PDC Energy, Inc.

Third Quarter 2021 Groundwater Monitoring Summary

October 7, 2021

Former Anderson 12-13 Tank Battery
SENW Section 13 T6N R65W
Remediation # 17005

This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the former Anderson 12-13 Tank Battery. On July 27, 2021, eight monitoring wells (BH01 – BH08) were installed to confirm the absence of dissolved-phase hydrocarbon impacts within and adjacent to the former excavation extent. Lithologic descriptions and volatile organic compound (VOC) concentrations measured using a photoionization detector (PID) were recorded for each monitoring well. Per the condition of approval (COA) issued by the COGCC on July 2, 2021, soil samples were collected from each borehole to confirm the absence of hydrocarbon impacts as well as delineate arsenic levels on site. Soil samples were collected from each boring (BH01 – BH08) at depths ranging from 1-2 feet to 11-12 feet below ground surface (bgs). In addition, one background soil boring (BKG02) was advanced to a depth of 7 feet bgs and samples were collected at 3-4 feet and 6-7 feet bgs. Eight soil samples were submitted to Summit Scientific Laboratories (Summit) for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, total petroleum hydrocarbons (TPH) [C6-C36], 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB, 1-methynaphthalene (M), 2-M, arsenic, and selenium. Additionally, two background samples were submitted for laboratory analysis of arsenic and selenium. Boring and well completion logs are included in Attachment A.

Soil analytical results collected during monitoring well installation activities indicated that organic compound concentrations were below the applicable COGCC Table 915-1 standards in all boreholes. The arsenic concentration was in exceedance of the applicable regulatory soil standard but within 1.25x the background concentration in all boreholes. Additionally, selenium concentrations were in exceedance of the regulatory soil standard and above 1.25x the background concentration in boreholes BH01, BH02, BH04, and BH07. The selenium concentration was below regulatory standards and within 1.25x the background soil concentration in the remaining four borehole locations. Soil analytical results are summarized in Tables 1 and 2. The laboratory analytical report is included in Attachment B.

On August 23, 2021, groundwater monitoring was conducted at all eight monitoring wells (BH01 – BH08). Eight groundwater samples were submitted to Summit for analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by EPA Method 8260B. Additionally, groundwater

samples BH01, BH04, and BH07 were submitted to Summit for analysis of total dissolved solids (TDS) by Method SM 2540C, chloride, and sulfate anions by EPA Method 300.0.

Third quarter 2021 analytical results indicated that organic compound concentrations were below the applicable COGCC Table 915-1 groundwater standard in all eight monitoring well locations. Chloride ion concentrations were below the applicable regulatory standards in all monitoring well locations. Sulfate concentrations were above the regulatory standard in all monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figures 1 and 2. Groundwater elevation data is illustrated on Figure 3. Groundwater analytical results are summarized in Tables 3 and 4. The laboratory analytical report is included in Attachment B.

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the third quarter 2021 and will remain the selected remediation strategy through the fourth quarter 2021.

Fourth quarter 2021 groundwater sampling will be conducted in November 2021.

BH01	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	4.52

BH02	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	3.20

BH06	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	3.86

BH08	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	2.36

BH07	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	3.38

BH05	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	3.41

BH03	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	2.28

BH04	
Compound (µg/L)	8/23/2021
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<2.0
Naphthalene	<1.0
1,2,4-TMB	<1.0
1,3,5-TMB	<1.0
Depth to Water (ft. bgs)	2.75

BH01
BH02
BH03
BH04
BH05
BH06
BH07
BH08
GW01

Legend

- Excavation Extent (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Flow Direction (3Q21)

Notes

All locations are approximate unless otherwise noted.

GPS − Global Positioning System

µg/L – Micrograms per liter

ft. bgs − Feet below ground surface

TMB – Trimethylbenzene

0 ft. 20 ft. 40 ft.

N

Image Source: Google Earth; July 2019
Projection: WGS 84 UTM Zone 13 North

DATE: September 14, 2021
DESIGNED BY: C. Hamlin
DRAWN BY: C. Ambler

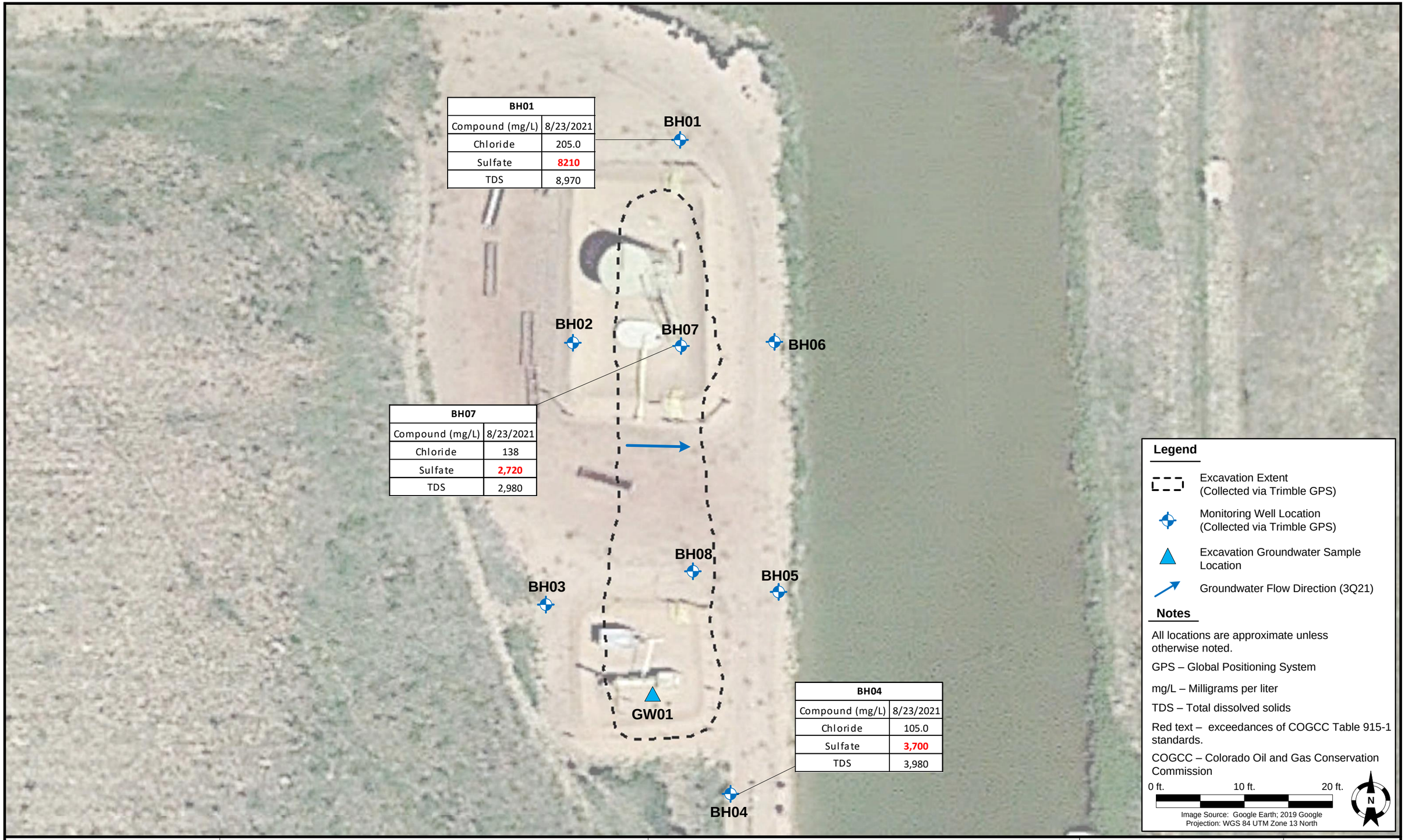
TASMAN GEOSCIENCES

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

PDC Energy, Inc. – DJ Basin
Former Anderson 12-13 Tank Battery
SENW, Section 13 Township 6 North, Range 65 West
Weld County, Colorado

GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 1



BH01	
Compound (mg/L)	8/23/2021
Chloride	205.0
Sulfate	8210
TDS	8,970

BH07	
Compound (mg/L)	8/23/2021
Chloride	138
Sulfate	2,720
TDS	2,980

BH04	
Compound (mg/L)	8/23/2021
Chloride	105.0
Sulfate	3,700
TDS	3,980

Legend

- Excavation Extent (Collected via Trimble GPS)
- Monitoring Well Location (Collected via Trimble GPS)
- Excavation Groundwater Sample Location
- Groundwater Flow Direction (3Q21)

Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

mg/L – Milligrams per liter

TDS – Total dissolved solids

Red text – exceedances of COGCC Table 915-1 standards.

COGCC – Colorado Oil and Gas Conservation Commission

0 ft. 10 ft. 20 ft.

N

Image Source: Google Earth; 2019 Google
Projection: WGS 84 UTM Zone 13 North

DATE: October 7, 2021

DESIGNED BY: C. Hamlin

DRAWN BY: J. Marcus

TASMAN GEOSCIENCES

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

PDC Energy, Inc. – DJ Basin
Former Anderson 12-13 Tank Battery
SENW, Section 13 Township 6 North, Range 65 West
Weld County, Colorado

GROUNDWATER ANALYTICAL RESULTS MAP (INORGANIC PARAMETERS)

FIGURE 2

Legend

- Excavation Extent (Collected via Trimble GPS)
- Groundwater Sample Location
- Monitoring Well Location (Collected via Trimble GPS)
- Groundwater Flow Direction (3Q21)
- Groundwater Elevation Contour (Dashed where inferred)

4789.61 Groundwater Elevation (ft. AMSL)

Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

ft. AMSL – Feet Above Mean Sea Level

0 ft. 20 ft. 40 ft.

N

Image Source: Google Earth; July 2019
Projection: WGS 84 UTM Zone 13 North

DATE:	September 14, 2021
DESIGNED BY:	C. Hamlin
DRAWN BY:	C. Ambler

TASMAN GEOSCIENCES

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

PDC Energy, Inc. – DJ Basin
Former Anderson 12-13 Tank Battery
SENW, Section 13 Township 6 North, Range 65 West
Weld County, Colorado

GROUNDWATER ELEVATION CONTOUR MAP (08/23/2021)

FIGURE 3

TABLE 1
FORMER ANDERSON 12-13 TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
CONTAMINANTS OF CONCERN

Sample ID	Date Sampled	Depth	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1, 2, 4-TMB (mg/kg)	1, 3, 5-TMB (mg/kg)	Naphthalene (mg/kg)	TPH[4] (mg/kg)	Anthracene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Arsenic (mg/kg)	Selenium (mg/kg)
Residential SSL [1,2]			**1.2**	**490**	**5.8**	**58**	**30**	**27**	**2**	**500**	**1,800**	**18**	**24**	**0.68**	**390**
Protection of Groundwater SSL [1,2,3]			**0.0026**	**0.69**	**0.78**	**9.9**	**0.0081**	**0.0087**	**0.0038**	**500**	**5.8**	**0.006**	**0.019**	**0.29**	**0.26**
SS01 @ 3'	3/31/2021	3 ft. bgs	**0.077**	<0.0050	0.047	0.40	**0.096**	**0.035**	**0.0079**	3.0	NA	NA	NA	NA	NA
SS02 @ 4'	3/31/2021	4 ft. bgs	**0.073**	0.016	0.017	0.078	**0.024**	0.0055	<0.0038	1.2	NA	NA	NA	NA	NA
PWV01-B @ 4'	3/31/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA	NA
PWV01-S @ 2.5'	3/31/2021	2.5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA	NA
AST01 @ 0-6"	3/31/2021	0-6 in. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA	NA
SEP01-FL @ 3'	3/31/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	NA	NA	NA	NA	NA
SS03 @ 4'	4/1/2021	4 ft. bgs	<0.020	<0.050	0.64	1.9	**5.2**	**2.3**	**0.62**	380	0.0241	**0.0747**	**0.153**	**7.76**	**1.16**
SS04 @ 6'	4/1/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.21**	**1.08**
SS05 @ 5'	4/1/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.60**	**1.10**
SS06 @ 6'	4/1/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.18**	**0.998**
SS07 @ 5'	4/2/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.76**	**1.13**
SS08 @ 3'	4/2/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.26**	**1.08**
SS09 @ 6'	4/2/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.89**	**0.990**
SS10 @ 5'	4/2/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**4.72**	**0.925**
SS11 @ 3'	4/2/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**9.93**	**1.32**
SS12 @ 5'	4/2/2021	5 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.27**	**1.10**
SS13 @ 3'	4/2/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**9.68**	**1.63**
SS14 @ 7'	4/2/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**8.96**	**1.04**
SS15 @ 6'	4/2/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**4.86**	**1.36**
SS16 @ 3'	4/2/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.57	<0.0050	<0.00500	<0.00500	**7.76**	**1.39**
SS17 @ 6'	4/5/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.76**	**1.15**
SS18 @ 3'	4/5/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**8.47**	**1.47**
SS19 @ 3'	4/5/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**10.2**	**2.03**
SS20 @ 6'	4/5/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.80**	**1.26**
SS21 @ 7'	4/5/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**8.02**	**1.11**
SS22 @ 4'	4/5/2021	4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.68**	**0.825**
SS23 @ 6'	4/5/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.37**	**0.718**
SS24 @ 7'	4/6/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.72**	**1.09**
SS25 @ 6'	4/6/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.68**	**1.00**
SS26 @ 3'	4/6/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.80**	**0.904**
SS27 @ 6'	4/6/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.33**	**0.856**
SS28 @ 3'	4/6/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**9.36**	**1.01**
SS29 @ 6'	4/6/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**8.36**	**1.25**
SS30 @ 3'	4/6/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.62**	**0.723**
SS32 @ 6'	4/7/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.48**	**0.813**
SS33 @ 3'	4/7/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**10.8**	**1.05**
SS34 @ 6'	4/7/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.93**	**0.843**
SS35 @ 3'	4/7/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.51**	**0.789**
SS36 @ 7'	4/7/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.07**	**0.987**
SS37 @ 6'	4/7/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**7.35**	**0.718**
SS38 @ 3'	4/7/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.14**	**0.942**
SS39 @ 7'	4/7/2021	7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**4.77**	**1.06**
SS40 @ 6'	4/7/2021	6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**3.34**	**0.378**
SS41 @ 3'	4/7/2021	3 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**5.94**	**1.03**
BH01 @ 3-4'	7/27/2021	3-4 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.57**	**1.64**
BH02 @ 1-2'	7/27/2021	1-2 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.12**	**1.65**
BH03 @ 8-9'	7/27/2021	8-9 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.68**	**1.07**
BH04 @ 7-8'	7/27/2021	7-8 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**4.82**	**1.39**
BH05 @ 5-6'	7/27/2021	5-6 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.12**	**1.23**
BH06 @ 6-7'	7/27/2021	6-7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**4.88**	**1.12**
BH07 @ 11-12'	7/27/2021	11-12 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.83**	**1.37**
BH08 @ 6-7'	7/27/2021	6-7 ft. bgs	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.0050	<0.00500	<0.00500	**6.48**	**1.20**

