	7.68	30		
Benzo (k) fluoranthene	0.0273	0.00500	"	0.0333	ND	81.8	30-120	6.22	30		
Chrysene	0.0258	0.00500	"	0.0333	ND	77.5	30-120	5.94	30		
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	ND	66.2	30-120	6.38	30		
Fluoranthene	0.0223	0.00500	"	0.0333	ND	67.0	30-120	4.58	30		
Fluorene	0.0272	0.00500	"	0.0333	ND	81.6	30-120	2.47	30		
Indeno (1,2,3-cd) pyrene	0.0207	0.00500	"	0.0333	ND	62.1	30-120	6.11	30		
Pyrene	0.0199	0.00500	"	0.0333	ND	59.8	35-142	4.74	30		
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.5	15-130	6.59	50		
2-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.0	15-130	0.582	50		
Surrogate: 2-Methylnaphthalene-d10	0.0283		"	0.0333		84.9	40-150				
Surrogate: Fluoranthene-d10	0.0305		"	0.0333		91.6	40-150				

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/02/21 09:46

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

March 12, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000


Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2102215

Enclosed are the results of analyses for samples received by Summit Scientific on 02/17/21 17:01. 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 displayed on a light purple rectangular background.

Muri Premer For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS11@3'	2102215-01	Soil	02/17/21 08:15	02/17/21 17:01
SS12@5'	2102215-02	Soil	02/17/21 08:20	02/17/21 17:01
SS13@3'	2102215-03	Soil	02/17/21 08:25	02/17/21 17:01
SS14@5'	2102215-04	Soil	02/17/21 08:30	02/17/21 17:01
SS15@7'	2102215-05	Soil	02/17/21 08:35	02/17/21 17:01
SS16@7'	2102215-06	Soil	02/17/21 08:40	02/17/21 17:01
SS17@3'	2102215-07	Soil	02/17/21 11:30	02/17/21 17:01
SS18@6'	2102215-08	Soil	02/17/21 11:35	02/17/21 17:01
SS19@7'	2102215-09	Soil	02/17/21 11:50	02/17/21 17:01
SS20@3'	2102215-10	Soil	02/17/21 12:40	02/17/21 17:01
SS21@6'	2102215-11	Soil	02/17/21 12:45	02/17/21 17:01
SS22@7'	2102215-12	Soil	02/17/21 12:50	02/17/21 17:01

Summit Scientific

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

Summit Scientific

S₂

2102215.1

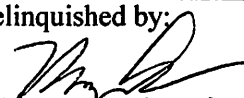

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: PDC /Tasman Project Manager: Mark Longhurst
 Address: _____ E-Mail: _____
 City/State/Zip: _____
 Phone: 970 481 6909 Project Name: Owl Creek 7, 7-5
 Sampler Name: Max Dahlgren Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GB/EAN -910	TPH (66-036)						
1	SS11 @ 3'	2/17/21	815	2			X			X				X	X					
2	SS12 @ 5'		820																	
3	SS13 @ 3'		825																	
4	SS14 @ 6'		830																	
5	SS15 @ 7'		835																	
6	SS16 @ 7'		840																	
7	SS17 @ 3'		1130																	
8	SS18 @ 6'		1135																	
9	SS19 @ 7'		1150																	
10	SS20 @ 3'		1240																	

Relinquished by: 	Date/Time: 2/17/21 1500	Received by: 	Date/Time: 02/17/2021 1800	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: 3.4 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Summit Scientific

S₂

21022.15.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 2 of 2

Client: PAC / Tasman Project Manager: Mark Longhurst
 Address: _____ E-Mail: _____
 City/State/Zip: _____
 Phone: 970 481 6909 Project Name: Owl Creek 7, 7-5
 Sampler Name: Max Dahlgren Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GB/EPA-910	TPH (16-136)						
1	5521 @ 6'	2/17/21	1245	2			X			X				X	X					
2	5522 @ 7'	2/17/21	1250	2			X			X				X	X					
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/17/21 1500</u>	Received by: <u>[Signature]</u>	Date/Time: <u>02/17/2021 1500</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <u>X</u>	72 hours <u>—</u>
				24 hours <u>—</u>	Standard <u>—</u>
				48 hours <u>—</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: <u>S.F.</u>	
				Samples Intact: <u>Yes</u> No <u>—</u>	

Sample Receipt Checklist

S2 Work Order 2102215

Client: PDC/TASMAN

Client Project ID: OWL CREEK 7,7-5

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

☐ ☒ ☐ ☐ ☐

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

Temp (°C) 3.4

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"/>	
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"/>	
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.

Custodian Printed Name or Initials TS

Signature of Custodian [Signature]

Date/Time 02/17/2021



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS11@3'
2102215-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		103 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS11@3'
2102215-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		48.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.7 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS12@5'
2102215-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		63.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS12@5'
2102215-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		42.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.1 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS13@3'
2102215-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:25**

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		97.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.2 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS13@3'
2102215-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		46.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS14@5'
2102215-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS14@5'
2102215-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		47.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.0 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS15@7'
2102215-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:35**

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		98.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.6 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS15@7'
2102215-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		49.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.6 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS16@7'
2102215-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:40**

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		97.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.6 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS16@7'
2102215-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		50.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS17@3'
2102215-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		84.0 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS17@3'
2102215-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	0.00526	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.6 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS18@6'
2102215-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		89.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS18@6'
2102215-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		46.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS19@7'
2102215-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.1 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS19@7'
2102215-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		42.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.3 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS20@3'
2102215-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.2 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS20@3'
2102215-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		47.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS21@6'
2102215-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.6 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS21@6'
2102215-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		43.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS22@7'
2102215-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0266	02/17/21	02/17/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0267	02/17/21	02/17/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.4 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

SS22@7'
2102215-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0382	02/25/21	02/26/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/17/21 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		45.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.3 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEB0266 - EPA 5030 Soil MS

Blank (BEB0266-BLK1)

Prepared & Analyzed: 02/17/21

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	0.0425		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	21-167			

LCS (BEB0266-BS1)

Prepared & Analyzed: 02/17/21

Benzene	0.0957	0.0020	mg/kg	0.100		95.7	70-130			
Toluene	0.102	0.0050	"	0.100		102	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.212	0.010	"	0.200		106	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	21-167			

