



**PDC Energy, Inc.**  
First Quarter 2017 Groundwater Monitoring Summary

February 6, 2017

Former H&S (Mineral) #1 Tank Battery  
NWSW S6 T4N R65W  
Weld County, API # 05-123-11529  
Facility ID # 243737  
Remediation # 7945

This groundwater summary has been prepared by Tasman Geosciences, Inc. for the former H&S (Mineral) #1 tank battery. On January 20, 2017, groundwater monitoring was conducted at all eight monitoring well locations (BH01R, and BH02 – BH08). Eight groundwater samples were submitted to Summit Scientific Laboratories for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8260B. Analytical results are summarized in Table 1 and the laboratory analytical report is included as Attachment A. Sample locations and corresponding analytical results are illustrated on Figure 1. First quarter 2017 analytical results indicate that the benzene concentration is above the applicable COGCC Table 910-1 standard in monitoring well BH02. BTEX concentrations are below applicable COGCC regulatory standards in the remaining seven well locations.

Enhanced fluid recovery (EFR) and air sparge (AS) events were initiated at the site during the third quarter 2013. A summary of the EFR/AS operational data is provided in Table 2. EFR/AS will remain the selected remediation strategy for the site through the second quarter 2017.

The second quarter 2017 groundwater sampling event will be conducted during April 2017.

**TABLE 1  
FORMER H & S (MINERAL) #1 TANK BATTERY  
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water <sup>(2)</sup> (feet)	
<b>COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>		
BH01	7/25/2013	<b>6,700</b>	<b>6,200</b>	<b>1,100</b>	<b>19,000</b>	16.53	
BH01	10/31/2013	<b>1,700</b>	<b>1,800</b>	170	<b>4,400</b>	15.65	
BH01	1/24/2014	<b>6.5</b>	<1.0	<1.0	<b>3,000</b>	17.19	
BH01	4/30/2014	<b>290</b>	<b>990</b>	76	<b>2,700</b>	17.35	
BH01	7/25/2014	<b>45</b>	100	53	<b>2,100</b>	14.68	
BH01	10/27/2014	<b>21</b>	19	21	<b>2,100</b>	13.75	
BH01	1/20/2015	<b>9.7</b>	13	<1.0	<b>1,600</b>	15.85	
BH01	5/13/2015	4.9	13	5.2	<b>2,600</b>	15.90	
BH01	7/30/2015	<1.0	6.5	<1.0	290	14.23	
BH01	10/26/2015	1.1	15	5.3	400	13.57	
BH01	1/26/2016	3.1	19	<1.0	980	16.04	
BH01	4/21/2016	NS	NS	NS	NS	16.64	
BH01	7/18/2016	Destroyed					
BH01R	7/18/2016	<1.0	2.4	<1.0	1,200	15.42	
BH01R	10/19/2016	<1.0	<1.0	<1.0	240	11.48	
BH01R	1/20/2017	<1.0	1.8	3.1	48	14.03	
BH02	7/25/2013	<b>3,300</b>	<b>4,700</b>	<b>2,100</b>	<b>36,000</b>	17.63	
BH02	10/31/2013	<b>770</b>	24	39	<b>3,300</b>	16.75	
BH02	1/24/2014	<b>730</b>	20	<1.0	<b>2,600</b>	18.25	
BH02	4/30/2014	<b>84</b>	12	3.8	410	18.39	
BH02	7/25/2014	<b>53</b>	2.3	<1.0	68	15.75	
BH02	10/27/2014	4.3	<1.0	<1.0	24	14.91	
BH02	1/20/2015	<b>160</b>	<1.0	<1.0	390	17.02	
BH02	5/13/2015	<b>93</b>	1.2	<1.0	75	17.14	
BH02	7/30/2015	3.4	1.1	<1.0	57	15.61	
BH02	10/26/2015	<b>39</b>	16	3.9	450	14.70	
BH02	1/26/2016	<1.0	2.5	1.4	18	17.16	
BH02	4/21/2016	<b>81</b>	<1.0	2.7	7.8	17.74	
BH02	7/18/2016	<b>71</b>	1.0	<1.0	14	15.33	
BH02	10/19/2016	<b>9.9</b>	1.2	<1.0	63	13.42	

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<b>COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH02	1/20/2017	<b>5.2</b>	11	2.1	730	15.99
BH03	7/25/2013	<b>760</b>	<b>4,400</b>	<b>1,300</b>	<b>23,000</b>	15.98
BH03	10/31/2013	3.6	8.6	2.2	100	15.15
BH03	1/24/2014	2.6	2.0	<1.0	62	16.63
BH03	4/30/2014	1.1	1.6	<1.0	45	16.79
BH03	7/25/2014	<b>33</b>	20	<1.0	480	14.14
BH03	10/27/2014	<b>17</b>	3.3	<1.0	210	13.27
BH03	1/20/2015	<1.0	<1.0	<1.0	8.7	15.35
BH03	5/13/2015	<1.0	<1.0	<1.0	8.2	15.38
BH03	7/30/2015	<1.0	<1.0	<1.0	4.9	13.72
BH03	10/26/2015	<1.0	<1.0	<1.0	12	13.09
BH03	1/26/2016	<1.0	1.4	<1.0	9.7	15.55
BH03	4/21/2016	<1.0	1.0	<1.0	5.7	16.16
BH03	7/18/2016	<1.0	<1.0	<1.0	<1.0	13.75
BH03	10/19/2016	<1.0	<1.0	<1.0	5.9	11.08
BH03	1/20/2017	<1.0	<1.0	<1.0	<1.0	13.64
BH04	7/25/2013	<b>1,700</b>	170	<b>1,200</b>	<b>19,000</b>	15.91
BH04	10/31/2013	<b>2,500</b>	140	620	<b>13,000</b>	15.09
BH04	1/24/2014	<b>2,100</b>	320	<b>740</b>	<b>14,000</b>	16.60
BH04	4/30/2014	<b>1,700</b>	300	<b>1,100</b>	<b>19,000</b>	16.74
BH04	7/25/2014	<b>410</b>	9.3	36	<b>6,400</b>	14.11
BH04	10/27/2014	<b>37</b>	2.4	<1.0	630	13.22
BH04	1/20/2015	<b>45</b>	<1.0	<1.0	520	15.46
BH04	5/13/2015	2.6	<1.0	<1.0	110	15.40
BH04	7/30/2015	<b>8.8</b>	1.2	2.4	780	13.76
BH04	10/26/2015	3.2	3.9	7.2	450	13.05
BH04	1/26/2016	<1.0	2.2	2.4	43	15.51
BH04	4/21/2016	<1.0	<1.0	<1.0	10	16.10
BH04	7/18/2016	<1.0	<1.0	<1.0	2.0	13.71
BH04	10/19/2016	<1.0	<1.0	<1.0	<1.0	11.75

**TABLE 1**  
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**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water <sup>(2)</sup> (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup>		5	560	700	1,400	
BH04	1/20/2017	<1.0	<1.0	<1.0	<1.0	14.34
BH05	7/25/2013	<b>17</b>	<b>3,300</b>	<b>930</b>	<b>15,000</b>	13.07
BH05	10/31/2013	<1.0	<1.0	2.0	85	12.01
BH05	1/24/2014	<1.0	<1.0	<1.0	<1.0	13.52
BH05	4/30/2014	<1.0	<1.0	<1.0	4.5	13.65
BH05	7/25/2014	<1.0	<1.0	<1.0	5.8	11.03
BH05	10/27/2014	<1.0	<1.0	<1.0	2.9	10.37
BH05	1/20/2015	<1.0	<1.0	<1.0	<1.0	12.50
BH05	5/13/2015	<1.0	<1.0	<1.0	<1.0	12.41
BH05	7/30/2015	<1.0	<1.0	<1.0	2.3	10.91
BH05	10/26/2015	<1.0	<1.0	<1.0	<1.0	10.17
BH05	1/26/2016	<1.0	<1.0	<1.0	<1.0	12.79
BH05	4/21/2016	<1.0	<1.0	<1.0	<1.0	13.20
BH05	7/18/2016	<1.0	<1.0	<1.0	<1.0	11.11
BH05	10/19/2016	<1.0	<1.0	<1.0	<1.0	10.34
BH05	1/20/2017	<1.0	<1.0	<1.0	<1.0	12.90
BH06	7/25/2013	1.9	12	<b>3,100</b>	<b>46,000</b>	13.47
BH06	10/31/2013	<1.0	<1.0	1.9	57	12.46
BH06	1/24/2014	<1.0	<1.0	<1.0	2.9	13.95
BH06	4/30/2014	<1.0	<1.0	2.0	49	14.06
BH06	7/25/2014	<1.0	<1.0	<1.0	4.9	11.44
BH06	10/27/2014	<1.0	<1.0	<1.0	2.6	10.81
BH06	1/20/2015	<1.0	<1.0	<1.0	2.3	12.93
BH06	5/13/2015	<1.0	<1.0	<b>750</b>	<b>10,000</b>	12.82
BH06	7/30/2015	<1.0	<1.0	<1.0	<1.0	11.32
BH06	10/26/2015	<1.0	<1.0	<1.0	<1.0	10.59
BH06	1/26/2016	<1.0	<1.0	<1.0	<1.0	13.09
BH06	4/21/2016	<1.0	<1.0	270	<b>4,800</b>	13.55
BH06	7/18/2016	<1.0	<1.0	9.6	240	11.18
BH06	10/19/2016	<1.0	<1.0	<1.0	250	10.63

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<b>COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH06	1/20/2017	<1.0	<1.0	<1.0	21	13.21
BH07	7/25/2013	<1.0	<1.0	<1.0	<1.0	15.33
BH07	10/31/2013	<1.0	<1.0	<1.0	<1.0	14.31
BH07	1/24/2014	<1.0	<1.0	<1.0	<1.0	15.81
BH07	4/30/2014	<1.0	<1.0	<1.0	<1.0	15.96
BH07	7/25/2014	<1.0	<1.0	<1.0	<1.0	13.27
BH07	10/27/2014	<1.0	<1.0	<1.0	<1.0	10.60
BH07	1/20/2015	<1.0	<1.0	<1.0	<1.0	14.78
BH07	5/13/2015	<1.0	<1.0	<1.0	<1.0	14.53
BH07	7/30/2015	<1.0	<1.0	<1.0	<1.0	13.17
BH07	10/26/2015	<1.0	<1.0	<1.0	<1.0	12.37
BH07	1/26/2016	<1.0	<1.0	<1.0	<1.0	14.92
BH07	4/21/2016	<1.0	<1.0	<1.0	<1.0	15.39
BH07	7/18/2016	<1.0	<1.0	<1.0	<1.0	13.11
BH07	10/19/2016	<1.0	<1.0	<1.0	<1.0	10.97
BH07	1/20/2017	<1.0	<1.0	<1.0	<1.0	13.54
BH08	7/25/2013	<1.0	<1.0	<1.0	<1.0	13.47
BH08	10/31/2013	<1.0	<1.0	<1.0	<1.0	12.41
BH08	1/24/2014	<1.0	<1.0	<1.0	<1.0	13.91
BH08	4/30/2014	<1.0	<1.0	<1.0	<1.0	14.05
BH08	7/25/2014	<1.0	<1.0	<1.0	<1.0	11.42
BH08	10/27/2014	NS	NS	NS	NS	NM
BH08	1/22/2015	<1.0	<1.0	<1.0	<1.0	12.88
BH08	5/13/2015	<1.0	<1.0	<1.0	<1.0	12.90
BH08	7/30/2015	<1.0	<1.0	<1.0	<1.0	11.30
BH08	10/26/2015	<1.0	<1.0	<1.0	<1.0	10.56
BH08	1/26/2016	<1.0	<1.0	<1.0	<1.0	13.04
BH08	4/21/2016	<1.0	<1.0	<1.0	<1.0	13.57
BH08	7/18/2016	<1.0	<1.0	<1.0	<1.0	11.22
BH08	10/19/2016	<1.0	<1.0	<1.0	<1.0	10.56

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Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water <sup>(2)</sup> (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH08	1/20/2017	<1.0	<1.0	<1.0	<1.0	13.14

**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 were collected from top of casing and adjusted using survey data and product thickness to reflect depth of water from ground surface.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

NM = Not measured

NS = Not sampled

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

**TABLE 2  
FORMER H&S (MINERAL) #1 TANK BATTERY  
EFR / AS OPERATIONAL SUMMARY TABLE**

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
<b>Third Quarter 2013</b>						
8/6/2013	BH02, BH03, BH04, BH05, BH06	6	50	BH01, BH02, BH03, BH05, BH06	10	NR
8/19/2013	BH01, BH02, BH03, BH04, BH05, BH06	6	80	BH01, BH02, BH03, BH04, BH05, BH06	10	NR
9/8/2013		6	21		10	NR
9/16/2013		6	80	10	NR	
9/30/2013		5	90	BH01, BH02, BH03, BH05, BH06	20	NR
<b>Quarterly Totals</b>		<b>29</b>	<b>321</b>		-	-
<b>Fourth Quarter 2013</b>						
10/11/2013	BH01, BH02, BH03, BH04, BH05, BH06	6	80	BH01, BH02, BH03, BH05, BH06	10	NR
10/24/2013	BH01, BH02, BH03, BH04, BH06	6	110	BH01, BH02, BH03, BH05, BH06	12	NR
11/26/2013	BH01, BH02, BH03, BH04, BH05, BH06	6	40		10	NR
12/17/2013		6	42		10	NR
<b>Quarterly Totals</b>		<b>24</b>	<b>272</b>		-	-
<b>First Quarter 2014</b>						
1/7/2014	BH01, BH02, BH03, BH04, BH05, BH06	5.5	90	BH01, BH02, BH03, BH05, BH06	10	NR
1/22/2014		6	230		10	NR
2/24/2014		6	180		10	23.2
3/11/2014		6	90		10	38.4
3/20/2014		6	135		10	30
<b>Quarterly Totals</b>		<b>29.5</b>	<b>725</b>		-	-
<b>Second Quarter 2014</b>						
4/10/2014	BH01, BH02, BH03, BH04, BH05	8	230	BH01, BH02, BH03, BH05	10	29.5
4/23/2014	BH01, BH02, BH03, BH04, BH05, BH06	6	180	BH01, BH02, BH03, BH04, BH05, BH06	20	29.5
5/13/2014		6	220		10	21.5
5/28/2014		6	180		20	31
6/10/2014		8	270		25	39
6/23/2014		6	185		20	27
<b>Quarterly Totals</b>		<b>40</b>	<b>1265</b>		-	-
<b>Third Quarter 2014</b>						
7/11/2014	BH01, BH02, BH03, BH04, BH05, BH06	6	150	BH01, BH02, BH03, BH04, BH05, BH06	20	20
7/16/2014		6	240		15	16.5
8/8/2014		6	250		15	21.5
8/25/2014		6	230		20	21.5
9/10/2014		6	300		20	27
9/22/2014		6	350		20	24.5
<b>Quarterly Totals</b>		<b>36</b>	<b>1520</b>		-	-

**TABLE 2  
FORMER H&S (MINERAL) #1 TANK BATTERY  
EFR / AS OPERATIONAL SUMMARY TABLE**

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
<b>Fourth Quarter 2014</b>						
10/10/2014	BH01, BH02, BH03, BH04, BH05, BH06	6	100		20	20
10/24/2014	Pipe, BH01, BH02,	6	50	BH01, BH02, BH03, BH04, BH05, BH06	15	16.7
11/7/2014	BH03, BH05, BH06	6	270		20	30.5
11/25/2014	Pipe, BH01, BH02, BH03, BH05	6	207		20	27.5
12/10/2014	BH01, BH02, BH03, BH04, BH05, BH06	6	18	BH01, BH02, BH03, BH05, BH06	30	25
<b>Quarterly Totals</b>		<b>30</b>	<b>645</b>		-	-
<b>First Quarter 2015</b>						
1/2/2015	Pipe, BH01, BH02, BH03, BH05, BH06	6	150	BH01, BH02, BH03, BH04, BH05, BH06	15	29.7
1/14/2015	Pipe, BH01, BH02, BH03, BH04	5	245	BH01, BH02, BH03, BH04	20	28.5
2/3/2015	Pipe, BH01, BH02, BH03, BH05, BH06	6	120	BH01, BH02, BH03, BH04, BH05, BH06	20	25.1
2/18/2015	Pipe, BH01, BH02,	6	250		20	25
3/13/2015	BH03, BH04, BH05,	6	100		20	27
3/25/2015	BH06	6	160		20	22
<b>Quarterly Totals</b>		<b>35</b>	<b>1025</b>		-	-
<b>Second Quarter 2015</b>						
4/1/2015	Pipe, BH01, BH02, BH03, BH04, BH05, BH06	6	165	BH01, BH02, BH03, BH04, BH05, BH06	20	24
4/21/2015	Pipe, BH01, BH02, BH03, BH04, BH05	6	180	BH01, BH02, BH03, BH04, BH05	20	15.6
5/5/2015	Pipe, BH01, BH02, BH03, BH04, BH05, BH06	6	80	BH01, BH02, BH03, BH04, BH05, BH06	20	17.5
5/19/2015		6	250		20	17.5
6/2/2015		6	270		20	30
6/16/2015		6	350		20	22
6/30/2015		6	340		20	25
<b>Quarterly Totals</b>		<b>42</b>	<b>1635</b>		-	-
<b>Third Quarter 2015</b>						
7/14/2015	Pipe, BH01, BH02, BH03, BH04, BH05, BH06	6	375	BH01, BH02, BH03,	20	25
7/28/2015		6	405	BH04, BH05, BH06	20	25
8/11/2015		6	320	BH01, BH02, BH04, BH05	20	20
8/25/2015		6	505	BH01, BH02, BH03, BH04, BH05, BH06	20	25
9/8/2015		6	90		20	22.5
9/22/2015		6	700		20	23.5
<b>Quarterly Totals</b>		<b>36</b>	<b>2395</b>		-	-

**TABLE 2  
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EFR / AS OPERATIONAL SUMMARY TABLE**

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
<b>Fourth Quarter 2015</b>						
10/6/2015	Pipe, BH01, BH02, BH03, BH04, BH05, BH06	6	550	BH01, BH02, BH03, BH04, BH05, BH06	20	22
10/20/2015		6	400		20	22.5
11/3/2015	Pipe, BH01, BH02, BH03, BH04, BH05	6	552		20	25
11/19/2015	Pipe, BH01, BH03, BH05, BH06	6	320	BH01, BH02, BH03, BH04, BH05	20	19.3
12/1/2015		6	142		20	25
12/22/2015	Pipe, BH01, BH02, BH03	6	260	BH02, BH03, BH04	20	25
<b>Quarterly Totals</b>		<b>36</b>	<b>2224</b>		-	-
<b>First Quarter 2016</b>						
1/13/2016	Pipe, BH01, BH03, BH05, BH06	6	20	BH01, BH02, BH03, BH04, BH05	20	20
2/12/2016		6	200		20	27.7
2/25/2016		6	420		20	20
3/10/2016		6	250		20	17.3
3/24/2016		6	320		24	18.9
<b>Quarterly Totals</b>		<b>30</b>	<b>1210</b>		-	-
<b>Second Quarter 2016</b>						
4/7/2016	Pipe, BH03, BH05, BH06	6	840	BH01, BH02, BH03, BH04, BH05, BH06	20	20
4/22/2016		6	250		25	16.8
5/19/2016		6	210		20	12
6/2/2016		6	210		20	10
6/16/2016		6	294		20	10
6/28/2016		6	350		20	10.4
<b>Quarterly Totals</b>		<b>36</b>	<b>2154</b>		-	-
<b>Third Quarter 2016</b>						
7/14/2016	Pipe, BH03, BH05, BH06	6	294	BH01, BH02, BH03, BH04, BH05, BH06	20	10
7/26/2016		6	320		20	10
8/11/2016		6	270		20	17.7
8/23/2016		6	210		20	9
<b>Quarterly Totals</b>		<b>24</b>	<b>1094</b>		-	-

**TABLE 2**  
**FORMER H&S (MINERAL) #1 TANK BATTERY**  
**EFR / AS OPERATIONAL SUMMARY TABLE**

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
<b>Fourth Quarter 2016</b>						
10/7/2016	Pipe, BH02, BH03, BH05	2	420	BH01, BH04, BH05, BH06	18	20
10/21/2016		6	2520	BH01, BH02, BH03, BH04, BH05, BH06	20	25
11/4/2016		6	840		20	12
11/29/2016		6	210		20	10
12/13/2016	Pipe, BH02, BH03, BH05, BH06	6	0	BH01, BH02, BH03, BH04, BH05, BH06	20	10
12/27/2016	Pipe, BH02, BH03, BH05	6	420		20	15
<b>Quarterly Totals</b>		<b>32</b>	<b>4410</b>		-	-
<b>First Quarter 2017</b>						
1/10/2017	Pipe, BH02, BH03, BH05	6	210	BH01, BH02, BH03, BH04, BH05, BH06	20	10
1/24/2017		6	84		20	12
2/7/2017	Pipe, BH02, BH05	6	420		22	NR
2/21/2017	Pipe, BH01, BH02, BH05	6	84		20	10
3/7/2017		6	126		20	15
3/21/2017		6	42		20	15
<b>Quarterly Totals</b>		<b>36</b>	<b>966</b>		-	-

**Notes:**

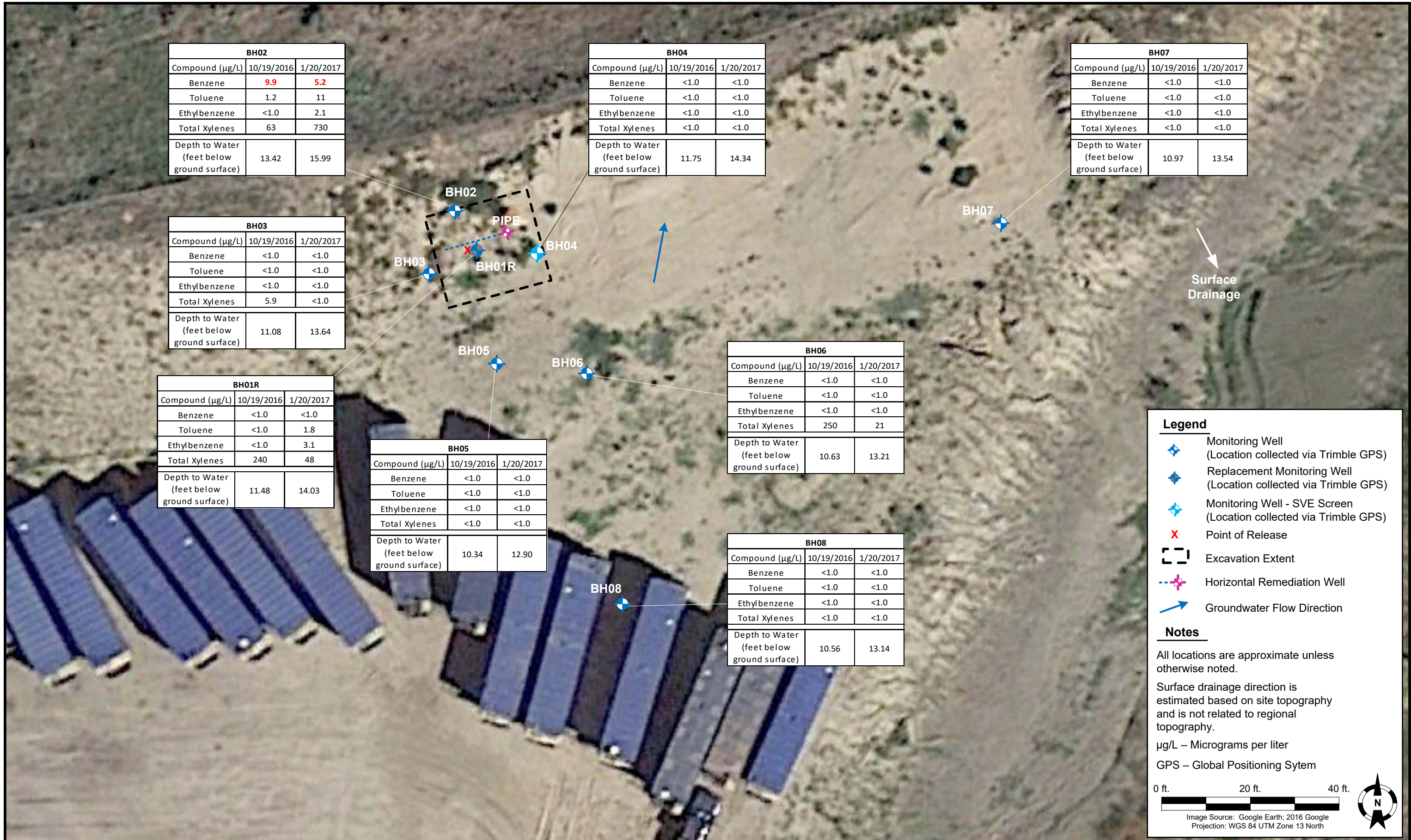
EFR = Enhanced fluid recovery

AS = Air sparge

psi = Pounds per square inch

cfm = Cubic feet per minute

NR = Not recorded



BH02		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	9.9	5.2
Toluene	1.2	11
Ethylbenzene	<1.0	2.1
Total Xylenes	63	730
Depth to Water (feet below ground surface)	13.42	15.99

BH04		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0
Depth to Water (feet below ground surface)	11.75	14.34

BH07		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0
Depth to Water (feet below ground surface)	10.97	13.54

BH03		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	5.9	<1.0
Depth to Water (feet below ground surface)	11.08	13.64

BH01R		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	1.8
Ethylbenzene	<1.0	3.1
Total Xylenes	240	48
Depth to Water (feet below ground surface)	11.48	14.03

BH05		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0
Depth to Water (feet below ground surface)	10.34	12.90

BH06		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	250	21
Depth to Water (feet below ground surface)	10.63	13.21

BH08		
Compound (µg/L)	10/19/2016	1/20/2017
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0
Depth to Water (feet below ground surface)	10.56	13.14

**Legend**

- Monitoring Well (Location collected via Trimble GPS)
- Replacement Monitoring Well (Location collected via Trimble GPS)
- Monitoring Well - SVE Screen (Location collected via Trimble GPS)
- Point of Release
- Excavation Extent
- Horizontal Remediation Well
- Groundwater Flow Direction

**Notes**

All locations are approximate unless otherwise noted.

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

µg/L – Micrograms per liter

GPS – Global Positioning System


0 ft.      20 ft.      40 ft.

Image Source: Google Earth; 2016 Google  
Projection: WGS 84 UTM Zone 13 North

DATE: February 1, 2017

DESIGNED BY: C. Hamlin

DRAWN BY: D. Cavinder



**Tasman Geosciences, Inc.**  
6899 Pecos Street – Unit C  
Denver, CO 80221

**PDC Energy, Inc. – DJ Basin**  
**Former H&S (Mineral) #1 Tank Battery**  
NWSW, Section 6, Township 4 North, Range 65 West  
Weld County, Colorado

**GROUNDWATER ANALYTICAL RESULTS MAP**

**FIGURE 1**

# **ATTACHMENT A**

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 26, 2017

Mark Longhurst  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: H&S Mineral #1

Enclosed are the results of analyses for samples received by Summit Scientific on 01/20/17 16:30. 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: H&S Mineral #1

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
01/26/17 08:18

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01R	1701143-01	Water	01/20/17 11:17	01/20/17 16:30
BH02	1701143-02	Water	01/20/17 11:12	01/20/17 16:30
BH03	1701143-03	Water	01/20/17 11:03	01/20/17 16:30
BH04	1701143-04	Water	01/20/17 10:59	01/20/17 16:30
BH05	1701143-05	Water	01/20/17 10:42	01/20/17 16:30
BH06	1701143-06	Water	01/20/17 10:45	01/20/17 16:30
BH07	1701143-07	Water	01/20/17 10:15	01/20/17 16:30
BH08	1701143-08	Water	01/20/17 10:30	01/20/17 16:30

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

Reported:  
 01/26/17 08:18

# Summit Scientific

1701143

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

Client: PDC Energy Page 1 of 1  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_ Project Manager: Mark Longhurst  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: mark.longhurst@pdce.com  
 Sampler Name: Kirk F. Math P Project Name: H&S (Mineral) #1  
 Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix		Analyze For:			Special Instructions
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	
BH01R	1/20/17	1117	3	X								
BH02	1/20/17	1112	3	X								
BH03	1/20/17	1103	3	X								
BH04	1/20/17	1059	3	X								
BH05	1/20/17	1042	3	X								
BH06	1/20/17	1045	3	X								
BH07	1/20/17	1015	3	X								
BH08	1/20/17	1030	3	X								

Relinquished by: <u>[Signature]</u> Date/Time: <u>1/20/17 1630</u>	Received by: <u>[Signature]</u> Date/Time: <u>1/20/17 1630</u>	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  <u>on ice</u>
Relinquished by: <u>[Signature]</u> Date/Time: <u>1/20/17 1700</u>	Received by: <u>[Signature]</u> Date/Time: <u>1-20-17 1700</u>		
Relinquished by: _____ Date/Time: _____	Received in Lab by: _____ Date/Time: _____		

Sample Integrity:  
 Temperature Upon Receipt: 6.2°C  
 Intact:  Yes  No

www.s2scientific.com

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
01/26/17 08:18

**Sample Receipt Checklist**

S2 Work Order: 1701143

Client: PDC Energy Client Project ID: ~~1701143~~ H15 (Mineral) #

Shipped Via: P/U Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Cooler ID					
Temp (°C)	<u>6.2</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? <b>if yes, contact client and note in narrative.</b>		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>			<u>HCl</u>
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

1/20/17 1700  
Date/Time

[Signature]



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

Project: H&S Mineral #1  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH01R**  
**1701143-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 11:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
<b>Toluene</b>	<b>1.8</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3.1</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>48</b>	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 11:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	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: H&S Mineral #1  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH02**  
**1701143-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>5.2</b>	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
<b>Toluene</b>	<b>11</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>2.1</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>730</b>	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		113 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	45-146		"	"	"	"	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH03**  
**1701143-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %	45-146		"	"	"	"	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH04**  
**1701143-04 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 10:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 10:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>110 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>93.4 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH05**  
**1701143-05 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %	45-146		"	"	"	"	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH06**  
**1701143-06 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>21</b>	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.3 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH07**  
**1701143-07 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>114 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>95.1 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

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

Project: H&S Mineral #1

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 01/26/17 08:18

**BH08**  
**1701143-08 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1701214	01/24/17	01/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>114 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>94.5 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

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

Project: H&S Mineral #1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
01/26/17 08:18

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

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

**Batch 1701214 - EPA 5030 Water MS**

**Blank (1701214-BLK1)**

Prepared & Analyzed: 01/24/17

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	37-154			
Surrogate: Toluene-d8	12.5		"	13.3		93.8	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

**LCS (1701214-BS1)**

Prepared & Analyzed: 01/24/17

Benzene	38.4	1.0	ug/l	33.3		115	51-132			
Toluene	38.1	1.0	"	33.3		114	51-138			
Ethylbenzene	40.5	1.0	"	33.1		122	58-146			
m,p-Xylene	74.7	2.0	"	66.5		112	57-144			
o-Xylene	39.1	1.0	"	32.7		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		116	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

**Matrix Spike (1701214-MS1)**

Source: 1701142-01

Prepared & Analyzed: 01/24/17

Benzene	38.6	1.0	ug/l	33.3	ND	116	34-141			
Toluene	38.6	1.0	"	33.3	ND	116	27-151			
Ethylbenzene	41.7	1.0	"	33.1	ND	126	29-160			
m,p-Xylene	77.0	2.0	"	66.5	ND	116	20-166			
o-Xylene	40.2	1.0	"	32.7	ND	123	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.9		"	13.3		119	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.5	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	45-146			

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**Reported:**  
 01/26/17 08:18

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

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

**Batch 1701214 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1701214-MSD1)</b>	<b>Source: 1701142-01</b>			<b>Prepared &amp; Analyzed: 01/24/17</b>						
Benzene	37.7	1.0	ug/l	33.3	ND	113	34-141	2.44	32	
Toluene	37.4	1.0	"	33.3	ND	112	27-151	3.11	25	
Ethylbenzene	41.4	1.0	"	33.1	ND	125	29-160	0.529	50	
m,p-Xylene	75.3	2.0	"	66.5	ND	113	20-166	2.27	36	
o-Xylene	39.7	1.0	"	32.7	ND	122	33-159	1.25	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.6</i>		<i>"</i>	<i>13.3</i>		<i>117</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.8</i>		<i>"</i>	<i>13.3</i>		<i>95.6</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-146</i>			

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Project: H&S Mineral #1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
01/26/17 08:18

### 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