

PDC Energy, Inc.
Third Quarter 2015 Groundwater Monitoring Summary

October 26, 2015

Wiedeman 21B, 24-21, 21-2 Tank Battery
NESW S21 T5N R67W
Weld County, API # 05-123-11427
Spill Tracking # 1175631
Remediation # 4071

This groundwater summary has been prepared by Tasman Geosciences, Inc for the Wiedeman 21B, 24-21, 21-2 tank battery. On August 5, 2015, groundwater sampling was conducted at five monitoring well locations. Groundwater samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Method 8260B. Analytical results are summarized in Table 1 and are illustrated on Figure 1. The laboratory analytical report is included as Attachment A. Third quarter 2015 analytical results indicate that benzene concentrations are in exceedance of applicable COGCC Table 910-1 standards at monitoring well MW01. BTEX concentrations are below COGCC regulatory standards at the remaining four sample locations

Monitored natural attenuation will remain the selected remedial strategy to address residual dissolved phase hydrocarbon impacts through the fourth quarter 2015.

Fourth quarter 2015 groundwater monitoring will be conducted during November 2015.

TABLE 1
WIEDEMAN 21B, 24-21, 21-2 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 (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
GW01	6/29/2007	180	15	<1.0	740	NM
MW01	8/17/2007	210	<1.0	91	360	6.19
MW01	2/21/2008	30	<1.0	14	<1.0	12.65
MW01	5/6/2008	22	<1.0	<1.0	<1.0	12.72
MW01	8/27/2008	500	<1.0	110	290	6.68
MW01	11/12/2008	50	<1.0	63	180	9.63
MW01	2/9/2009	12	<1.0	5.1	3.1	11.90
MW01	5/8/2009	130	<1.0	18	6.5	10.98
MW01	8/28/2009	70	<1.0	77	81	6.18
MW01	11/11/2009	800	<1.0	71	210	9.06
MW01	2/25/2010	13	<1.0	2.1	5.0	11.70
MW01	5/18/2010	200	<1.0	48	100	N/A
MW01	8/11/2010	310	<1.0	110	180	5.90
MW01	11/10/2010	10	<1.0	15	20	10.30
MW01	2/24/2011	33	<1.0	4.6	12	12.62
MW01	5/5/2011	17	<1.0	1.4	<1.0	N/A
MW01	8/2/2011	170	<1.0	100	200	5.64
MW01	11/30/2011	7.2	<1.0	2.2	2.3	8.80
MW01	2/21/2012	200	<1.0	82	210	10.61
MW01	5/29/2012	180	<1.0	120	350	9.37
MW01	5/23/2013	DRY	DRY	DRY	DRY	DRY
MW01	8/27/2013	22	<1.0	2.6	3.4	4.24
MW01	11/26/2013	<1.0	<1.0	<1.0	<1.0	7.12
MW01	2/20/2014	7.3	<1.0	3.1	4.3	8.61
MW01	5/30/2014	18	<1.0	17	6.5	6.19
MW01	8/18/2014	18	<1.0	9.0	4.7	2.92
MW01	11/26/2014	<1.0	<1.0	<1.0	<1.0	7.00
MW01	2/26/2015	21	<1.0	18	11	9.17
MW01	5/8/2015	28	<1.0	23	6.6	9.51
MW01	8/5/2015	39	<1.0	36	9.6	4.36
MW02	8/17/2007	<1.0	<1.0	<1.0	<1.0	5.43
MW02	2/21/2008	7.4	<1.0	1.1	<1.0	12.20
MW02	5/6/2008	1.4	<1.0	<1.0	<1.0	12.47
MW02	8/27/2008	12	<1.0	1.6	<1.0	6.12
MW02	11/12/2008	59	<1.0	38	<1.0	9.38
MW02	2/9/2009	12	<1.0	10	<1.0	11.60
MW02	5/8/2009	8.2	<1.0	4.2	<1.0	10.42
MW02	8/28/2009	5.5	<1.0	<1.0	<1.0	5.53
MW02	11/11/2009	22	<1.0	37	<1.0	8.72
MW02	2/25/2010	<1.0	<1.0	1.3	<1.0	11.35
MW02	5/18/2010	8.7	<1.0	14	<1.0	N/A
MW02	8/11/2010	<1.0	<1.0	<1.0	<1.0	5.26
MW02	11/10/2010	<1.0	<1.0	<1.0	<1.0	10.00

TABLE 1
WIEDEMAN 21B, 24-21, 21-2 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 (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
MW02	2/24/2011	<1.0	<1.0	<1.0	<1.0	12.22
MW02	5/5/2011	<1.0	<1.0	<1.0	<1.0	N/A
MW02	8/2/2011	<1.0	<1.0	<1.0	<1.0	4.84
MW02	11/30/2011	<1.0	<1.0	5.9	<1.0	7.64
MW02	2/21/2012	1.1	<1.0	14	<1.0	10.23
MW02	5/29/2012	<1.0	<1.0	18	<1.0	8.84
MW02	5/23/2013	4.5	<1.0	20	74	11.83
MW02	8/27/2013	4.6	<1.0	13	11	5.77
MW02	11/26/2013	1.1	<1.0	<1.0	<1.0	8.86
MW02	2/20/2014	<1.0	<1.0	<1.0	<1.0	10.44
MW02	5/30/2014	<1.0	<1.0	<1.0	<1.0	7.90
MW02	8/18/2014	<1.0	<1.0	<1.0	<1.0	4.58
MW02	11/26/2014	1.1	<1.0	1.4	<1.0	8.85
MW02	2/26/2015	<1.0	<1.0	<1.0	<1.0	10.98
MW02	5/8/2015	<1.0	<1.0	<1.0	<1.0	11.40
MW02	8/5/2015	<1.0	<1.0	<1.0	<1.0	6.04
MW03	8/17/2007	<1.0	<1.0	<1.0	<1.0	6.23
MW03	2/21/2008	<1.0	<1.0	<1.0	<1.0	13.08
MW03	5/6/2008	<1.0	<1.0	<1.0	<1.0	13.68
MW03	8/27/2008	<1.0	<1.0	<1.0	<1.0	7.10
MW03	11/12/2008	<1.0	<1.0	<1.0	<1.0	10.64
MW03	2/9/2009	<1.0	<1.0	<1.0	<1.0	12.84
MW03	5/8/2009	<1.0	<1.0	<1.0	<1.0	11.76
MW03	8/28/2009	<1.0	<1.0	<1.0	<1.0	6.51
MW03	11/11/2009	<1.0	<1.0	<1.0	<1.0	10.01
MW03	2/25/2010	<1.0	<1.0	<1.0	<1.0	12.55
MW03	5/18/2010	<1.0	<1.0	<1.0	<1.0	N/A
MW03	8/11/2010	<1.0	<1.0	<1.0	<1.0	6.20
MW03	11/10/2010	<1.0	<1.0	<1.0	<1.0	11.23
MW03	2/24/2011	<1.0	<1.0	<1.0	<1.0	13.44
MW03	5/5/2011	<1.0	<1.0	<1.0	<1.0	N/A
MW03	8/2/2011	<1.0	<1.0	<1.0	<1.0	13.82
MW03	11/30/2011	<1.0	<1.0	<1.0	<1.0	8.80
MW03	2/21/2012	<1.0	<1.0	<1.0	<1.0	11.49
MW03	5/29/2012	1.5	2.4	<1.0	<1.0	9.79
MW03	5/23/2013	<1.0	<1.0	<1.0	<1.0	13.00
MW03	8/27/2013	<1.0	<1.0	<1.0	<1.0	6.70
MW03	11/26/2013	<1.0	<1.0	<1.0	<1.0	9.97
MW03	2/20/2014	<1.0	<1.0	<1.0	<1.0	11.55
MW03	5/30/2014	<1.0	<1.0	<1.0	<1.0	8.72
MW03	8/18/2014	<1.0	<1.0	<1.0	<1.0	5.63

TABLE 1
WIEDEMAN 21B, 24-21, 21-2 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 (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
MW03	5/30/2014	<1.0	<1.0	<1.0	<1.0	8.72
MW03	8/18/2014	<1.0	<1.0	<1.0	<1.0	5.63
MW03	11/26/2014	<1.0	<1.0	<1.0	<1.0	10.03
MW03	2/26/2015	<1.0	<1.0	<1.0	<1.0	12.21
MW03	5/8/2015	<1.0	<1.0	<1.0	<1.0	12.57
MW03	8/5/2015	<1.0	<1.0	<1.0	<1.0	6.89
MW04	2/21/2008	<1.0	<1.0	<1.0	<1.0	13.20
MW04	5/6/2008	<1.0	<1.0	<1.0	<1.0	13.38
MW04	8/27/2008	<1.0	<1.0	<1.0	<1.0	N/A
MW04	11/12/2008	<1.0	<1.0	<1.0	<1.0	N/A
MW04	2/9/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW04	5/8/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW04	11/11/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW04	2/25/2010	<1.0	<1.0	<1.0	<1.0	0.00
MW04	5/18/2010	<1.0	<1.0	<1.0	<1.0	N/A
MW04	8/11/2010	<1.0	<1.0	<1.0	<1.0	7.54
MW04	11/10/2010	<1.0	<1.0	<1.0	<1.0	10.61
MW04	2/24/2011	<1.0	<1.0	<1.0	<1.0	N/A
MW04	5/5/2011	<1.0	<1.0	<1.0	<1.0	N/A
MW04	8/2/2011	<1.0	<1.0	<1.0	<1.0	7.14
MW04	11/30/2011	<1.0	<1.0	<1.0	<1.0	8.50
MW04	2/21/2012	<1.0	<1.0	<1.0	<1.0	10.92
MW04	5/29/2012	<1.0	<1.0	<1.0	<1.0	10.76
MW04	5/23/2013	<1.0	<1.0	<1.0	<1.0	12.48
MW04	8/27/2013	<1.0	<1.0	<1.0	<1.0	7.67
MW04	11/26/2013	<1.0	<1.0	<1.0	<1.0	9.36
MW04	2/20/2014	<1.0	<1.0	<1.0	<1.0	11.07
MW04	5/30/2014	<1.0	<1.0	<1.0	<1.0	9.96
MW04	8/18/2014	<1.0	<1.0	<1.0	<1.0	5.69
MW04	11/26/2014	<1.0	<1.0	<1.0	<1.0	9.46
MW04	2/26/2015	<1.0	<1.0	<1.0	<1.0	11.77
MW04	5/8/2015	<1.0	<1.0	<1.0	<1.0	12.12
MW04	8/5/2015	<1.0	<1.0	<1.0	<1.0	8.76
MW05	2/21/2008	<1.0	<1.0	<1.0	<1.0	13.10
MW05	5/6/2008	<1.0	<1.0	<1.0	<1.0	13.24
MW05	8/27/2008	<1.0	<1.0	<1.0	<1.0	7.17
MW05	11/12/2008	<1.0	<1.0	<1.0	<1.0	9.86
MW05	2/9/2009	<1.0	<1.0	<1.0	<1.0	12.20
MW05	5/8/2009	<1.0	<1.0	<1.0	<1.0	11.30
MW05	8/28/2009	<1.0	<1.0	<1.0	<1.0	6.83
MW05	11/11/2009	<1.0	<1.0	<1.0	<1.0	9.31

TABLE 1
WIEDEMAN 21B, 24-21, 21-2 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 (feet)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
MW05	2/25/2010	<1.0	<1.0	<1.0	<1.0	12.00
MW05	5/18/2010	<1.0	<1.0	<1.0	<1.0	N/A
MW05	8/11/2010	<1.0	<1.0	<1.0	<1.0	6.58
MW05	11/10/2010	<1.0	<1.0	<1.0	<1.0	10.67
MW05	2/24/2011	<1.0	<1.0	<1.0	<1.0	12.88
MW05	2/24/2011	<1.0	<1.0	<1.0	<1.0	12.88
MW05	5/5/2011	<1.0	<1.0	<1.0	<1.0	N/A
MW05	8/2/2011	<1.0	<1.0	<1.0	<1.0	6.12
MW05	11/30/2011	<1.0	<1.0	<1.0	<1.0	9.32
MW05	2/21/2012	<1.0	<1.0	<1.0	<1.0	10.95
MW05	5/29/2012	<1.0	<1.0	<1.0	<1.0	10.09
MW05	5/23/2013	<1.0	<1.0	<1.0	<1.0	12.52
MW05	8/27/2013	<1.0	<1.0	<1.0	<1.0	5.35
MW05	11/26/2013	<1.0	<1.0	<1.0	<1.0	7.60
MW05	2/20/2014	<1.0	<1.0	<1.0	<1.0	9.28
MW05	5/30/2014	<1.0	<1.0	<1.0	<1.0	7.58
MW05	8/18/2014	<1.0	<1.0	<1.0	<1.0	3.58
MW05	11/26/2014	<1.0	<1.0	<1.0	<1.0	7.66
MW05	2/26/2015	<1.0	<1.0	<1.0	<1.0	9.92
MW05	5/8/2015	<1.0	<1.0	<1.0	<1.0	10.26
MW05	8/5/2015	<1.0	<1.0	<1.0	<1.0	5.83

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

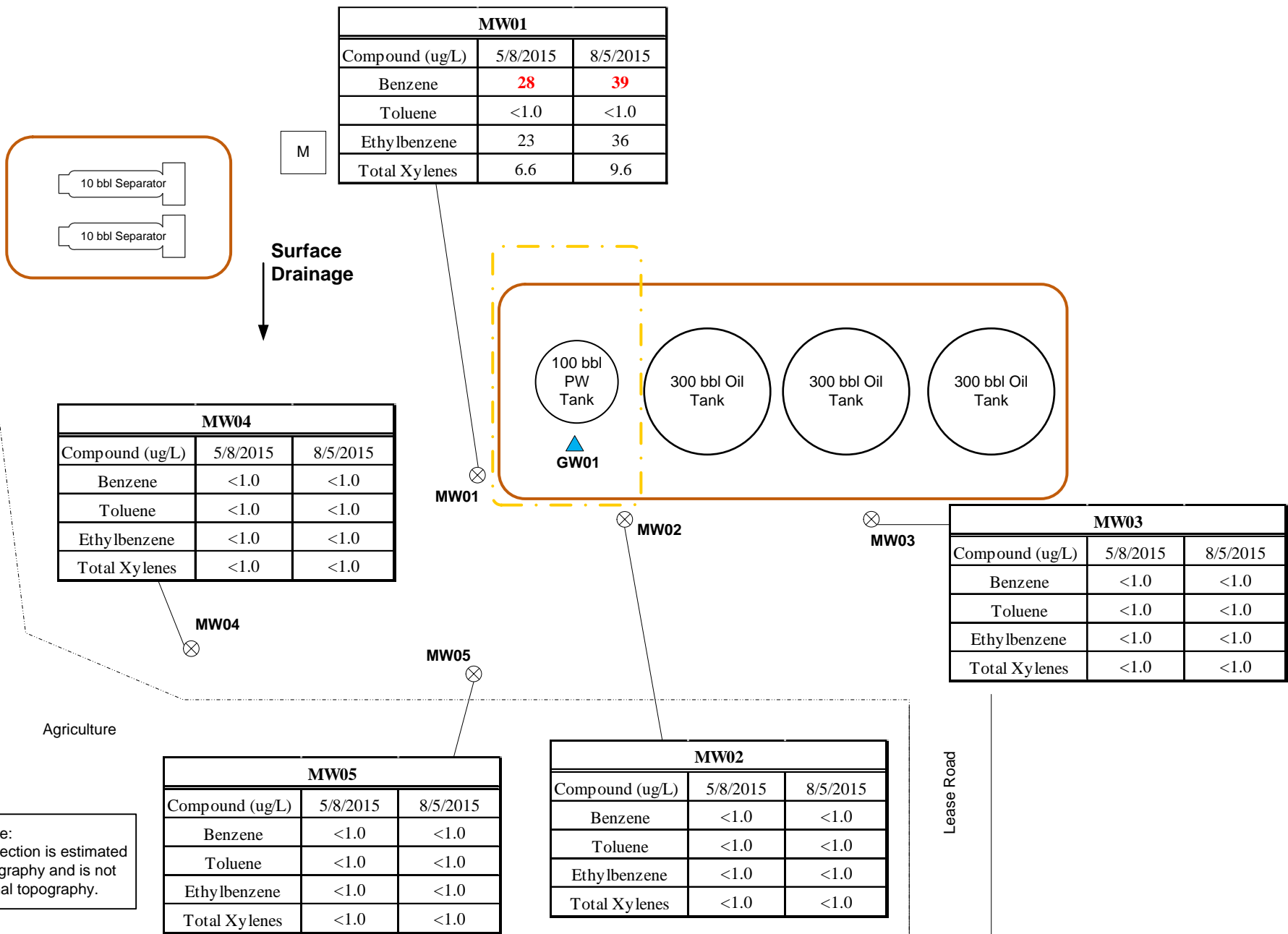
(<) = Analytical result is less than the indicated laboratory reporting limit.

NM = Not Measured

DRY = Well contained insufficient volume to collect sample.

N/A = LT Environmental, Inc. field data not available

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



ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 12, 2015

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Wiedeman 21B, 24-21, 21-1

Enclosed are the results of analyses for samples received by Summit Scientific on 08/05/15 17:00. 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
President



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

Project: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01	1508043-01	Water	08/05/15 14:00	08/05/15 17:00
MW02	1508043-02	Water	08/05/15 14:10	08/05/15 17:00
MW03	1508043-03	Water	08/05/15 14:20	08/05/15 17:00
MW04	1508043-04	Water	08/05/15 14:30	08/05/15 17:00
MW05	1508043-05	Water	08/05/15 14:40	08/05/15 17:00

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: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

MW01
1508043-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	39	1.0	ug/l	1	1508058	08/07/15	08/07/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	36	1.0	"	"	"	"	"	"	
Xylenes (total)	9.6	1.0	"	"	"	"	"	"	

Date Sampled: **08/05/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.9 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

MW02
1508043-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/15 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1508058	08/11/15	08/11/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/05/15 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

MW03
1508043-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/15 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1508058	08/11/15	08/11/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/05/15 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		103 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		94.1 %	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: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

MW04
1508043-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/15 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1508058	08/11/15	08/11/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/05/15 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	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: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

MW05
1508043-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/05/15 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1508058	08/11/15	08/11/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/05/15 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		105 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		94.4 %	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: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

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 1508058 - EPA 5030 Water MS

Blank (1508058-BLK1)

Prepared & Analyzed: 08/07/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.2		98.5	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.2	45-149			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.2	45-146			

LCS (1508058-BS1)

Prepared & Analyzed: 08/07/15

Benzene	39.8	1.0	ug/l	33.3		119	51-132			
Toluene	40.1	1.0	"	33.3		120	51-138			
Ethylbenzene	42.8	1.0	"	33.1		129	58-146			
m,p-Xylene	88.6	2.0	"	66.5		133	57-144			
o-Xylene	43.7	1.0	"	32.8		133	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.2		103	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.5	45-149			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.6	45-146			

Matrix Spike (1508058-MS1)

Source: 1508043-01

Prepared & Analyzed: 08/07/15

Benzene	73.5	1.0	ug/l	33.3	39.2	103	34-141			
Toluene	40.8	1.0	"	33.3	ND	123	27-151			
Ethylbenzene	71.6	1.0	"	33.1	36.0	108	29-160			
m,p-Xylene	98.0	2.0	"	66.5	9.61	133	20-166			
o-Xylene	45.0	1.0	"	32.8	ND	137	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.2		104	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.2	45-146			

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

Project: Wiedeman 21B, 24-21, 21-1
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

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 1508058 - EPA 5030 Water MS

Matrix Spike Dup (1508058-MSD1)	Source: 1508043-01			Prepared & Analyzed: 08/07/15						
Benzene	70.8	1.0	ug/l	33.3	39.2	94.8	34-141	3.81	32	
Toluene	41.0	1.0	"	33.3	ND	123	27-151	0.464	25	
Ethylbenzene	70.5	1.0	"	33.1	36.0	104	29-160	1.53	50	
m,p-Xylene	97.8	2.0	"	66.5	9.61	133	20-166	0.225	36	
o-Xylene	45.7	1.0	"	32.8	ND	139	33-159	1.54	26	
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.2		103	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.2	45-146			

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

Project: Wiedeman 21B, 24-21, 21-1

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
08/12/15 12:27

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

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A handwritten signature in black ink, appearing to be 'MSM'.