Matrix Spike (BEB0266-MS1)

Source: 2102211-01

Prepared: 02/17/21 Analyzed: 02/18/21

Benzene	0.0949	0.0020	mg/kg	0.100	ND	94.9	70-130			
Toluene	0.102	0.0050	"	0.100	ND	102	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.4	21-167			

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

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

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

Batch BEB0266 - EPA 5030 Soil MS

Matrix Spike Dup (BEB0266-MSD1)		Source: 2102211-01			Prepared: 02/17/21 Analyzed: 02/18/21					
Benzene	0.0949	0.0020	mg/kg	0.100	ND	94.9	70-130	0.0316	30	
Toluene	0.103	0.0050	"	0.100	ND	103	70-130	0.409	30	
Ethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	2.00	30	
m,p-Xylene	0.209	0.010	"	0.200	ND	104	70-130	1.23	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	2.33	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEB0267 - EPA 3550A

Blank (BEB0267-BLK1)

Prepared: 02/17/21 Analyzed: 02/18/21

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

LCS (BEB0267-BS1)

Prepared: 02/17/21 Analyzed: 02/18/21

C10-C28 (DRO)	485	50	mg/kg	500	97.0	70-130
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Matrix Spike (BEB0267-MS1)

Source: 2102211-01

Prepared: 02/17/21 Analyzed: 02/18/21

C10-C28 (DRO)	524	50	mg/kg	500	14.4	102	70-130
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Matrix Spike Dup (BEB0267-MSD1)

Source: 2102211-01

Prepared: 02/17/21 Analyzed: 02/18/21

C10-C28 (DRO)	553	50	mg/kg	500	14.4	108	70-130	5.31	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BEB0382 - EPA 5030 Soil MS

Blank (BEB0382-BLK1)

Prepared: 02/25/21 Analyzed: 02/26/21

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	0.0145		"	0.0333		43.5		40-150			
Surrogate: Fluoranthene-d10	0.0168		"	0.0333		50.3		40-150			

LCS (BEB0382-BS1)

Prepared: 02/25/21 Analyzed: 02/26/21

Acenaphthene	0.0257	0.00500	mg/kg	0.0333		77.0		31-137			
Anthracene	0.0264	0.00500	"	0.0333		79.2		30-120			
Benzo (a) anthracene	0.0258	0.00500	"	0.0333		77.3		30-120			
Benzo (a) pyrene	0.0262	0.00500	"	0.0333		78.7		30-120			
Benzo (b) fluoranthene	0.0301	0.00500	"	0.0333		90.2		30-120			
Benzo (k) fluoranthene	0.0279	0.00500	"	0.0333		83.8		30-120			
Chrysene	0.0251	0.00500	"	0.0333		75.3		30-120			
Dibenz (a,h) anthracene	0.0185	0.00500	"	0.0333		55.5		30-120			
Fluoranthene	0.0214	0.00500	"	0.0333		64.3		30-120			
Fluorene	0.0256	0.00500	"	0.0333		76.9		30-120			
Indeno (1,2,3-cd) pyrene	0.0171	0.00500	"	0.0333		51.4		30-120			
Pyrene	0.0196	0.00500	"	0.0333		58.8		35-142			
1-Methylnaphthalene	0.0237	0.00500	"	0.0333		71.1		35-142			
2-Methylnaphthalene	0.0233	0.00500	"	0.0333		69.9		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0268		"	0.0333		80.3		40-150			
Surrogate: Fluoranthene-d10	0.0297		"	0.0333		89.1		40-150			

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

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 BEB0382 - EPA 5030 Soil MS

Matrix Spike (BEB0382-MS1)

Source: 2102215-01

Prepared: 02/25/21 Analyzed: 02/26/21

Acenaphthene	0.0223	0.00500	mg/kg	0.0333	ND	66.8	31-137		
Anthracene	0.0221	0.00500	"	0.0333	ND	66.2	30-120		
Benzo (a) anthracene	0.0217	0.00500	"	0.0333	ND	65.1	30-120		
Benzo (a) pyrene	0.0222	0.00500	"	0.0333	ND	66.7	30-120		
Benzo (b) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.7	30-120		
Benzo (k) fluoranthene	0.0242	0.00500	"	0.0333	ND	72.7	30-120		
Chrysene	0.0219	0.00500	"	0.0333	ND	65.6	30-120		
Dibenz (a,h) anthracene	0.0161	0.00500	"	0.0333	ND	48.2	30-120		
Fluoranthene	0.0181	0.00500	"	0.0333	ND	54.2	30-120		
Fluorene	0.0224	0.00500	"	0.0333	ND	67.1	30-120		
Indeno (1,2,3-cd) pyrene	0.0150	0.00500	"	0.0333	ND	45.0	30-120		
Pyrene	0.0165	0.00500	"	0.0333	ND	49.6	35-142		
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130		
2-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.6	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0236		"	0.0333		70.9	40-150		
Surrogate: Fluoranthene-d10	0.0258		"	0.0333		77.4	40-150		

Matrix Spike Dup (BEB0382-MSD1)

Source: 2102215-01

Prepared: 02/25/21 Analyzed: 02/26/21

Acenaphthene	0.0253	0.00500	mg/kg	0.0333	ND	76.0	31-137	12.9	30
Anthracene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	14.1	30
Benzo (a) anthracene	0.0243	0.00500	"	0.0333	ND	73.0	30-120	11.4	30
Benzo (a) pyrene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	9.54	30
Benzo (b) fluoranthene	0.0293	0.00500	"	0.0333	ND	87.8	30-120	13.5	30
Benzo (k) fluoranthene	0.0276	0.00500	"	0.0333	ND	82.7	30-120	12.9	30
Chrysene	0.0247	0.00500	"	0.0333	ND	74.0	30-120	12.1	30
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	8.29	30
Fluoranthene	0.0206	0.00500	"	0.0333	ND	61.8	30-120	13.1	30
Fluorene	0.0253	0.00500	"	0.0333	ND	75.8	30-120	12.2	30
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	ND	48.6	30-120	7.62	30
Pyrene	0.0186	0.00500	"	0.0333	ND	55.9	35-142	12.1	30
1-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	66.0	15-130	13.9	50
2-Methylnaphthalene	0.0226	0.00500	"	0.0333	ND	67.7	15-130	16.1	50
Surrogate: 2-Methylnaphthalene-d10	0.0265		"	0.0333		79.4	40-150		
Surrogate: Fluoranthene-d10	0.0286		"	0.0333		85.9	40-150		

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/12/21 11:21

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 10, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2102230

Enclosed are the results of analyses for samples received by Summit Scientific on 02/18/21 17:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS23@7'	2102230-01	Soil	02/18/21 09:00	02/18/21 17:27
SS24@7'	2102230-02	Soil	02/18/21 09:05	02/18/21 17:27
SS25@3'	2102230-03	Soil	02/18/21 10:40	02/18/21 17:27
SS26@6'	2102230-04	Soil	02/18/21 10:45	02/18/21 17:27
SS27@3'	2102230-05	Soil	02/18/21 10:55	02/18/21 17:27
SS28@6'	2102230-06	Soil	02/18/21 10:55	02/18/21 17:27
SS29@3'	2102230-07	Soil	02/18/21 11:45	02/18/21 17:27
SS30@6'	2102230-08	Soil	02/18/21 11:50	02/18/21 17:27
SS31@7'	2102230-09	Soil	02/18/21 12:15	02/18/21 17:27
SS32@3'	2102230-10	Soil	02/18/21 13:10	02/18/21 17:27
SS33@6'	2102230-11	Soil	02/18/21 13:15	02/18/21 17:27
SS34@7'	2102230-12	Soil	02/18/21 13:50	02/18/21 17:27
SS35@3'	2102230-13	Soil	02/18/21 14:15	02/18/21 17:27
SS36@6'	2102230-14	Soil	02/18/21 14:20	02/18/21 17:27

Summit Scientific

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

Summit Scientific

S₂

2102230.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: _____ E-Mail: _____
 City/State/Zip: _____
 Phone: 970 481 6909 Project Name: Owl Creek 7, 7-5
 Sampler Name: Max Dahlstrom Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Heptahal	TPH (G-C36)					
1	SS23 @ 7'	2/18/21	900	2			X			X				X	X	X				
2	SS24 @ 7'		905																	
3	SS25 @ 3'		1040																	
4	SS26 @ 6'		1045																	
5	SS27 @ 3'		1055																	
6	SS28 @ 6'		1055																	
7	SS29 @ 3'		1145																	
8	SS30 @ 6'		1150																	
9	SS31 @ 7'		1215																	
10	SS32 @ 3'		1310																	

Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/18/21 1600</u>	Received by: <u>[Signature]</u>	Date/Time: <u>02/18/2021 1600</u>	Turn Around Time (Check)	Notes:
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Same Day <u>X</u> 72 hours _____	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	24 hours _____ Standard _____	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	48 hours _____	
Sample Integrity:				Temperature Upon Receipt: <u>3.8</u>	
Samples Intact: <u>Yes</u> No					

Summit Scientific

S₂

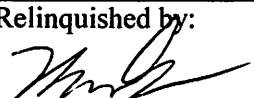
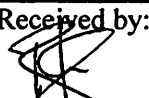
2102230.2

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

Page 2 of 2

Client: _____ Project Manager: _____
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Project Name: Owl Creek 7, 7-5
Sampler Name: _____ Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTex -910	Na ₂ As ₂ O ₄ -910	TPH (C6-C36) 910						
1	SS33 @ 6'	2/18/21	1315	2			X			X											
2	SS34 @ 7'		1350																		
3	SS35 @ 3'		1415																		
4	SS36 @ 6'		1420																		
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 2/18/21 1600	Received by: 	Date/Time: 02/18/2021 1600	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 38 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2102230

Client: POC/TASMAN Client Project ID: Owl Creek 7, 7-5

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>3.8</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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
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"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

TCC

[Signature]

02/18/2021



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS23@7'
2102230-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		126 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS23@7'
2102230-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		50.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.6 %	40-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS24@7'
2102230-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:05**

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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS24@7'
2102230-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		50.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS25@3'
2102230-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		126 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS25@3'
2102230-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		43.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.5 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS26@6'
2102230-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:45**

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		97.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		118 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS26@6'
2102230-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		43.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS27@3'
2102230-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS27@3'
2102230-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		45.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS28@6'
2102230-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		131 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS28@6'
2102230-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		41.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS29@3'
2102230-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		121 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS29@3'
2102230-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		41.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.6 %	40-150		"	"	"	"	

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS30@6'
2102230-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		134 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS30@6'
2102230-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/01/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.8 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS31@7'
2102230-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 12:15**

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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS31@7'
2102230-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		49.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.0 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS32@3'
2102230-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		128 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS32@3'
2102230-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		50.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.0 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS33@6'
2102230-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		133 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS33@6'
2102230-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS34@7'
2102230-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		86.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		127 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS34@7'
2102230-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 13:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		48.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS35@3'
2102230-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		103 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS35@3'
2102230-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.6 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS36@6'
2102230-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/21 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0287	02/18/21	02/18/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	02/18/21	"	"	
Naphthalene	ND	0.0038	"	"	"	02/18/21	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/21 14:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0288	02/18/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:20**

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

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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

SS36@6'
2102230-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/18/21 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEC0001	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/18/21 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.9 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

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 BEB0287 - EPA 5030 Soil MS

Blank (BEB0287-BLK1)

Prepared: 02/18/21 Analyzed: 02/19/21

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	0.0262		"	0.0400		65.4	23-173			
Surrogate: Toluene-d8	0.0494		"	0.0400		123	20-170			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	21-167			

LCS (BEB0287-BS1)

Prepared: 02/18/21 Analyzed: 02/19/21

Benzene	0.0766	0.0020	mg/kg	0.100		76.6	70-130			
Toluene	0.0847	0.0050	"	0.100		84.7	70-130			
Ethylbenzene	0.0924	0.0050	"	0.100		92.4	70-130			
m,p-Xylene	0.178	0.010	"	0.200		88.8	70-130			
o-Xylene	0.0888	0.0050	"	0.100		88.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0278		"	0.0400		69.6	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	21-167			

Matrix Spike (BEB0287-MS1)

Source: 2102230-01

Prepared: 02/18/21 Analyzed: 02/19/21

Benzene	0.0808	0.0020	mg/kg	0.100	ND	80.8	70-130			
Toluene	0.0781	0.0050	"	0.100	ND	78.1	70-130			
Ethylbenzene	0.0939	0.0050	"	0.100	ND	93.9	70-130			
m,p-Xylene	0.178	0.010	"	0.200	ND	89.2	70-130			
o-Xylene	0.0889	0.0050	"	0.100	ND	88.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0312		"	0.0400		78.0	23-173			
Surrogate: Toluene-d8	0.0356		"	0.0400		89.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	21-167			

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

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 BEB0287 - EPA 5030 Soil MS

Matrix Spike Dup (BEB0287-MSD1)	Source: 2102230-01			Prepared: 02/18/21 Analyzed: 02/19/21						
Benzene	0.0842	0.0020	mg/kg	0.100	ND	84.2	70-130	4.11	30	
Toluene	0.0830	0.0050	"	0.100	ND	83.0	70-130	6.07	30	
Ethylbenzene	0.0961	0.0050	"	0.100	ND	96.1	70-130	2.37	30	
m,p-Xylene	0.183	0.010	"	0.200	ND	91.6	70-130	2.69	30	
o-Xylene	0.0927	0.0050	"	0.100	ND	92.7	70-130	4.13	30	
Surrogate: 1,2-Dichloroethane-d4	0.0314		"	0.0400		78.6	23-173			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEB0288 - EPA 3550A

Blank (BEB0288-BLK1)

Prepared: 02/18/21 Analyzed: 02/19/21

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

LCS (BEB0288-BS1)

Prepared: 02/18/21 Analyzed: 02/19/21

C10-C28 (DRO)	536	50	mg/kg	500	107	70-130
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Matrix Spike (BEB0288-MS1)

Source: 2102230-01

Prepared: 02/18/21 Analyzed: 02/19/21

C10-C28 (DRO)	528	50	mg/kg	500	17.2	102	70-130
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Matrix Spike Dup (BEB0288-MSD1)

Source: 2102230-01

Prepared: 02/18/21 Analyzed: 02/19/21

C10-C28 (DRO)	485	50	mg/kg	500	17.2	93.5	70-130	8.68	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

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 BEC0001 - EPA 5030 Soil MS

Blank (BEC0001-BLK1)

Prepared: 03/01/21 Analyzed: 03/02/21

Fluorene	ND	0.00500	mg/kg							
1-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0166		"	0.0333		49.7	40-150			
Surrogate: Fluoranthene-d10	0.0176		"	0.0333		52.9	40-150			

LCS (BEC0001-BS1)

Prepared: 03/01/21 Analyzed: 03/02/21

Fluorene	0.0252	0.00500	mg/kg	0.0333		75.6	30-120			
1-Methylnaphthalene	0.0218	0.00500	"	0.0333		65.3	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0278		"	0.0333		83.3	40-150			
Surrogate: Fluoranthene-d10	0.0313		"	0.0333		94.0	40-150			

Matrix Spike (BEC0001-MS1)

Source: 2102230-01

Prepared: 03/01/21 Analyzed: 03/02/21

Fluorene	0.0237	0.00500	mg/kg	0.0333	ND	71.0	30-120			
1-Methylnaphthalene	0.0291	0.00500	"	0.0333	ND	87.2	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0323		"	0.0333		97.0	40-150			
Surrogate: Fluoranthene-d10	0.0376		"	0.0333		113	40-150			

Matrix Spike Dup (BEC0001-MSD1)

Source: 2102230-01

Prepared: 03/01/21 Analyzed: 03/02/21

Fluorene	0.0276	0.00500	mg/kg	0.0333	ND	82.8	30-120	15.3	30	
1-Methylnaphthalene	0.0251	0.00500	"	0.0333	ND	75.2	15-130	14.7	50	
Surrogate: 2-Methylnaphthalene-d10	0.0291		"	0.0333		87.4	40-150			
Surrogate: Fluoranthene-d10	0.0363		"	0.0333		109	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: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/10/21 15:55

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

March 04, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

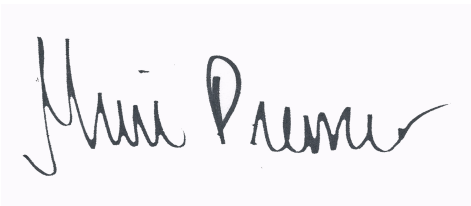
Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2102250

Enclosed are the results of analyses for samples received by Summit Scientific on 02/19/21 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 Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS37@7'	2102250-01	Soil	02/19/21 08:15	02/19/21 18:00
SS38@7'	2102250-02	Soil	02/19/21 08:20	02/19/21 18:00
SS39@3'	2102250-03	Soil	02/19/21 08:40	02/19/21 18:00
SS40@6'	2102250-04	Soil	02/19/21 08:45	02/19/21 18:00
SS41@7'	2102250-05	Soil	02/19/21 09:00	02/19/21 18:00
SS42@3'	2102250-06	Soil	02/19/21 09:05	02/19/21 18:00
SS43@6'	2102250-07	Soil	02/19/21 09:10	02/19/21 18:00
SS44@7'	2102250-08	Soil	02/19/21 09:30	02/19/21 18:00
SS45@3'	2102250-09	Soil	02/19/21 10:00	02/19/21 18:00
SS46@6'	2102250-10	Soil	02/19/21 10:05	02/19/21 18:00
SS47@3'	2102250-11	Soil	02/19/21 10:30	02/19/21 18:00
SS48@6'	2102250-12	Soil	02/19/21 10:35	02/19/21 18:00
SS49@7'	2102250-13	Soil	02/19/21 10:45	02/19/21 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

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403 2102250-1
303-277-9310

Page 1 of 2

Client: PDC /Tasman Project Manager: Mark Longhurst
Address: _____ E-Mail: mark.longhurst@pdce.com
City/State/Zip: _____
Phone: 970 481 6909 Project Name: Owl Creek 7, 7-5
Sampler Name: Max Dahlgren Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	TPH (C6-C36)		
1	SS37 @ 7'	2/19/21	815	2			X			X				X	X	X	
2	SS38 @ 7'		820											X	X	X	
3	SS39 @ 3'		840														
4	SS40 @ 6'		845														
5	SS41 @ 7'		900														
6	SS42 @ 3'		905														
7	SS43 @ 6'		910														
8	SS44 @ 7'		930														
9	SS45 @ 3'		1000														
10	SS46 @ 6'		1005														

Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/19/21 1245</u>	Received by: <u>[Signature]</u>	Date/Time: <u>02/19/2021 1245</u>	Turn Around Time (Check) Same Day <u>X</u> 72 hours <u>—</u> 24 hours <u>—</u> Standard <u>—</u> 48 hours <u>—</u>	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: <u>4.1</u> Samples Intact: <u>Yes</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Summit Scientific

S₂

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

2102250.2

Page 2 of 2

Client: PDC/Tasman

Project Manager:

Address:

E-Mail:

City/State/Zip:

Phone:

Project Name:

Owl Creek 7,7-5

Sampler Name:

Max Dahlgren

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	TPH (16-136)					
1	SS47 @ 3'	2/19/21	1030	2			X			X				X	X	X				
2	SS48 @ 6'		1035																	
3	SS49 @ 7'		1045																	
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: 4.1 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2102250

Client: PDC / TASMAN

Client Project ID: OWL CREEK 7, 7 - 5

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

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	4.1
-----------	-----

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"/>	
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"/>	
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.

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/19/21

Date/Time



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS37@7'
2102250-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS37@7'
2102250-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		46.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS38@7'
2102250-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS38@7'
2102250-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		51.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.0 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS39@3'
2102250-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		129 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		94.8 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS39@3'
2102250-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	0.0187	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.4 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS40@6'
2102250-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		90.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS40@6'
2102250-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 08:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		48.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		41.5 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS41@7'
2102250-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		101 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS41@7'
2102250-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		45.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.4 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS42@3'
2102250-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/19/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.6 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS42@3'
2102250-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		48.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS43@6'
2102250-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.7 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS43@6'
2102250-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		43.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.8 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS44@7'
2102250-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/19/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.3 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS44@7'
2102250-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		44.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.9 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS45@3'
2102250-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/20/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.0 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS45@3'
2102250-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		46.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.4 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS46@6'
2102250-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/20/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.4 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS46@6'
2102250-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.4 %	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: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS47@3'
2102250-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/20/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS47@3'
2102250-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		40.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.2 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS48@6'
2102250-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/20/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.5 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS48@6'
2102250-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		45.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.1 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS49@7'
2102250-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEB0305	02/19/21	02/20/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0306	02/19/21	02/20/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

SS49@7'
2102250-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Fluorene	ND	0.00500	mg/kg	1	BEC0002	03/01/21	03/02/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/19/21 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		50.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.3 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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 BEB0305 - EPA 5030 Soil MS

Blank (BEB0305-BLK1)

Prepared & Analyzed: 02/19/21

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	0.0370		"	0.0400		92.6	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		93.9	21-167			

LCS (BEB0305-BS1)

Prepared & Analyzed: 02/19/21

Benzene	0.0715	0.0020	mg/kg	0.100		71.5	70-130			
Toluene	0.0988	0.0050	"	0.100		98.8	70-130			
Ethylbenzene	0.0870	0.0050	"	0.100		87.0	70-130			
m,p-Xylene	0.163	0.010	"	0.200		81.7	70-130			
o-Xylene	0.0820	0.0050	"	0.100		82.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0298		"	0.0400		74.6	23-173			
Surrogate: Toluene-d8	0.0362		"	0.0400		90.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	21-167			

Matrix Spike (BEB0305-MS1)

Source: 2102250-01

Prepared & Analyzed: 02/19/21

Benzene	0.0818	0.0020	mg/kg	0.100	ND	81.8	70-130			
Toluene	0.0746	0.0050	"	0.100	ND	74.6	70-130			
Ethylbenzene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
m,p-Xylene	0.170	0.010	"	0.200	ND	85.1	70-130			
o-Xylene	0.0852	0.0050	"	0.100	ND	85.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0400		89.3	23-173			
Surrogate: Toluene-d8	0.0346		"	0.0400		86.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0361		"	0.0400		90.2	21-167			

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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 BEB0305 - EPA 5030 Soil MS

Matrix Spike Dup (BEB0305-MSD1)		Source: 2102250-01			Prepared & Analyzed: 02/19/21						
Benzene	0.0846	0.0020	mg/kg	0.100	ND	84.6	70-130	3.32	30		
Toluene	0.0763	0.0050	"	0.100	ND	76.3	70-130	2.19	30		
Ethylbenzene	0.0957	0.0050	"	0.100	ND	95.7	70-130	4.82	30		
m,p-Xylene	0.178	0.010	"	0.200	ND	89.0	70-130	4.44	30		
o-Xylene	0.0884	0.0050	"	0.100	ND	88.4	70-130	3.73	30		
Surrogate: 1,2-Dichloroethane-d4	0.0343		"	0.0400		85.8	23-173				
Surrogate: Toluene-d8	0.0355		"	0.0400		88.8	20-170				
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	21-167				

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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 BEB0306 - EPA 3550A

Blank (BEB0306-BLK1)

Prepared & Analyzed: 02/19/21

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

LCS (BEB0306-BS1)

Prepared & Analyzed: 02/19/21

C10-C28 (DRO)	536	50	mg/kg	500	107	70-130
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Matrix Spike (BEB0306-MS1)

Source: 2102250-01

Prepared & Analyzed: 02/19/21

C10-C28 (DRO)	528	50	mg/kg	500	12.7	103	70-130
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Matrix Spike Dup (BEB0306-MSD1)

Source: 2102250-01

Prepared & Analyzed: 02/19/21

C10-C28 (DRO)	485	50	mg/kg	500	12.7	94.4	70-130	8.68	20
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Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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 BEC0002 - EPA 5030 Soil MS

Blank (BEC0002-BLK1)

Prepared & Analyzed: 03/01/21

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	0.0151		"	0.0333		45.4	40-150			
Surrogate: Fluoranthene-d10	0.0169		"	0.0333		50.6	40-150			

LCS (BEC0002-BS1)

Prepared & Analyzed: 03/01/21

Acenaphthene	0.0276	0.00500	mg/kg	0.0333		82.8	31-137			
Anthracene	0.0273	0.00500	"	0.0333		81.9	30-120			
Benzo (a) anthracene	0.0274	0.00500	"	0.0333		82.3	30-120			
Benzo (a) pyrene	0.0277	0.00500	"	0.0333		83.0	30-120			
Benzo (b) fluoranthene	0.0297	0.00500	"	0.0333		89.0	30-120			
Benzo (k) fluoranthene	0.0282	0.00500	"	0.0333		84.7	30-120			
Chrysene	0.0274	0.00500	"	0.0333		82.3	30-120			
Dibenz (a,h) anthracene	0.0272	0.00500	"	0.0333		81.6	30-120			
Fluoranthene	0.0233	0.00500	"	0.0333		69.9	30-120			
Fluorene	0.0278	0.00500	"	0.0333		83.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0261	0.00500	"	0.0333		78.4	30-120			
Pyrene	0.0225	0.00500	"	0.0333		67.5	35-142			
1-Methylnaphthalene	0.0250	0.00500	"	0.0333		75.1	35-142			
2-Methylnaphthalene	0.0242	0.00500	"	0.0333		72.5	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0285		"	0.0333		85.4	40-150			
Surrogate: Fluoranthene-d10	0.0318		"	0.0333		95.3	40-150			

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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 BEC0002 - EPA 5030 Soil MS

Matrix Spike (BEC0002-MS1)

Source: 2102122-06

Prepared: 03/01/21 Analyzed: 03/02/21

Acenaphthene	0.0319	0.00500	mg/kg	0.0333	ND	95.7	31-137		
Anthracene	0.0316	0.00500	"	0.0333	ND	94.9	30-120		
Benzo (a) anthracene	0.0264	0.00500	"	0.0333	ND	79.2	30-120		
Benzo (a) pyrene	0.0264	0.00500	"	0.0333	ND	79.2	30-120		
Benzo (b) fluoranthene	0.0370	0.00500	"	0.0333	0.00598	92.9	30-120		
Benzo (k) fluoranthene	0.0348	0.00500	"	0.0333	ND	104	30-120		
Chrysene	0.0540	0.00500	"	0.0333	0.0252	86.6	30-120		
Dibenz (a,h) anthracene	0.0152	0.00500	"	0.0333	ND	45.6	30-120		
Fluoranthene	0.0294	0.00500	"	0.0333	0.00209	81.9	30-120		
Fluorene	0.0268	0.00500	"	0.0333	ND	80.5	30-120		
Indeno (1,2,3-cd) pyrene	0.0135	0.00500	"	0.0333	ND	40.4	30-120		
Pyrene	0.0476	0.00500	"	0.0333	0.00818	118	35-142		
1-Methylnaphthalene	0.0387	0.00500	"	0.0333	0.00377	105	15-130		
2-Methylnaphthalene	0.0434	0.00500	"	0.0333	0.00719	109	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0357		"	0.0333		107	40-150		
Surrogate: Fluoranthene-d10	0.0330		"	0.0333		99.1	40-150		

Matrix Spike Dup (BEC0002-MSD1)

Source: 2102122-06

Prepared: 03/01/21 Analyzed: 03/02/21

Acenaphthene	0.0306	0.00500	mg/kg	0.0333	ND	91.9	31-137	4.00	30
Anthracene	0.0307	0.00500	"	0.0333	ND	92.2	30-120	2.95	30
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.6	30-120	4.57	30
Benzo (a) pyrene	0.0249	0.00500	"	0.0333	ND	74.8	30-120	5.77	30
Benzo (b) fluoranthene	0.0351	0.00500	"	0.0333	0.00598	87.5	30-120	5.02	30
Benzo (k) fluoranthene	0.0323	0.00500	"	0.0333	ND	96.8	30-120	7.55	30
Chrysene	0.0499	0.00500	"	0.0333	0.0252	74.3	30-120	7.85	30
Dibenz (a,h) anthracene	0.0117	0.00500	"	0.0333	ND	35.2	30-120	25.6	30
Fluoranthene	0.0277	0.00500	"	0.0333	0.00209	76.7	30-120	6.00	30
Fluorene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	5.43	30
Indeno (1,2,3-cd) pyrene	0.0110	0.00500	"	0.0333	ND	33.1	30-120	19.8	30
Pyrene	0.0439	0.00500	"	0.0333	0.00818	107	35-142	8.15	30
1-Methylnaphthalene	0.0356	0.00500	"	0.0333	0.00377	95.4	15-130	8.43	50
2-Methylnaphthalene	0.0403	0.00500	"	0.0333	0.00719	99.3	15-130	7.52	50
Surrogate: 2-Methylnaphthalene-d10	0.0316		"	0.0333		94.8	40-150		
Surrogate: Fluoranthene-d10	0.0317		"	0.0333		95.2	40-150		

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/21 13:02

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

February 24, 2021

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000


Denver, CO 80203

RE: Owl Creek 7,7-5

Work Order #2102273

Enclosed are the results of analyses for samples received by Summit Scientific on 02/22/21 18:03. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Muri Premier For Paul Shrewsbury
President



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS50@7.5'	2102273-01	Soil	02/22/21 09:45	02/22/21 18:03
GW01	2102273-02	Water	02/22/21 09:30	02/22/21 18:03

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.

2102273

Summit Scientific

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client:	PDC / Tasman	Project Manager:	Mark Longhurst
Address:	6855 W 119th Ave	E-Mail:	mark.longhurst@PDCE.com
City/State/Zip:	Broomfield/ CO/ 80020		
Phone:	303-487-1228	Project Name:	Owl Creek 7, 7-5
Sampler Name:	Max Dahlgren	Project Number:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEX	TPH - (C6 - C36)	Naphthalene	1,2,4 - TMB	1,3, 5 - TMB	Fluorene	1-Methylnaphthalene	ON HOLD		
1	SS50 @ 7.5'	2/22/2021	945	2			X			X				X	X	X	X		X	X		
2	GW01	2/22/2021	930	3	X				X					X		X	X					
3	SS51 @ 2.5'	2/22/2021	940	2			X			X											X	
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes: Use 915 methods for all analysis
Keon Fletcher	2/22/21 1530	Tasman's Lock Box	2/22/21 1530	Same Day	<u>X</u> 72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Tasman's Lock Box	02/22/2021 1730	[Signature]	02/22/2021 1730	48 hours		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:		
				Temperature Upon Receipt:	<u>4.3</u>	
				Samples Intact:	<u>Yes</u> No	

Sample Receipt Checklist

S2 Work Order 2102273

Client: PDC/TABMAN Client Project ID: Owl Creek 7, 7-5

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

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

Temp (°C) 4.3

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"/>	
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"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCL
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

R6
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

02/22/201
Date/Time



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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

SS50@7.5'
2102273-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BEB0327	02/22/21	02/22/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BEB0328	02/22/21	02/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		95.4 %	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: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

SS50@7.5'
2102273-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Fluorene	ND	0.00500	mg/kg	1	BEB0329	02/23/21	02/24/21	EPA 8270D SIM	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/22/21 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10		44.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		41.3 %	40-150		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

GW01
2102273-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/22/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BEB0310	02/22/21	02/22/21	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	2.9	1.0		"	"	"	"	"	"	
Xylenes (total)	5.9	2.0		"	"	"	"	"	"	
Naphthalene	2.8	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	12	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	1.8	1.0		"	"	"	"	"	"	

Date Sampled: **02/22/21 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		134 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0310 - EPA 5030 Water MS

Blank (BEB0310-BLK1)

Prepared & Analyzed: 02/22/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	17.9		"	13.3		134	23-173			
Surrogate: Toluene-d8	12.4		"	13.3		93.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.9	21-167			

LCS (BEB0310-BS1)

Prepared & Analyzed: 02/22/21

Benzene	40.8	1.0	ug/l	33.3		122	51-132			
Toluene	36.8	1.0	"	33.3		110	51-138			
Ethylbenzene	38.9	1.0	"	33.3		117	58-146			
m,p-Xylene	73.5	2.0	"	66.7		110	57-144			
o-Xylene	38.9	1.0	"	33.3		117	53-146			
Naphthalene	40.6	1.0	"	33.3		122	70-130			
1,2,4-Trimethylbenzene	31.4	1.0	"	33.3		94.2	70-130			
1,3,5-Trimethylbenzene	37.7	1.0	"	33.3		113	70-130			
Surrogate: 1,2-Dichloroethane-d4	17.3		"	13.3		130	23-173			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	21-167			

Matrix Spike (BEB0310-MS1)

Source: 2102254-01

Prepared & Analyzed: 02/22/21

Benzene	41.4	1.0	ug/l	33.3	ND	124	34-141			
Toluene	37.1	1.0	"	33.3	ND	111	27-151			
Ethylbenzene	38.9	1.0	"	33.3	ND	117	29-160			
m,p-Xylene	73.6	2.0	"	66.7	ND	110	20-166			
o-Xylene	38.2	1.0	"	33.3	ND	115	33-159			
Naphthalene	34.3	1.0	"	33.3	ND	103	70-130			
1,2,4-Trimethylbenzene	31.2	1.0	"	33.3	ND	93.7	70-130			
1,3,5-Trimethylbenzene	37.8	1.0	"	33.3	ND	113	70-130			
Surrogate: 1,2-Dichloroethane-d4	17.4		"	13.3		130	23-173			
Surrogate: Toluene-d8	12.4		"	13.3		93.4	20-170			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	21-167			

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0310 - EPA 5030 Water MS

Matrix Spike Dup (BEB0310-MSD1)		Source: 2102254-01			Prepared & Analyzed: 02/22/21					
Benzene	40.7	1.0	ug/l	33.3	ND	122	34-141	1.58	30	
Toluene	36.9	1.0	"	33.3	ND	111	27-151	0.460	30	
Ethylbenzene	39.0	1.0	"	33.3	ND	117	29-160	0.282	30	
m,p-Xylene	73.9	2.0	"	66.7	ND	111	20-166	0.312	30	
o-Xylene	39.1	1.0	"	33.3	ND	117	33-159	2.35	30	
Naphthalene	37.0	1.0	"	33.3	ND	111	70-130	7.59	30	
1,2,4-Trimethylbenzene	31.4	1.0	"	33.3	ND	94.2	70-130	0.543	30	
1,3,5-Trimethylbenzene	37.9	1.0	"	33.3	ND	114	70-130	0.290	30	
Surrogate: 1,2-Dichloroethane-d4	17.4		"	13.3		131	23-173			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	21-167			

Batch BEB0327 - EPA 5030 Soil MS

Blank (BEB0327-BLK1)		Prepared: 02/22/21 Analyzed: 02/23/21								
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	0.0410		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0370		"	0.0400		92.6	21-167			

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0327 - EPA 5030 Soil MS

LCS (BEB0327-BS1)

Prepared: 02/22/21 Analyzed: 02/23/21

Benzene	0.0928	0.0020	mg/kg	0.100		92.8	70-130		
Toluene	0.106	0.0050	"	0.100		106	70-130		
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130		
m,p-Xylene	0.210	0.010	"	0.200		105	70-130		
o-Xylene	0.101	0.0050	"	0.100		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	0.0397		"	0.0400		99.2	23-173		
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170		
Surrogate: 4-Bromofluorobenzene	0.0360		"	0.0400		89.9	21-167		

Matrix Spike (BEB0327-MS1)

Source: 2102268-01

Prepared: 02/22/21 Analyzed: 02/23/21

Benzene	0.0921	0.0020	mg/kg	0.100	ND	92.1	70-130		
Toluene	0.103	0.0050	"	0.100	ND	103	70-130		
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130		
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130		
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130		
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.5	23-173		
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	20-170		
Surrogate: 4-Bromofluorobenzene	0.0370		"	0.0400		92.4	21-167		

Matrix Spike Dup (BEB0327-MSD1)

Source: 2102268-01

Prepared: 02/22/21 Analyzed: 02/23/21

Benzene	0.0919	0.0020	mg/kg	0.100	ND	91.9	70-130	0.261	30
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	2.00	30
Ethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	1.25	30
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130	0.975	30
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130	2.83	30
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	23-173		
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170		
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.8	21-167		

Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0328 - EPA 3550A

Blank (BEB0328-BLK1)

Prepared: 02/22/21 Analyzed: 02/23/21

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

LCS (BEB0328-BS1)

Prepared: 02/22/21 Analyzed: 02/23/21

C10-C28 (DRO)	420	50	mg/kg	500	84.0	70-130
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Matrix Spike (BEB0328-MS1)

Source: 2102268-01

Prepared: 02/22/21 Analyzed: 02/23/21

C10-C28 (DRO)	418	50	mg/kg	500	14.5	80.6	70-130
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Matrix Spike Dup (BEB0328-MSD1)

Source: 2102268-01

Prepared: 02/22/21 Analyzed: 02/23/21

C10-C28 (DRO)	416	50	mg/kg	500	14.5	80.3	70-130	0.317	20
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Summit Scientific

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

Project: Owl Creek 7,7-5
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0329 - EPA 5030 Soil MS

Blank (BEB0329-BLK1)

Prepared: 02/23/21 Analyzed: 02/24/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0185		"	0.0333		55.6	40-150			
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.2	40-150			

LCS (BEB0329-BS1)

Prepared: 02/23/21 Analyzed: 02/24/21

Acenaphthene	0.0232	0.00500	mg/kg	0.0333		69.6	31-137			
Anthracene	0.0274	0.00500	"	0.0333		82.2	30-120			
Benzo (a) anthracene	0.0240	0.00500	"	0.0333		71.9	30-120			
Benzo (a) pyrene	0.0203	0.00500	"	0.0333		61.0	30-120			
Benzo (b) fluoranthene	0.0198	0.00500	"	0.0333		59.3	30-120			
Benzo (k) fluoranthene	0.0198	0.00500	"	0.0333		59.5	30-120			
Chrysene	0.0221	0.00500	"	0.0333		66.4	30-120			
Dibenz (a,h) anthracene	0.0205	0.00500	"	0.0333		61.4	30-120			
Fluoranthene	0.0224	0.00500	"	0.0333		67.3	30-120			
Fluorene	0.0213	0.00500	"	0.0333		63.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333		65.5	30-120			
Pyrene	0.0196	0.00500	"	0.0333		58.7	35-142			
1-Methylnaphthalene	0.0229	0.00500	"	0.0333		68.7	35-142			
2-Methylnaphthalene	0.0229	0.00500	"	0.0333		68.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0278		"	0.0333		83.4	40-150			
Surrogate: Fluoranthene-d10	0.0302		"	0.0333		90.8	40-150			

Summit Scientific

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

Project: Owl Creek 7,7-5

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

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 BEB0329 - EPA 5030 Soil MS

Matrix Spike (BEB0329-MS1)			Source: 2102235-01		Prepared: 02/23/21		Analyzed: 02/24/21			
Acenaphthene	0.276	0.00500	mg/kg	0.0333	ND	829	31-137			QM-07
Anthracene	0.238	0.00500	"	0.0333	ND	715	30-120			QM-07
Benzo (a) anthracene	0.0239	0.00500	"	0.0333	ND	71.8	30-120			
Benzo (a) pyrene	0.0205	0.00500	"	0.0333	ND	61.4	30-120			
Benzo (b) fluoranthene	0.0254	0.00500	"	0.0333	0.00684	55.8	30-120			
Benzo (k) fluoranthene	0.0260	0.00500	"	0.0333	ND	78.1	30-120			
Chrysene	0.0379	0.00500	"	0.0333	0.0198	54.4	30-120			
Dibenz (a,h) anthracene	0.0121	0.00500	"	0.0333	ND	36.2	30-120			
Fluoranthene	0.0401	0.00500	"	0.0333	0.0182	65.6	30-120			
Fluorene	0.445	0.00500	"	0.0333	0.447	NR	30-120			QM-07
Indeno (1,2,3-cd) pyrene	0.0130	0.00500	"	0.0333	ND	39.0	30-120			
Pyrene	0.0415	0.00500	"	0.0333	0.0181	70.2	35-142			
1-Methylnaphthalene	1.09	0.00500	"	0.0333	0.676	NR	15-130			QM-07
2-Methylnaphthalene	1.31	0.00500	"	0.0333	0.911	NR	15-130			QM-07
Surrogate: 2-Methylnaphthalene-d10	0.00576		"	0.0333		17.3	40-150			S-02
Surrogate: Fluoranthene-d10	0.0308		"	0.0333		92.3	40-150			

Matrix Spike Dup (BEB0329-MSD1)			Source: 2102235-01		Prepared: 02/23/21		Analyzed: 02/24/21			
Acenaphthene	0.169	0.00500	mg/kg	0.0333	ND	508	31-137	48.1	30	QM-07
Anthracene	0.0373	0.00500	"	0.0333	ND	112	30-120	146	30	QM-07
Benzo (a) anthracene	0.0259	0.00500	"	0.0333	ND	77.7	30-120	7.83	30	
Benzo (a) pyrene	0.0218	0.00500	"	0.0333	ND	65.4	30-120	6.33	30	
Benzo (b) fluoranthene	0.0259	0.00500	"	0.0333	0.00684	57.2	30-120	1.80	30	
Benzo (k) fluoranthene	0.0263	0.00500	"	0.0333	ND	78.9	30-120	1.03	30	
Chrysene	0.0380	0.00500	"	0.0333	0.0198	54.5	30-120	0.126	30	
Dibenz (a,h) anthracene	0.0122	0.00500	"	0.0333	ND	36.6	30-120	1.00	30	
Fluoranthene	0.0440	0.00500	"	0.0333	0.0182	77.3	30-120	9.33	30	
Fluorene	0.245	0.00500	"	0.0333	0.447	NR	30-120	58.0	30	QM-07
Indeno (1,2,3-cd) pyrene	0.0124	0.00500	"	0.0333	ND	37.3	30-120	4.51	30	
Pyrene	0.0501	0.00500	"	0.0333	0.0181	95.8	35-142	18.6	30	
1-Methylnaphthalene	1.01	0.00500	"	0.0333	0.676	NR	15-130	7.71	50	QM-07
2-Methylnaphthalene	1.10	0.00500	"	0.0333	0.911	579	15-130	16.9	50	QM-07
Surrogate: 2-Methylnaphthalene-d10	0.00608		"	0.0333		18.2	40-150			S-02
Surrogate: Fluoranthene-d10	0.0348		"	0.0333		104	40-150			

Summit Scientific

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



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

Project: Owl Creek 7,7-5

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/24/21 15:52

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference