

PDC Energy, Inc.
First Quarter 2018 Groundwater Monitoring Summary

April 20, 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 March 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 (18) 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. First quarter 2018 analytical results indicate that BTEX concentrations are above applicable COGCC Table 910-1 groundwater standards in eight temporary monitoring wells (BH02, BH04, BH05, BH07, BH15, BH18, BH19, and BH20). BTEX concentrations are below COGCC regulatory standards in ten 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 first quarter 2018, 7.28 pounds of hydrocarbon mass were removed. A total of 264.29 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 second quarter 2018.

Second quarter 2018 groundwater sampling will be conducted during June 2018.

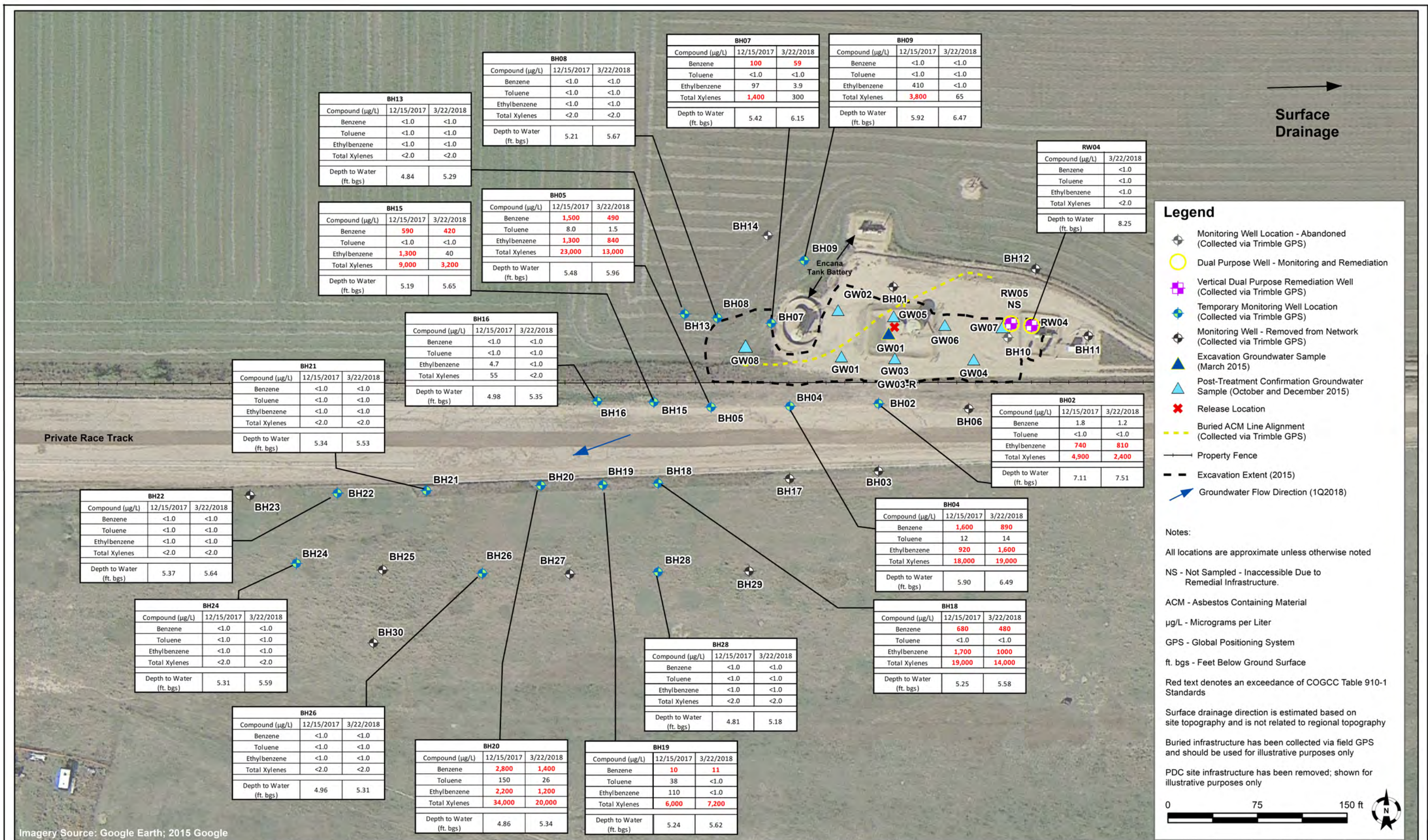


TABLE 1
FORMER URSULA #2 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

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
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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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
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
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
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
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

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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
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
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
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
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

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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
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
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
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
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
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

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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
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
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
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
BH22	3/22/2018	<1.0	<1.0	<1.0	<2.0	5.64
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

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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
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
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
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
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

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COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective January 30, 2015.
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 installed adjacent as replacement well.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L= Micrograms per liter

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

TABLE 2
FORMER URSULA 2 TANK BATTERY
EFR / AS OPERATIONAL SUMMARY TABLE

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	Air Sparge Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
Third Quarter 2016 Data						
7/15/2016	RW03, RW08, RW10, RW12, RW14	6	1260	RW04, RW07, RW09, RW11, RW13	20	21
7/29/2016	EFR01, EFR02, EFR03, EFR04, EFR06, EFR07	6	210	AS02, AS03, AS04, AS05	20	10
8/11/2016	RW06, RW09, RW10, RW12, RW14	6	1470	RW04, RW05, RW08, RW11, RW13	20	14
Totals		18	2940		-	-

Notes:

EFR = Enhanced fluid recovery

AS = Air sparge

psi = Pounds per square inch

cfm = Cubic feet per minute

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 30, 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 03/22/18 17:23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury
Laboratory Manager



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH22	1803285-01	Water	03/22/18 10:20	03/22/18 17:23
BH24	1803285-02	Water	03/22/18 10:25	03/22/18 17:23
BH26	1803285-03	Water	03/22/18 10:30	03/22/18 17:23
BH28	1803285-04	Water	03/22/18 10:35	03/22/18 17:23
RW04	1803285-05	Water	03/22/18 10:45	03/22/18 17:23
BH16	1803285-06	Water	03/22/18 11:45	03/22/18 17:23
BH21	1803285-07	Water	03/22/18 11:00	03/22/18 17:23
BH20	1803285-08	Water	03/22/18 10:55	03/22/18 17:23
BH19	1803285-09	Water	03/22/18 11:05	03/22/18 17:23
BH18	1803285-10	Water	03/22/18 11:10	03/22/18 17:23
BH02	1803285-11	Water	03/22/18 11:50	03/22/18 17:23
BH04	1803285-12	Water	03/22/18 12:00	03/22/18 17:23
BH05	1803285-13	Water	03/22/18 12:10	03/22/18 17:23
BH15	1803285-14	Water	03/22/18 11:55	03/22/18 17:23
BH13	1803285-15	Water	03/22/18 12:20	03/22/18 17:23
BH08	1803285-16	Water	03/22/18 12:30	03/22/18 17:23
BH09	1803285-17	Water	03/22/18 12:15	03/22/18 17:23
BH07	1803285-18	Water	03/22/18 12:25	03/22/18 17:23

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

Sample Receipt Checklist

S2 Work Order: 1803285
Client: PDC Client Project ID: Ursula IIa
Shipped Via: P/U Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Matrix (check all that apply): Water ☒ Air ☐ Soil/Solid ☐ Other: _____
(Describe)

Temp (°C) 5.7

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples due within 48 hours present?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCL, H2SO4, NaOH, HNO3, etc.				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials

Signature of Custodian

3-22-18 1730
Date/Time

Summit Scientific

1803285.1

741 Corporate Circle Suite 1 ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 2

Client: PDC / Tasman
Address: 6899 N Pecos St
City/State/Zip: Denver/CO/80221
Phone: 9704816909 Fax:
Sampler Name: Max Dahlgren

Project Manager: Mark Longhurst
E-Mail: mark.longhurst@PDCE.com
Project Name: Oriskany #2
Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:										Special Instructions								
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX																	
BH22	3/22/18	1020	3			X		X				X																	
BH24		1025																											
BH26		1030																											
BH28		1035																											
RW04		1045																											
BH16		1145																											
BH21		1100																											
BH20		1055																											
BH19		1105																											
BH18		1110																											

Relinquished by: <u>[Signature]</u>	Date/Time: <u>3/22/18</u>	Received by: <u>[Signature]</u>	Date/Time: <u>3/22/18 17:23</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/>	72 Hours <input type="checkbox"/>
				24 Hours <input type="checkbox"/>	Standard <input checked="" type="checkbox"/>
				48 Hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt:	
				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

1803285.2

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

Page 2 of 2

Client:	PDC / Tasman	
Address:	6899 N Pecos St	
City/State/Zip:	Denver/CO/80221	
Phone:	9704816909	Fax:
Sampler Name:		

Project Manager:	Mark Longhurst
E-Mail:	mark.longhurst@PDCE.com
Project Name:	Ursula #2
Project Number:	

				Preservative				Matrix			Analyze For:										Special Instructions
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)										
BH02	3/22/18	1150	3			X		X				BTEX	X								
BH04		1200																			
BH05		1210																			
BH15		1155																			
BH13		1220																			
BH08		1230																			
BH09		1215																			
BH07		1225																			
Relinquished by: <i>[Signature]</i> Date/Time: 3/22/18				Received by: <i>[Signature]</i> Date/Time: 3/22/18 17:23				Turn Around Time (Check) Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>										Notes:			
Relinquished by: _____ Date/Time: _____				Received by: _____ Date/Time: _____				Sample Integrity: Temperature Upon Receipt: _____ Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													
Relinquished by: _____ Date/Time: _____				Received in Lab by: _____ Date/Time: _____																	



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH22
1803285-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.1 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.7 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH24
1803285-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH26
1803285-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		91.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH28
1803285-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/27/18	03/27/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.2 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		89.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

RW04
1803285-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.6 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		91.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH16
1803285-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.1 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		91.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH21
1803285-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		89.5 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH20
1803285-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1400	100	ug/l	100	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	26	1.0	"	1	"	"	"	"	
Ethylbenzene	1200	100	"	100	"	"	"	"	
Xylenes (total)	20000	200	"	"	"	"	"	"	

Date Sampled: **03/22/18 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.1 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH19
1803285-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	11	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	7200	200	"	100	"	"	"	"	

Date Sampled: **03/22/18 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.9 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH18
1803285-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	480	100	ug/l	100	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	1000	100	"	100	"	"	"	"	
Xylenes (total)	14000	200	"	"	"	"	"	"	

Date Sampled: **03/22/18 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.7 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH02
1803285-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.2	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	810	100	"	100	"	"	"	"	
Xylenes (total)	2400	200	"	"	"	"	"	"	

Date Sampled: **03/22/18 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.5 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH04
1803285-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	890	100	ug/l	100	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	14	1.0	"	1	"	"	"	"	
Ethylbenzene	1600	100	"	100	"	"	"	"	
Xylenes (total)	19000	200	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.2 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH05
1803285-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	490	100	ug/l	100	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	1.5	1.0	"	1	"	"	"	"	
Ethylbenzene	840	100	"	100	"	"	"	"	
Xylenes (total)	13000	200	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92.0 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.5 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH15
1803285-14 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	420	100	ug/l	100	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	40	1.0	"	"	"	"	"	"	
Xylenes (total)	3200	200	"	100	"	"	"	"	

Date Sampled: **03/22/18 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.3 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH13
1803285-15 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.9 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH08
1803285-16 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		94.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		94.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH09
1803285-17 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1803295	03/30/18	03/30/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	65	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		89.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

BH07
1803285-18 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/22/18 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	59	1.0	ug/l	1	1803295	03/28/18	03/28/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	3.9	1.0	"	"	"	"	"	"	
Xylenes (total)	300	2.0	"	"	"	"	"	"	

Date Sampled: **03/22/18 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		89.7 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1803295 - EPA 5030 Water MS

Blank (1803295-BLK1)

Prepared & Analyzed: 03/27/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.0		"	13.3		82.4	37-154			
Surrogate: Toluene-d8	11.9		"	13.3		89.2	45-149			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.4	45-146			

LCS (1803295-BS1)

Prepared & Analyzed: 03/27/18

Benzene	31.7	1.0	ug/l	33.3		95.1	51-132			
Toluene	34.2	1.0	"	33.3		103	51-138			
Ethylbenzene	38.2	1.0	"	33.1		116	58-146			
m,p-Xylene	78.4	2.0	"	66.5		118	57-144			
o-Xylene	38.1	1.0	"	32.7		117	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.3		90.8	37-154			
Surrogate: Toluene-d8	12.3		"	13.3		92.6	45-149			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.0	45-146			

Matrix Spike (1803295-MS1)

Source: 1803285-04

Prepared & Analyzed: 03/27/18

Benzene	32.6	1.0	ug/l	33.3	ND	97.9	34-141			
Toluene	35.0	1.0	"	33.3	ND	105	27-151			
Ethylbenzene	44.4	1.0	"	33.1	ND	134	29-160			
m,p-Xylene	90.2	2.0	"	66.5	ND	136	20-166			
o-Xylene	42.6	1.0	"	32.7	ND	130	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102	37-154			
Surrogate: Toluene-d8	12.2		"	13.3		91.6	45-149			
Surrogate: 4-Bromofluorobenzene	10.4		"	13.3		77.7	45-146			

Summit Scientific

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

Project: Ursula 2
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

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

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

Batch 1803295 - EPA 5030 Water MS

Matrix Spike Dup (1803295-MSD1)		Source: 1803285-04			Prepared & Analyzed: 03/27/18					
Benzene	32.6	1.0	ug/l	33.3	ND	97.9	34-141	0.0306	32	
Toluene	36.8	1.0	"	33.3	ND	111	27-151	5.09	25	
Ethylbenzene	45.2	1.0	"	33.1	ND	137	29-160	1.87	50	
m,p-Xylene	92.9	2.0	"	66.5	ND	140	20-166	2.94	36	
o-Xylene	44.6	1.0	"	32.7	ND	137	33-159	4.65	26	
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		107	37-154			
Surrogate: Toluene-d8	12.6		"	13.3		94.6	45-149			
Surrogate: 4-Bromofluorobenzene	10.7		"	13.3		80.0	45-146			

Summit Scientific

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

Project: Ursula 2

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/30/18 14:10

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