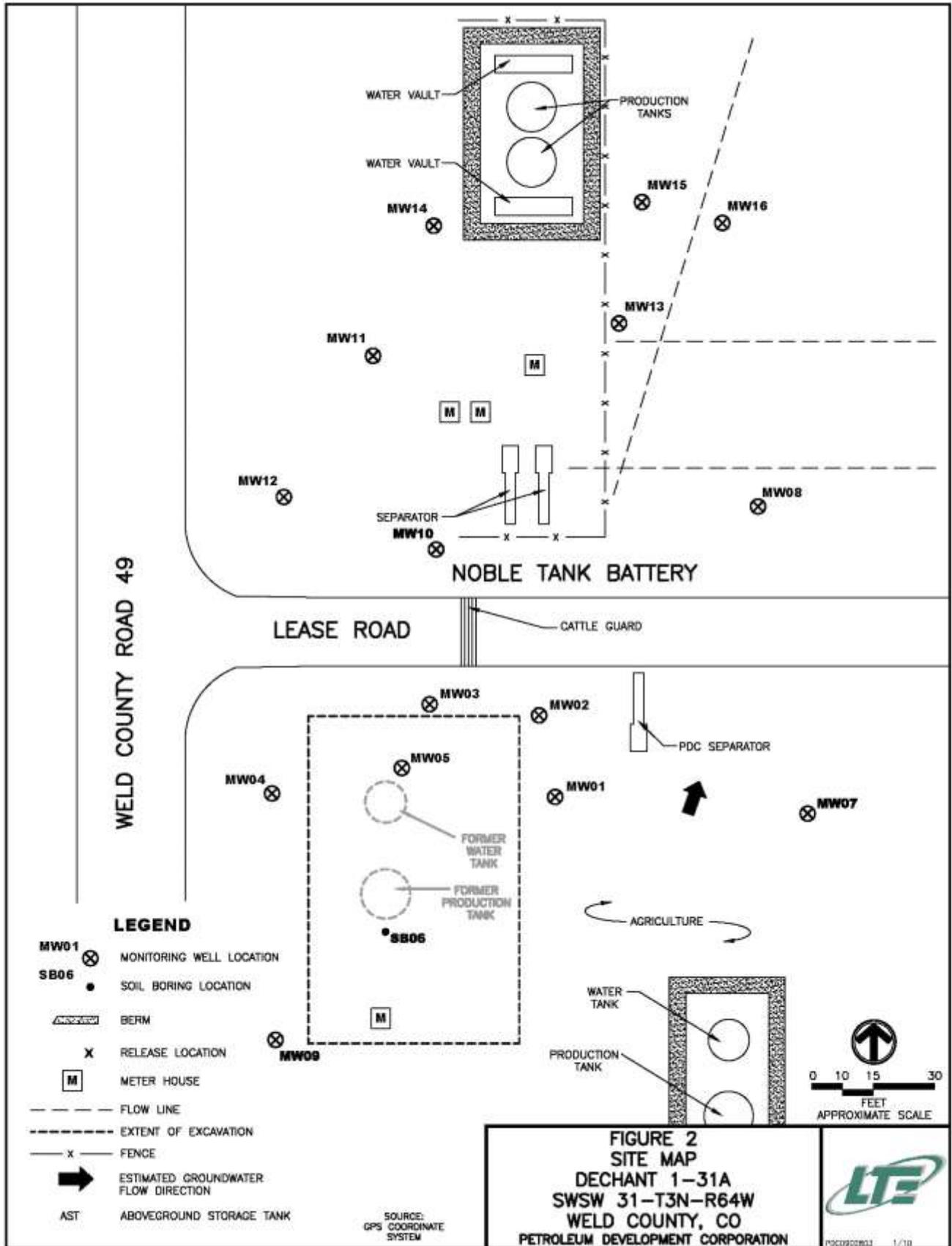


### Figure 1

Site Location Map  
 Dechant 1-31A  
 SWSW S31 T3N R64W  
 Weld County, Colorado





WELD COUNTY ROAD 49

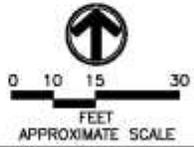
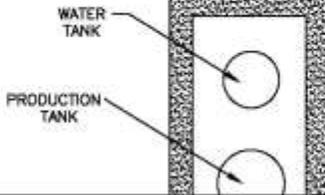
LEASE ROAD

NOBLE TANK BATTERY

CATTLE GUARD

PDC SEPARATOR

AGRICULTURE



**LEGEND**

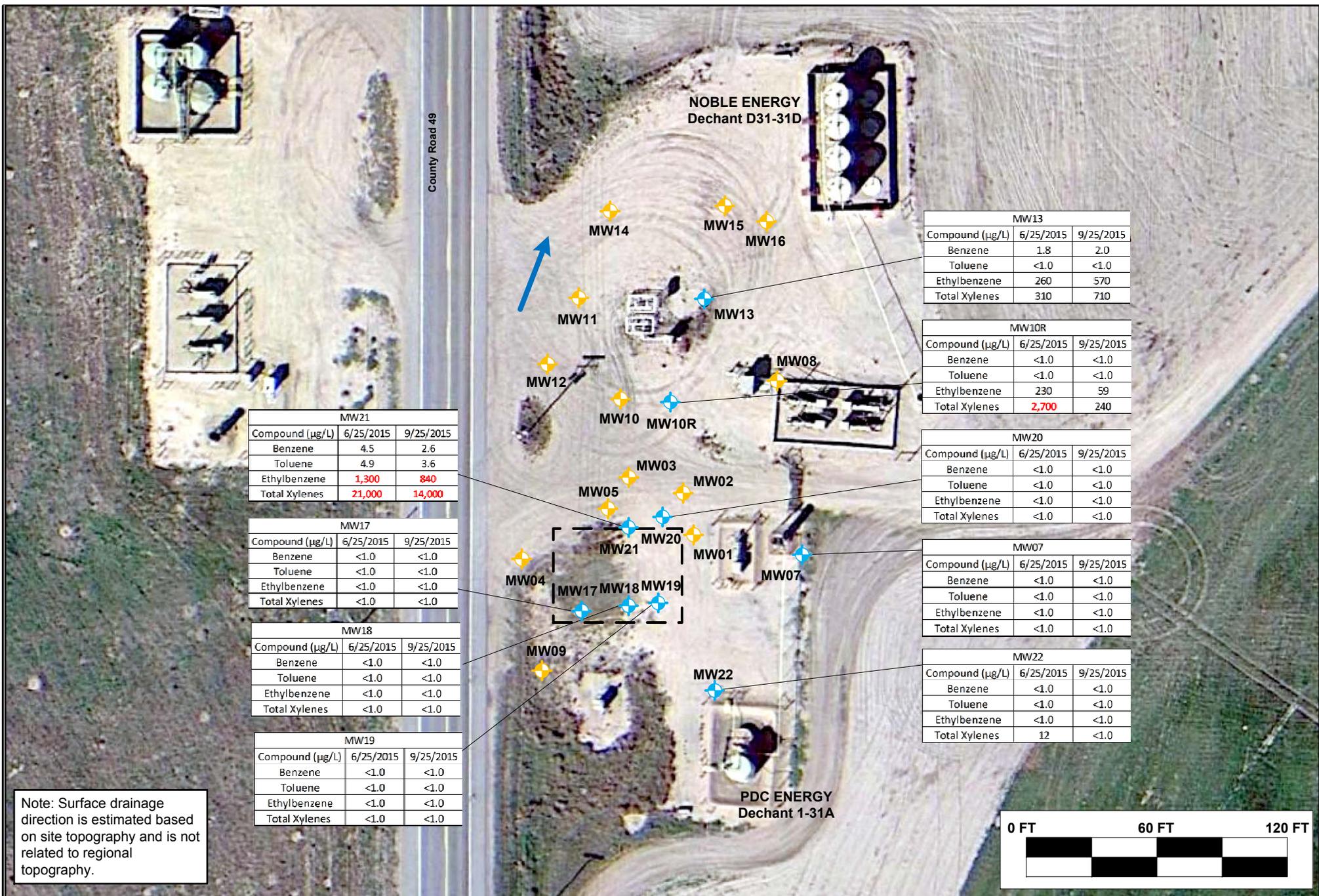
- MW01 ⊗ MONITORING WELL LOCATION
- SB06 ● SOIL BORING LOCATION
- ▨ BERM
- x RELEASE LOCATION
- M METER HOUSE
- - - FLOW LINE
- ⋯ EXTENT OF EXCAVATION
- x - FENCE
- ➔ ESTIMATED GROUNDWATER FLOW DIRECTION
- AST ABOVEGROUND STORAGE TANK

SOURCE: GPS COORDINATE SYSTEM

**FIGURE 2**  
**SITE MAP**  
 DECHANT 1-31A  
 SWSW 31-T3N-R64W  
 WELD COUNTY, CO  
 PETROLEUM DEVELOPMENT CORPORATION



02/09/2003 1/10



DRAWN BY: CAW

DATE: 11/2/2015

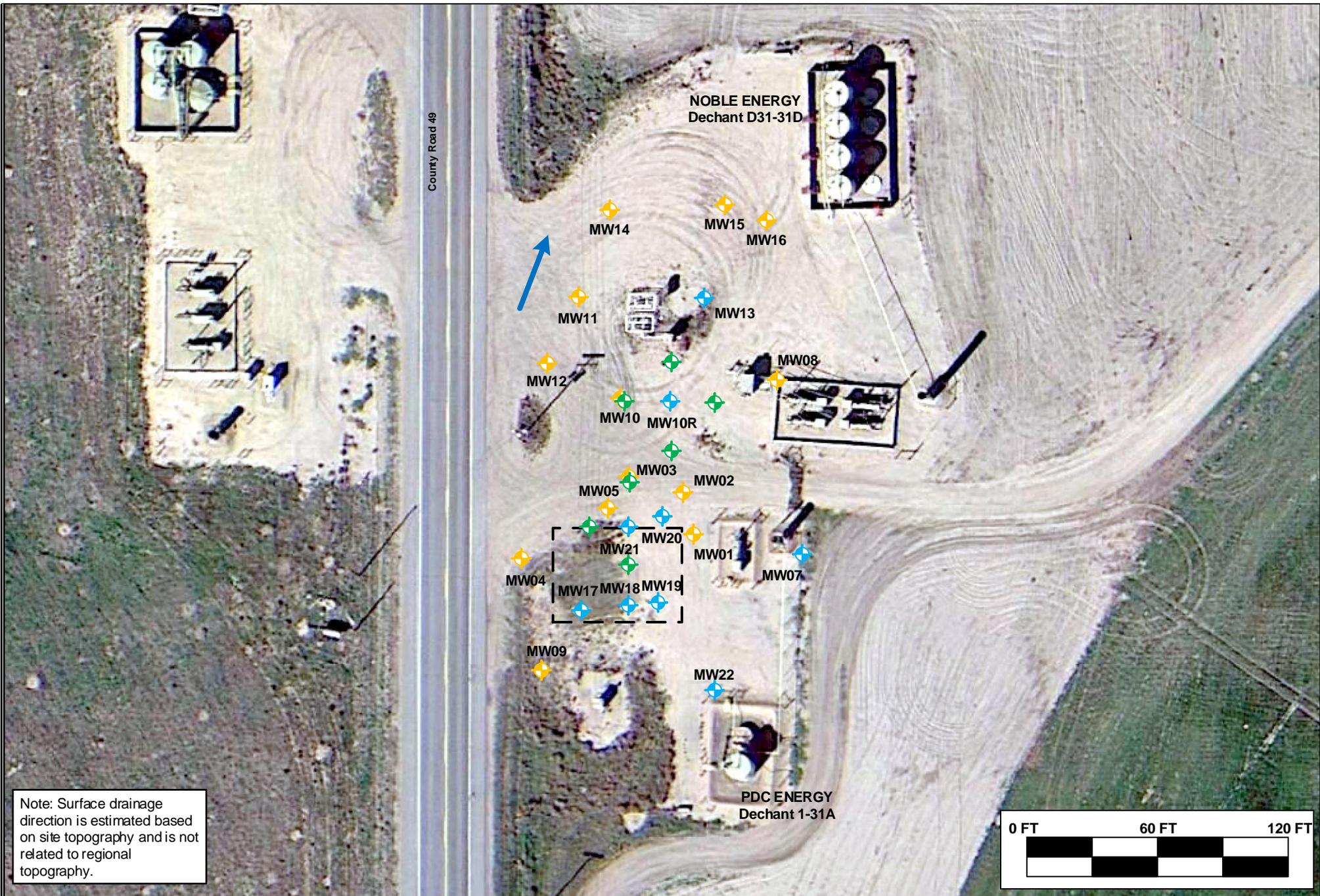
**Facility Diagram**  
 PDC Energy – DJ Basin  
 Dechant 1-31A Tank Battery  
 SWSW S31 T3N R64W  
 Weld County, CO

**TASMAN** GEOSCIENCES  
 6899 Pecos St., Unit C  
 Denver, CO 80221

**LEGEND**

- Approximate Area of Excavation
- ◆ Monitoring Well Location
- ◆ (Yellow) Approximate Destroyed Monitoring Well Location
- ➔ Groundwater Flow Direction

**FIGURE 3**  
 GROUNDWATER ANALYTICAL RESULTS MAP



DRAWN BY: CAW

DATE: 11/2015

**Facility Diagram**  
 PDC Energy – DJ Basin  
 Dechant 1-31A Tank Battery  
 SWSW S31 T3N R64W  
 Weld County, CO

 **TASMAN** GEOSCIENCES  
 6899 Pecos St., Unit C  
 Denver, CO 80221

**LEGEND**

-  Approximate Area of Excavation
-  Monitoring Well Location
-  Approximate Destroyed Monitoring Well Location
-  Proposed Monitoring Well Location
-  Groundwater Flow Direction

**FIGURE 4**  
 PROPOSED WELL LOCATION MAP

**TABLE 1**  
**DECHANT 1-31A 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)
<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>	
MW01	12/16/2009	<1.0	1.5	47	540	N/A
MW01	6/22/2010	Destroyed				
MW02	12/16/2009	<b>62</b>	<b>1,300</b>	610	<b>5,600</b>	N/A
MW02	6/22/2010	NS	NS	NS	NS	N/A
MW03	12/16/2009	<b>440</b>	<b>6,000</b>	<b>960</b>	<b>12,000</b>	N/A
MW03	6/22/2010	Destroyed				
MW04	12/16/2009	<1.0	13	240	<b>3,000</b>	N/A
MW04	6/22/2010	<1.0	<1.0	23	260	18.05
MW04	9/17/2010	<1.0	<1.0	10	81	17.41
MW04	12/9/2010	<1.0	<1.0	1.4	6.7	16.88
MW04	3/10/2011	Destroyed				
MW05	12/16/2009	<b>140</b>	<b>1,400</b>	<b>960</b>	<b>12,000</b>	N/A
MW05	6/22/2010	Destroyed				
MW07	12/16/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW07	6/22/2010	<1.0	<1.0	<1.0	<1.0	21.45
MW07	9/17/2010	<1.0	<1.0	<1.0	<1.0	20.83
MW07	12/9/2010	<1.0	<1.0	<1.0	<1.0	20.32
MW07	3/10/2011	<1.0	<1.0	<1.0	<1.0	20.10
MW07	6/8/2011	<1.0	<1.0	<1.0	<1.0	20.00
MW07	9/26/2011	<1.0	<1.0	<1.0	<1.0	19.71
MW07	12/29/2011	NS	NS	NS	NS	N/A
MW07	3/7/2012	<1.0	<1.0	<1.0	<1.0	19.39
MW07	6/26/2012	<1.0	<1.0	<1.0	<1.0	18.55
MW07	9/20/2012	<1.0	<1.0	<1.0	<1.0	18.89
MW07	12/12/2012	<1.0	<1.0	<1.0	<1.0	18.56
MW07	6/21/2013	<1.0	<1.0	<1.0	<1.0	18.50
MW07	9/23/2013	<1.0	<1.0	<1.0	<1.0	18.71
MW07	12/18/2013	<1.0	<1.0	<1.0	<1.0	18.48
MW07	3/31/2014	<1.0	<1.0	<1.0	<1.0	18.28
MW07	6/17/2014	<1.0	<1.0	<1.0	<1.0	17.20
MW07	9/17/2014	<1.0	<1.0	<1.0	<1.0	16.62
MW07	12/2/2014	<1.0	<1.0	<1.0	<1.0	16.02
MW07	3/16/2015	<1.0	<1.0	<1.0	<1.0	15.23
MW07	6/25/2015	<1.0	<1.0	<1.0	<1.0	13.84

**TABLE 1**  
**DECHANT 1-31A 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)
<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>	
MW07	9/25/2015	<1.0	<1.0	<1.0	<1.0	14.51
MW08	12/16/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW08	6/22/2010	Destroyed				
MW09	12/16/2009	<1.0	<1.0	<1.0	<1.0	N/A
MW09	6/22/2010	<1.0	<1.0	<1.0	<1.0	17.62
MW09	9/17/2010	<1.0	<1.0	<1.0	<1.0	17.03
MW09	12/9/2010	<1.0	<1.0	<1.0	<1.0	16.51
MW09	3/10/2011	<1.0	<1.0	<1.0	<1.0	16.32
MW09	6/8/2011	<1.0	<1.0	<1.0	<1.0	15.15
MW09	9/26/2011	<1.0	<1.0	<1.0	<1.0	15.93
MW09	12/29/2011	<1.0	<1.0	<1.0	<1.0	15.65
MW09	3/7/2012	<1.0	<1.0	<1.0	<1.0	15.59
MW09	6/26/2012	<1.0	<1.0	<1.0	<1.0	14.73
MW09	9/20/2012	NS	NS	NS	NS	N/A
MW09	12/12/2012	<1.0	<1.0	<1.0	<1.0	14.83
MW09	6/21/2013	Destroyed				
MW10	12/16/2009	<b>310</b>	<b>1,000</b>	690	<b>8,700</b>	NM
MW10	6/22/2010	<b>8.4</b>	5.1	30	720	17.95
MW10	9/17/2010	<b>55</b>	<1.0	45	280	17.36
MW10	12/9/2010	<b>34</b>	<1.0	<b>780</b>	<b>3,700</b>	16.83
MW10	3/10/2011	<b>12</b>	<1.0	<b>870</b>	<b>2,600</b>	16.60
MW10	6/8/2011	<1.0	<1.0	28	140	16.70
MW10	9/26/2011	4.3	5.2	220	<b>3,100</b>	16.29
MW10	12/29/2011	NS	NS	NS	NS	NM
MW10	3/7/2012	<b>27</b>	12	<b>700</b>	<b>5,300</b>	15.89
MW10	6/26/2012	Destroyed				
MW10R	8/17/2012	<b>5.8</b>	2.3	460	<b>10,000</b>	NM
MW10R	9/20/2012	<b>5.4</b>	<1.0	440	7.5	17.90
MW10R	12/12/2012	<b>5.8</b>	<1.0	350	<b>7,000</b>	17.88
MW10R	6/21/2013	<b>5.5</b>	<1.0	330	<b>7,200</b>	17.25
MW10R	9/23/2013	4.4	<1.0	350	<b>7,500</b>	17.23
MW10R	12/18/2013	3.4	<1.0	73	<b>6,600</b>	15.69
MW10R	3/31/2014	<b>8.8</b>	<1.0	570	640	15.52

**TABLE 1**  
**DECHANT 1-31A 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)
<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>	
MW10R	6/17/2014	4.2	<1.0	100	<b>7,700</b>	14.41
MW10R	9/17/2014	<1.0	<1.0	450	<b>6,200</b>	13.90
MW10R	12/2/2014	1.7	<1.0	<b>1,000</b>	<b>13,000</b>	13.23
MW10R	3/16/2015	<1.0	<1.0	550	<b>7,900</b>	12.46
MW10R	6/25/2015	<1.0	<1.0	230	<b>2,700</b>	11.09
MW10R	9/25/2015	<1.0	<1.0	59	240	11.86
MW11	1/18/2010	1.0	<1.0	4.9	<1.0	NM
MW11	6/22/2010	<1.0	<1.0	<1.0	<1.0	18.70
MW11	9/17/2010	<1.0	<1.0	<1.0	<1.0	18.16
MW11	12/9/2010	<1.0	<1.0	<1.0	<1.0	17.55
MW11	3/10/2011	Destroyed				
MW12	1/18/2010	<1.0	<1.0	<1.0	<1.0	NM
MW12	6/22/2010	<1.0	<1.0	<1.0	<1.0	18.85
MW12	9/17/2010	<1.0	<1.0	<1.0	<1.0	18.25
MW12	12/9/2010	<1.0	<1.0	<1.0	<1.0	17.69
MW12	3/10/2011	<1.0	<1.0	<1.0	<1.0	17.42
MW12	6/8/2011	<1.0	<1.0	<1.0	<1.0	17.33
MW12	9/26/2011	<1.0	<1.0	<1.0	<1.0	17.16
MW12	12/29/2011	NS	NS	NS	NS	NM
MW12	3/7/2012	<1.0	<1.0	<1.0	<1.0	16.74
MW12	6/26/2012	Destroyed				
MW13	1/18/2010	<b>35</b>	<1.0	230	73	NM
MW13	6/22/2010	<b>5.1</b>	<1.0	290	<1.0	18.56
MW13	9/17/2010	<b>13</b>	<1.0	160	<1.0	17.95
MW13	12/9/2010	4.4	<1.0	160	<1.0	17.42
MW13	3/10/2011	<1.0	<1.0	23	3.4	16.15
MW13	6/8/2011	<1.0	<1.0	110	<1.0	17.04
MW13	9/26/2011	2.1	<1.0	190	2.3	16.84
MW13	12/29/2011	<1.0	<1.0	190	<1.0	16.51
MW13	3/7/2012	<1.0	<1.0	150	<1.0	16.45
MW13	6/26/2012	<1.0	<1.0	150	13	15.64
MW13	9/20/2012	NS	NS	NS	NS	NM
MW13	12/12/2012	<1.0	<1.0	110	<1.0	15.70
MW13	6/21/2013	2.2	<1.0	110	160	15.61
MW13	9/23/2013	<b>7.2</b>	<1.0	290	1,100	15.75

**TABLE 1**  
**DECHANT 1-31A 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)
<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>	
MW13	12/18/2013	1.6	<1.0	2.7	94	15.56
MW13	3/31/2014	<1.0	<1.0	<1.0	4.8	15.26
MW13	9/25/2015	2.00	<1.0	570	710	11.61
MW13	6/17/2014	3.5	<1.0	270	850	14.24
MW13	9/17/2014	<1.0	<1.0	190	120	13.43
MW13	12/2/2014	2.8	<1.0	610	280	13.09
MW13	3/16/2015	2.2	<1.0	530	210	12.31
MW13	6/25/2015	1.8	<1.0	260	310	10.91
MW13	9/25/2015	2.0	<1.0	570	710	10.91
MW14	1/18/2010	<1.0	<1.0	<1.0	<1.0	NM
MW14	6/22/2010	<1.0	<1.0	<1.0	<1.0	19.06
MW14	9/17/2010	3.9	<1.0	180	25	18.49
MW14	12/9/2010	<1.0	<1.0	3.8	<1.0	17.94
MW14	3/10/2011	1.2	<1.0	8.8	<1.0	17.64
MW14	6/8/2011	<1.0	<1.0	1.3	<1.0	17.69
MW14	9/26/2011	2.8	<1.0	150	3.0	17.37
MW14	12/29/2011	<1.0	<1.0	26	<1.0	17.03
MW14	3/7/2012	<1.0	<1.0	<1.0	<1.0	16.95
MW14	6/26/2012	Destroyed				
MW15	2/10/2010	240	<1.0	340	1,600	NM
MW15	6/22/2010	<1.0	<1.0	<1.0	<1.0	17.04
MW15	9/17/2010	Destroyed				
MW16	2/10/2010	44	<1.0	130	450	NM
MW16	6/22/2010	<1.0	<1.0	4.4	12	16.72
MW16	9/17/2010	Destroyed				
MW17	3/31/2014	<1.0	<1.0	<1.0	<1.0	13.68
MW17	6/17/2014	<1.0	<1.0	<1.0	<1.0	14.24
MW17	9/17/2014	<1.0	<1.0	<1.0	<1.0	12.04
MW17	12/2/2014	<1.0	<1.0	<1.0	6.6	11.42
MW17	3/16/2015	<1.0	<1.0	1.5	2.0	10.61
MW17	6/25/2015	<1.0	<1.0	<1.0	<1.0	9.55
MW17	9/25/2015	<1.0	<1.0	<1.0	<1.0	9.92
MW18	3/31/2014	<1.0	<1.0	<1.0	<1.0	14.00
MW18	6/17/2014	<1.0	<1.0	<1.0	<1.0	12.92
MW18	9/17/2014	<1.0	<1.0	<1.0	<1.0	12.40
MW18	12/2/2014	<1.0	<1.0	<1.0	<1.0	11.74
MW18	3/16/2015	<1.0	<1.0	<1.0	<1.0	10.95

**TABLE 1**  
**DECHANT 1-31A 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)
<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>	
MW18	6/25/2015	<1.0	<1.0	<1.0	<1.0	9.23
MW18	9/25/2015	<1.0	<1.0	<1.0	<1.0	10.35
MW19	3/31/2014	<1.0	<1.0	<1.0	<1.0	14.37
MW19	6/17/2014	<1.0	<1.0	<1.0	<1.0	13.29
MW19	9/17/2014	<1.0	<1.0	<1.0	<1.0	12.75
MW19	12/2/2014	<1.0	<1.0	<1.0	<1.0	12.10
MW19	3/16/2015	<1.0	<1.0	<1.0	<1.0	11.31
MW19	6/25/2015	<1.0	<1.0	<1.0	<1.0	9.93
MW19	9/25/2015	<1.0	<1.0	<1.0	<1.0	10.63
MW20	3/31/2014	<1.0	<1.0	<1.0	46	14.85
MW20	6/17/2014	<1.0	<1.0	<1.0	2.5	13.73
MW20	9/17/2014	<1.0	<1.0	<1.0	<1.0	13.21
MW20	12/2/2014	<1.0	<1.0	<1.0	<1.0	12.55
MW20	3/16/2015	<1.0	<1.0	<1.0	<1.0	11.77
MW20	6/25/2015	<1.0	<1.0	<1.0	<1.0	10.39
MW20	9/25/2015	<1.0	<1.0	<1.0	<1.0	11.16
MW21	3/31/2014	<1.0	<1.0	250	1,000	14.56
MW21	6/17/2014	<1.0	<1.0	470	<b>3,200</b>	13.47
MW21	9/17/2014	<1.0	<1.0	380	<b>3,400</b>	12.97
MW21	12/2/2014	2.5	2.2	<b>1,400</b>	<b>18,000</b>	12.31
MW21	3/16/2015	3.3	3.7	<b>1,700</b>	<b>26,000</b>	11.52
MW21	6/25/2015	4.5	4.9	<b>1,300</b>	<b>21,000</b>	10.14
MW21	9/25/2015	2.6	3.6	<b>840</b>	<b>14,000</b>	10.92
MW22	3/31/2014	<1.0	<1.0	<1.0	<1.0	13.92
MW22	6/17/2014	<1.0	<1.0	<1.0	<1.0	12.82
MW22	9/17/2014	<1.0	<1.0	<1.0	<1.0	12.30
MW22	12/2/2014	<1.0	<1.0	<1.0	<1.0	11.62
MW22	3/16/2015	<1.0	<1.0	<1.0	12	10.83
MW22	6/25/2015	<1.0	<1.0	<1.0	12	9.46
MW22	9/25/2015	<1.0	<1.0	<1.0	<1.0	10.16

**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.

NS = Not sampled

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

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

**TABLE 2**  
**DECHANT 1-31A TANK BATTERY**  
**EFR / AS OPERATIONAL SUMMARY TABLE**

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)
<b>Third Quarter 2015</b>					
7/8/2015	MW10R, MW18, MW20, MW21	6	15	MW10R, MW21	20
7/22/2015		6	0		20
8/5/2015		6	0		20
8/19/2015		6	0		20
9/2/2015		6	0		20
9/16/2015		6	60		20
<b>Quarterly Totals</b>		<b>36</b>	<b>75</b>		-

**Notes:**

EFR = Enhanced fluid recovery

AS = Air sparge

psi = Pounds per square inch

**ATTACHMENT A**

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 11, 2012

Brian Dodek  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: PDC - Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 03/07/12 17:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Director



LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
Project Manager: Brian Dodek

**Reported:**  
03/11/12 14:10

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	R203049-01	Water	03/07/12 13:30	03/07/12 17:10
MW09	R203049-02	Water	03/07/12 13:50	03/07/12 17:10
MW10	R203049-03	Water	03/07/12 13:10	03/07/12 17:10
MW12	R203049-04	Water	03/07/12 12:50	03/07/12 17:10
MW13	R203049-05	Water	03/07/12 12:40	03/07/12 17:10
MW14	R203049-06	Water	03/07/12 12:30	03/07/12 17:10

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.*





LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW07**  
**R203049-01 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	2030807	03/08/12	03/09/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/07/12 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>109 %</i>	<i>57.9-139</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>101 %</i>	<i>83.1-115</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.4 %</i>	<i>80.8-120</i>		"	"	"	"	

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.*



LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW09**  
**R203049-02 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	2030807	03/08/12	03/09/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/07/12 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		117 %	57.9-139		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.5 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.9 %	80.8-120		"	"	"	"	

Summit Scientific

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LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW10**  
**R203049-03 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>27</b>	1.0	ug/l	1	2030807	03/08/12	03/09/12	EPA 8260B	
<b>Toluene</b>	<b>12</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>700</b>	100	"	100	"	"	03/09/12	"	
<b>Xylenes (total)</b>	<b>5300</b>	100	"	"	"	"	"	"	

Date Sampled: **03/07/12 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	57.9-139		"	"	03/09/12	"	
<i>Surrogate: Toluene-d8</i>		115 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %	80.8-120		"	"	"	"	

Summit Scientific

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LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW12**  
**R203049-04 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	2030807	03/08/12	03/10/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/07/12 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	57.9-139		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.3 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %	80.8-120		"	"	"	"	

Summit Scientific

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LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW13**  
**R203049-05 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	2030807	03/08/12	03/10/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>150</b>	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/07/12 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	57.9-139		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.1 %	80.8-120		"	"	"	"	

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.*



LT Environmental, Inc.  
 4600 West 60th Avenue  
 Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
 Project Manager: Brian Dodek

**Reported:**  
 03/11/12 14:10

**MW14**  
**R203049-06 (Water)**

**Summit Scientific**

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

Date Sampled: **03/07/12 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	2030807	03/08/12	03/10/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/07/12 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		119 %	57.9-139		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.9 %	83.1-115		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.0 %	80.8-120		"	"	"	"	

Summit Scientific

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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
Project Manager: Brian Dodek

**Reported:**  
03/11/12 14:10

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

**Summit Scientific**

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

**Batch 2030807 - EPA 5030 Water MS**

**Blank (2030807-BLK1)**

Prepared & Analyzed: 03/08/12

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2	110	57.9-139					
Surrogate: Toluene-d8	12.5		"	13.3	94.0	83.1-115					
Surrogate: 4-Bromofluorobenzene	11.2		"	13.3	84.0	80.8-120					

**LCS (2030807-BS1)**

Prepared & Analyzed: 03/08/12

Benzene	25.8	1.0	ug/l	33.3	77.4	60.1-131			10.9		
Toluene	26.3	1.0	"	33.3	79.0	65.9-127			11.3		
Ethylbenzene	24.7	1.0	"	33.3	74.2	65.1-129			20		
m,p-Xylene	52.4	2.0	"	66.7	78.6	66.8-127			20		
o-Xylene	27.0	1.0	"	33.3	80.9	61.2-120			20		
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2	107	57.9-139					
Surrogate: Toluene-d8	12.9		"	13.3	97.1	83.1-115					
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3	95.4	80.8-120					

**LCS Dup (2030807-BSD1)**

Prepared & Analyzed: 03/08/12

Benzene	25.5	1.0	ug/l	33.3	76.6	60.1-131	1.01		10.9		
Toluene	26.3	1.0	"	33.3	78.9	65.9-127	0.190		11.3		
Ethylbenzene	24.8	1.0	"	33.3	74.4	65.1-129	0.283		20		
m,p-Xylene	52.6	2.0	"	66.7	79.0	66.8-127	0.438		20		
o-Xylene	27.1	1.0	"	33.3	81.4	61.2-120	0.555		20		
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.2	105	57.9-139					
Surrogate: Toluene-d8	13.6		"	13.3	102	83.1-115					
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3	97.1	80.8-120					

Summit Scientific

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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
Project Manager: Brian Dodek

**Reported:**  
03/11/12 14:10

**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 2030807 - EPA 5030 Water MS**

<b>Matrix Spike (2030807-MS1)</b>	<b>Source: R203037-05</b>			<b>Prepared &amp; Analyzed: 03/08/12</b>						
Benzene	26.4	1.0	ug/l	33.3	ND	79.1	52.7-130			19.3
Toluene	27.1	1.0	"	33.3	ND	81.2	57-127			18.7
Ethylbenzene	24.1	1.0	"	33.3	ND	72.3	59.2-127			20
m,p-Xylene	50.6	2.0	"	66.7	ND	75.9	53.2-132			20
o-Xylene	26.1	1.0	"	33.3	ND	78.2	56.3-117			20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>16.0</i>		<i>"</i>	<i>13.2</i>		<i>121</i>	<i>57.9-139</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.8</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>83.1-115</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>11.3</i>		<i>"</i>	<i>13.3</i>		<i>85.0</i>	<i>80.8-120</i>			

<b>Matrix Spike Dup (2030807-MSD1)</b>	<b>Source: R203037-05</b>			<b>Prepared: 03/08/12 Analyzed: 03/09/12</b>						
Benzene	26.4	1.0	ug/l	33.3	ND	79.2	52.7-130	0.152		19.3
Toluene	27.1	1.0	"	33.3	ND	81.4	57-127	0.221		18.7
Ethylbenzene	25.6	1.0	"	33.3	ND	76.8	59.2-127	5.99		20
m,p-Xylene	53.1	2.0	"	66.7	ND	79.6	53.2-132	4.78		20
o-Xylene	27.4	1.0	"	33.3	ND	82.1	56.3-117	4.90		20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>16.1</i>		<i>"</i>	<i>13.2</i>		<i>121</i>	<i>57.9-139</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>83.1-115</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.0</i>	<i>80.8-120</i>			

Summit Scientific

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LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada CO, 80003

Project: PDC - Dechant 1-31A

Project Number: PDC 09028  
Project Manager: Brian Dodek

**Reported:**  
03/11/12 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

---

Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 28, 2013

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 06/21/13 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV  
Laboratory Director

This report shall not be reproduced, except in its entirety, without the written approval of Summit Scientific. Test results relate only to samples analyzed.

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
06/28/13 16:05

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	R306176-01	Water	06/21/13 12:45	06/21/13 17:00
MW10R	R306176-02	Water	06/21/13 12:50	06/21/13 17:00
MW13	R306176-03	Water	06/21/13 12:55	06/21/13 17:00

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Bruns

Reported:  
 06/28/13 16:05

R306176

# Summit Scientific

741 Corporate Circle, Suite 14 Golden, Colorado 80401  
 303-277-4910 • 303-274-9933 Fax

Client: PDC/Passman Page 1 of 1

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Project Manager: Brandon Bruns

E-Mail: \_\_\_\_\_

Project Name: Dechant 1-31A

Project Number: \_\_\_\_\_

Sampler Name: Eric Siegel

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For	Special Instructions
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Air - Continer Serial #	Other (Specify)		
MW07	6/24/13	12:45	3	X							
MW10R	↓	12:50									
MW13	↓	12:55									
Retransmitted by: <u>Eric Siegel</u> Date/Time: <u>6/24/13</u> Retransmitted by: _____ Date/Time: _____ Retransmitted by: _____ Date/Time: _____											
Date/Time: <u>6/24/13</u> Time Around Time (Check) <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> Standard Date/Time: <u>6/24/13</u> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours											
Date/Time: _____ Received in Lab by: _____ Date/Time: _____ Sample Integrity: Temperature (Low Receipt) <input checked="" type="checkbox"/> <u>6.2</u> In tact: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes											



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 06/28/13 16:05

**MW07**  
**R306176-01 (Water)**

**Summit Scientific**

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

Date Sampled: **06/21/13 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	3062610	06/27/13	06/27/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/21/13 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/28/13 16:05

**MW10R**  
**R306176-02 (Water)**

**Summit Scientific**

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

Date Sampled: **06/21/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>5.5</b>	1.0	ug/l	1	3062610	06/27/13	06/27/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>330</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>7200</b>	100	"	"	"	"	"	"	

Date Sampled: **06/21/13 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.0 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/28/13 16:05

**MW13**  
**R306176-03 (Water)**

**Summit Scientific**

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

Date Sampled: **06/21/13 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.2</b>	1.0	ug/l	1	3062610	06/27/13	06/27/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>110</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>160</b>	1.0	"	"	"	"	"	"	

Date Sampled: **06/21/13 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.7 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		111 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.8 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
06/28/13 16:05

**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 3062610 - EPA 5030 Water MS**

**Blank (3062610-BLK1)**

Prepared & Analyzed: 06/26/13

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		98.0	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	45-146			

**Blank (3062610-BLK2)**

Prepared & Analyzed: 06/26/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.2		101	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		99.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.1	45-146			

**LCS (3062610-BS1)**

Prepared & Analyzed: 06/26/13

Benzene	27.2	1.0	ug/l	33.3		81.5	51-132			
Toluene	27.5	1.0	"	33.3		82.6	51-138			
Ethylbenzene	29.1	1.0	"	33.3		87.3	58-146			
m,p-Xylene	59.0	2.0	"	66.7		88.6	57-144			
o-Xylene	29.0	1.0	"	33.3		87.0	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.2		100	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.8	45-149			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.3	45-146			

**LCS Dup (3062610-BSD1)**

Prepared & Analyzed: 06/26/13

Benzene	25.6	1.0	ug/l	33.3		77.0	51-132	5.68	17	
Toluene	26.5	1.0	"	33.3		79.4	51-138	3.93	17	
Ethylbenzene	26.5	1.0	"	33.3		79.6	58-146	9.21	16	
m,p-Xylene	54.3	2.0	"	66.7		81.4	57-144	8.36	16	
o-Xylene	26.3	1.0	"	33.3		78.9	53-146	9.73	15	
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.2		100	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	45-149			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.0	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: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
06/28/13 16:05

**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 3062610 - EPA 5030 Water MS**

**Matrix Spike (3062610-MS1)**

Source: R306177-01

Prepared & Analyzed: 06/26/13

Benzene	28.3	1.0	ug/l	33.3	ND	84.8	34-141			
Toluene	28.9	1.0	"	33.3	ND	86.6	27-151			
Ethylbenzene	36.4	1.0	"	33.3	8.03	85.2	29-160			
m,p-Xylene	95.5	2.0	"	66.7	44.4	76.7	20-166			
o-Xylene	32.9	1.0	"	33.3	4.44	85.4	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.2		100	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	45-146			

**Matrix Spike (3062610-MS2)**

Source: R306177-02

Prepared & Analyzed: 06/27/13

Benzene	532	1.0	ug/l	33.3	82.4	NR	34-141			QM-4X
Toluene	29.5	1.0	"	33.3	ND	88.5	27-151			
Ethylbenzene	508	1.0	"	33.3	65.8	NR	29-160			
m,p-Xylene	536	2.0	"	66.7	405	196	20-166			QM-4X
o-Xylene	33.1	1.0	"	33.3	5.87	81.6	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	12.8		"	13.3		95.8	45-146			

**Matrix Spike Dup (3062610-MSD1)**

Source: R306177-01

Prepared & Analyzed: 06/26/13

Benzene	28.2	1.0	ug/l	33.3	ND	84.5	34-141	0.461	32	
Toluene	29.0	1.0	"	33.3	ND	87.1	27-151	0.518	25	
Ethylbenzene	30.3	1.0	"	33.3	8.03	66.8	29-160	18.4	50	
m,p-Xylene	78.0	2.0	"	66.7	44.4	50.4	20-166	20.2	36	
o-Xylene	32.1	1.0	"	33.3	4.44	82.9	33-159	2.56	26	
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.2		103	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.4	45-149			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.4	45-146			

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/28/13 16:05

**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 3062610 - EPA 5030 Water MS**

<b>Matrix Spike Dup (3062610-MSD2)</b>	<b>Source: R306177-02</b>			<b>Prepared &amp; Analyzed: 06/27/13</b>						
Benzene	752	1.0	ug/l	33.3	82.4	NR	34-141	34.3	32	QM-4X
Toluene	29.0	1.0	"	33.3	ND	87.1	27-151	1.54	25	
Ethylbenzene	439	1.0	"	33.3	65.8	NR	29-160	14.7	50	QM-4X
m,p-Xylene	356	2.0	"	66.7	405	NR	20-166	40.3	36	QM-4X
o-Xylene	34.1	1.0	"	33.3	5.87	84.6	33-159	3.04	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.2</i>		<i>"</i>	<i>13.2</i>		<i>100</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.8</i>		<i>"</i>	<i>13.3</i>		<i>95.9</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
06/28/13 16:05

### Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
- 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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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 26, 2013

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 09/23/13 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV  
Laboratory Director

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/26/13 16:31

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
10R	R309172-01	Water	09/23/13 12:00	09/23/13 18:00
MW7	R309172-02	Water	09/23/13 12:00	09/23/13 18:00
MW13	R309172-03	Water	09/23/13 12:00	09/23/13 18:00

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 09/26/13 16:31

**10R**

**R309172-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>4.4</b>	1.0	ug/l	1	3092412	09/24/13	09/26/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>350</b>	100	"	100	"	"	09/26/13	"	
<b>Xylenes (total)</b>	<b>7500</b>	100	"	"	"	"	"	"	

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91.4 %	37-154		"	"	09/26/13	"	
<i>Surrogate: Toluene-d8</i>		108 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.4 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/26/13 16:31

**MW7**  
**R309172-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	3092412	09/24/13	09/26/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/26/13 16:31

**MW13**  
**R309172-03 (Water)**

**Summit Scientific**

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

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>7.2</b>	1.0	ug/l	1	3092412	09/24/13	09/26/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>290</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1100</b>	10	"	10	"	"	"	"	

Date Sampled: **09/23/13 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91.1 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.6 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
09/26/13 16:31

**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 3092412 - EPA 5030 Water MS**

**Blank (3092412-BLK1)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.2</i>		<i>"</i>	<i>13.2</i>		<i>107</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.8</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.6</i>		<i>"</i>	<i>13.3</i>		<i>110</i>	<i>45-146</i>			

**Blank (3092412-BLK2)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.8</i>		<i>"</i>	<i>13.2</i>		<i>104</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.5</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.7</i>		<i>"</i>	<i>13.3</i>		<i>110</i>	<i>45-146</i>			

**LCS (3092412-BS1)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	32.5	1.0	ug/l	33.3		97.6	51-132			
Toluene	39.1	1.0	"	33.3		117	51-138			
Ethylbenzene	41.5	1.0	"	33.3		124	58-146			
m,p-Xylene	76.4	2.0	"	66.7		115	57-144			
o-Xylene	40.2	1.0	"	33.3		121	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.7</i>		<i>"</i>	<i>13.2</i>		<i>104</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.4</i>		<i>"</i>	<i>13.3</i>		<i>108</i>	<i>45-146</i>			

**LCS (3092412-BS2)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	32.5	1.0	ug/l	33.3		97.4	51-132			
Toluene	39.0	1.0	"	33.3		117	51-138			
Ethylbenzene	41.3	1.0	"	33.3		124	58-146			
m,p-Xylene	76.0	2.0	"	66.7		114	57-144			
o-Xylene	40.5	1.0	"	33.3		122	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.8</i>		<i>"</i>	<i>13.2</i>		<i>104</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.4</i>		<i>"</i>	<i>13.3</i>		<i>108</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
09/26/13 16:31

**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		

**Batch 3092412 - EPA 5030 Water MS**

**LCS Dup (3092412-BSD1)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	32.9	1.0	ug/l	33.3	98.7	51-132	1.07	17
Toluene	39.1	1.0	"	33.3	117	51-138	0.0512	17
Ethylbenzene	41.6	1.0	"	33.3	125	58-146	0.289	16
m,p-Xylene	76.5	2.0	"	66.7	115	57-144	0.183	16
o-Xylene	40.5	1.0	"	33.3	122	53-146	0.768	15
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.2	105	37-154		
Surrogate: Toluene-d8	13.6		"	13.3	102	45-149		
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3	106	45-146		

**LCS Dup (3092412-BSD2)**

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	32.6	1.0	ug/l	33.3	97.7	51-132	0.307	17
Toluene	39.7	1.0	"	33.3	119	51-138	1.81	17
Ethylbenzene	41.5	1.0	"	33.3	125	58-146	0.652	16
m,p-Xylene	76.9	2.0	"	66.7	115	57-144	1.11	16
o-Xylene	40.6	1.0	"	33.3	122	53-146	0.197	15
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.2	103	37-154		
Surrogate: Toluene-d8	13.8		"	13.3	103	45-149		
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3	107	45-146		

**Matrix Spike (3092412-MS1)**

Source: R309169-03

Prepared: 09/24/13 Analyzed: 09/25/13

Benzene	32.6	1.0	ug/l	33.3	ND	98.0	34-141	
Toluene	39.2	1.0	"	33.3	ND	117	27-151	
Ethylbenzene	41.7	1.0	"	33.3	ND	125	29-160	
m,p-Xylene	76.8	2.0	"	66.7	ND	115	20-166	
o-Xylene	41.0	1.0	"	33.3	ND	123	33-159	
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.2	99.4	37-154		
Surrogate: Toluene-d8	13.5		"	13.3	101	45-149		
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3	107	45-146		

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
09/26/13 16:31

**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 3092412 - EPA 5030 Water MS**

<b>Matrix Spike (3092412-MS2)</b>	<b>Source: R309169-04</b>			Prepared: 09/24/13		Analyzed: 09/25/13					
Benzene	32.2	1.0	ug/l	33.3	ND	96.7	34-141				
Toluene	38.7	1.0	"	33.3	ND	116	27-151				
Ethylbenzene	42.3	1.0	"	33.3	ND	127	29-160				
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166				
o-Xylene	41.4	1.0	"	33.3	ND	124	33-159				
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.2		99.7	37-154				
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149				
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	45-146				

<b>Matrix Spike Dup (3092412-MSD1)</b>	<b>Source: R309169-03</b>			Prepared: 09/24/13		Analyzed: 09/25/13					
Benzene	32.6	1.0	ug/l	33.3	ND	97.8	34-141	0.123		32	
Toluene	39.1	1.0	"	33.3	ND	117	27-151	0.230		25	
Ethylbenzene	42.4	1.0	"	33.3	ND	127	29-160	1.64		50	
m,p-Xylene	77.9	2.0	"	66.7	ND	117	20-166	1.40		36	
o-Xylene	41.1	1.0	"	33.3	ND	123	33-159	0.317		26	
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.2		96.6	37-154				
Surrogate: Toluene-d8	13.4		"	13.3		101	45-149				
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		106	45-146				

<b>Matrix Spike Dup (3092412-MSD2)</b>	<b>Source: R309169-04</b>			Prepared: 09/24/13		Analyzed: 09/25/13					
Benzene	33.4	1.0	ug/l	33.3	ND	100	34-141	3.65		32	
Toluene	40.2	1.0	"	33.3	ND	121	27-151	3.98		25	
Ethylbenzene	42.9	1.0	"	33.3	ND	129	29-160	1.46		50	
m,p-Xylene	78.6	2.0	"	66.7	ND	118	20-166	0.869		36	
o-Xylene	41.5	1.0	"	33.3	ND	124	33-159	0.193		26	
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.2		97.7	37-154				
Surrogate: Toluene-d8	13.7		"	13.3		103	45-149				
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		106	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: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/26/13 16:31

### 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 23, 2013

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 12/18/13 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'BS', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury  
President / Laboratory Manager



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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/23/13 18:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	R312118-01	Water	12/18/13 11:30	12/18/13 16:30
MW10R	R312118-02	Water	12/18/13 11:30	12/18/13 16:30
MW13	R312118-03	Water	12/18/13 11:30	12/18/13 16:30

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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/23/13 18:21

**MW07**  
**R312118-01 (Water)**

**Summit Scientific**

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

Date Sampled: 12/18/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	3122007	12/20/13	12/21/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: 12/18/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/23/13 18:21

**MW10R**  
**R312118-02 (Water)**

**Summit Scientific**

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

Date Sampled: 12/18/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3.4</b>	1.0	ug/l	1	3122007	12/20/13	12/21/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>73</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>6600</b>	100	"	100	"	"	"	"	

Date Sampled: 12/18/13 11:30

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>		96.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/23/13 18:21

**MW13**  
**R312118-03 (Water)**

**Summit Scientific**

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

Date Sampled: 12/18/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.6</b>	1.0	ug/l	1	3122007	12/20/13	12/21/13	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>2.7</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>94</b>	1.0	"	"	"	"	"	"	

Date Sampled: 12/18/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		112 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.0 %	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: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
12/23/13 18:21

**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 3122007 - EPA 5030 Water MS**

**Blank (3122007-BLK1)**

Prepared: 12/20/13 Analyzed: 12/21/13

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.2		111	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.1	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

**LCS (3122007-BS1)**

Prepared: 12/20/13 Analyzed: 12/21/13

Benzene	32.9	1.0	ug/l	33.3		98.6	51-132			
Toluene	33.1	1.0	"	33.3		99.4	51-138			
Ethylbenzene	33.8	1.0	"	33.3		101	58-146			
m,p-Xylene	64.7	2.0	"	66.7		97.1	57-144			
o-Xylene	31.9	1.0	"	33.3		95.8	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.2		112	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

**LCS (3122007-BS2)**

Prepared: 12/20/13 Analyzed: 12/21/13

Benzene	32.2	1.0	ug/l	33.3		96.7	51-132			
Toluene	33.4	1.0	"	33.3		100	51-138			
Ethylbenzene	33.6	1.0	"	33.3		101	58-146			
m,p-Xylene	64.7	2.0	"	66.7		97.0	57-144			
o-Xylene	31.2	1.0	"	33.3		93.6	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.2		113	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.4	45-146			

Summit Scientific

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/23/13 18:21

**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 3122007 - EPA 5030 Water MS**

<b>Matrix Spike (3122007-MS1)</b>		<b>Source: R312119-01</b>			Prepared: 12/20/13		Analyzed: 12/21/13		
Benzene	32.5	1.0	ug/l	33.3	1.52	92.9	34-141		
Toluene	32.9	1.0	"	33.3	ND	98.7	27-151		
Ethylbenzene	33.3	1.0	"	33.3	ND	99.9	29-160		
m,p-Xylene	64.2	2.0	"	66.7	1.08	94.7	20-166		
o-Xylene	30.8	1.0	"	33.3	ND	92.5	33-159		
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		110	37-154		
Surrogate: Toluene-d8	13.3		"	13.3		99.6	45-149		
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146		
<b>Matrix Spike (3122007-MS2)</b>		<b>Source: R312119-02</b>			Prepared: 12/20/13		Analyzed: 12/21/13		
Benzene	673	1.0	ug/l	33.3	552	363	34-141	QM-07	
Toluene	34.7	1.0	"	33.3	ND	104	27-151		
Ethylbenzene	34.8	1.0	"	33.3	1.42	100	29-160		
m,p-Xylene	124	2.0	"	66.7	102	32.4	20-166		
o-Xylene	37.6	1.0	"	33.3	7.95	88.9	33-159		
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.2		113	37-154		
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149		
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146		
<b>Matrix Spike Dup (3122007-MSD1)</b>		<b>Source: R312119-01</b>			Prepared: 12/20/13		Analyzed: 12/21/13		
Benzene	32.4	1.0	ug/l	33.3	1.52	92.6	34-141	0.277 32	
Toluene	32.6	1.0	"	33.3	ND	97.7	27-151	1.01 25	
Ethylbenzene	34.0	1.0	"	33.3	ND	102	29-160	1.96 50	
m,p-Xylene	66.1	2.0	"	66.7	1.08	97.6	20-166	2.91 36	
o-Xylene	31.7	1.0	"	33.3	ND	95.2	33-159	2.91 26	
Surrogate: 1,2-Dichloroethane-d4	15.5		"	13.2		117	37-154		
Surrogate: Toluene-d8	13.2		"	13.3		98.9	45-149		
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146		

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/23/13 18:21

**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 3122007 - EPA 5030 Water MS**

<b>Matrix Spike Dup (3122007-MSD2)</b>	<b>Source: R312119-02</b>			Prepared: 12/20/13	Analyzed: 12/21/13					
Benzene	604	1.0	ug/l	33.3	552	157	34-141	10.7	32	QM-07
Toluene	32.9	1.0	"	33.3	ND	98.8	27-151	5.18	25	
Ethylbenzene	34.7	1.0	"	33.3	1.42	99.8	29-160	0.345	50	
m,p-Xylene	124	2.0	"	66.7	102	32.8	20-166	0.194	36	
o-Xylene	36.6	1.0	"	33.3	7.95	85.9	33-159	2.67	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.5</i>		<i>"</i>	<i>13.2</i>		<i>117</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.3</i>		<i>"</i>	<i>13.3</i>		<i>99.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.7</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>45-146</i>			

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/23/13 18:21

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 09, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 03/31/14 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'BS', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury  
President / Laboratory Manager



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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
04/09/14 23:07

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1404003-01	Water	03/31/14 13:10	03/31/14 17:25
MW10R	1404003-02	Water	03/31/14 13:20	03/31/14 17:25
MW13	1404003-03	Water	03/31/14 13:30	03/31/14 17:25
MW17	1404003-04	Water	03/31/14 13:40	03/31/14 17:25
MW18	1404003-05	Water	03/31/14 13:50	03/31/14 17:25
MW19	1404003-06	Water	03/31/14 14:00	03/31/14 17:25
MW20	1404003-07	Water	03/31/14 14:10	03/31/14 17:25
MW21	1404003-08	Water	03/31/14 14:20	03/31/14 17:25
MW22	1404003-09	Water	03/31/14 14:30	03/31/14 17:25

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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Bruns

Reported:  
 04/09/14 23:07

1404003

Summit Scientific

741 Corporate Circle Suite 110 Golden Colorado 80401  
 303-774-9310 • 303-774-9311 fax

Client: PDC Energy  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Project Name: DAN KOTEC  
 Title: \_\_\_\_\_

Project Manager: Brandon Bruns  
 Exhibit: \_\_\_\_\_  
 Project Name: Dechant 1-31A  
 Project Number: \_\_\_\_\_

Page 1 of 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative					Alt - Container Serial #	Analyze For:	Special Instructions
				HQ1	HQ2	HQ3	Other (Specify)	Other (Specify)			
MW07	3/31/14	1310	3		X				X BTEX @		
MW10R		1320									
MW13		1330									
MW17		1340									
MW18		1350									
MW19		1400									
MW20		1410									
MW21		1420									
MW22		1430									

Collected by: *[Signature]*  
 Date/Time: 3/31/14 17:20  
 Returned by: *[Signature]*  
 Date/Time: 3/31/14 17:20  
 Turn Around Time (Week):  71 hours  Standard  
 Sample Integrity:  Temperature  Live Receipt  intact  Yes  No  
 7.5





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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW07**  
**1404003-01 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>103 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>98.1 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>	<i>45-146</i>		"	"	"	"	

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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW10R**  
**1404003-02 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>8.8</b>	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>570</b>	100	"	100	"	"	04/05/14	"	
<b>Xylenes (total)</b>	<b>640</b>	1.0	"	1	"	"	04/05/14	"	

Date Sampled: **03/31/14 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		116 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW13**  
**1404003-03 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>4.8</b>	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 04/09/14 23:07

**MW17**  
**1404003-04 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.4 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 04/09/14 23:07

**MW18**  
**1404003-05 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 13:50**

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>97.9 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW19**  
**1404003-06 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>107 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>99.3 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW20**  
**1404003-07 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>46</b>	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 14:10**

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>		101 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW21**  
**1404003-08 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>250</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1000</b>	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		105 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		113 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**MW22**  
**1404003-09 (Water)**

**Summit Scientific**

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

Date Sampled: **03/31/14 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1404033	04/04/14	04/05/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/31/14 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.5 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
04/09/14 23:07

**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 1404033 - EPA 5030 Water MS**

**Blank (1404033-BLK1)**

Prepared: 04/04/14 Analyzed: 04/05/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.2		105	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.4	45-149			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	45-146			

**LCS (1404033-BS1)**

Prepared: 04/04/14 Analyzed: 04/05/14

Benzene	28.9	1.0	ug/l	33.2		86.9	51-132			
Toluene	30.7	1.0	"	33.3		92.0	51-138			
Ethylbenzene	32.5	1.0	"	33.1		98.3	58-146			
m,p-Xylene	67.7	2.0	"	66.7		102	57-144			
o-Xylene	33.5	1.0	"	32.9		102	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.5		"	13.2		102	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		99.5	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.6	45-146			

**Matrix Spike (1404033-MS1)**

Source: 1404002-04

Prepared: 04/04/14 Analyzed: 04/06/14

Benzene	29.0	1.0	ug/l	33.2	ND	87.1	34-141			
Toluene	31.0	1.0	"	33.3	ND	92.9	27-151			
Ethylbenzene	33.9	1.0	"	33.1	ND	103	29-160			
m,p-Xylene	71.9	2.0	"	66.7	ND	108	20-166			
o-Xylene	35.3	1.0	"	32.9	ND	107	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2		107	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.0	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 04/09/14 23:07

**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 1404033 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1404033-MSD1)</b>	<b>Source: 1404002-04</b>			Prepared: 04/04/14		Analyzed: 04/06/14				
Benzene	29.1	1.0	ug/l	33.2	ND	87.6	34-141	0.586	32	
Toluene	31.1	1.0	"	33.3	ND	93.2	27-151	0.322	25	
Ethylbenzene	33.4	1.0	"	33.1	ND	101	29-160	1.37	50	
m,p-Xylene	70.1	2.0	"	66.7	ND	105	20-166	2.54	36	
o-Xylene	34.2	1.0	"	32.9	ND	104	33-159	3.25	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.1</i>		<i>"</i>	<i>13.2</i>		<i>114</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
04/09/14 23:07

### 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 25, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 06/18/14 17:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'BS', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury  
President / Laboratory Manager



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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
06/25/14 17:34

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1406132-01	Water	06/17/14 18:20	06/18/14 17:35
MW10R	1406132-02	Water	06/17/14 18:10	06/18/14 17:35
MW13	1406132-03	Water	06/17/14 18:00	06/18/14 17:35
MW17	1406132-04	Water	06/17/14 17:50	06/18/14 17:35
MW18	1406132-05	Water	06/17/14 17:40	06/18/14 17:35
MW19	1406132-06	Water	06/17/14 17:30	06/18/14 17:35
MW20	1406132-07	Water	06/17/14 17:20	06/18/14 17:35
MW21	1406132-08	Water	06/17/14 17:10	06/18/14 17:35
MW22	1406132-09	Water	06/17/14 17:00	06/18/14 17:35

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Bruns

Reported:  
 06/25/14 17:34

1406132

# Summit Scientific

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
 303-277-9310 • 303-374-9333 Fax

Page 1 of 1

Client: PDC Energy  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Sampler Name: Kevin Carter  
 Project Manager: Brandon Bruns  
 E-Mail: brandon.brunns@pdc.com  
 Project Name: Dechant 1-31A  
 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)	Soil	Groundwater	Air - Container Serial #			Other (Specify)
MW 07	6/17/14	18:20	3	X									
MW 08	6/17/14	18:40	3	X									
MW 13	6/17/14	18:00	3	X									
MW 17	6/17/14	17:50	3	X									
MW 18	6/17/14	17:40	3	X									
MW 19	6/17/14	17:30	3	X									
MW 20	6/17/14	17:20	3	X									
MW 21	6/17/14	17:10	3	X									
MW 22	6/17/14	17:00	3	X									

Relinquished by: <u>Kevin Carter</u>	Date/Time: <u>6/17/14 17:30</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/17/14 17:30</u>	Turn Around Time (Check): <input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/> Stated	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: <input checked="" type="checkbox"/> Temperature upon Receipt: <u>3°C</u> <input type="checkbox"/> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW07**  
**1406132-01 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 18:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/23/14	06/23/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 18:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW10R**  
**1406132-02 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 18:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>4.2</b>	1.0	ug/l	1	1406181	06/23/14	06/23/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>100</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>7700</b>	100	"	100	"	"	"	"	

Date Sampled: **06/17/14 18:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.5 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW13**  
**1406132-03 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 18:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3.5</b>	1.0	ug/l	1	1406181	06/23/14	06/23/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>270</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>850</b>	10	"	10	"	"	"	"	

Date Sampled: **06/17/14 18:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.4 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW17**  
**1406132-04 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>111 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>98.4 %</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>	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW18**  
**1406132-05 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>112 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>98.9 %</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>	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW19**  
**1406132-06 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>111 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>98.8 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 06/25/14 17:34

**MW20**  
**1406132-07 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2.5</b>	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		112 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW21**  
**1406132-08 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>470</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>3200</b>	10	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:10**

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>		99.0 %	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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**MW22**  
**1406132-09 (Water)**

**Summit Scientific**

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

Date Sampled: **06/17/14 17:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1406181	06/24/14	06/24/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/17/14 17:00**

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>99.3 %</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: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
06/25/14 17:34

**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 1406181 - EPA 5030 Water MS**

**Blank (1406181-BLK1)**

Prepared & Analyzed: 06/23/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		109	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

**LCS (1406181-BS1)**

Prepared & Analyzed: 06/23/14

Benzene	40.7	1.0	ug/l	33.3		122	51-132			
Toluene	39.2	1.0	"	33.3		118	51-138			
Ethylbenzene	40.7	1.0	"	33.1		123	58-146			
m,p-Xylene	78.3	2.0	"	66.5		118	57-144			
o-Xylene	39.0	1.0	"	32.8		119	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.2		"	13.2		115	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	45-146			

**LCS (1406181-BS2)**

Prepared & Analyzed: 06/23/14

Benzene	40.2	1.0	ug/l	33.3		121	51-132			
Toluene	38.6	1.0	"	33.3		116	51-138			
Ethylbenzene	40.6	1.0	"	33.1		123	58-146			
m,p-Xylene	78.4	2.0	"	66.5		118	57-144			
o-Xylene	39.0	1.0	"	32.8		119	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.2		112	37-154			
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	45-146			

Summit Scientific

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
06/25/14 17:34

**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 1406181 - EPA 5030 Water MS**

<b>Matrix Spike (1406181-MS1)</b>	<b>Source: 1406132-01</b>			<b>Prepared &amp; Analyzed: 06/23/14</b>						
Benzene	41.2	1.0	ug/l	33.3	ND	124	34-141			
Toluene	39.4	1.0	"	33.3	ND	118	27-151			
Ethylbenzene	41.2	1.0	"	33.1	ND	125	29-160			
m,p-Xylene	79.4	2.0	"	66.5	ND	119	20-166			
o-Xylene	39.4	1.0	"	32.8	ND	120	33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.7</i>		<i>"</i>	<i>13.2</i>		<i>111</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.2</i>	<i>45-146</i>			

<b>Matrix Spike (1406181-MS2)</b>	<b>Source: 1406132-01</b>			<b>Prepared &amp; Analyzed: 06/23/14</b>						
Benzene	41.3	1.0	ug/l	33.3	ND	124	34-141			
Toluene	39.4	1.0	"	33.3	ND	118	27-151			
Ethylbenzene	41.0	1.0	"	33.1	ND	124	29-160			
m,p-Xylene	79.0	2.0	"	66.5	ND	119	20-166			
o-Xylene	39.5	1.0	"	32.8	ND	120	33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.1</i>		<i>"</i>	<i>13.2</i>		<i>114</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.5</i>	<i>45-146</i>			

<b>Matrix Spike Dup (1406181-MSD1)</b>	<b>Source: 1406132-01</b>			<b>Prepared &amp; Analyzed: 06/23/14</b>						
Benzene	41.5	1.0	ug/l	33.3	ND	124	34-141	0.653	32	
Toluene	39.3	1.0	"	33.3	ND	118	27-151	0.178	25	
Ethylbenzene	41.3	1.0	"	33.1	ND	125	29-160	0.267	50	
m,p-Xylene	79.7	2.0	"	66.5	ND	120	20-166	0.327	36	
o-Xylene	39.8	1.0	"	32.8	ND	121	33-159	1.01	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.0</i>		<i>"</i>	<i>13.2</i>		<i>113</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.3</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 06/25/14 17:34

**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 1406181 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1406181-MSD2)</b>	<b>Source: 1406132-01</b>			<b>Prepared &amp; Analyzed: 06/23/14</b>						
Benzene	41.2	1.0	ug/l	33.3	ND	123	34-141	0.267	32	
Toluene	39.0	1.0	"	33.3	ND	117	27-151	0.893	25	
Ethylbenzene	41.2	1.0	"	33.1	ND	125	29-160	0.413	50	
m,p-Xylene	79.5	2.0	"	66.5	ND	119	20-166	0.593	36	
o-Xylene	39.6	1.0	"	32.8	ND	121	33-159	0.202	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.9</i>		<i>"</i>	<i>13.2</i>		<i>113</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.5</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
06/25/14 17:34

### 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

September 22, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 09/17/14 16:42. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
President / Laboratory Manager



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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/22/14 07:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW22	1409100-01	Water	09/17/14 10:20	09/17/14 16:42
MW07	1409100-02	Water	09/17/14 10:30	09/17/14 16:42
MW19	1409100-03	Water	09/17/14 10:40	09/17/14 16:42
MW18	1409100-04	Water	09/17/14 10:50	09/17/14 16:42
MW17	1409100-05	Water	09/17/14 11:00	09/17/14 16:42
MW20	1409100-06	Water	09/17/14 11:10	09/17/14 16:42
MW21	1409100-07	Water	09/17/14 11:20	09/17/14 16:42
MW10R	1409100-08	Water	09/17/14 11:30	09/17/14 16:42
MW13	1409100-09	Water	09/17/14 11:40	09/17/14 16:42

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
09/22/14 07:21

# Summit Scientific

1409100

S<sub>2</sub>

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

Page 1 of 1

Client: PDC Energy  
Address: 6879 PCOS St Unit C Project Manager: Brandon Brunns  
City/State/Zip: Denver, CO 80221 E-Mail: bbruns@petd.com  
Phone: 303 487 1225 Fax: Project Name: DECHANT 1-31A  
Sampler Name: Andrew T. Loh 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 #		
MW22	9/17	1020	3	X				X				
MW07		1030										
MW19		1040										
MW18		1050										
MW17		1100										
MW20		1110										
MW21		1120										
MW10K		1130										
MW13		1140										

Relinquished by:	Date/Time: 9/17/14	16 <sup>30</sup>	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:		Received by:	Date/Time:	Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>	
Relinquished by:	Date/Time:		Received by:	Date/Time:	24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished by:	Date/Time:		Received by:	Date/Time: 9-17-14	Sample Integrity:	
					Temperature Upon Receipt: 4.4	
					Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW22**  
**1409100-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/18/14	09/18/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.5 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW07**  
**1409100-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/18/14	09/18/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.2 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW19**  
**1409100-03 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW18**  
**1409100-04 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.6 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW17**  
**1409100-05 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		89.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW20**  
**1409100-06 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/17/14 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.1 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.4 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW21**  
**1409100-07 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>380</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>3400</b>	100	"	"	"	"	"	"	

Date Sampled: **09/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84.6 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW10R**  
**1409100-08 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>450</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>6200</b>	100	"	"	"	"	"	"	

Date Sampled: **09/17/14 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		83.4 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**MW13**  
**1409100-09 (Water)**

**Summit Scientific**

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

Date Sampled: **09/17/14 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1409152	09/19/14	09/19/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>190</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>120</b>	10	"	"	"	"	"	"	

Date Sampled: **09/17/14 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.0 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.9 %	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: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
09/22/14 07:21

**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 1409152 - EPA 5030 Water MS**

**Blank (1409152-BLK1)**

Prepared & Analyzed: 09/18/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.2		87.2	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.6	45-149			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	45-146			

**LCS (1409152-BS1)**

Prepared & Analyzed: 09/18/14

Benzene	42.8	1.0	ug/l	33.3		128	51-132			
Toluene	41.8	1.0	"	33.3		125	51-138			
Ethylbenzene	43.4	1.0	"	33.1		131	58-146			
m,p-Xylene	83.9	2.0	"	66.5		126	57-144			
o-Xylene	41.8	1.0	"	32.8		128	53-146			
Surrogate: 1,2-Dichloroethane-d4	11.7		"	13.2		88.3	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

**Matrix Spike (1409152-MS1)**

Source: 1409100-01

Prepared & Analyzed: 09/18/14

Benzene	42.6	1.0	ug/l	33.3	ND	128	34-141			
Toluene	41.7	1.0	"	33.3	ND	125	27-151			
Ethylbenzene	42.8	1.0	"	33.1	ND	129	29-160			
m,p-Xylene	84.0	2.0	"	66.5	ND	126	20-166			
o-Xylene	41.7	1.0	"	32.8	ND	127	33-159			
Surrogate: 1,2-Dichloroethane-d4	11.8		"	13.2		89.4	37-154			
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 09/22/14 07:21

**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 1409152 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1409152-MSD1)</b>	<b>Source: 1409100-01</b>			<b>Prepared &amp; Analyzed: 09/18/14</b>						
Benzene	42.8	1.0	ug/l	33.3	ND	129	34-141	0.656	32	
Toluene	41.7	1.0	"	33.3	ND	125	27-151	0.0240	25	
Ethylbenzene	43.0	1.0	"	33.1	ND	130	29-160	0.560	50	
m,p-Xylene	83.4	2.0	"	66.5	ND	125	20-166	0.669	36	
o-Xylene	41.5	1.0	"	32.8	ND	126	33-159	0.625	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>11.7</i>		<i>"</i>	<i>13.2</i>		<i>88.2</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.3</i>		<i>"</i>	<i>13.3</i>		<i>99.5</i>	<i>45-146</i>			

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
09/22/14 07:21

### 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

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Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite J ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.374.5933 - fax

December 09, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 12/02/14 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is fluid and cursive, with a small "IV" superscripted at the end.

Joseph J Egry IV For Paul Shrewsbury  
President

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/09/14 09:54

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1412007-01	Water	12/02/14 10:45	12/02/14 17:15
MW13	1412007-02	Water	12/02/14 10:50	12/02/14 17:15
MW10R	1412007-03	Water	12/02/14 10:55	12/02/14 17:15
MW17	1412007-04	Water	12/02/14 11:00	12/02/14 17:15
MW18	1412007-05	Water	12/02/14 11:05	12/02/14 17:15
MW19	1412007-06	Water	12/02/14 11:10	12/02/14 17:15
MW20	1412007-07	Water	12/02/14 11:15	12/02/14 17:15
MW21	1412007-08	Water	12/02/14 11:20	12/02/14 17:15
MW22	1412007-09	Water	12/02/14 11:25	12/02/14 17:15

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Summit Scientific

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Joseph J Egry IV For Paul Shrewsbury, President





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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

Reported:  
 12/09/14 09:54

**Sample Receipt Checklist**

S2 Work Order: 1412007

Client: PDC Client Project ID: Dechant 1-31A

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

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

Cooler ID	<u>1</u>				
Temp (°C)	<u>5.4</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? If yes, contact client and note in narrative.		<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, etc.	<input checked="" type="checkbox"/>			HCl
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.				

Joseph J Egry IV  
 Custodian Printed Name

Joseph J Egry IV  
 Signature or Initials of Custodian

12/13/14  
 Date/Time

Soil samples reported on a wet-weight basis unless otherwise indicated on results page.

Summit Scientific

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Joseph J Egry IV

Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**MW07**  
**1412007-01 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/03/14	12/04/14 00:58	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	110 %	37-154				"	"	"	"
Surrogate: Toluene-d8	95.6 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	96.7 %	45-146				"	"	"	"

Summit Scientific

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Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**MW13**  
**1412007-02 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.8</b>	1.0	ug/l	1	1412030	12/04/14	12/04/14 03:24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>610</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>280</b>	1.0	"	1	"	"	"	"	

Date Sampled: **12/02/14 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	108 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	97.3 %	45-149			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	91.2 %	45-146			"	"	"	"	

Summit Scientific

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Joseph J Egly IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**MW10R**  
**1412007-03 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.7</b>	1.0	ug/l	1	1412030	12/04/14	12/04/14 05:34	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1000</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>13000</b>	100	"	"	"	"	"	"	

Date Sampled: **12/02/14 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	107 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	95.9 %	45-149			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	94.2 %	45-146			"	"	"	"	

Summit Scientific

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Joseph J Egly IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 12/09/14 09:54

**MW17**  
**1412007-04 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/04/14	12/04/14 05:59	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>6.6</b>	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	111 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	96.7 %	45-149			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	97.1 %	45-146			"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**MW18**  
**1412007-05 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/04/14	12/04/14 06:23	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	108 %	37-154				"	"	"	"
Surrogate: Toluene-d8	92.6 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	98.0 %	45-146				"	"	"	"

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**MW19**  
**1412007-06 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/04/14	12/04/14 06:47	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	110 %	37-154				"	"	"	"
Surrogate: Toluene-d8	96.4 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	97.5 %	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.*

Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 12/09/14 09:54

**MW20**  
**1412007-07 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/04/14	12/04/14 07:12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	109 %	37-154				"	"	"	"
Surrogate: Toluene-d8	97.3 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	97.4 %	45-146				"	"	"	"

Summit Scientific

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Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 12/09/14 09:54

**MW21**  
**1412007-08 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.5</b>	1.0	ug/l	1	1412030	12/04/14	12/04/14 07:39	EPA 8260B	
<b>Toluene</b>	<b>2.2</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1400</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>18000</b>	100	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	106 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	96.3 %	45-149			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	95.5 %	45-146			"	"	"	"	

Summit Scientific

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Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 12/09/14 09:54

**MW22**  
**1412007-09 (Water)**

**Summit Scientific**

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

Date Sampled: **12/02/14 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1412030	12/04/14	12/04/14 08:03	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **12/02/14 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	108 %	37-154				"	"	"	"
Surrogate: Toluene-d8	94.1 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	96.6 %	45-146				"	"	"	"

Summit Scientific

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Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/09/14 09:54

**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 1412030 - EPA 5030 Water MS**

**Blank (1412030-BLK1)**

Prepared & Analyzed: 12/03/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.4</i>		<i>"</i>	<i>13.2</i>		<i>102</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>97.0</i>	<i>45-146</i>			

**LCS (1412030-BS1)**

Prepared & Analyzed: 12/03/14

Benzene	31.0	1.0	ug/l	33.3		93.1	51-132			
Toluene	29.8	1.0	"	33.3		89.5	51-138			
Ethylbenzene	32.4	1.0	"	33.1		98.1	58-146			
m,p-Xylene	62.3	2.0	"	66.5		93.7	57-144			
o-Xylene	33.1	1.0	"	32.8		101	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.0</i>		<i>"</i>	<i>13.2</i>		<i>106</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.3</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.5</i>		<i>"</i>	<i>13.3</i>		<i>93.8</i>	<i>45-146</i>			

**LCS (1412030-BS2)**

Prepared & Analyzed: 12/03/14

Benzene	31.2	1.0	ug/l	33.3		93.6	51-132			
Toluene	30.0	1.0	"	33.3		90.1	51-138			
Ethylbenzene	32.4	1.0	"	33.1		98.0	58-146			
m,p-Xylene	64.0	2.0	"	66.5		96.2	57-144			
o-Xylene	33.2	1.0	"	32.8		101	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.1</i>		<i>"</i>	<i>13.2</i>		<i>107</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.1</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.6</i>		<i>"</i>	<i>13.3</i>		<i>94.7</i>	<i>45-146</i>			

Summit Scientific

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Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/09/14 09:54

**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		

**Batch 1412030 - EPA 5030 Water MS**

<b>Matrix Spike (1412030-MS1)</b>	<b>Source: 1412006-01</b>			<b>Prepared &amp; Analyzed: 12/03/14</b>							
Benzene	31.2	1.0	ug/l	33.3	ND	93.7	34-141				
Toluene	29.9	1.0	"	33.3	ND	89.7	27-151				
Ethylbenzene	32.2	1.0	"	33.1	ND	97.5	29-160				
m,p-Xylene	67.2	2.0	"	66.5	ND	101	20-166				
o-Xylene	32.7	1.0	"	32.8	ND	99.6	33-159				
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.2		109	37-154				
Surrogate: Toluene-d8	13.3		"	13.3		99.9	45-149				
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.7	45-146				

<b>Matrix Spike (1412030-MS2)</b>	<b>Source: 1412007-01</b>			<b>Prepared: 12/03/14 Analyzed: 12/04/14</b>							
Benzene	31.4	1.0	ug/l	33.3	ND	94.1	34-141				
Toluene	29.7	1.0	"	33.3	ND	89.1	27-151				
Ethylbenzene	32.9	1.0	"	33.1	ND	99.4	29-160				
m,p-Xylene	64.1	2.0	"	66.5	ND	96.4	20-166				
o-Xylene	33.2	1.0	"	32.8	ND	101	33-159				
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.2		111	37-154				
Surrogate: Toluene-d8	13.0		"	13.3		97.7	45-149				
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		94.1	45-146				

<b>Matrix Spike Dup (1412030-MSD1)</b>	<b>Source: 1412006-01</b>			<b>Prepared &amp; Analyzed: 12/03/14</b>							
Benzene	31.1	1.0	ug/l	33.3	ND	93.3	34-141	0.449	32		
Toluene	29.6	1.0	"	33.3	ND	89.0	27-151	0.840	25		
Ethylbenzene	32.5	1.0	"	33.1	ND	98.3	29-160	0.741	50		
m,p-Xylene	65.4	2.0	"	66.5	ND	98.2	20-166	2.72	36		
o-Xylene	33.3	1.0	"	32.8	ND	101	33-159	1.85	26		
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		110	37-154				
Surrogate: Toluene-d8	13.2		"	13.3		99.4	45-149				
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.5	45-146				

Summit Scientific

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Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 12/09/14 09:54

**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 1412030 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1412030-MSD2)</b>	<b>Source: 1412007-01</b>			Prepared: 12/03/14	Analyzed: 12/04/14					
Benzene	31.4	1.0	ug/l	33.3	ND	94.1	34-141	0.0638	32	
Toluene	29.5	1.0	"	33.3	ND	88.6	27-151	0.608	25	
Ethylbenzene	32.4	1.0	"	33.1	ND	98.0	29-160	1.38	50	
m,p-Xylene	62.9	2.0	"	66.5	ND	94.5	20-166	1.97	36	
o-Xylene	32.8	1.0	"	32.8	ND	100	33-159	1.36	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.5</i>		<i>"</i>	<i>13.2</i>		<i>110</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.8</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.6</i>		<i>"</i>	<i>13.3</i>		<i>94.5</i>	<i>45-146</i>			

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Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/09/14 09:54

### 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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Joseph J Egry IV For Paul Shrewsbury, President

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 23, 2015

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 03/16/15 18:10. 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: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/23/15 16:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1503136-01	Water	03/16/15 15:20	03/16/15 18:10
MW10R	1503136-02	Water	03/16/15 14:50	03/16/15 18:10
MW13	1503136-03	Water	03/16/15 14:52	03/16/15 18:10
MW17	1503136-04	Water	03/16/15 15:05	03/16/15 18:10
MW18	1503136-05	Water	03/16/15 15:15	03/16/15 18:10
MW19	1503136-06	Water	03/16/15 15:40	03/16/15 18:10
MW20	1503136-07	Water	03/16/15 15:26	03/16/15 18:10
MW21	1503136-08	Water	03/16/15 15:35	03/16/15 18:10
MW22	1503136-09	Water	03/16/15 15:30	03/16/15 18:10

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
03/23/15 16:21

**Sample Receipt Checklist**

S2 Work Order: 1503136

Client: PDC ENERGY Client Project ID: DECHANT 1-31A

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

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

Cooler ID			<u>1</u>		
Temp (°C)			<u>11.2°c</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> ?	<input checked="" type="checkbox"/>			
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 <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? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			<u>HCl</u>
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, etc.				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<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):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

AD&PH 1 EARYLV  
Custodian Printed Name

\_\_\_\_\_  
Signature or Initials of Custodian

3/17/15 12:15p  
Date/Time



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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW07**  
**1503136-01 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		111 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW10R**  
**1503136-02 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>550</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>7900</b>	100	"	"	"	"	"	"	

Date Sampled: **03/16/15 14:50**

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>		97.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW13**  
**1503136-03 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.2</b>	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>530</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>210</b>	1.0	"	1	"	"	"	"	

Date Sampled: **03/16/15 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		84.6 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 03/23/15 16:21

**MW17**  
**1503136-04 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.5</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2.0</b>	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.1 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %	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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW18**  
**1503136-05 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		86.5 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 03/23/15 16:21

**MW19**  
**1503136-06 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.3 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW20**  
**1503136-07 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.0 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW21**  
**1503136-08 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3.3</b>	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
<b>Toluene</b>	<b>3.7</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1700</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>26000</b>	100	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		82.2 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 03/23/15 16:21

**MW22**  
**1503136-09 (Water)**

**Summit Scientific**

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

Date Sampled: **03/16/15 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1503227	03/20/15	03/20/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>12</b>	1.0	"	"	"	"	"	"	

Date Sampled: **03/16/15 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		85.1 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
03/23/15 16:21

**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 1503227 - EPA 5030 Water MS**

**Blank (1503227-BLK1)**

Prepared & Analyzed: 03/19/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.0		"	13.2		83.3	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.4	45-149			
Surrogate: 4-Bromofluorobenzene	15.2		"	13.3		114	45-146			

**LCS (1503227-BS1)**

Prepared & Analyzed: 03/19/15

Benzene	30.6	1.0	ug/l	33.3		91.7	51-132			
Toluene	28.8	1.0	"	33.3		86.4	51-138			
Ethylbenzene	30.9	1.0	"	33.1		93.4	58-146			
m,p-Xylene	64.7	2.0	"	66.5		97.3	57-144			
o-Xylene	30.6	1.0	"	32.8		93.3	53-146			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.2		87.1	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.6	45-149			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	45-146			

**Matrix Spike (1503227-MS1)**

Source: 1503138-02

Prepared & Analyzed: 03/19/15

Benzene	30.6	1.0	ug/l	33.3	ND	91.8	34-141			
Toluene	29.2	1.0	"	33.3	ND	87.5	27-151			
Ethylbenzene	30.6	1.0	"	33.1	ND	92.6	29-160			
m,p-Xylene	64.1	2.0	"	66.5	ND	96.3	20-166			
o-Xylene	30.4	1.0	"	32.8	ND	92.7	33-159			
Surrogate: 1,2-Dichloroethane-d4	11.8		"	13.2		89.5	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.1	45-149			
Surrogate: 4-Bromofluorobenzene	14.6		"	13.3		110	45-146			

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
03/23/15 16:21

### 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 01, 2015

Mark Longhurst  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 06/25/15 17:00. 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: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/01/15 08:56

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1506266-01	Water	06/25/15 09:34	06/25/15 17:00
MW10R	1506266-02	Water	06/25/15 09:18	06/25/15 17:00
MW13	1506266-03	Water	06/25/15 09:20	06/25/15 17:00
MW17	1506266-04	Water	06/25/15 09:37	06/25/15 17:00
MW18	1506266-05	Water	06/25/15 09:41	06/25/15 17:00
MW19	1506266-06	Water	06/25/15 09:39	06/25/15 17:00
MW20	1506266-07	Water	06/25/15 09:26	06/25/15 17:00
MW21	1506266-08	Water	06/25/15 09:33	06/25/15 17:00
MW22	1506266-09	Water	06/25/15 09:25	06/25/15 17:00

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
07/01/15 08:56

# Summit Scientific

1506266

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

Page 1 of 1

Client: PDC Energy  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Sampler Name: Kate Forsmark

Project Manager: Mark Longhurst  
E-Mail: Mark.Longhurst@PDCE.com  
Project Name: Dechant 1-31A  
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)					
MW07	6/25/15	934	3	X				X								
MW10R		918														
MW13		920														
MW17		937														
MW18		941														
MW19		939														
MW20		926														
MW21		933														
MW22		925														

Relinquished by: <u>Kate Forsmark</u>	Date/Time: <u>6/25/15</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/25/15 1700</u>	<b>Turn Around Time (Check)</b> 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: <u>[Signature]</u>	Date/Time: <u>6/25/15 1900</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/25 1900</u>		
Relinquished by: _____	Date/Time: _____	Received in Lab by: _____	Date/Time: _____		

Sample Integrity:  
Temperature Upon Receipt: 5.3  
Intact:  Yes  No

[www.s2scientific.com](http://www.s2scientific.com)



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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW07**  
**1506266-01 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>144 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>100 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>	<i>45-146</i>		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW10R**  
**1506266-02 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>230</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2700</b>	100	"	100	"	"	"	"	

Date Sampled: **06/25/15 09:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		147 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		115 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW13**  
**1506266-03 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.8</b>	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>260</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>310</b>	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		145 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW17**  
**1506266-04 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>146 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>101 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</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: Dechant 1-31A

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW18**  
**1506266-05 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>146 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>104 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW19**  
**1506266-06 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>148 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>101 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW20**  
**1506266-07 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		143 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW21**  
**1506266-08 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>4.5</b>	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
<b>Toluene</b>	<b>4.9</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1300</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>21000</b>	100	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		143 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		117 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**MW22**  
**1506266-09 (Water)**

**Summit Scientific**

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

Date Sampled: **06/25/15 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1506341	06/27/15	06/27/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>12</b>	1.0	"	"	"	"	"	"	

Date Sampled: **06/25/15 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		147 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
07/01/15 08:56

**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 1506341 - EPA 5030 Water MS**

**Blank (1506341-BLK1)**

Prepared & Analyzed: 06/27/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	19.8		"	13.2		150	37-154			
Surrogate: Toluene-d8	13.7		"	13.3		103	45-149			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	45-146			

**LCS (1506341-BS1)**

Prepared & Analyzed: 06/27/15

Benzene	37.8	1.0	ug/l	33.3		113	51-132			
Toluene	36.7	1.0	"	33.3		110	51-138			
Ethylbenzene	39.8	1.0	"	33.1		120	58-146			
m,p-Xylene	74.8	2.0	"	66.5		112	57-144			
o-Xylene	37.6	1.0	"	32.8		115	53-146			
Surrogate: 1,2-Dichloroethane-d4	19.4		"	13.2		147	37-154			
Surrogate: Toluene-d8	13.7		"	13.3		103	45-149			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	45-146			

**Matrix Spike (1506341-MS1)**

Source: 1506265-03

Prepared & Analyzed: 06/27/15

Benzene	37.1	1.0	ug/l	33.3	ND	111	34-141			
Toluene	36.3	1.0	"	33.3	ND	109	27-151			
Ethylbenzene	38.6	1.0	"	33.1	ND	117	29-160			
m,p-Xylene	71.2	2.0	"	66.5	ND	107	20-166			
o-Xylene	36.2	1.0	"	32.8	ND	110	33-159			
Surrogate: 1,2-Dichloroethane-d4	19.9		"	13.2		151	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	45-146			

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 07/01/15 08:56

**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 1506341 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1506341-MSD1)</b>	<b>Source: 1506265-03</b>			<b>Prepared &amp; Analyzed: 06/27/15</b>						
Benzene	37.0	1.0	ug/l	33.3	ND	111	34-141	0.297	32	
Toluene	36.1	1.0	"	33.3	ND	108	27-151	0.525	25	
Ethylbenzene	40.2	1.0	"	33.1	ND	122	29-160	4.16	50	
m,p-Xylene	74.7	2.0	"	66.5	ND	112	20-166	4.81	36	
o-Xylene	37.0	1.0	"	32.8	ND	113	33-159	2.22	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	20.9		"	13.2		158	37-154			
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3		98.6	45-149			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.6		"	13.3		109	45-146			

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
07/01/15 08:56

### 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

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Summit Scientific

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 02, 2015

Mark Longhurst  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Dechant 1-31A

Enclosed are the results of analyses for samples received by Summit Scientific on 09/25/15 17:00. 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: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/02/15 16:41

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW07	1509249-01	Water	09/25/15 09:52	09/25/15 17:00
MW10R	1509249-02	Water	09/25/15 10:04	09/25/15 17:00
MW13	1509249-03	Water	09/25/15 09:57	09/25/15 17:00
MW17	1509249-04	Water	09/25/15 09:43	09/25/15 17:00
MW18	1509249-05	Water	09/25/15 09:56	09/25/15 17:00
MW19	1509249-06	Water	09/25/15 09:56	09/25/15 17:00
MW20	1509249-07	Water	09/25/15 09:42	09/25/15 17:00
MW21	1509249-08	Water	09/25/15 09:40	09/25/15 17:00
MW22	1509249-09	Water	09/25/15 10:00	09/25/15 17:00

Summit Scientific

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
10/02/15 16:41

# Summit Scientific

1509249

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

Page 1 of 1

Client: PDC Energy  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Sampler Name: M.H.P, Kate F, Jesse, Daniel

Project Manager: Mark Longhurst  
E-Mail: Mark.Longhurst@PDCE.com  
Project Name: Dechant 1-31A  
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)	STEX (R260)				
MW07	9/25/15	9:52	3	X				X								
MW10R		10:04														
MW13		9:57														
MW17		9:43														
MW18		9:56														
MW19		9:56														
MW20		9:42														
MW21		9:40														
MW22		10:00														

Relinquished by:	Date/Time: 9/25/15 16:00	Received by:	Date/Time: 9/25/15 17:00	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:  on ice
Relinquished by:	Date/Time: 9/25/15 17:40	Received by:	Date/Time: 9/25 17:40		
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

Sample Integrity: Temperature Upon Receipt: 2.5°C  
Intact:  Yes  No

www.s2scientific.com



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

Project: Dechant 1-31A

Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW07**  
**1509249-01 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/29/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>109 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>98.8 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>	<i>45-146</i>		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW10R**  
**1509249-02 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>59</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>240</b>	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW13**  
**1509249-03 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.0</b>	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>570</b>	10	"	10	"	"	"	"	
<b>Xylenes (total)</b>	<b>710</b>	10	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		94.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW17**  
**1509249-04 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>107 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>94.1 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.6 %</i>	<i>45-146</i>		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW18**  
**1509249-05 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		94.9 %	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: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW19**  
**1509249-06 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>107 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>93.6 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.7 %</i>	<i>45-146</i>		"	"	"	"	

Summit Scientific

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW20**  
**1509249-07 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>105 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>94.1 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.8 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW21**  
**1509249-08 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.6</b>	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
<b>Toluene</b>	<b>3.6</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>840</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>14000</b>	100	"	"	"	"	"	"	

Date Sampled: **09/25/15 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		105 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.3 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

**MW22**  
**1509249-09 (Water)**

**Summit Scientific**

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

Date Sampled: **09/25/15 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1509280	09/30/15	09/30/15	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **09/25/15 10:00**

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>		94.4 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %	45-146		"	"	"	"	

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

Project: Dechant 1-31A  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
10/02/15 16:41

**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 1509280 - EPA 5030 Water MS**

**Blank (1509280-BLK1)**

Prepared: 09/29/15 Analyzed: 09/30/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.2		113	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	45-149			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		105	45-146			

**LCS (1509280-BS1)**

Prepared: 09/29/15 Analyzed: 09/30/15

Benzene	34.5	1.0	ug/l	33.3		103	51-132			
Toluene	31.6	1.0	"	33.3		94.9	51-138			
Ethylbenzene	33.6	1.0	"	33.1		102	58-146			
m,p-Xylene	61.8	2.0	"	66.5		92.9	57-144			
o-Xylene	31.1	1.0	"	32.8		94.8	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.3		"	13.2		116	37-154			
Surrogate: Toluene-d8	14.0		"	13.3		105	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.6	45-146			

**Matrix Spike (1509280-MS1)**

Source: 1509249-01

Prepared: 09/29/15 Analyzed: 09/30/15

Benzene	33.8	1.0	ug/l	33.3	ND	101	34-141			
Toluene	30.7	1.0	"	33.3	ND	92.2	27-151			
Ethylbenzene	33.3	1.0	"	33.1	ND	101	29-160			
m,p-Xylene	62.0	2.0	"	66.5	ND	93.1	20-166			
o-Xylene	30.7	1.0	"	32.8	ND	93.5	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.2		111	37-154			
Surrogate: Toluene-d8	14.1		"	13.3		105	45-149			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.9	45-146			

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 1775 Sherman St. STE. 3000  
 Denver CO, 80203

Project: Dechant 1-31A  
 Project Number: [none]  
 Project Manager: Mark Longhurst

**Reported:**  
 10/02/15 16:41

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

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

**Batch 1509280 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1509280-MSD1)</b>	<b>Source: 1509249-01</b>			Prepared: 09/29/15		Analyzed: 09/30/15			
Benzene	34.9	1.0	ug/l	33.3	ND	105	34-141	3.26	32
Toluene	32.2	1.0	"	33.3	ND	96.6	27-151	4.67	25
Ethylbenzene	34.7	1.0	"	33.1	ND	105	29-160	4.14	50
m,p-Xylene	64.3	2.0	"	66.5	ND	96.7	20-166	3.75	36
o-Xylene	32.0	1.0	"	32.8	ND	97.5	33-159	4.18	26
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.6</i>		<i>"</i>	<i>13.2</i>		<i>111</i>	<i>37-154</i>		
<i>Surrogate: Toluene-d8</i>	<i>13.9</i>		<i>"</i>	<i>13.3</i>		<i>104</i>	<i>45-149</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.2</i>	<i>45-146</i>		

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

Project: Dechant 1-31A

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
10/02/15 16:41

### 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

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