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
mg/kg = Milligrams per kilogram
= Source material characterization sample
ft. = Feet
in. = Inches
bgs = Below ground surface
BOLD = Analytical result is in exceedance of applicable standard but within 1.25x the background soil concentration.
BOLD = Analytical result is in exceedance of applicable standard and above 1.25x the background soil concentration.
NA = Constituent not analyzed

TABLE 4
FORMER ANDERSON 12-13 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**
SS03 @ 4'	4/1/2021	4 ft. bgs	**7.76**	**158**	0.258	<0.30 [4]	11.7	9.84	13.1	**1.16**	0.0540	50.6
BKG01 @ 2.5'	3/31/2021	2.5 ft. bgs	**5.53**	**141**	<0.249	<0.30 [4]	11.1	8.87	11.7	**0.824**	0.0420	42.4
BKG02 @ 3-4'	7/27/2021	3-4 ft. bgs	**5.63**	NA	NA	NA	NA	NA	NA	**1.01**	NA	NA
BKG02 @ 6-7'	7/27/2021	6-7 ft. bgs	**1.56**	NA	NA	NA	NA	NA	NA	**1.04**	NA	NA

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. Compound falls within COGCC Table 915-1 Footnote 9.
COGCC = Colorado Oil and Gas Conservation Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
mg/kg = Milligrams per kilogram
= Source material characterization sample
ft. = Feet
bgs = Below ground surface
BOLD = Analytical result is in exceedance of applicable standard.
BOLD = Analytical result is in exceedance of applicable standard, but within 1.25x background concentration.
NA = Constituent not analyzed

TABLE 3
FORMER ANDERSON 12-13 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

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**	**-**	**-**
BH01	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	4.52	4685.58
BH02	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.20	4685.93
BH03	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.28	4685.81
BH04	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.75	4685.62
BH05	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.41	4685.50
BH06	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.86	4685.45
BH07	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	3.38	4686.00
BH08	8/23/2021	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	2.36	4685.94

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 4
FORMER ANDERSON 12-13 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC PARAMETERS

Sample ID	Date Sampled	TDS (unit)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Table 915-1 Groundwater Standard (mg/L) [1]		**<1.25 x BCKG**	**250 or <1.25 x BCKG**	**250 or <1.25 x BCKG**
BH01	8/23/2021	8,970	205	**8,210**
BH04	8/23/2021	3,980	105	**3,700**
BH07	8/23/2021	2,980	138	**2,720**

Notes:

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

TDS = Total dissolved solids

COGCC = Colorado Oil and Gas Conservation Commission

BCKG = Background

mg/L = Milligrams per liter

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

BOLD = Analytical result is in exceedance of applicable standard.

Attachment A

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH01	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: N POC	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 7' TD: 17'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		GW	Brown gravel, fine to coarse grained, poorly sorted, dry, no odor
2				0.3		CL	Brown silty clay, low plasticity, dry, no odor
3		HA	100%	0.0			↓
4		↓	↓	0.5	BH01@3-4'	CL	Same as above, grey-tan
5				0.0		CL	Same as above, med. plasticity
6		↓	↓	0.0		CL	Same as above, tan
7 ▽		↑	↑	0.0	BH01@7'	CL	Same as above, saturated
8		Push Probe	80%	↓			
9				0.0			
10			↓	↓			
11			↑ 100%	0.0			
12		↓	↓	0.0			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH02	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: NW POC	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 6' TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		HA	100%	0.4		CL	Brown silty clay, very low plasticity, dry, no odor
2				0.8	BH02@2'		↓
3				0.0		CL	Gray, brown clay, med plasticity, dry, no odor
4				0.0	BH02@4'	CL	Brown silty clay, low plasticity, dry, no odor
5				0.0			↓
6 ▽				0.0		CL	Same as above, saturated
7		Push Probe	80%	0.0	BH02@6'		↓
8				0.0			
9				↓			
10				0.0			
11			40%	0.0		CL	Same as above, very low plas.
12				0.0			↓
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH03	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: SW PDC	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 6' TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		SW	Brown sand, fine-coarse gr., poorly sorted, dry, no odor
2				0.0			↓
3		HA	100%	0.0		CL	Brown/tan silty clay, low plasticity, dry, no odor
4				0.0	BH03@3-4'		↓
5				0.0			↓
6 ▽				0.3		CL	Same as above, saturated
7				0.0	BH03@6-7'	CL	Same as above, tan
8		Push	95%	0.0			↓
9		Probe		0.5	BH03@8-9'	CL	Same as above, sandy clay
10				0.4			↓
11			95%	0.0		CL	Same as above, silty clay
12				0.0			↓
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

Borehole Logging Form

TASMAN GEOSCIENCES

BOREHOLE ID: BH04	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: S POC	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 7' TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		HA		0.0		GW	Tan gravel, med-very coarse grained, poorly sorted, dry, no odor
2				0.0		CL	Brown sandy clay, very low plasticity, dry, no odor
3			100%	0.0		CL	Brown silty clay, low plasticity, dry, no odor
4				0.0	BH04@3-4'		
5				0.0			
6				0.0			
7 ▽				0.0	BH04@6-7'	CL	See as above, tan, saturated
8		Push Probe	85%	0.4	BH04@7-8'		
9				0.0			
10				0.8			
11			85%	0.0			
12				0.0			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH05	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: SE Pad	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 7' TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size: 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		SW	Brown gravely sand, fine to very coarse grained, poorly sorted, dry, no odor
2				0.0		CL	Brown clay, low-med plasticity, dry, no odor
3		HA	100%	0.0			
4				0.0	BH05@3-4'		
5				0.0			
6				0.0	BH05@5-6'	CL	Same as above, tan, low plasticity
7 ▽				0.0	BH05@6-7'	CL	Same as above, saturated
8		Push Probe	90%	0.0			
9				0.0			
10				0.0		CL	Same as above, sandy clay
11				0.0		CL	Same as above, silty clay
12				0.0			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH06	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: NE POC	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 7 TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		CL	Brown/tan silty clay, very low plasticity, dry, no odor
2				0.0			
3		HA	100%	0.0		CL	Same as above, clay, med plas.
4				0.0	BH06@3-4'	CL	Same as above, silty clay, low plasticity
5				0.0			
6				0.0			
7 ▽				0.3	BH06@6-7'	CL	Same as above, tan, saturated
8				0.2			
9		Push Probe	60%	0.1		CL	Same as above, sandy clay
10				0.2		CL	Same as above, silty clay, low-med plas.
11				0.0			
12				0.1			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH07	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: N Source	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 5' TD: 12'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		GW	Brown gravel, fine to coarse gr., poorly sorted, dry, no odor
2				0.0			
3		HA	100%	0.0		SM	Brown silty clay, low plasticity, dry, no odor
4				0.0	BH07@3-4'		
5 ▽				0.0			
6				0.0		SM	Same as above, saturated
7				0.0	BH07@6-7'		
8		Push Probe	50%	0.0			
9							
10							
11				0.0		SM	Same as above, tan low-med plasticity
12			89%	0.1	BH07@11-12'		
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BH08	SITE NAME: Anderson 12-13	CLIENT NAME: PDC ENERGY
Date Completed: 7/27/2021	Location: S Spruce	
Drilling Company: Tasman Geosciences	Surface Completion: Flush	DTW: 6' TD: 17'
Type of Drill: Direct Push Drilling	Geologist: J. Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger / Macro-Core Liner	
Well Const. Material: Diameter: 1"	Screen: Sch 40 PVC Slotted 0.010	Riser: Sch 40 PVC Blank

