PDC Energy, Inc.

Second Quarter 2018 Groundwater Monitoring Summary

July 31, 2018

Former Ursula #2 Tank Battery
NENE Section 28 T2N R66W
Weld County, API # 05-123-09920
Facility # 441395
Remediation # 9281

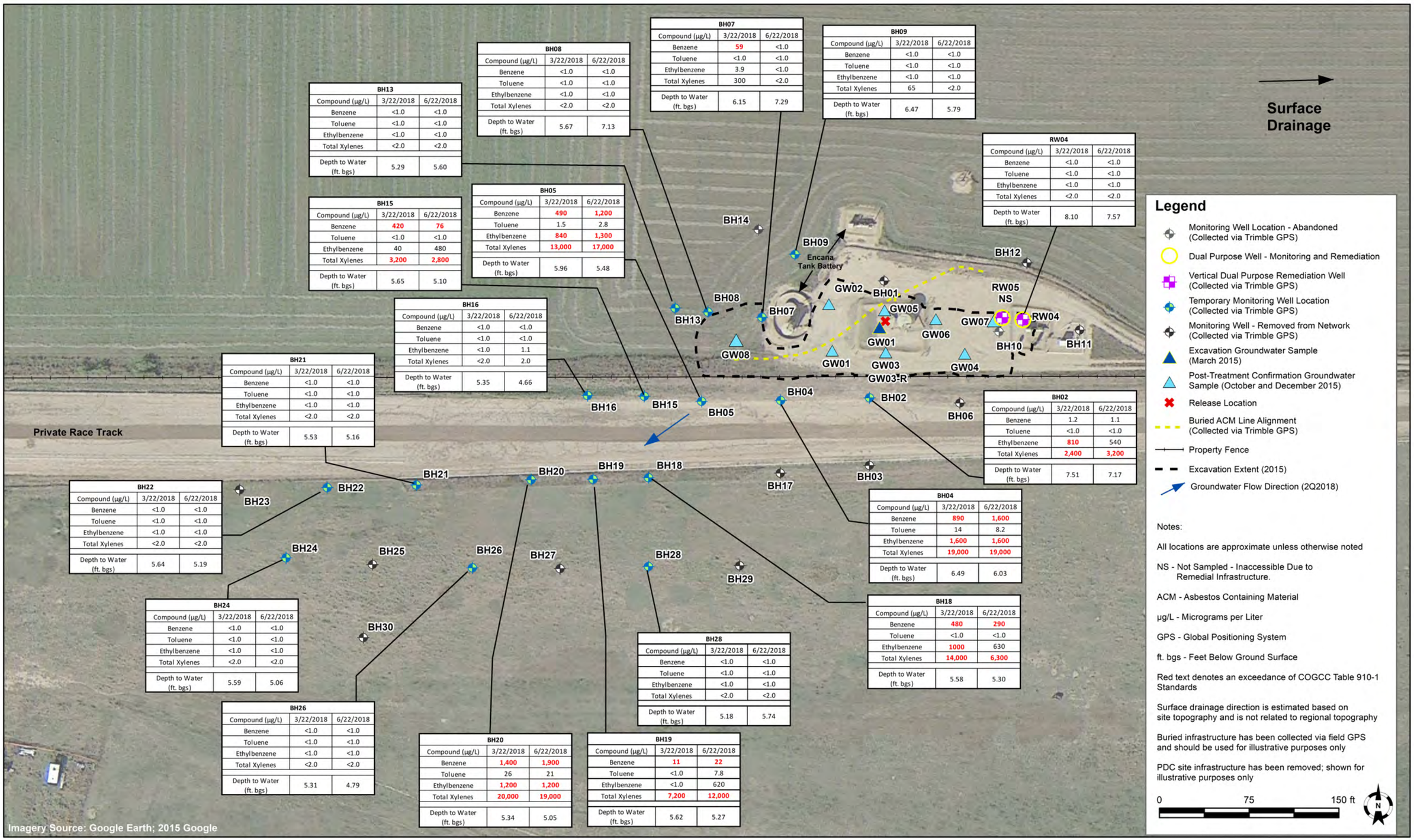
This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the former Ursula #2 tank battery. On June 22, 2018, groundwater monitoring was conducted at seventeen (17) temporary groundwater monitoring locations (BH02, BH04, BH05, BH07 – BH09, BH13, BH15, BH16, BH18 – BH22, BH24, BH26, and BH28) and one remediation well (RW04). All seventeen temporary monitoring wells were installed using a hand-auger, in active ranch or cropland. Temporary well casing was installed at each location and wells were purged, sampled, and subsequently abandoned. GPS points of the temporary wells were collected to ensure groundwater sample locations remain consistent between quarters. Monitoring wells BH01, BH03, BH06, BH10-BH12, BH14, BH17, BH23, BH25, BH27, BH29, and BH30 were previously removed from the monitoring well network and consequently not sampled. Eighteen groundwater samples were submitted to Summit Scientific Laboratory for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8260B. Analytical results are summarized in Table 1 and the laboratory report is included as Attachment A. Sample locations and corresponding analytical results are illustrated on Figure 1. Second quarter 2018 analytical results indicate that BTEX concentrations are above applicable COGCC Table 910-1 groundwater standards in seven temporary monitoring wells (BH02, BH04, BH05, BH15, BH18, BH19, and BH20). BTEX concentrations are below COGCC regulatory standards in eleven sample locations.

Three enhanced fluid recovery (EFR) and air sparge (AS) events were conducted on site during third quarter 2016. A summary of the EFR/AS operational data is provided in Table 2.

Between June 13 and June 27, 2016, a soil vapor extraction (SVE)/AS remediation system was installed on site to address remaining hydrocarbon impacts in soil and groundwater. The remediation system became operational on September 22, 2016. Operation and maintenance activities are conducted on a monthly basis. The remediation well network is illustrated on Figure 2. Volatile organic compound (VOC) are collected from the system effluent on a monthly basis, in order to monitor performance and calculate the total contaminant mass removed. During the second quarter 2018, 18.68 pounds of hydrocarbon mass were removed. A total of 282.97 pounds of hydrocarbon mass have been removed by the SVE system since system start-up.

Operation of the SVE/AS remediation system will continue as the selected remediation strategy through the third quarter 2018.

Third quarter 2018 groundwater sampling will be conducted during September 2018.



BH13		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.29	5.60

BH08		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.67	7.13

BH07		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	59	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	3.9	<1.0
Total Xylenes	300	<2.0
Depth to Water (ft. bgs)	6.15	7.29

BH09		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	65	<2.0
Depth to Water (ft. bgs)	6.47	5.79

RW04		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	8.10	7.57

BH15		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	420	76
Toluene	<1.0	<1.0
Ethylbenzene	40	480
Total Xylenes	3,200	2,800
Depth to Water (ft. bgs)	5.65	5.10

BH05		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	490	1,200
Toluene	1.5	2.8
Ethylbenzene	840	1,300
Total Xylenes	13,000	17,000
Depth to Water (ft. bgs)	5.96	5.48

BH16		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	1.1
Total Xylenes	<2.0	2.0
Depth to Water (ft. bgs)	5.35	4.66

BH21		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.53	5.16

BH02		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	1.2	1.1
Toluene	<1.0	<1.0
Ethylbenzene	810	540
Total Xylenes	2,400	3,200
Depth to Water (ft. bgs)	7.51	7.17

BH22		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.64	5.19

BH04		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	890	1,600
Toluene	14	8.2
Ethylbenzene	1,600	1,600
Total Xylenes	19,000	19,000
Depth to Water (ft. bgs)	6.49	6.03

BH24		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.59	5.06

BH18		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	480	290
Toluene	<1.0	<1.0
Ethylbenzene	1000	630
Total Xylenes	14,000	6,300
Depth to Water (ft. bgs)	5.58	5.30

BH28		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.18	5.74

BH26		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<2.0	<2.0
Depth to Water (ft. bgs)	5.31	4.79

BH20		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	1,400	1,900
Toluene	26	21
Ethylbenzene	1,200	1,200
Total Xylenes	20,000	19,000
Depth to Water (ft. bgs)	5.34	5.05

BH19		
Compound (µg/L)	3/22/2018	6/22/2018
Benzene	11	22
Toluene	<1.0	7.8
Ethylbenzene	<1.0	620
Total Xylenes	7,200	12,000
Depth to Water (ft. bgs)	5.62	5.27

Legend

- Monitoring Well Location - Abandoned (Collected via Trimble GPS)
- Dual Purpose Well - Monitoring and Remediation
- Vertical Dual Purpose Remediation Well (Collected via Trimble GPS)
- Temporary Monitoring Well Location (Collected via Trimble GPS)
- Monitoring Well - Removed from Network (Collected via Trimble GPS)
- Excavation Groundwater Sample (March 2015)
- Post-Treatment Confirmation Groundwater Sample (October and December 2015)
- Release Location
- Buried ACM Line Alignment (Collected via Trimble GPS)
- Property Fence
- Excavation Extent (2015)
- Groundwater Flow Direction (2Q2018)

Notes:

All locations are approximate unless otherwise noted

NS - Not Sampled - Inaccessible Due to Remedial Infrastructure.

ACM - Asbestos Containing Material

µg/L - Micrograms per Liter

GPS - Global Positioning System

ft. bgs - Feet Below Ground Surface

Red text denotes an exceedance of COGCC Table 910-1 Standards

Surface drainage direction is estimated based on site topography and is not related to regional topography

Buried infrastructure has been collected via field GPS and should be used for illustrative purposes only

PDC site infrastructure has been removed; shown for illustrative purposes only

0 75 150 ft

N

DATE: July 2018

DESIGNED BY: C. Hamlin

DRAWN BY: D. Arnold

TASMAN GEOSCIENCES

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Denver, CO 80221

PDC Energy, Inc. - DJ Basin
Former Ursula #2 Tank Battery
NENE Section 28, Township 2 North, Range 66 West
Weld County, Colorado

GROUNDWATER ANALYTICAL RESULTS MAP

FIGURE 1

TABLE 1
FORMER URSULA #2 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
GW01	3/23/2015	**800**	<1.0	**750**	420	~ 6
GW01	10/29/2015	1.1	<1.0	<1.0	27	~ 7
GW02	10/29/2015	3.2	<1.0	16	180	~ 7
GW03	11/13/2015	**21**	<1.0	260	**3,600**	~ 7
GW03-R	11/18/2015	<1.0	<1.0	11	61	~ 7
GW04	11/18/2015	<1.0	<1.0	<1.0	2.6	~ 7
GW05	11/22/2015	3.3	<1.0	55	250	~ 7
GW06	12/1/2015	<1.0	<1.0	42	8.2	~ 7
GW07	12/9/2015	<1.0	<1.0	1.3	3.2	~ 7
GW08	12/16/2015	<1.0	<1.0	10	130	~ 7
BH01	4/6/2015	<1.0	<1.0	<1.0	<1.0	6.53
BH01	Removed From Monitoring Well Network - June 2016					
BH02	4/6/2015	**24**	<1.0	**1,600**	**13,000**	7.02
BH02	9/21/2016	**11**	<1.0	**810**	**4,300**	7.63
BH02	12/13/2016	<1.0	<1.0	30	160	6.96
BH02	3/29/2017	**5.5**	<1.0	10	**19,000**	7.41
BH02	6/15/2017	2.7	<1.0	77	**11,000**	7.55
BH02	9/18/2017	1.4	<1.0	140	290	9.12
BH02	12/15/2017	1.8	<1.0	**740**	**4,900**	7.11
BH02	3/22/2018	1.2	<1.0	**810**	**2,400**	7.51
BH02	6/22/2018	1.1	<1.0	540	**3,200**	7.17
BH03	4/6/2015	<1.0	<1.0	<1.0	5.0	7.78
BH03	Removed From Monitoring Well Network - June 2016					
BH04	4/6/2015	**1,100**	6.4	**920**	**8,900**	6.99
BH04	9/21/2016	**2,000**	11	**1,700**	**18,000**	7.28
BH04	12/13/2016	**2,600**	9.3	**1,400**	**19,000**	5.76
BH04	3/29/2017	**1,500**	9.1	630	**18,000**	6.31
BH04	6/15/2017	**850**	5.2	**1,200**	**11,000**	5.54
BH04	9/18/2017	**1,000**	7.5	**1,500**	**5,400**	6.50
BH04	12/15/2017	**1,600**	12	**920**	**18,000**	5.90
BH04	3/22/2018	**890**	14	**1,600**	**19,000**	6.49

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Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH04	6/22/2018	**1,600**	8.2	**1,600**	**19,000**	6.03
BH05	4/6/2015	**1,100**	7.0	**1,200**	**9,400**	9.23
BH05	9/21/2016	**1,700**	**980**	**1,300**	**18,000**	7.02
BH05	12/13/2016	**1,200**	7.4	**1,200**	**15,000**	5.44
BH05	3/29/2017	**1,300**	10	**890**	**24,000**	6.37
BH05	6/15/2017	**1,100**	6.8	**1,000**	**14,000**	4.45
BH05	9/18/2017	**250**	1.7	270	**4,500**	5.88
BH05	12/15/2017	**1,500**	8.0	**1,300**	**23,000**	5.48
BH05	3/22/2018	**490**	1.5	**840**	**13,000**	5.96
BH05	6/22/2018	**1,200**	2.8	**1,300**	**17,000**	5.48
BH06	4/6/2015	<1.0	<1.0	<1.0	<1.0	7.75
BH06	Removed From Monitoring Well Network - June 2016					
BH07	4/6/2015	**450**	<1.0	12	540	6.69
BH07	9/21/2016	**1,500**	<1.0	260	720	7.16
BH07	12/13/2016	**670**	<1.0	70	210	5.33
BH07	3/29/2017	**650**	<1.0	<1.0	**3,500**	5.80
BH07	6/15/2017	**170**	<1.0	68	240	5.07
BH07	9/18/2017	**280**	<1.0	<1.0	650	5.75
BH07	12/15/2017	**100**	<1.0	97	**1,400**	5.42
BH07	3/22/2018	**59**	<1.0	3.9	300	6.15
BH07[4]	6/22/2018	<1.0	<1.0	<1.0	<2.0	7.29
BH08	4/6/2015	**15**	<1.0	4.0	3.5	5.20
BH08	9/21/2016	<1.0	<1.0	<1.0	<1.0	7.50
BH08	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.29
BH08	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.54
BH08	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.90
BH08	9/18/2017	<1.0	<1.0	<1.0	<2.0	5.56
BH08	12/15/2017	<1.0	<1.0	<1.0	<2.0	5.21
BH08	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.67
BH08[4]	6/22/2018	<1.0	<1.0	<1.0	<2.0	7.13

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Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH09	4/6/2015	**28**	200	130	**2,700**	6.00
BH09	9/21/2016	<1.0	<1.0	240	**3,000**	7.30
BH09	12/13/2016	<1.0	10	200	**3,400**	5.95
BH09	3/29/2017	<1.0	<1.0	<1.0	64	6.33
BH09	6/15/2017	<1.0	<1.0	55	340	5.50
BH09	9/18/2017	<1.0	<1.0	<1.0	<2.0	6.37
BH09	12/15/2017	<1.0	<1.0	410	**3,800**	5.92
BH09	3/22/2018	<1.0	<1.0	<1.0	65	6.47
BH09	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.79
BH10	4/6/2015	2.5	1.6	2.5	5.0	8.81
BH10	9/21/2016	<1.0	<1.0	<1.0	<1.0	9.13
BH10	12/13/2016	<1.0	<1.0	<1.0	<1.0	7.45
BH10[3]	3/29/2017	Abandoned				
BH11	4/10/2015	<1.0	<1.0	<1.0	<1.0	8.03
BH11	Removed From Monitoring Well Network - June 2016					
BH12	4/10/2015	<1.0	<1.0	<1.0	<1.0	9.16
BH12	Removed From Monitoring Well Network - June 2016					
BH13	4/10/2015	<1.0	<1.0	<1.0	<1.0	4.71
BH13	9/21/2016	<1.0	<1.0	3.3	2.2	7.91
BH13	12/13/2016	<1.0	<1.0	<1.0	<1.0	4.93
BH13	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.17
BH13	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.14
BH13	9/18/2017	<1.0	<1.0	<1.0	2.0	5.41
BH13	12/15/2017	<1.0	<1.0	<1.0	<2.0	4.84
BH13	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.29
BH13	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.60
BH14	4/10/2015	<1.0	<1.0	<1.0	<1.0	5.53
BH14	Removed From Monitoring Well Network - June 2016					
BH15	2/15/2016	**520**	<1.0	**1,200**	620	6.81

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Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH15	9/21/2016	**1,000**	<1.0	**1,200**	**12,000**	7.22
BH15	12/13/2016	**88**	<1.0	250	**1,800**	5.31
BH15	3/29/2017	**1,800**	<1.0	**3,700**	**41,000**	5.97
BH15	6/15/2017	**500**	1.7	**1,200**	**9,400**	5.21
BH15	9/18/2017	**290**	<1.0	**970**	**4,100**	6.02
BH15	12/15/2017	**590**	<1.0	**1,300**	**9,000**	5.19
BH15	3/22/2018	**420**	<1.0	40	**3,200**	5.65
BH15	6/22/2018	**76**	<1.0	480	**2,800**	5.10
BH16	2/15/2016	<1.0	<1.0	<1.0	<1.0	6.76
BH16	9/21/2016	<1.0	<1.0	<1.0	<1.0	7.57
BH16	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.05
BH16	3/29/2017	<1.0	<1.0	<1.0	1,200	5.51
BH16	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.37
BH16	9/18/2017	<1.0	<1.0	<1.0	<2.0	5.28
BH16	12/15/2017	<1.0	<1.0	4.7	55	4.98
BH16	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.35
BH16	6/22/2018	<1.0	<1.0	1.1	2.0	4.66
BH17	2/15/2016	<1.0	<1.0	<1.0	<1.0	7.74
BH17	Removed From Monitoring Well Network - June 2016					
BH18	2/15/2016	**100**	44	140	**4,200**	7.29
BH18	9/21/2016	**740**	<1.0	**840**	**7,200**	7.34
BH18	12/13/2016	**280**	<1.0	480	**4,100**	5.18
BH18	3/29/2017	**510**	2.4	**890**	**19,000**	5.67
BH18	6/15/2017	**170**	1.5	280	**7,200**	4.78
BH18	9/18/2017	**410**	2.9	**1,300**	**7,100**	5.29
BH18	12/15/2017	**680**	<1.0	**1,700**	**19,000**	5.25
BH18	3/22/2018	**480**	<1.0	**1,000**	**14,000**	5.58
BH18	6/22/2018	**290**	<1.0	630	**6,300**	5.30
BH19	2/15/2016	**320**	210	250	**3,000**	6.97
BH19	9/21/2016	**750**	290	**700**	**16,000**	7.62
BH19	12/13/2016	**61**	450	280	**6,900**	5.70

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Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH19	3/29/2017	**45**	<1.0	11	**22,000**	5.53
BH19	6/15/2017	**170**	45	540	**9,700**	4.74
BH19	9/18/2017	**160**	<1.0	1.3	**1,800**	5.51
BH19	12/15/2017	**10**	38	110	**6,000**	5.24
BH19	3/22/2018	**11**	<1.0	<1.0	**7,200**	5.62
BH19	6/22/2018	**22**	7.8	620	**12,000**	5.27
BH20	2/15/2016	**1,100**	45	340	**2,600**	6.84
BH20	9/21/2016	**1,800**	130	100	**18,000**	7.64
BH20	12/13/2016	**250**	<1.0	5.6	**2,100**	5.54
BH20	3/29/2017	**2,300**	94	**1,100**	**26,000**	5.35
BH20	6/15/2017	**1,100**	12	**860**	**13,000**	4.41
BH20	9/18/2017	**930**	400	**1,100**	**20,000**	5.40
BH20	12/15/2017	**2,800**	150	**2,200**	**34,000**	4.86
BH20	3/22/2018	**1,400**	26	**1,200**	**20,000**	5.34
BH20	6/22/2018	**1,900**	21	**1,200**	**19,000**	5.05
BH21	2/15/2016	**34**	<1.0	1.7	7.1	7.19
BH21	9/21/2016	**12**	<1.0	13	220	7.81
BH21	12/13/2016	**79**	<1.0	<1.0	<1.0	5.85
BH21	3/29/2017	**150**	<1.0	<1.0	1,000	5.72
BH21	6/15/2017	<1.0	<1.0	3.1	52	4.43
BH21	9/18/2017	**5.5**	<1.0	2.4	45	5.41
BH21	12/15/2017	<1.0	<1.0	<1.0	<2.0	5.34
BH21	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.53
BH21	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.16
BH22	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.59
BH22	9/21/2016	<1.0	<1.0	<1.0	<1.0	7.49
BH22	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.42
BH22	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.85
BH22	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.42
BH22	9/18/2017	<1.0	<1.0	<1.0	<2.0	5.62
BH22	12/15/2017	<1.0	<1.0	<1.0	<2.0	5.37

TABLE 1
FORMER URSULA #2 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH22	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.64
BH22	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.19
BH23	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.79
BH23	Removed From Monitoring Well Network - June 2016					
BH24	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.64
BH24	9/21/2016	2.4	<1.0	3.6	<1.0	7.92
BH24	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.36
BH24	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.92
BH24	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.53
BH24	9/18/2017	<1.0	<1.0	<1.0	<2.0	5.49
BH24	12/15/2017	<1.0	<1.0	<1.0	<2.0	5.31
BH24	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.59
BH24	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.06
BH25	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.64
BH25	Removed From Monitoring Well Network - June 2016					
BH26	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.40
BH26	9/21/2016	<1.0	<1.0	<1.0	<1.0	8.47
BH26	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.23
BH26	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.37
BH26	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.37
BH26	9/18/2017	<1.0	<1.0	<1.0	<2.0	5.10
BH26	12/15/2017	<1.0	<1.0	<1.0	<2.0	4.96
BH26	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.31
BH26	6/22/2018	<1.0	<1.0	<1.0	<2.0	4.79
BH27	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.55
BH27	Removed From Monitoring Well Network - June 2016					
BH28	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.42
BH28	9/21/2016	<1.0	<1.0	<1.0	<1.0	7.66
BH28	12/13/2016	<1.0	<1.0	<1.0	<1.0	5.02

TABLE 1
FORMER URSULA #2 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample Location ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH28	3/29/2017	<1.0	<1.0	<1.0	<2.0	5.07
BH28	6/15/2017	<1.0	<1.0	<1.0	<2.0	4.36
BH28	9/18/2017	<1.0	<1.0	<1.0	<2.0	4.91
BH28	12/15/2017	<1.0	<1.0	<1.0	<2.0	4.81
BH28	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.18
BH28	6/22/2018	<1.0	<1.0	<1.0	<2.0	5.74
BH29	2/18/2016	<1.0	<1.0	<1.0	<1.0	3.48
BH29	Removed From Monitoring Well Network - June 2016					
BH30	2/18/2016	<1.0	<1.0	<1.0	<1.0	2.55
BH30	Removed From Monitoring Well Network - June 2016					
RW05	3/30/2017	<1.0	<1.0	<1.0	<2.0	7.94
RW05	6/15/2017	<1.0	<1.0	<1.0	<2.0	7.22
RW05	9/18/2017	<1.0	<1.0	<1.0	<2.0	7.78
RW05	12/15/2017	<1.0	<1.0	<1.0	<2.0	7.60
RW04	3/22/2018	<1.0	<1.0	<1.0	<2.0	8.10
RW04	6/22/2018	<1.0	<1.0	<1.0	<2.0	7.57

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective Mat 1, 2018.

2. Depth to water measurements collected prior to fourth quarter 2016 were measured from top of casing or ground surface for monitoring well samples and excavation samples respectively. Subsequent monitoring well measurements and stick-ups were collected from top of casing and used to adjust water levels to reflect depth of water from ground surface.

3. Temporary well not installed due to hand auger refusal; RW05 sampled adjacent as replacement well.

4. Depth to water measurements were not adjusted to ground surface.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L= Micrograms per liter

BOLD = Analytical result is in exceedance of COGCC groundwater standards.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 29, 2018

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

RE: Ursula #2

Enclosed are the results of analyses for samples received by Summit Scientific on 06/22/18 18:30. If you have any questions concerning this report, please feel free to contact me.

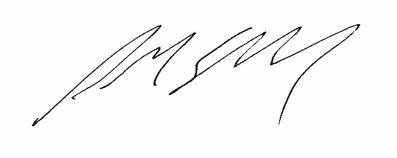
Sincerely,

Paul Shrewsbury
President

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RW04	1806306-01	Water	06/22/18 12:10	06/22/18 18:30
BH24	1806306-02	Water	06/22/18 10:45	06/22/18 18:30
BH22	1806306-03	Water	06/22/18 10:55	06/22/18 18:30
BH26	1806306-04	Water	06/22/18 10:49	06/22/18 18:30
BH28	1806306-05	Water	06/22/18 10:56	06/22/18 18:30
BH21	1806306-06	Water	06/22/18 11:05	06/22/18 18:30
BH20	1806306-07	Water	06/22/18 11:15	06/22/18 18:30
BH19	1806306-08	Water	06/22/18 11:12	06/22/18 18:30
BH18	1806306-09	Water	06/22/18 11:04	06/22/18 18:30
BH16	1806306-10	Water	06/22/18 11:31	06/22/18 18:30
BH15	1806306-11	Water	06/22/18 11:40	06/22/18 18:30
BH05	1806306-12	Water	06/22/18 11:50	06/22/18 18:30
BH04	1806306-13	Water	06/22/18 11:40	06/22/18 18:30
BH02	1806306-14	Water	06/22/18 11:35	06/22/18 18:30
BH09	1806306-15	Water	06/22/18 12:25	06/22/18 18:30
BH07	1806306-16	Water	06/22/18 12:35	06/22/18 18:30
BH08	1806306-17	Water	06/22/18 12:30	06/22/18 18:30
BH13	1806306-18	Water	06/22/18 12:21	06/22/18 18:30



1806306.1

Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Client:	PDC / Tasman	Project Manager:	Mark Longhurst
Address:	6899 N Pecos	E-Mail:	mark.longhurst@pdce.com
City/State/Zip:	Denver/CO/80221	Project Name:	Ursula #2
Phone: 9704816409 Max Dahlgren	Fax:	Project Number:	—
Sampler Name:	Max Dahlgren		

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Soil	Matrix: Air - Canister Serial #	Matrix: Other (Specify)	Analyze For: BTEX	Special Instructions
RW04	6/22/18	1210	3			X		X				X	
BH24		1045											
BH22		1055											
BH26		1049											
BH28		1056											
BH21		1105											
BH20		1115											
BH19		1112											
BH18		1104											
BH16	↓	1131	↓			↓		↓				↓	

Relinquished by:	Date/Time: 6/22/18 1830	Received by:	Date/Time: 6.22.18 1830
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:

Turn Around Time (Check)

Same Day		72 Hours	
24 Hours		Standard	X
48 Hours			

Sample Integrity:
Temperature Upon Receipt: 2.3
Intact: Yes ☐ No ☐

Notes:

1806306.2

Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page _____ of _____

Client:	PDC / Tasman	Project Manager:	Mark Longhurst
Address:	6899 N Pecos	E-Mail:	mark.longhurst@pdce.com
City/State/Zip:	Denver/CO/80221	Project Name:	Ursula #2
Phone:	Max Dahlgren Fax:	Project Number:	
Sampler Name:	Max Dahlgren		

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Soil	Matrix: Air - Canister Serial #	Matrix: Other (Specify)	Analyze For: BTEX	Special Instructions
BH15	6/22/18	1140	3			X		X				X	
BH05		1150											
BH04		1140											
BH02		1135											
BH09		1225											
BH07		1235											
BH08		1230											
BH13	"	1221	"			"		"				"	

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:

Turn Around Time (Check)

Same Day		72 Hours	
24 Hours		Standard	X
48 Hours			

Sample Integrity:
Temperature Upon Receipt: _____
Intact: Yes ☐ No ☐

Notes:

Sample Receipt Checklist

S2 Work Order: 1806306.

Client: PDC Tasman Client Project ID: Ursula #2

Shipped Via: Pickup (UPS, FedEx, Hand Delivered, Pick-up, etc.) Airbill #: _____

Matrix (check all that apply): ____Air ____Soil/Solid ✓ Water ____Other: _____ (Describe)

Temp (°C)	2.3

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C [(1)]? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
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.

UP
Custodian Printed Name or Initials

Signature or Initials of Custodian

6-22.18 1830
Date/Time

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

RW04
1806306-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.0 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.0 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH24

1806306-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.2 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH22

1806306-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*92.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.4 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH26
1806306-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 10:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 10:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*95.1 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.1 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH28
1806306-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*93.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.5 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH21

1806306-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH20
1806306-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**1900**	100	ug/l	100	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	**21**	1.0	"	1	"	"	"	"	
Ethylbenzene	**1200**	100	"	100	"	"	"	"	
Xylenes (total)	**19000**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*96.5 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*96.0 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH19
1806306-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**22**	1.0	ug/l	1	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	**7.8**	1.0	"	"	"	"	"	"	
Ethylbenzene	**620**	100	"	100	"	"	"	"	
Xylenes (total)	**12000**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*93.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH18
1806306-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**290**	100	ug/l	100	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	**630**	100	"	100	"	"	"	"	
Xylenes (total)	**6300**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*99.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH16
1806306-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**1.1**	1.0	"	"	"	"	"	"	
Xylenes (total)	**2.0**	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*97.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.8 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH15
1806306-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**76**	1.0	ug/l	1	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**480**	100	"	100	"	"	"	"	
Xylenes (total)	**2800**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*97.0 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*106 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH05
1806306-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**1200**	100	ug/l	100	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	**2.8**	1.0	"	1	"	"	"	"	
Ethylbenzene	**1300**	100	"	100	"	"	"	"	
Xylenes (total)	**17000**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.7 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH04
1806306-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**1600**	100	ug/l	100	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	**8.2**	1.0	"	1	"	"	"	"	
Ethylbenzene	**1600**	100	"	100	"	"	"	"	
Xylenes (total)	**19000**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*93.6 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*96.7 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH02
1806306-14 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	**1.1**	1.0	ug/l	1	1806367	06/25/18	06/27/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	**540**	100	"	100	"	"	"	"	
Xylenes (total)	**3200**	200	"	"	"	"	"	"	

Date Sampled: **06/22/18 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*95.9 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*99.9 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH09

1806306-15 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/29/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.6 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*117 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH07

1806306-16 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/29/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*91.7 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*82.1 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*266 %*	*21-167*		"	"	"	"	*S-02*

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH08
1806306-17 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/29/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*102 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.7 %*	*21-167*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

BH13
1806306-18 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/22/18 12:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1806367	06/25/18	06/29/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **06/22/18 12:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*94.8 %*	*23-173*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*20-170*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.5 %*	*21-167*		"	"	"	"	

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 1806367 - EPA 5030 Water MS										
Blank (1806367-BLK1)				Prepared: 06/25/18 Analyzed: 06/28/18						
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	*12.2*		*"*	*13.2*		*92.3*	*23-173*			
Surrogate: Toluene-d8	*13.1*		*"*	*13.3*		*98.3*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*14.0*		*"*	*13.3*		*105*	*21-167*			
LCS (1806367-BS1)				Prepared: 06/25/18 Analyzed: 06/28/18						
Benzene	27.1	1.0	ug/l	33.3		81.3	70-130			
Toluene	29.0	1.0	"	33.3		86.9	70-130			
Ethylbenzene	31.2	1.0	"	33.3		93.5	70-130			
m,p-Xylene	60.0	2.0	"	66.7		90.0	70-130			
o-Xylene	30.4	1.0	"	33.3		91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	*12.7*		*"*	*13.2*		*96.4*	*23-173*			
Surrogate: Toluene-d8	*13.1*		*"*	*13.3*		*98.4*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.4*		*"*	*13.3*		*100*	*21-167*			
Matrix Spike (1806367-MS1)		**Source: 1806306-01**		Prepared: 06/25/18 Analyzed: 06/28/18						
Benzene	27.2	1.0	ug/l	33.3	ND	81.5	70-130			
Toluene	28.8	1.0	"	33.3	ND	86.5	70-130			
Ethylbenzene	30.7	1.0	"	33.3	ND	92.1	70-130			
m,p-Xylene	59.5	2.0	"	66.7	ND	89.2	70-130			
o-Xylene	30.6	1.0	"	33.3	ND	91.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	*13.1*		*"*	*13.2*		*99.2*	*23-173*			
Surrogate: Toluene-d8	*13.3*		*"*	*13.3*		*99.5*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.2*		*"*	*13.3*		*99.1*	*21-167*			

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 1806367 - EPA 5030 Water MS										
Matrix Spike Dup (1806367-MSD1)	**Source: 1806306-01**			Prepared: 06/25/18 Analyzed: 06/28/18						
Benzene	27.3	1.0	ug/l	33.3	ND	82.0	70-130	0.661	30	
Toluene	28.4	1.0	"	33.3	ND	85.4	70-130	1.33	30	
Ethylbenzene	29.8	1.0	"	33.3	ND	89.4	70-130	3.04	30	
m,p-Xylene	57.4	2.0	"	66.7	ND	86.1	70-130	3.56	30	
o-Xylene	29.7	1.0	"	33.3	ND	89.1	70-130	2.79	30	
Surrogate: 1,2-Dichloroethane-d4	*14.2*		*"*	*13.2*		*108*	*23-173*			
Surrogate: Toluene-d8	*13.2*		*"*	*13.3*		*98.6*	*20-170*			
Surrogate: 4-Bromofluorobenzene	*13.7*		*"*	*13.3*		*103*	*21-167*			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Ursula #2 Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/29/18 14:53

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference