

GROUNDWATER MONITORING REPORT

JANUARY 2013

PFENNING 43 & 44-31 (API 05-123-22574)
REMEDIATION # 4472

PDC ENERGY, INC.
DJ BASIN

This report summarizes the results of recent groundwater sampling conducted by LT Environmental, Inc. (LTE), on behalf of PDC Energy, Inc. (PDC), at the Pfennig 43 & 44-31 site located in the Denver Julesburg Basin (DJ Basin) of northeastern Colorado (Figure 1).

Prior to sampling, groundwater level measurements were collected from the monitoring wells and are summarized in Table 1. A site map illustrating well locations is presented on Figure 2. Following purging, groundwater samples were collected and then submitted under strict chain of custody protocol to Summit Scientific in Golden, Colorado for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B. Analytical results from the groundwater samples are also presented in Table 1. The laboratory analytical report is attached.

LTE will continue to conduct quarterly groundwater monitoring events with the goal of observing four consecutive quarters of analytical results in compliance with applicable regulatory standards as set forth on Table 910-1 of the Colorado Oil and Gas Commission Rules.



TABLE 1
GROUNDWATER ANALYTICAL AND FIELD RESULTS
PFENNING 43 & 44-31 API No. 05-123-22574
WELD COUNTY
PDC ENERGY, INC.

Well Name	Date	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)	Depth to Water (ft btoc)
GW01	09/05/2008	390	13	3.7	190	NM
GW02	09/08/2008	900	28	<1.0	75	NM
MW01	09/25/2008	<1.0	<1.0	1.4	4.5	NM
	12/23/2008	<1.0	<1.0	<1.0	<1.0	7.91
	03/19/2009	<1.0	<1.0	<1.0	<1.0	7.56
	06/18/2009	<1.0	<1.0	<1.0	<1.0	5.85
	09/23/2009	<1.0	<1.0	<1.0	<1.0	4.78
	12/09/2009	<1.0	<1.0	<1.0	<1.0	5.91
	03/18/2010	220	<1.0	<1.0	1.0	5.50
	06/23/2010	740	<1.0	<1.0	2.4	4.73
	09/08/2010	200	<1.0	<1.0	<1.0	5.80
	12/07/2010	450	<1.0	<1.0	<1.0	7.58
	03/03/2011	100	<1.0	<1.0	<1.0	7.70
	06/06/2011	7.4	<1.0	<1.0	<1.0	5.06
	07/05/2011	1.2	<1.0	<1.0	<1.0	NM
	09/22/2011	140	<1.0	<1.0	<1.0	5.36
	12/08/2011	91	<1.0	<1.0	<1.0	5.70
	03/21/2012	8.8	<1.0	<1.0	<1.0	5.74
	06/19/2012	<1.0	<1.0	<1.0	<1.0	8.33
	09/19/2012	Insufficient Water - Not Sampled				
	12/20/2012	Dry - Not Sampled				
MW02	09/25/2008	36	<1.0	<1.0	3.6	NM
	12/23/2008	60	<1.0	<1.0	<1.0	6.65
	03/19/2009	110	<1.0	<1.0	<1.0	7.11
	06/18/2009	<1.0	<1.0	<1.0	<1.0	5.52
	09/23/2009	6.8	<1.0	<1.0	<1.0	4.95
	12/09/2009	<1.0	<1.0	<1.0	<1.0	5.46
	03/18/2010	<1.0	<1.0	<1.0	<1.0	5.51
	06/23/2010	<1.0	<1.0	<1.0	<1.0	4.51
	09/08/2010	<1.0	<1.0	<1.0	<1.0	5.56
	12/07/2010	<1.0	<1.0	<1.0	<1.0	7.26
	03/03/2011	<1.0	<1.0	<1.0	<1.0	7.24
	06/06/2011	<1.0	<1.0	<1.0	<1.0	4.75
	09/22/2011	<1.0	<1.0	<1.0	<1.0	5.43
	12/08/2011	<1.0	<1.0	<1.0	<1.0	5.55
	03/21/2012	<1.0	<1.0	<1.0	<1.0	5.46
	06/19/2012	<1.0	<1.0	<1.0	<1.0	8.19
	09/19/2012	Insufficient Water - Not Sampled				
	12/20/2012	Dry - Not Sampled				
MW03	09/25/2008	<1.0	<1.0	<1.0	11	NM
	12/23/2008	<1.0	<1.0	<1.0	<1.0	7.22
	03/19/2009	<1.0	<1.0	<1.0	<1.0	7.38
	06/18/2009	230	<1.0	<1.0	<1.0	5.55
	09/23/2009	31	<1.0	<1.0	<1.0	5.83
	12/09/2009	23	<1.0	<1.0	<1.0	5.76
	03/18/2010	<1.0	<1.0	<1.0	<1.0	5.16
	06/23/2010	<1.0	<1.0	<1.0	<1.0	4.87
	09/08/2010	<1.0	<1.0	<1.0	<1.0	6.10
	12/07/2010	<1.0	<1.0	<1.0	<1.0	7.75
	03/03/2011	<1.0	<1.0	<1.0	<1.0	7.60
	06/06/2011	<1.0	<1.0	<1.0	<1.0	5.04

TABLE 1
GROUNDWATER ANALYTICAL AND FIELD RESULTS
PFENNING 43 & 44-31 API No. 05-123-22574
WELD COUNTY
PDC ENERGY, INC.

Well Name	Date	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)	Depth to Water (ft btoc)
	09/22/2011	<1.0	<1.0	<1.0	<1.0	5.78
	12/08/2011	<1.0	<1.0	<1.0	<1.0	5.82
	03/21/2012	<1.0	<1.0	<1.0	<1.0	5.79
	06/19/2012	<1.0	<1.0	<1.0	<1.0	8.19
	09/19/2012	Damaged - Not Sampled				
	12/20/2012	Dry - Not Sampled				
MW04	04/23/2009	<1.0	<1.0	<1.0	<1.0	4.31
	06/18/2009	<1.0	<1.0	<1.0	<1.0	5.90
	09/23/2009	<1.0	<1.0	<1.0	<1.0	2.96
	12/09/2009	<1.0	<1.0	<1.0	<1.0	3.20
	03/18/2010	<1.0	<1.0	<1.0	<1.0	2.98
	06/23/2010	<1.0	<1.0	<1.0	<1.0	2.45
	09/08/2010	<1.0	<1.0	<1.0	<1.0	3.26
	12/07/2010	<1.0	<1.0	<1.0	<1.0	NM
	03/03/2011	<1.0	<1.0	<1.0	<1.0	NM
	06/06/2011	<1.0	<1.0	<1.0	<1.0	NM
	12/08/2011	<1.0	<1.0	<1.0	<1.0	3.35
MW04R	08/07/2009	<1.0	<1.0	<1.0	<1.0	NM
	09/22/2011	<1.0	<1.0	<1.0	<1.0	3.11
	03/21/2012	<1.0	<1.0	<1.0	<1.0	3.33
	06/19/2012	<1.0	<1.0	<1.0	<1.0	5.49
	09/19/2012	<1.0	<1.0	<1.0	<1.0	5.92
	12/20/2012	<1.0	<1.0	<1.0	<1.0	6.11
MW05	08/07/2009	<1.0	<1.0	<1.0	<1.0	NM
	09/23/2009	<1.0	<1.0	<1.0	<1.0	1.94
	12/09/2009	<1.0	<1.0	<1.0	<1.0	3.27
	03/18/2010	<1.0	<1.0	<1.0	<1.0	3.05
	06/23/2010	<1.0	<1.0	<1.0	<1.0	2.27
	09/08/2010	<1.0	<1.0	<1.0	<1.0	2.83
	12/07/2010	<1.0	<1.0	<1.0	<1.0	4.94
	03/03/2011	<1.0	<1.0	<1.0	<1.0	5.23
	06/06/2011	<1.0	<1.0	<1.0	<1.0	2.68
	09/22/2011	<1.0	<1.0	<1.0	<1.0	2.83
	12/08/2011	<1.0	<1.0	<1.0	<1.0	3.57
	03/21/2012	<1.0	<1.0	<1.0	<1.0	3.54
	06/19/2012	<1.0	<1.0	<1.0	<1.0	5.98
	09/19/2012	<1.0	<1.0	<1.0	<1.0	7.10
	12/20/2012	<1.0	<1.0	<1.0	<1.0	7.34
MW06	08/07/2009	<1.0	<1.0	<1.0	<1.0	NM
	09/23/2009	<1.0	<1.0	<1.0	<1.0	6.00
	12/09/2009	<1.0	<1.0	<1.0	<1.0	6.45
	03/18/2010	<1.0	<1.0	<1.0	<1.0	5.62
	06/23/2010	<1.0	<1.0	<1.0	<1.0	5.48
	09/08/2010	<1.0	<1.0	<1.0	<1.0	7.00
	12/07/2010	<1.0	<1.0	<1.0	<1.0	8.83
	03/03/2011	<1.0	<1.0	<1.0	<1.0	8.46
	06/06/2011	<1.0	<1.0	<1.0	<1.0	5.85
	09/22/2011	<1.0	<1.0	<1.0	<1.0	6.36
	12/08/2011	<1.0	<1.0	<1.0	<1.0	5.44
	03/21/2012	<1.0	<1.0	<1.0	<1.0	6.36
	06/19/2012	<1.0	<1.0	<1.0	<1.0	7.87

TABLE 1
GROUNDWATER ANALYTICAL AND FIELD RESULTS
PFENNING 43 & 44-31 API No. 05-123-22574
WELD COUNTY
PDC ENERGY, INC.

Well Name	Date	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)	Depth to Water (ft btoc)
MW07	09/19/2012	<1.0	<1.0	<1.0	<1.0	8.06
	12/20/2012	<1.0	<1.0	<1.0	<1.0	8.42
	08/07/2009	<1.0	<1.0	<1.0	<1.0	NM
	09/23/2009	200	<1.0	<1.0	<1.0	3.54
	12/09/2009	380	<1.0	<1.0	<1.0	3.34
	03/18/2010	1.4	<1.0	<1.0	<1.0	2.74
	06/23/2010	22	<1.0	<1.0	<1.0	2.53
	09/08/2010	<1.0	<1.0	<1.0	<1.0	3.76
	12/07/2010	<1.0	<1.0	<1.0	<1.0	5.25
	03/03/2011	<1.0	<1.0	<1.0	<1.0	5.02
	06/06/2011	<1.0	<1.0	<1.0	<1.0	2.74
	09/22/2011	<1.0	<1.0	<1.0	<1.0	3.36
	12/08/2011	<1.0	<1.0	<1.0	<1.0	3.33
	03/21/2012	<1.0	<1.0	<1.0	<1.0	3.16
	06/19/2012	<1.0	<1.0	<1.0	<1.0	5.72
	09/19/2012	<1.0	<1.0	<1.0	<1.0	5.97
	12/20/2012	<1.0	<1.0	<1.0	<1.0	5.50
MW08	04/15/2011	<1.0	<1.0	<1.0	<1.0	4.56
	06/06/2011	<1.0	<1.0	<1.0	<1.0	2.54
	09/22/2011	<1.0	<1.0	<1.0	<1.0	2.83
	12/08/2011	<1.0	<1.0	<1.0	<1.0	3.50
	03/21/2012	<1.0	<1.0	<1.0	<1.0	3.43
	06/19/2012	<1.0	<1.0	<1.0	<1.0	5.90
	09/19/2012	<1.0	<1.0	<1.0	<1.0	6.72
	12/20/2012	<1.0	<1.0	<1.0	<1.0	6.66
Basic Standards for Groundwater		5	560	700	1400	

Notes: < - less than ug/L - micrograms per Liter NA - Not Analyzed/Not Available
ft btoc - feet below top of casing NM - Not measured API - American Petroleum Institute
Basic Standards for Groundwater are taken from the Colorado Department of Health and Environment (CDPHE) -
Water Quality Control Commission (WQCC) Regulation 41, May 2008
Bold numbers indicate result equalled or exceeded standard.