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1				0.0		CL	Brown silty clay, very low plasticity, dry, no odor
2				0.4			
3			100%	0.0			
4		HA		0.0	BH08@4'		
5				0.0			
6 ▽				0.0		CL	Same as above, saturated
7				0.6	BH08@7'		
8							
9		Push Probe	50%	0.3		CL	Same as above, lowered plas
10							
11				0.0			
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

TASMAN GEOSCIENCES

Borehole Logging Form

BOREHOLE ID: BKG02	**SITE NAME: Anderson 12-13**	**CLIENT NAME: PDC ENERGY**
Date Completed: 7/27/2021	Location: Background (NW)	
Drilling Company: Tasman Geosciences	Surface Completion: N/A	DTW: 6' TD: 7'
Type of Drill: Hand Auger	Geologist: Jesse Marcus	Project Manager: B. Nelson
Bit Size : 2 3/8"	Logging Method: Hand Auger	

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	↑	↑	↑	0.0		CL	Brown silty clay, low plasticity, dry no odor
2				0.0			↓
3				0.0		CL	Same as above, med plasticity
4	NONE	HA	100%	0.1	BKG02@3-4'	CL	↓ Brown/tan clay, med plasticity, dry no odor
5				0.0			
6 ▽				0.0			↓
7	↓	↓	↓	0.5	BKG02@6-7'	CL	Same as above, saturated
8							↓
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

Attachment B

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

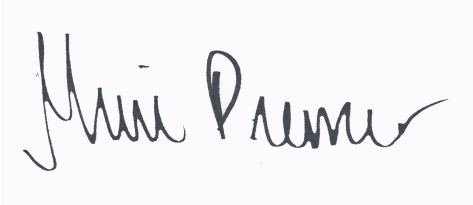
August 18, 2021

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

RE: Anderson 12-13
Work Order #2107372

Enclosed are the results of analyses for samples received by Summit Scientific on 07/27/21 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@3-4'	2107372-01	Soil	07/27/21 09:30	07/27/21 17:45
BH02@1-2'	2107372-03	Soil	07/27/21 09:40	07/27/21 17:45
BH03@8-9'	2107372-08	Soil	07/27/21 11:40	07/27/21 17:45
BH04@7-8'	2107372-11	Soil	07/27/21 12:05	07/27/21 17:45
BH05@5-6'	2107372-13	Soil	07/27/21 11:01	07/27/21 17:45
BH06@6-7'	2107372-16	Soil	07/27/21 13:45	07/27/21 17:45
BH07@11-12'	2107372-19	Soil	07/27/21 14:05	07/27/21 17:45
BH08@6-7'	2107372-21	Soil	07/27/21 13:05	07/27/21 17:45
BKG02@3-4'	2107372-22	Soil	07/27/21 14:50	07/27/21 17:45
BKG02@6-7'	2107372-23	Soil	07/27/21 14:55	07/27/21 17:45

Summit Scientific

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

2107372.1

Summit Scientific

S_2

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

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:	Anderson 12-13
Sampler Name:	J. Marcus	Project Number:	n/a

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	1,2-M	arsenic	selenium	pH, EC, SAR by saturated paste 1,2-M = 1,2-methylnaphthalene Remaining samples ON HOLD
1	BH01@3-4'	7/27/21	0930	3			x			x			x	x	x			x	x	x	
2	BH01@6-7'		1025	1			x			x											
3	BH02@1-2'		0940	2			x			x			x	x	x			x	x	x	
4	BH02@3-4'		0945	1			x			x											
5	BH02@6-7'		1100	1			x			x											
6	BH03@3-4'		1015	1			x			x											
7	BH03@6-7'		1130	1			x			x											
8	BH03@8-9'		1140	2			x			x			x	x	x			x	x	x	
9	BH04@3-4'		1050	1			x			x											
10	BH04@6-7'		1200	1			x			x											

Relinquished by:	Date/Time:	Received by:	Date/Time:
	7/27/21 1645	Tasman's Lock Box	7/27/21 1645
Relinquished by: Tasman's Lock Box	7/27/21 1745	Received by:	7/27/21 1745
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)

Same Day	x JB	72 hours	
24 hours		Standard	✓
48 hours			

Sample Integrity:

Temperature Upon Receipt: 2

Samples Intact: (Yes) No

Notes:

2107372.2

Summit Scientific

S_2

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

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: Anderson 12-13
Sampler Name: J. Marcus | Project Number: N/a

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	1,2-M	arsenic	selenium	pH, EC, SAR by saturated paste 1,2-M = 1,2-methylnaphthalene Remaining Samples ON Hold
1	BH04@7-8'	7/27/21	1205	2			x			x			x	x	x			x	x	x	
2	BH05@3-4'		1059	1			x			x											
3	BH05@5-6'		1101	2			x			x			x	x	x			x	x	x	
4	BH05@6-7'		1245	1			x			x											
5	BH06@3-4'		1010	1			x			x											
6	BH06@6-7'		1345	3			x			x			x	x	x			x	x	x	
7	BH07@3-4'		0935	1			x			x											
8	BH07@6-7'		1400	1			x			x											
9	BH07@11-12'		1405	2			x			x			x	x	x			x	x	x	
10	BH08@3-4'		0955	1			x			x											

Relinquished by: [signature] Date/Time: 7/27/21 1645
Received by: Tasman's Lock Box Date/Time: 7/27/21 1645

Relinquished by: Tasman's Lock Box Date/Time: 7/27/21 1745
Received by: [signature] Date/Time: 7/27/21 1745

Relinquished by: Date/Time:
Received by: Date/Time:

Turn Around Time (Check)
Same Day ~~x~~ JB | 72 hours ___
24 hours ___ | Standard ✓
48 hours ___
Sample Integrity:
Temperature Upon Receipt: 2
Samples Intact: (Yes) No

Notes:

2107373

Summit Scientific

S_2

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

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:	Anderson 12-13
Sampler Name:	J. Marcus	Project Number:	n/a

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	1,2-M	arsenic	selenium	pH, EC, SAR by saturated paste 1,2-M = 1,2-methylnaphthalene Remaining Samples ON HOLD
1	BH08@6-7'	7/27/21	1305	2			x			x			x	x	x			x	x	x	
2	BKG02@3-4'	↓	1450	1			x			x									x		
3	BKG02@6-7'	↓	1455	1			x			x									x		
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time: 7/27/21 1645	Received by: Tasman's Lock Box	Date/Time: 7/27/21 1645
Relinquished by: Tasman's Lock Box	Date/Time: 7/27/21 1745	Received by:	Date/Time: 7/27/21 1745
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check)

Same Day	~~x~~ JB	72 hours	___
24 hours	___	Standard	✓
48 hours	___		

Sample Integrity:

Temperature Upon Receipt: 2

Samples Intact: (Yes) No

Notes:

Sample Receipt Checklist

S2 Work Order 2107372

Client: PDC / Tasman Client Project ID: Anderson 12-13

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

☐ ☑ ☐ ☐ ☐

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

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

[1] **If NO, then contact the client before proceeding with analysis and note in case narrative.**

JB — **Custodian Printed Name or Initials**

Signature of Custodian

7/27/21 — **Date/Time**

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH01@3-4'

2107372-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*107 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

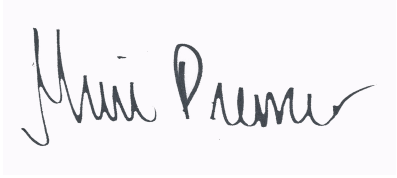
Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*80.7 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH01@3-4'

2107372-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:30**

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

Total Metals by EPA 6020B

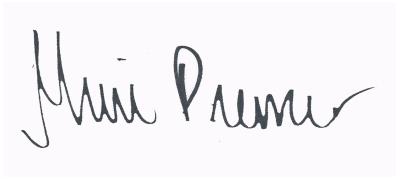
Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.57**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.64**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**80.3**		%	1	BEG0485	07/28/21	07/28/21	Calculation	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH02@1-2'

2107372-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.3 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.8 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH02@1-2'

2107372-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 09:40**

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

Total Metals by EPA 6020B

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.12**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.65**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**79.3**		%	1	BEG0485	07/28/21	07/28/21	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.

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH03@8-9'

2107372-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*154 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*94.8 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*55.7 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*82.0 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH03@8-9'

2107372-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*59.4 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.68**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.07**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**80.7**		%	1	BEG0485	07/28/21	07/28/21	Calculation	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH04@7-8'

2107372-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

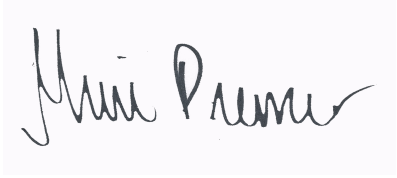
Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*82.7 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH04@7-8'

2107372-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*59.5 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**4.82**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.39**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**81.9**		%	1	BEG0485	07/28/21	07/28/21	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.

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH05@5-6'

2107372-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*98.6 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.0 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH05@5-6'

2107372-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*57.7 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.12**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.23**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**84.1**		%	1	BEG0485	07/28/21	07/28/21	Calculation	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH06@6-7'

2107372-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.5 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

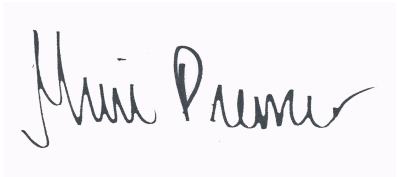
Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.1 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH06@6-7'

2107372-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*59.1 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**4.88**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.21**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**80.2**		%	1	BEG0485	07/28/21	07/28/21	Calculation	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH07@11-12'

2107372-19 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*109 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

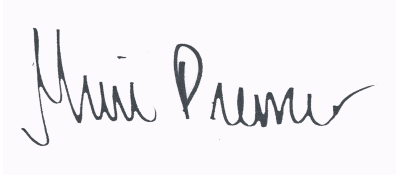
Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*84.0 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH07@11-12'

2107372-19 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*58.8 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.83**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.37**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**78.6**		%	1	BEG0485	07/28/21	07/28/21	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.

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH08@6-7'

2107372-21 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEG0580	07/30/21	07/31/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*21-167*		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

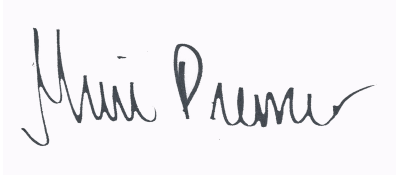
Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEG0508	07/28/21	07/29/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		*83.9 %*	*30-150*		"	"	"	"	

PAH by EPA Method 8270D SIM



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BH08@6-7'

2107372-21 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1-Methylnaphthalene	ND	0.00500	mg/kg	1	BEG0490	07/28/21	07/29/21	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		*60.0 %*	*40-150*		"	"	"	"	

Total Metals by EPA 6020B

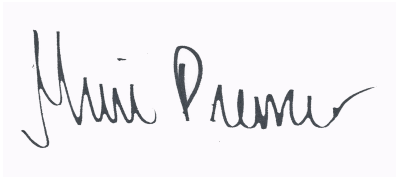
Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**6.48**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.20**	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**73.9**		%	1	BEG0485	07/28/21	07/28/21	Calculation	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BKG02@3-4'

2107372-22 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/27/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**5.63**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.01**	0.260	"	"	BEH0212	08/13/21	08/18/21	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**83.1**		%	1	BEG0517	07/29/21	07/29/21	Calculation	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

BKG02@6-7'

2107372-23 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/27/21 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	**1.56**	0.200	mg/kg dry	1	BEG0492	07/28/21	07/29/21	EPA 6020B	
Selenium	**1.04**	0.260	"	"	BEH0212	08/13/21	08/18/21	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/21 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	**80.4**		%	1	BEG0517	07/29/21	07/29/21	Calculation	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0580 - EPA 5030 Soil MS										
Blank (BEG0580-BLK1)				Prepared: 07/30/21 Analyzed: 07/31/21						
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	*0.0428*		*"*	*0.0400*		*107*	*23-173*			
Surrogate: Toluene-d8	*0.0397*		*"*	*0.0400*		*99.3*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0421*		*"*	*0.0400*		*105*	*21-167*			
LCS (BEG0580-BS1)				Prepared: 07/30/21 Analyzed: 07/31/21						
Benzene	0.105	0.0020	mg/kg	0.100		105	70-130			
Toluene	0.0987	0.0050	"	0.100		98.7	70-130			
Ethylbenzene	0.0966	0.0050	"	0.100		96.6	70-130			
m,p-Xylene	0.191	0.010	"	0.200		95.7	70-130			
o-Xylene	0.0946	0.0050	"	0.100		94.6	70-130			
1,2,4-Trimethylbenzene	0.0971	0.0050	"	0.100		97.1	70-130			
1,3,5-Trimethylbenzene	0.0940	0.0050	"	0.100		94.0	70-130			
Naphthalene	0.0861	0.0038	"	0.100		86.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0416*		*"*	*0.0400*		*104*	*23-173*			
Surrogate: Toluene-d8	*0.0400*		*"*	*0.0400*		*100*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0400*		*"*	*0.0400*		*100*	*21-167*			
Matrix Spike (BEG0580-MS1)		**Source: 2107340-10**		Prepared: 07/30/21 Analyzed: 07/31/21						
Benzene	0.111	0.0020	mg/kg	0.100	ND	111	70-130			
Toluene	0.106	0.0050	"	0.100	ND	106	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
Naphthalene	0.0914	0.0038	"	0.100	ND	91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.0403*		*"*	*0.0400*		*101*	*23-173*			
Surrogate: Toluene-d8	*0.0400*		*"*	*0.0400*		*100*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0402*		*"*	*0.0400*		*101*	*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.

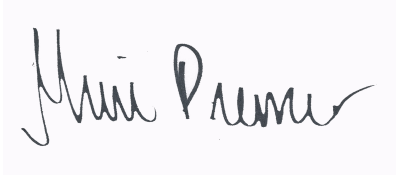
S2

PDC Energy	Project: Anderson 12-13	
1775 Sherman St. STE. 3000	Project Number: [none]	**Reported:**
Denver CO, 80203	Project Manager: Mark Longhurst	08/18/21 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0580 - EPA 5030 Soil MS										
Matrix Spike Dup (BEG0580-MSD1)	**Source: 2107340-10**			Prepared: 07/30/21 Analyzed: 07/31/21						
Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	6.73	30	
Toluene	0.0982	0.0050	"	0.100	ND	98.2	70-130	7.33	30	
Ethylbenzene	0.0975	0.0050	"	0.100	ND	97.5	70-130	7.15	30	
m,p-Xylene	0.192	0.010	"	0.200	ND	96.0	70-130	8.88	30	
o-Xylene	0.0944	0.0050	"	0.100	ND	94.4	70-130	7.64	30	
1,2,4-Trimethylbenzene	0.0957	0.0050	"	0.100	ND	95.7	70-130	10.6	30	
1,3,5-Trimethylbenzene	0.0938	0.0050	"	0.100	ND	93.8	70-130	9.60	30	
Naphthalene	0.0835	0.0038	"	0.100	ND	83.5	70-130	9.05	30	
Surrogate: 1,2-Dichloroethane-d4	*0.0401*		"	*0.0400*		*100*	*23-173*			
Surrogate: Toluene-d8	*0.0398*		"	*0.0400*		*99.4*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*0.0403*		"	*0.0400*		*101*	*21-167*			



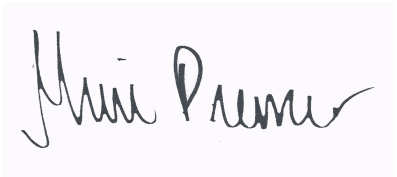
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0508 - EPA 3550A										
Blank (BEG0508-BLK1)				Prepared & Analyzed: 07/28/21						
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
LCS (BEG0508-BS1)				Prepared & Analyzed: 07/28/21						
C10-C28 (DRO)	510	50	mg/kg	500		102	70-130			
Matrix Spike (BEG0508-MS1)	**Source: 2107372-01**			Prepared & Analyzed: 07/28/21						
C10-C28 (DRO)	396	50	mg/kg	500	18.1	75.6	70-130			
Matrix Spike Dup (BEG0508-MSD1)	**Source: 2107372-01**			Prepared & Analyzed: 07/28/21						
C10-C28 (DRO)	420	50	mg/kg	500	18.1	80.4	70-130	5.81	20	



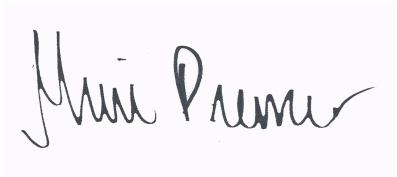
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0490 - EPA 5030 Soil MS										
Blank (BEG0490-BLK1)				Prepared: 07/28/21 Analyzed: 07/29/21						
1-Methylnaphthalene	ND	0.00500	mg/kg							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	*0.0205*		*"*	*0.0333*		*61.5*	*40-150*			
LCS (BEG0490-BS1)				Prepared: 07/28/21 Analyzed: 07/29/21						
1-Methylnaphthalene	0.0281	0.00500	mg/kg	0.0333		84.2	35-142			
2-Methylnaphthalene	0.0289	0.00500	"	0.0333		86.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	*0.0288*		*"*	*0.0333*		*86.5*	*40-150*			
Matrix Spike (BEG0490-MS1)		**Source: 2107362-01**		Prepared: 07/28/21 Analyzed: 07/29/21						
1-Methylnaphthalene	0.0254	0.00500	mg/kg	0.0333	ND	76.2	15-130			
2-Methylnaphthalene	0.0260	0.00500	"	0.0333	ND	78.0	15-130			
Surrogate: 2-Methylnaphthalene-d10	*0.0244*		*"*	*0.0333*		*73.3*	*40-150*			
Matrix Spike Dup (BEG0490-MSD1)		**Source: 2107362-01**		Prepared: 07/28/21 Analyzed: 07/29/21						
1-Methylnaphthalene	0.0253	0.00500	mg/kg	0.0333	ND	75.9	15-130	0.497	50	
2-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7	15-130	9.83	50	
Surrogate: 2-Methylnaphthalene-d10	*0.0226*		*"*	*0.0333*		*67.8*	*40-150*			



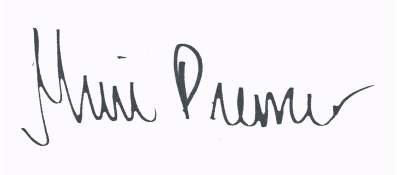
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0492 - EPA 3050B										
Blank (BEG0492-BLK1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Arsenic	ND	0.200	mg/kg wet							
Selenium	ND	0.260	"							
LCS (BEG0492-BS1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Arsenic	41.6	0.200	mg/kg wet	40.0		104	80-120			
Selenium	4.04	0.260	"	4.00		101	80-120			
Duplicate (BEG0492-DUP1)	**Source: 2107355-01**			Prepared: 07/28/21 Analyzed: 07/29/21						
Arsenic	0.683	0.200	mg/kg dry		0.641			6.27	20	
Selenium	0.453	0.260	"		0.483			6.41	20	
Matrix Spike (BEG0492-MS1)	**Source: 2107355-01**			Prepared: 07/28/21 Analyzed: 07/29/21						
Arsenic	38.5	0.200	mg/kg dry	40.4	0.641	93.8	75-125			
Selenium	3.79	0.260	"	4.04	0.483	81.9	75-125			
Matrix Spike Dup (BEG0492-MSD1)	**Source: 2107355-01**			Prepared: 07/28/21 Analyzed: 07/29/21						
Arsenic	42.4	0.200	mg/kg dry	40.4	0.641	103	75-125	9.67	25	
Selenium	4.22	0.260	"	4.04	0.483	92.4	75-125	10.6	25	
Batch BEH0212 - EPA 3050B										
Blank (BEH0212-BLK1)				Prepared: 08/13/21 Analyzed: 08/18/21						
Selenium	ND	0.260	mg/kg wet							
LCS (BEH0212-BS1)				Prepared: 08/13/21 Analyzed: 08/18/21						
Selenium	4.03	0.260	mg/kg wet	4.00		101	80-120			



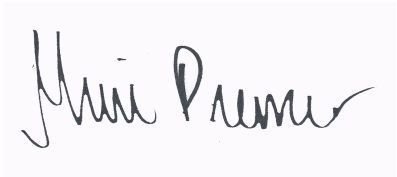
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEH0212 - EPA 3050B										
Duplicate (BEH0212-DUP1)	**Source: 2107372-22**			Prepared: 08/13/21 Analyzed: 08/18/21						
Selenium	0.969	0.260	mg/kg dry		1.01			4.10	20	
Matrix Spike (BEH0212-MS1)	**Source: 2107372-22**			Prepared: 08/13/21 Analyzed: 08/18/21						
Selenium	4.81	0.260	mg/kg dry	4.81	1.01	79.1	75-125			
Matrix Spike Dup (BEH0212-MSD1)	**Source: 2107372-22**			Prepared: 08/13/21 Analyzed: 08/18/21						
Selenium	4.64	0.260	mg/kg dry	4.81	1.01	75.5	75-125	3.64	25	



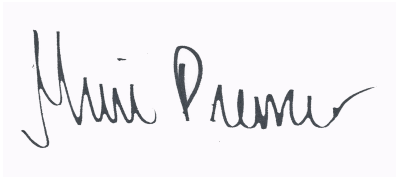
S2

PDC Energy	Project: Anderson 12-13	
1775 Sherman St. STE. 3000	Project Number: [none]	**Reported:**
Denver CO, 80203	Project Manager: Mark Longhurst	08/18/21 11:56

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

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEG0485 - General Preparation										
Duplicate (BEG0485-DUP1)		**Source: 2107372-01**		Prepared & Analyzed: 07/28/21						
% Solids	80.0		%		80.3			0.359	20	
Batch BEG0517 - General Preparation										
Duplicate (BEG0517-DUP1)		**Source: 2107340-10**		Prepared & Analyzed: 07/29/21						
% Solids	95.5		%		95.3			0.204	20	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 08/18/21 11:56

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

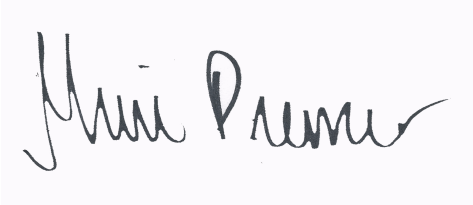
September 30, 2021

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

RE: Anderson 12-13
Work Order #2108324

Enclosed are the results of analyses for samples received by Summit Scientific on 08/23/21 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Muri Premer For Paul Shrewsbury
President

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2108324-01	Water	08/23/21 10:27	08/23/21 17:50
BH02	2108324-02	Water	08/23/21 10:25	08/23/21 17:50
BH03	2108324-03	Water	08/23/21 10:26	08/23/21 17:50
BH04	2108324-04	Water	08/23/21 10:39	08/23/21 17:50
BH05	2108324-05	Water	08/23/21 10:43	08/23/21 17:50
BH06	2108324-06	Water	08/23/21 10:35	08/23/21 17:50
BH07	2108324-07	Water	08/23/21 10:47	08/23/21 17:50
BH08	2108324-08	Water	08/23/21 10:33	08/23/21 17:50

Summit Scientific

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

210324.

Summit Scientific

S_2

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

Page 1 of 1

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

Project Manager: Mark. Longhurst
E-Mail: mark.longhurst@pdce.com
Project Name: Anderson 12-13
Project Number: N/A

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other ___	Water	Soil	Air-Canister #	Other ___	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate	
1	BH01	8-23-21	1027	4	3		1		X				X	X	X	X	X	X	X	inorganics
2	BH02		1025																	on HOLD
3	BH03		1026																	
4	BH04		1039																	
5	BH05		1043																	
6	BH06		1035																	
7	BH07		1047																	
8	BH08		1033																	
9																				
10																				

Relinquished by: Hadlie Green Date/Time: 8-23-21 1425
Received by: Tasman's Lock Box Date/Time: 8-23-21 1425

Relinquished by: Tasman's Lock Box Date/Time: 8/23/21 1750
Received by: Will Date/Time: 8/23/21 1750

Relinquished by: Date/Time:
Received by: Date/Time:

Turn Around Time (Check)
___ Same Day ___ 72 hours
___ 24 hours X Standard
___ 48 hours ___

Sample Integrity:
Temperature Upon Receipt: 6
Samples Intact: (Yes) No

Notes:

Sample Receipt Checklist

S2 Work Order 2108324

Client: PDC/TASMAN Client Project ID: Anderson 12-13

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

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	8

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

Additional Comments (if any):

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

WG — **Custodian Printed Name or Initials**

[signature] — **Signature of Custodian**

8/23/21 — **Date/Time**

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH01

2108324-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*93.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.5 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/23/21 10:27**

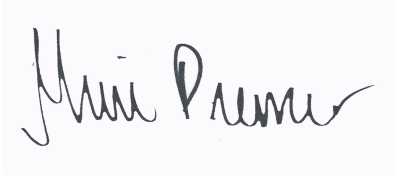
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**205**	12.0	mg/L	200	BEI0544	09/24/21	09/24/21	EPA 300.0	I-04
Sulfate	**8210**	60.0	"	"	"	"	"	"	I-04

Total Dissolved Solids by SM2540C

Date Sampled: **08/23/21 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**8970**	10.0	mg/L	1	BEI0493	09/23/21	09/23/21	SM2540C	I-04

Summit Scientific



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

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH02

2108324-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*75.2 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*91.8 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.1 %*	*21-167*		"	"	"	"	

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH03

2108324-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*94.4 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*122 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.6 %*	*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.

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH04

2108324-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*86.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*124 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.8 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/23/21 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**105**	12.0	mg/L	200	BEI0544	09/24/21	09/24/21	EPA 300.0	I-04
Sulfate	**3700**	60.0	"	"	"	"	"	"	I-04

Total Dissolved Solids by SM2540C

Date Sampled: **08/23/21 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**3980**	10.0	mg/L	1	BEI0493	09/23/21	09/23/21	SM2540C	I-04

Summit Scientific

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

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH05

2108324-05 (Water)

Summit Scientific

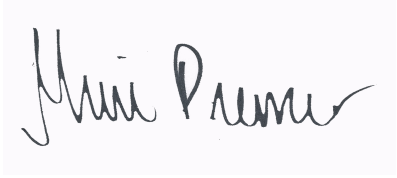
Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*87.1 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*122 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.4 %*	*21-167*		"	"	"	"	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH06

2108324-06 (Water)

Summit Scientific

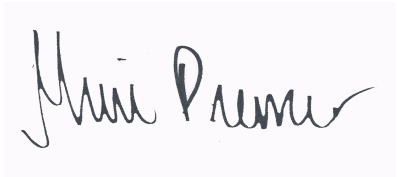
Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*89.2 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*117 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.8 %*	*21-167*		"	"	"	"	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH07

2108324-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*120 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*118 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.7 %*	*21-167*		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **08/23/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**138**	12.0	mg/L	200	BEI0544	09/24/21	09/24/21	EPA 300.0	I-04
Sulfate	**2720**	60.0	"	"	"	"	"	"	I-04

Total Dissolved Solids by SM2540C

Date Sampled: **08/23/21 10:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	**2980**	10.0	mg/L	1	BEI0493	09/23/21	09/23/21	SM2540C	I-04

Summit Scientific

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

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

BH08

2108324-08 (Water)

Summit Scientific

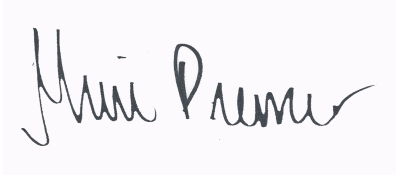
Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	BEH0497	08/26/21	08/27/21	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/23/21 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*84.6 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*113 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.9 %*	*21-167*		"	"	"	"	



S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEH0497 - EPA 5030 Water MS										
Blank (BEH0497-BLK1)				Prepared: 08/26/21 Analyzed: 08/27/21						
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	*12.5*		"	*13.3*		*94.0*	*23-173*			
Surrogate: Toluene-d8	*12.1*		"	*13.3*		*90.5*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*11.8*		"	*13.3*		*88.8*	*21-167*			
LCS (BEH0497-BS1)				Prepared: 08/26/21 Analyzed: 08/27/21						
Benzene	29.5	1.0	ug/l	33.3		88.6	51-132			
Toluene	33.5	1.0	"	33.3		101	51-138			
Ethylbenzene	37.5	1.0	"	33.3		113	58-146			
m,p-Xylene	70.8	2.0	"	66.7		106	57-144			
o-Xylene	35.4	1.0	"	33.3		106	53-146			
Naphthalene	41.0	1.0	"	33.3		123	70-130			
1,2,4-Trimethylbenzene	29.0	1.0	"	33.3		87.0	70-130			
1,3,5-Trimethylbenzene	35.3	1.0	"	33.3		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	*12.0*		"	*13.3*		*89.6*	*23-173*			
Surrogate: Toluene-d8	*12.8*		"	*13.3*		*96.2*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.0*		"	*13.3*		*90.3*	*21-167*			
Matrix Spike (BEH0497-MS1)	**Source: 2108324-01**			Prepared: 08/26/21 Analyzed: 08/27/21						
Benzene	30.2	1.0	ug/l	33.3	ND	90.6	34-141			
Toluene	31.0	1.0	"	33.3	ND	92.9	27-151			
Ethylbenzene	36.8	1.0	"	33.3	ND	110	29-160			
m,p-Xylene	70.0	2.0	"	66.7	ND	105	20-166			
o-Xylene	35.0	1.0	"	33.3	ND	105	33-159			
Naphthalene	39.7	1.0	"	33.3	ND	119	70-130			
1,2,4-Trimethylbenzene	28.6	1.0	"	33.3	ND	85.9	70-130			
1,3,5-Trimethylbenzene	34.9	1.0	"	33.3	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	*11.8*		"	*13.3*		*88.5*	*23-173*			
Surrogate: Toluene-d8	*12.1*		"	*13.3*		*90.5*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.3*		"	*13.3*		*92.3*	*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.

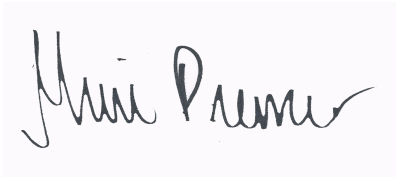
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEH0497 - EPA 5030 Water MS										
Matrix Spike Dup (BEH0497-MSD1)	**Source: 2108324-01**			Prepared: 08/26/21 Analyzed: 08/27/21						
Benzene	26.4	1.0	ug/l	33.3	ND	79.3	34-141	13.3	30	
Toluene	31.1	1.0	"	33.3	ND	93.2	27-151	0.387	30	
Ethylbenzene	35.9	1.0	"	33.3	ND	108	29-160	2.48	30	
m,p-Xylene	68.6	2.0	"	66.7	ND	103	20-166	2.05	30	
o-Xylene	34.2	1.0	"	33.3	ND	102	33-159	2.49	30	
Naphthalene	34.8	1.0	"	33.3	ND	104	70-130	13.0	30	
1,2,4-Trimethylbenzene	27.8	1.0	"	33.3	ND	83.5	70-130	2.80	30	
1,3,5-Trimethylbenzene	34.0	1.0	"	33.3	ND	102	70-130	2.50	30	
Surrogate: 1,2-Dichloroethane-d4	*10.6*		*"*	*13.3*		*79.7*	*23-173*			
Surrogate: Toluene-d8	*12.2*		*"*	*13.3*		*91.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*12.3*		*"*	*13.3*		*92.2*	*21-167*			



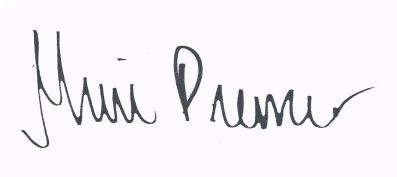
S2

PDC Energy	Project: Anderson 12-13	
1775 Sherman St. STE. 3000	Project Number: [none]	**Reported:**
Denver CO, 80203	Project Manager: Mark Longhurst	09/30/21 08:25

Anions by EPA Method 300.0 - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEI0544 - General Preparation										
Blank (BEI0544-BLK1)				Prepared & Analyzed: 09/24/21						
Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							
LCS (BEI0544-BS1)				Prepared & Analyzed: 09/24/21						
Chloride	3.21	0.0600	mg/L	3.00		107	90-110			
Sulfate	16.5	0.300	"	15.0		110	90-110			
Duplicate (BEI0544-DUP1)		**Source: 2109339-01**		Prepared & Analyzed: 09/24/21						
Chloride	287	12.0	mg/L		286			0.349	20	
Sulfate	2460	60.0	"		2460			0.171	20	
Matrix Spike (BEI0544-MS1)		**Source: 2109339-01**		Prepared & Analyzed: 09/24/21						
Chloride	898	12.0	mg/L	600	286	102	80-120			
Sulfate	5830	60.0	"	3000	2460	112	80-120			



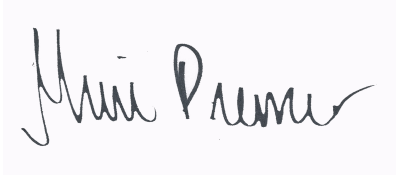
S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Anderson 12-13 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 09/30/21 08:25

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BEI0493 - General Preparation										
Blank (BEI0493-BLK1)				Prepared & Analyzed: 09/23/21						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (BEI0493-DUP1)		**Source: 2108324-01**		Prepared & Analyzed: 09/23/21						
Total Dissolved Solids	9950	10.0	mg/L		8970			10.4	20	



S2

PDC Energy	Project: Anderson 12-13	
1775 Sherman St. STE. 3000	Project Number: [none]	**Reported:**
Denver CO, 80203	Project Manager: Mark Longhurst	09/30/21 08:25

Notes and Definitions

I-04	Sample was analyzed out of recomended holding time per clients request.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference