PDC Energy, Inc.

Second Quarter 2016 Groundwater Monitoring Summary

July 7, 2016

Becker 5-1, 2, 14, 15 Tank Battery
SWSE Section 5 T3N R64W
Weld County, API # 05-123-12297
Facility ID # 322943
Remediation # 7693

This groundwater summary has been prepared by Tasman Geosciences, Inc. for the Becker 5-1, 2, 14, 15 tank battery. On June 7, 2016 groundwater sampling was conducted at eight monitoring well locations (BH01-BH08). Groundwater samples were submitted for laboratory 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. Second quarter 2016 analytical results indicate that BTEX concentrations are below applicable COGCC Table 910-1 groundwater standards at all eight sample locations.

Tasman initiated enhanced fluid recovery (EFR) and air sparge (AS) events on site during the first quarter 2013. Tasman temporarily discontinued EFR/AS events after the fourth quarter 2013, until additional remediation wells could be installed. EFR/AS activities were resumed during the second quarter 2014, and continued through the second quarter 2016. A summary of the EFR/AS operational data is provided in Table 2. EFR/AS will remain the selected remediation strategy during the third quarter 2016.

Third quarter 2016 groundwater sampling will be conducted in Septmeber 2016.

TABLE 1
BECKER 5-1, 2, 14, 15 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 [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
GW01	11/29/2012	**3,100**	**610**	320	**3,700**	~ 16
BH01	12/20/2012	**97**	<1.0	180	1,200	13.24
BH01	3/19/2013	1.7	<1.0	4.9	48	13.27
BH01	6/21/2013	<1.0	<1.0	8.0	49	13.01
BH01	9/23/2013	<1.0	<1.0	<1.0	<1.0	12.52
BH01	12/18/2013	1.5	<1.0	<1.0	<1.0	12.80
BH01	3/28/2014	<1.0	<1.0	1.9	2.2	12.81
BH01	6/25/2014	<1.0	<1.0	15	8.9	11.44
BH01	9/17/2014	<1.0	<1.0	11	2.1	10.93
BH01	12/16/2014	**7.4**	<1.0	11	<1.0	11.45
BH01	3/27/2015	1.4	4.2	2.2	24	11.59
BH01	6/29/2015	<1.0	<1.0	<1.0	<1.0	8.67
BH01	9/25/2015	<1.0	<1.0	<1.0	<1.0	9.88*
BH01	12/14/2015	<1.0	<1.0	<1.0	<1.0	9.61
BH01	3/14/2016	<1.0	<1.0	<1.0	<1.0	6.95
BH01	6/7/2016	<1.0	<1.0	<1.0	<1.0	5.18
BH02	12/20/2012	**170**	1.6	490	**1,700**	10.20
BH02	3/19/2013	<1.0	<1.0	<1.0	2.8	10.44
BH02	6/21/2013	**82**	<1.0	66	410	9.85
BH02	9/23/2013	**35**	<1.0	39	39	9.31
BH02	12/18/2013	**550**	<1.0	1.4	110	9.74
BH02	3/28/2014	**660**	1.0	150	280	9.78
BH02	6/25/2014	<1.0	<1.0	<1.0	<1.0	8.12
BH02	9/17/2014	**110**	<1.0	120	24	7.78
BH02	12/16/2014	<1.0	<1.0	<1.0	<1.0	8.41
BH02	3/27/2015	<1.0	1.8	<1.0	6.5	8.76
BH02	6/29/2015	<1.0	<1.0	<1.0	<1.0	5.51
BH02	9/25/2015	<1.0	<1.0	<1.0	<1.0	6.59*
BH02	12/14/2015	<1.0	<1.0	<1.0	<1.0	6.49
BH02	3/14/2016	<1.0	<1.0	<1.0	<1.0	4.05
BH02	6/7/2016	<1.0	<1.0	<1.0	<1.0	2.83
BH03	12/20/2012	<1.0	<1.0	<1.0	<1.0	12.78

TABLE 1
BECKER 5-1, 2, 14, 15 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 [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH03	3/19/2013	<1.0	<1.0	<1.0	<1.0	12.60
BH03	6/21/2013	<1.0	<1.0	<1.0	<1.0	12.39
BH03	9/23/2013	<1.0	<1.0	<1.0	<1.0	12.18
BH03	12/18/2013	1.2	<1.0	<1.0	<1.0	12.09
BH03	3/28/2014	<1.0	<1.0	<1.0	<1.0	12.06
BH03	6/25/2014	<1.0	<1.0	<1.0	<1.0	10.92
BH03	9/17/2014	<1.0	<1.0	<1.0	<1.0	10.44
BH03	12/16/2014	<1.0	<1.0	<1.0	<1.0	10.79
BH03	3/27/2015	<1.0	<1.0	<1.0	<1.0	11.05
BH03	6/29/2015	<1.0	<1.0	<1.0	<1.0	8.19
BH03	9/25/2015	<1.0	<1.0	<1.0	<1.0	9.54*
BH03	12/14/2015	<1.0	<1.0	<1.0	<1.0	8.79
BH03	3/14/2016	<1.0	<1.0	<1.0	<1.0	6.25
BH03	6/7/2016	<1.0	<1.0	<1.0	<1.0	5.74
BH04	6/25/2014	**18**	<1.0	53	130	8.72
BH04	9/17/2014	1.1	<1.0	<1.0	<1.0	8.13
BH04	12/16/2014	3.3	<1.0	6.0	21	8.73
BH04	3/27/2015	<1.0	<1.0	<1.0	20	8.88
BH04	6/29/2015	<1.0	<1.0	<1.0	2.2	5.73
BH04	9/25/2015	4.5	<1.0	1.2	4.6	7.15*
BH04	12/14/2015	**5.4**	<1.0	7.7	23	6.63
BH04	3/14/2016	**31**	<1.0	39	120	4.21
BH04	6/7/2016	<1.0	<1.0	<1.0	<1.0	3.31
BH05	6/25/2014	<1.0	<1.0	<1.0	<1.0	10.55
BH05	9/17/2014	<1.0	<1.0	<1.0	<1.0	10.70
BH05	12/16/2014	<1.0	<1.0	<1.0	<1.0	10.78
BH05	3/27/2015	<1.0	<1.0	<1.0	<1.0	10.92
BH05	6/29/2015	<1.0	<1.0	<1.0	<1.0	6.64
BH05	9/25/2015	<1.0	<1.0	<1.0	<1.0	8.89*
BH05	12/14/2015	<1.0	<1.0	<1.0	<1.0	8.86
BH05	3/14/2016	<1.0	<1.0	<1.0	<1.0	6.21
BH05	6/7/2016	<1.0	<1.0	<1.0	<1.0	5.31

TABLE 1
BECKER 5-1, 2, 14, 15 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 [2] (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) [1]		**5**	**560**	**700**	**1,400**	
BH06	6/25/2014	<1.0	<1.0	<1.0	<1.0	8.67
BH06	9/17/2014	<1.0	<1.0	<1.0	<1.0	8.12
BH06	12/16/2014	<1.0	<1.0	<1.0	<1.0	8.77
BH06	3/27/2015	<1.0	<1.0	<1.0	<1.0	9.14
BH06	6/29/2015	<1.0	<1.0	<1.0	<1.0	5.83
BH06	9/25/2015	<1.0	<1.0	<1.0	<1.0	7.10*
BH06	12/14/2015	<1.0	<1.0	<1.0	<1.0	6.84
BH06	3/14/2016	<1.0	<1.0	<1.0	<1.0	4.40
BH06	6/7/2016	<1.0	<1.0	<1.0	<1.0	3.43
BH07	6/25/2014	<1.0	<1.0	<1.0	<1.0	8.94
BH07	9/17/2014	<1.0	<1.0	<1.0	<1.0	8.40
BH07	12/16/2014	<1.0	<1.0	<1.0	<1.0	8.17
BH07	3/27/2015	<1.0	<1.0	<1.0	<1.0	9.42
BH07	6/29/2015	<1.0	<1.0	<1.0	<1.0	6.14
BH07	9/25/2015	<1.0	<1.0	<1.0	<1.0	6.62*
BH07	12/14/2015	<1.0	<1.0	<1.0	<1.0	6.84
BH07	3/14/2016	<1.0	<1.0	<1.0	<1.0	4.40
BH07	6/7/2016	<1.0	<1.0	<1.0	<1.0	3.41
BH08	6/25/2014	<1.0	<1.0	<1.0	<1.0	8.92
BH08	9/17/2014	<1.0	<1.0	<1.0	<1.0	8.40
BH08	12/16/2014	<1.0	<1.0	<1.0	<1.0	9.02
BH08	3/27/2015	<1.0	<1.0	<1.0	<1.0	9.39
BH08	6/29/2015	<1.0	<1.0	<1.0	<1.0	6.09
BH08	9/25/2015	<1.0	<1.0	<1.0	<1.0	7.41*
BH08	12/14/2015	<1.0	<1.0	<1.0	<1.0	7.10
BH08	3/14/2016	<1.0	<1.0	<1.0	<1.0	4.63
BH08	6/7/2016	<1.0	<1.0	<1.0	<1.0	3.68

TABLE 1
BECKER 5-1, 2, 14, 15 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective March 16, 2016.
2. Depth to water measured from top of well casing or ground surface for monitoring well samples and excavation samples, respectively.

COGCC = Colorado Oil and Gas Conservation Commission

* Well repairs completed during 3rd Quarter 2015 resulted in a few inches of casing being cut off of each well.

µg/L = Micrograms per liter

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

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

TABLE 2
BECKER 5-1, 2, 14, 15 TANK BATTERY
EFR / AS OPERATIONAL SUMMARY TABLE

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)
First Quarter 2013					
1/28/2013	BH01, BH02	6	4.5	BH01, BH02	10
2/16/2013		5.5	16		10
3/3/2013		6	0		10
3/18/2013		6	7		10
Quarterly Totals		**23.5**	**27.5**		-
Second Quarter 2013					
4/15/2013	BH01, BH02	6	9	BH01, BH02	10
5/3/2013		4	0		10
5/20/2013		6	2		10
Quarterly Totals		**16**	**11**		-
Third Quarter 2013					
7/8/2013	BH01, BH02	6	7	BH01, BH02	10
7/23/2013		6.25	0		10
8/9/2013		6.25	2		15
8/22/2013		6	0		NR
9/9/2013		6	13		10
9/17/2013		6	NR		13.5
9/24/2013		6	15		15
Quarterly Totals		**42.5**	**37**		-
Fourth Quarter 2013					
10/7/2013	BH01, BH02	6	1	BH01, BH02	10
10/15/2013		6.25	5		10
10/29/2013		6	0		10
11/13/2013		6	NR		10
11/25/2013		5	0.5		10
12/19/2013	None	6	0		10
Quarterly Totals		**35.25**	**6.5**		-
Second Quarter 2014					
4/16/2014	BH02	6	0	BH02, BH04, BH05, BH06, BH07	10
5/1/2014		6	0		20
5/7/2014		6	0		10
5/21/2014		4.5	0		10
6/6/2014		6	0		10
6/19/2014		6	0		20
Quarterly Totals		**34.5**	**0**		
Third Quarter 2014					
7/9/2014	BH02	6	0	BH02, BH04, BH05, BH06, BH07	20
7/14/2014		6	0		20
8/5/2014		6	42		20
8/22/2014		6	0		20
9/11/2014		6	20	BH04, BH05, BH06	20
Quarterly Totals		**30**	**62**		

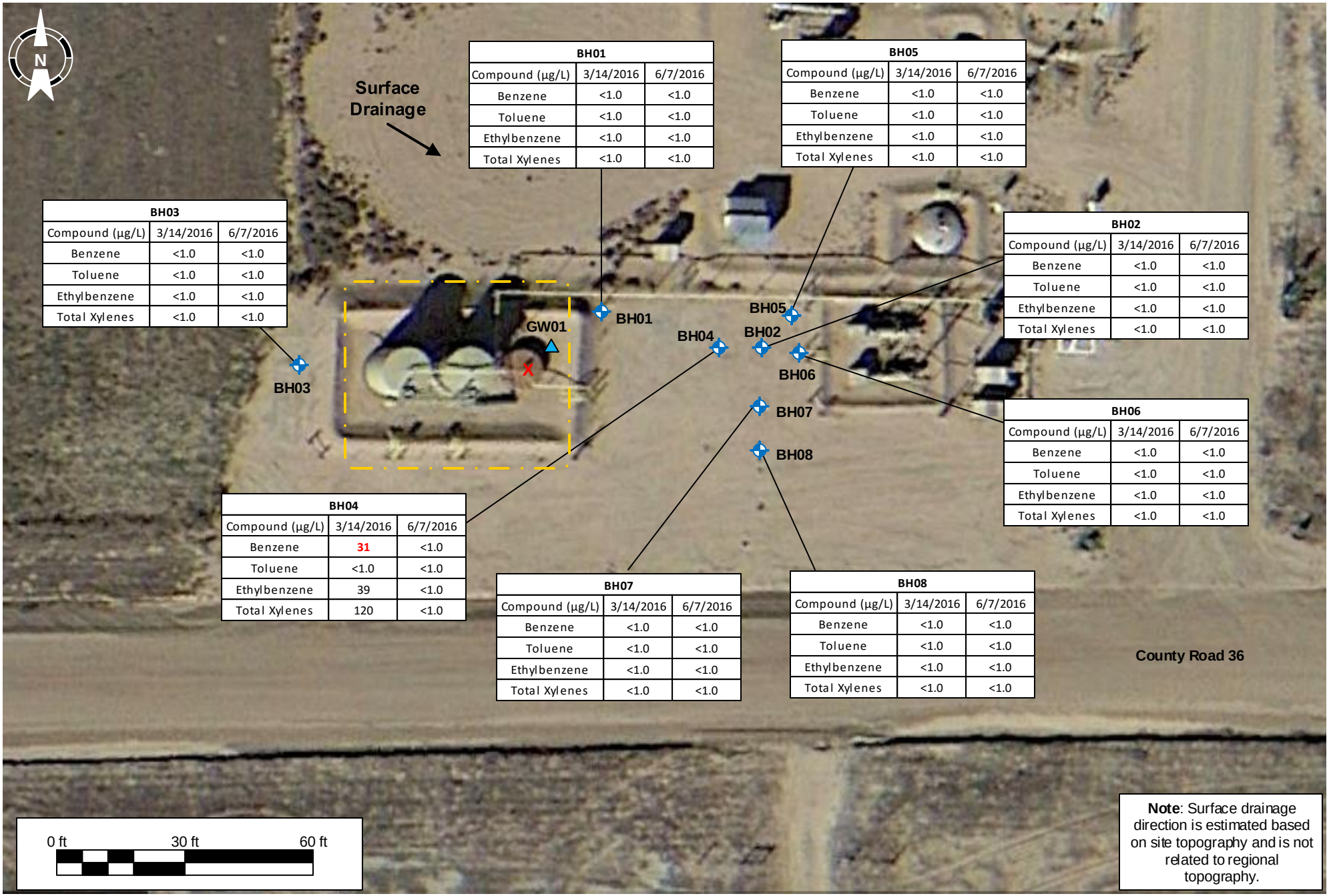
TABLE 2
BECKER 5-1, 2, 14, 15 TANK BATTERY
EFR / AS OPERATIONAL SUMMARY TABLE

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)
Fourth Quarter 2014					
10/1/2014	BH02	6	0	BH02, BH03, BH04, BH06, BH07	20
10/20/2014	BH04, BH05, BH06, BH07	6	50	BH02, BH04, BH05, BH06, BH07	20
11/3/2014		6	18		20
11/20/2014	BH02, BH04, BH05, BH06, BH07	6	10	BH04, BH05, BH06, BH07	20
12/8/2014	BH04, BH05, BH06, BH07	6	0	BH02, BH04, BH05, BH06, BH07	30
12/19/2014		6	10		30
Quarterly Totals		**36**	**88**		
First Quarter 2015					
1/8/2015	BH01, BH02, BH04, BH06	6	0	BH01, BH02, BH04, BH06	20
1/21/2015		6	0		20
2/6/2015		6	0		20
2/19/2015		6	5		20
3/10/2015		6	0		20
3/23/2015		6	25		20
3/31/2015		6	25		20
Quarterly Totals		**42**	**55**		
Second Quarter 2015					
4/10/2015	BH01, BH02, BH04, BH06	6	27	BH01, BH02, BH04, BH06	20
4/17/2015		6	18		20
4/28/2015		6	20		30
5/11/2015		6	50		20
5/26/2015		6	35		20
6/9/2015		6	20		25
6/25/2015	BH04, BH06	3	10	BH01, BH02	20
Quarterly Totals		**39**	**180**		
Third Quarter 2015					
7/7/2015	BH01, BH02, BH04, BH06	6	0	BH01, BH02, BH04, BH06	20
7/21/2015		6	0		20
8/4/2015		6	10		20
9/1/2015		6	80		20
9/14/2015		6	0		20
9/29/2015		6	60		20
Quarterly Totals		**36**	**150**		
Fourth Quarter 2015					
10/12/2015	BH01, BH02, BH04, BH06	6	20	BH01, BH02, BH04, BH06	20
10/26/2015		6	0		14
11/9/2015		6	70		20
12/8/2015	BH01, BH02, BH07	6	70	BH01, BH02, BH04	20
12/18/2015		6	20		20
Quarterly Totals		**30**	**180**		

TABLE 2
BECKER 5-1, 2, 14, 15 TANK BATTERY
EFR / AS OPERATIONAL SUMMARY TABLE

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)
First Quarter 2016					
1/6/2016	BH01, BH02, BH07	6	50	BH01, BH04	20
1/21/2016		6	30		20
2/3/2016		6	30		20
2/18/2016		6	122		20
3/3/2016		6	30		20
Quarterly Totals		**30**	**262**		
Second Quarter 2016					
4/1/2016	BH01, BH02, BH07	6	5	BH01, BH04	23
4/14/2016	BH01, BH02, BH05, BH07	6	20		25
4/29/2016		5	40	BH01, BH02, BH04, BH05	30
5/12/2016		6	64		20
5/26/2016		6	90		20
6/9/2016	BH01, BH02, BH05, BH07	6	45		20
6/24/2016		6	10		20
Quarterly Totals		**41**	**274**		-

Notes:
EFR = Enhanced fluid recovery
AS = Air sparge
psi = Pounds per square inch
NR = Not recorded



BH01		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH05		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH03		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH02		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH06		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH04		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	31	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	39	<1.0
Total Xylenes	120	<1.0

BH07		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH08		
Compound (µg/L)	3/14/2016	6/7/2016
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

DRAWN BY: MRW

DATE: 7/5/2016

Facility Diagram
PDC Energy – DJ Basin
Becker 5-1, 2, 14, 15 Tank Battery
SWSE S5 T3N R64W
Weld County, CO

TASMAN GEOSCIENCES
6899 Pecos Street
Unit C
Denver, CO 80221

LEGEND
- Excavation Area
- Monitoring Well Location
- Excavation Groundwater Sample Location
- X Point of Release

All locations are approximate unless otherwise noted

FIGURE 1
GROUNDWATER ANALYTICAL RESULTS MAP

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 15, 2016

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

RE: Becker 5-1,2,14,15 Tank Battery

Enclosed are the results of analyses for samples received by Summit Scientific on 06/07/16 17:20. 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: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1606086-01	Water	06/07/16 10:42	06/07/16 17:20
BH02	1606086-02	Water	06/07/16 11:10	06/07/16 17:20
BH03	1606086-03	Water	06/07/16 10:27	06/07/16 17:20
BH04	1606086-04	Water	06/07/16 11:45	06/07/16 17:20
BH05	1606086-05	Water	06/07/16 10:49	06/07/16 17:20
BH06	1606086-06	Water	06/07/16 11:06	06/07/16 17:20
BH07	1606086-07	Water	06/07/16 11:28	06/07/16 17:20
BH08	1606086-08	Water	06/07/16 11:33	06/07/16 17:20

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

Summit Scientific

1606086

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

Page 1 of 1

Client: PDC / Tasman Geosciences
Address: 6899 Pecos St, Unit C
City/State/Zip: Denver, CO 80221
Phone: Fax:
Sampler Name: Mitch Weller

Project Manager: Mark Longhurst
E-Mail:
Project Name: Becker 5-1, 2, 14, 15 Tank Battery
Project Number:

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 8260B	Special Instructions
BH 01	6-7-16	1042	3			X		X				X	
BH 02	↓	1110	↓			↓		↓				↓	
BH 03		1027											
BH 04		1145											
BH 05		1049											
BH 06		1106											
BH 07		1128											
BH 08	↓	1133	↓			↓		↓				↓	

Relinquished by:	Date/Time:	Received by:	Date/Time:
Mitchell Weller	6-7-16 1720	[signature]	6/7/16 1720
[signature]	6/8/16 1840	[signature]	18:50 6/8/16
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:

Turn Around Time (Check)
Same Day ☐ 72 Hours ☐
24 Hours ☐ Standard ☒
48 Hours ☐

Sample Integrity:
Temperature Upon Receipt: 5.5°C
Intact: ~~Yes~~ No

Notes: on ice

www.s2scientific.com

S2

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

Sample Receipt Checklist

S2 Work Order: 1606086

Client: PDC/Tarman Client Project ID: Becker 5-1, 2, 14, 15 Tank Battery

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

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

Cooler ID					
Temp (°C)	5.5				

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 [(1)]? NOTE: If samples are delivered the same day of sampling, this requirement is waived 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 short holding time analytes or samples with HTs 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.**	✗ Am	✓		
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.

Nakita — **Custodian Printed Name**

Signature or Initials of Custodian

6/8/16 1840 — **Date/Time**

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH01
1606086-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*85.4 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*99.2 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.3 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH02

1606086-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*88.1 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.8 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH03

1606086-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 10:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*85.3 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*97.3 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.0 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH04

1606086-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*84.4 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*96.9 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.9 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH05
1606086-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 10:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 10:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*87.2 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*97.7 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.6 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH06

1606086-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 11:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*85.4 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*98.7 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.5 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH07

1606086-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*83.6 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*97.3 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.6 %*	*45-146*		"	"	"	"	

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

BH08

1606086-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/07/16 11:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1606099	06/14/16	06/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/07/16 11:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		*82.8 %*	*37-154*		"	"	"	"	
Surrogate: Toluene-d8		*97.3 %*	*45-149*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.4 %*	*45-146*		"	"	"	"	

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 1606099 - EPA 5030 Water MS										
Blank (1606099-BLK1)				Prepared & Analyzed: 06/14/16						
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	*10.9*		"	*13.3*		*81.7*	*37-154*			
Surrogate: Toluene-d8	*13.0*		"	*13.3*		*97.8*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*12.4*		"	*13.3*		*92.7*	*45-146*			
LCS (1606099-BS1)				Prepared & Analyzed: 06/14/16						
Benzene	33.0	1.0	ug/l	33.3		99.1	51-132			
Toluene	37.5	1.0	"	33.3		113	51-138			
Ethylbenzene	39.8	1.0	"	33.1		121	58-146			
m,p-Xylene	82.4	2.0	"	66.5		124	57-144			
o-Xylene	38.0	1.0	"	32.7		116	53-146			
Surrogate: 1,2-Dichloroethane-d4	*11.8*		"	*13.3*		*88.4*	*37-154*			
Surrogate: Toluene-d8	*13.0*		"	*13.3*		*97.6*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*12.8*		"	*13.3*		*95.9*	*45-146*			
Matrix Spike (1606099-MS1)	**Source: 1606086-01**			Prepared & Analyzed: 06/14/16						
Benzene	33.3	1.0	ug/l	33.3	ND	99.8	34-141			
Toluene	37.6	1.0	"	33.3	ND	113	27-151			
Ethylbenzene	39.8	1.0	"	33.1	ND	120	29-160			
m,p-Xylene	81.5	2.0	"	66.5	ND	123	20-166			
o-Xylene	37.7	1.0	"	32.7	ND	116	33-159			
Surrogate: 1,2-Dichloroethane-d4	*11.9*		"	*13.3*		*89.3*	*37-154*			
Surrogate: Toluene-d8	*13.1*		"	*13.3*		*98.2*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*12.6*		"	*13.3*		*94.8*	*45-146*			

PDC Energy 1775 Sherman St. STE. 3000 Denver CO, 80203	Project: Becker 5-1,2,14,15 Tank Battery Project Number: [none] Project Manager: Mark Longhurst	**Reported:** 06/15/16 07:20

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 1606099 - EPA 5030 Water MS										
Matrix Spike Dup (1606099-MSD1)	**Source: 1606086-01**			Prepared & Analyzed: 06/14/16						
Benzene	33.2	1.0	ug/l	33.3	ND	99.7	34-141	0.150	32	
Toluene	37.8	1.0	"	33.3	ND	113	27-151	0.504	25	
Ethylbenzene	39.3	1.0	"	33.1	ND	119	29-160	1.14	50	
m,p-Xylene	81.8	2.0	"	66.5	ND	123	20-166	0.318	36	
o-Xylene	37.5	1.0	"	32.7	ND	115	33-159	0.691	26	
Surrogate: 1,2-Dichloroethane-d4	*12.9*		*"*	*13.3*		*96.7*	*37-154*			
Surrogate: Toluene-d8	*13.0*		*"*	*13.3*		*97.4*	*45-149*			
Surrogate: 4-Bromofluorobenzene	*12.7*		*"*	*13.3*		*95.5*	*45-146*			

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