



PDC Energy, Inc.
First Quarter 2015 Groundwater Monitoring Summary

April 8, 2015

received 01/22/2016
Project 6926
Document 2144855

Seele 31, 41, 42-31 Tank Battery
NWNW Section 31 T4N R67W
Weld County, API # 05-123-20106

This groundwater monitoring summary has been prepared by Tasman Geosciences for the Seele 31, 41, 42-31 tank battery. First quarter 2015 groundwater monitoring was conducted on January 20, 2015, at four of the six temporary monitoring well locations. Two wells (BH01 and BH03) contained insufficient water and were subsequently not sampled. Groundwater samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylene (BTEX) constituents using USEPA Method 8260B. Analytical results are summarized in Table 1 below and are illustrated on Figure 1. The laboratory analytical report is included as Attachment A. Analytical results indicated constituent concentrations were in exceedance of COGCC groundwater standards at one temporary monitoring well location (BH07). BTEX concentrations were below regulatory standards at the remaining three sample locations.

Bi-weekly enhanced fluid recovery (EFR) with air sparge (AS) events were initiated on August 22, 2012. EFR/AS events were discontinued in the second quarter of 2013 due to a site-wide decrease in groundwater elevation. However, EFR/AS events were reinitiated during the third quarter of 2014 following new well installation. A summary of EFR/AS operational data is provided in Table 2. EFR/AS will continue to be the selected remediation method through the second quarter of 2015.

Second quarter 2015 groundwater sampling will be conducted during April 2015.

TABLE 1
SEELE 31, 41, 42-31

GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (feet)
BH01	1/27/2012	5,300	1,200	180	1,300	13.14
BH01	7/17/2012	900	2.2	10	78	12.6
BH01	10/1/2012	<1.0	<1.0	<1.0	<1.0	13.82
BH01	1/28/2013	DRY	DRY	DRY	DRY	DRY
BH01	5/3/2013	3,000	2.3	17	240	13.90
BH01	7/25/2013	DRY	DRY	DRY	DRY	DRY
BH01	11/1/2013	<1.0	<1.0	4.2	28	13.09
BH01	1/29/2014	DRY	DRY	DRY	DRY	DRY
BH01	4/28/2014	DRY	DRY	DRY	DRY	DRY
BH01	7/25/2014	<1.0	<1.0	1.6	4.3	12.47
BH01	10/27/2014	DRY	DRY	DRY	DRY	DRY
BH01	1/20/2015	DRY	DRY	DRY	DRY	DRY
BH02	1/27/2012	7,500	680	240	1,400	11.93
BH02	7/17/2012	10,000	2,200	220	2,140	10.92
BH02	10/1/2012	DRY	DRY	DRY	DRY	DRY
BH02	1/28/2013	DRY	DRY	DRY	DRY	DRY
BH02	5/3/2013	DRY	DRY	DRY	DRY	DRY
BH02	7/25/2013	DRY	DRY	DRY	DRY	DRY
BH02	10/31/2013	DRY	DRY	DRY	DRY	DRY
BH02	1/29/2014	DRY	DRY	DRY	DRY	DRY
BH02	4/28/2014	DRY	DRY	DRY	DRY	DRY
BH02R	7/25/2014	93	14	89	230	10.12
BH02R	10/27/2014	1.4	<1.0	1.5	8.7	10.72
BH02R	1/20/2015	<1.0	<1.0	<1.0	<1.0	11.42

TABLE 1
SEELE 31, 41, 42-31

GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (feet)
BH03	1/27/2012	16,000	4,400	420	2,900	15.02
BH03	7/17/2012	18,000	2,700	15	3,590	12.56
BH03	10/1/2012	7,300	1,400	250	2,400	12.69
BH03	1/28/2013	DRY	DRY	DRY	DRY	DRY
BH03	5/3/2013	DRY	DRY	DRY	DRY	DRY
BH03	7/25/2013	DRY	DRY	DRY	DRY	DRY
BH03	10/31/2013	DRY	DRY	DRY	DRY	DRY
BH03	1/29/2014	DRY	DRY	DRY	DRY	DRY
BH03	4/28/2014	DRY	DRY	DRY	DRY	DRY
BH03	7/25/2014	DRY	DRY	DRY	DRY	DRY
BH03	10/27/2014	DRY	DRY	DRY	DRY	DRY
BH03	1/20/2015	DRY	DRY	DRY	DRY	DRY
BH07	7/25/2014	<1.0	<1.0	<1.0	<1.0	9.01
BH07	10/27/2014	160	<1.0	<1.0	<1.0	9.75
BH07	20/15	120	<1.0	<1.0	<1.0	10.63
BH08	7/25/2014	3.8	<1.0	6.2	210	9.95
BH08	10/27/2014	5.5	<1.0	<1.0	36	10.86
BH08	1/20/2015	<1.0	<1.0	<1.0	<1.0	11.57
BH09	7/25/2014	810	<1.0	72	510	11.48
BH09	10/27/2014	<1.0	<1.0	<1.0	<1.0	11.73
BH09	1/20/2015	<1.0	<1.0	<1.0	<1.0	12.62
COGCC standards for groundwater (ug/L) ⁽¹⁾		5	560	700	1,400	

Notes:

1). The environmental cleanup standards for groundwater that are applicable to this site are the Colorado Oil and Gas Conservation Commission (COGCC) standards for contaminants in groundwater according to Table 910-1 of the COGCC 900 Series Rule for E&P Waste Management.

Red values indicate an exceedance of the COGCC groundwater standards for the site.

ug/L- Micrograms per Liter NM - Not Measured

TABLE 2
SEELE 31, 41, 42-31

AIR SPARGE/ EFR OPERATIONAL SUMMARY TABLE

Date	EFR Wells	Total EFR/AS Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
Third Quarter 2012						
8/22/2012	BH-01, BH-02, BH-03	7	42	BH-01, BH-02, BH-03	8	
9/5/2012		7	42		8	
Quarterly Totals		14	84		-	
Fourth Quarter 2012						
10/2/2012	BH-01, BH-02, BH-03	7	42	BH-01, BH-02, BH-03	8	
10/15/2012		7	42		8	
10/29/2012		7	0		8	
11/12/2012		6.25	0		8	
11/26/2012		6	0		8	
Quarterly Totals		33.25	84		-	
First Quarter 2013						
1/8/2013	BH01, BH02, BH03	5	0	BH01, BH02, BH03	10	
1/21/2013		7	6.5		10	
2/8/2013		6.5	6		10	
3/14/2013		6	3		10	
Quarterly Totals		24.5	15.5		-	
Second Quarter 2013						
4/2/2013	BH01, BH02, BH03	4.25	6	BH01, BH02, BH03	10	
Quarterly Totals		4.25	6		-	
Third Quarter 2014						
9/3/2014	BH02, BH03, BH08	6	0	BH02R, BH09	20	20
9/17/2014		6	75		20	19
Quarterly Totals		6	75		-	-
Fourth Quarter 2014						
10/3/2014	BH02, BH03, BH08	6	9	BH02R, BH09	20	21
10/21/2014		6	50		20	15
11/4/2014		8	45		20	31
11/19/2014		6	0		20	25
12/5/2014		6	10		20	20
12/15/2014		6	50		20	25
12/28/2014		6	0		20	20
Quarterly Totals		44	164		-	
First Quarter 2015						
1/12/2015	BH02, BH03, BH08	6	10	BH02R, BH09	20	20
2/11/2015		6	50		20	30
Quarterly Totals		12	60		-	



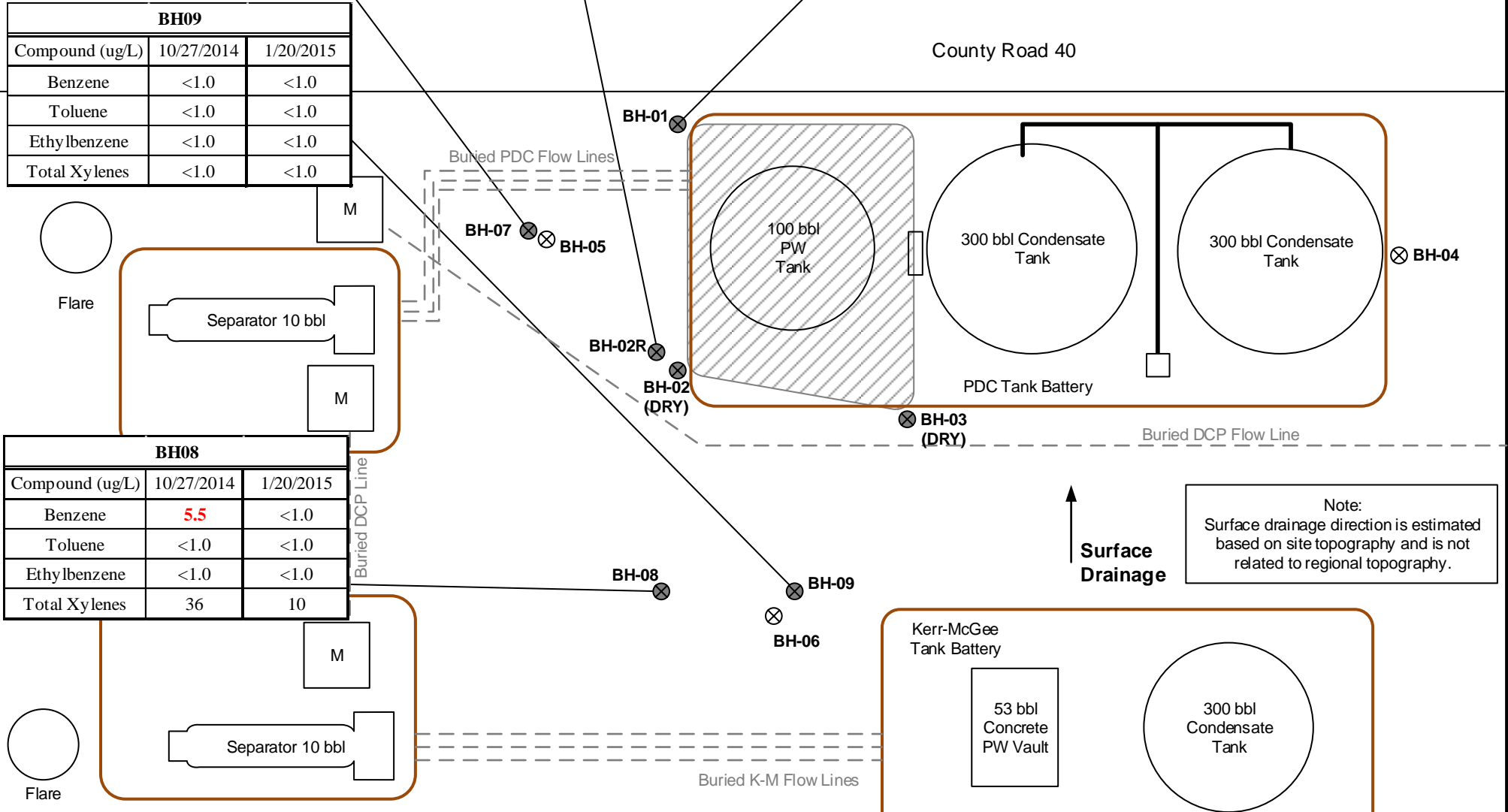
BH07		
Compound (ug/L)	10/27/2014	1/20/2015
Benzene	160	120
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH02R		
Compound (ug/L)	10/27/2014	1/20/2015
Benzene	1.4	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	1.5	<1.0
Total Xylenes	8.7	<1.0

BH01		
Compound (ug/L)	10/27/2014	1/20/2015
Benzene	DRY	DRY
Toluene	DRY	DRY
Ethylbenzene	DRY	DRY
Total Xylenes	DRY	DRY

BH09		
Compound (ug/L)	10/27/2014	1/20/2015
Benzene	<1.0	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	<1.0	<1.0

BH08		
Compound (ug/L)	10/27/2014	1/20/2015
Benzene	5.5	<1.0
Toluene	<1.0	<1.0
Ethylbenzene	<1.0	<1.0
Total Xylenes	36	10



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

DRAWN BY: PJD
DATE: 2/4/2015

Facility Diagram
PDC Energy - DJ Basin
Seele 31, 41, 42-31
T4N R67W S31
Weld County, CO

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

LEGEND

 Meter Shed (M)

FIGURE 1
GROUNDWATER ANALYTICAL RESULTS
Not to Scale

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite J ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.374.5933 - fax

January 26, 2015

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Seele 31, 41, 42-31

Enclosed are the results of analyses for samples received by Summit Scientific on 01/20/15 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV For Paul Shrewsbury
President

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: Seele 31, 41, 42-31

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/26/15 11:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH02R	1501133-01	Water	01/20/15 15:10	01/20/15 17:00
BH07	1501133-02	Water	01/20/15 14:55	01/20/15 17:00
BH08	1501133-03	Water	01/20/15 15:00	01/20/15 17:00
BH09	1501133-04	Water	01/20/15 15:05	01/20/15 17:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Seele 31, 41, 42-31

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/26/15 11:34

Summit Scientific ¹⁵⁰¹¹³³

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

Client: PDC Energy Page 1 of 1
 Address: _____ Project Manager: Brandon Bruns
 City/State/Zip: _____ E-Mail: brandon.brunsp@pdc.com
 Phone: _____ Fax: _____ Project Name: Seele 31, 41, 42-31
 Sampler Name: Elliot Dillon-Herzog Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:				Special Instructions	
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)				
BH 02R	1/20/15	15:10	3	✓				✓							
BH 07		14:55		✓				✓							
BH 08		15:00		✓				✓							
BH 09		15:05		✓				✓							
Relinquished by:	Date/Time: 1/24/15	Received by:	Date/Time: 1/20/15 1700	Turn Around Time (Check)				Notes:							
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	72 Hours	Standard									
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	24 Hours	48 Hours										
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity:											
				Temperature Upon Receipt: 6.1°C											
				Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No											

www.s2scientific.com

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

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: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/26/15 11:34

Sample Receipt Checklist

S2 Work Order: 150133

Client: PDC Client Project ID: Seele 31, 41, 42-31

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

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

Cooler ID	<u>1</u>			
Temp (°C)	<u>6.1</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 ⁽¹⁾ ?		<input checked="" type="checkbox"/>		<u>Same Day</u>
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ?	<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 ⁽¹⁾ ? 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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Joseph J Egry IV
 Custodian Printed Name

[Signature]
 Signature or Initials of Custodian

1/21/15
 Date/Time

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

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.

[Signature]

Joseph J Egry IV For Paul Shrewsbury, President



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

Project: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/26/15 11:34

BH02R
1501133-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1501215	01/22/15	01/22/15 20:49	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	104 %	37-154				"	"	"	"
Surrogate: Toluene-d8	97.8 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	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: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/26/15 11:34

BH07
1501133-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/15 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	120	1.0	ug/l	1	1501215	01/22/15	01/22/15 21:16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/15 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	101 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	98.7 %	45-149			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	103 %	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: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/26/15 11:34

BH08
1501133-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/15 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1501215	01/22/15	01/22/15 21:39	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	10	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/15 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	117 %	37-154			"	"	"	"	
Surrogate: Toluene-d8	98.6 %	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.

Joseph J Egrý IV For Paul Shrewsbury, President



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

Project: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/26/15 11:34

BH09
1501133-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/20/15 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1501215	01/22/15	01/22/15 22:02	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/20/15 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	105 %	37-154				"	"	"	"
Surrogate: Toluene-d8	97.0 %	45-149				"	"	"	"
Surrogate: 4-Bromofluorobenzene	104 %	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: Seele 31, 41, 42-31

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
01/26/15 11:34

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 1501215 - EPA 5030 Water MS

Blank (1501215-BLK1)

Prepared & Analyzed: 01/22/15

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>13.5</i>		<i>"</i>	<i>13.2</i>		<i>102</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.7</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.9</i>		<i>"</i>	<i>13.3</i>		<i>104</i>	<i>45-146</i>			

LCS (1501215-BS1)

Prepared & Analyzed: 01/22/15

Benzene	31.0	1.0	ug/l	33.3	ND	93.0	51-132			
Toluene	29.7	1.0	"	33.3	ND	89.0	51-138			
Ethylbenzene	32.7	1.0	"	33.1	ND	98.8	58-146			
m,p-Xylene	59.9	2.0	"	66.5	ND	90.1	57-144			
o-Xylene	31.5	1.0	"	32.8	ND	96.0	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.5</i>		<i>"</i>	<i>13.2</i>		<i>102</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.3</i>		<i>"</i>	<i>13.3</i>		<i>99.8</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>98.6</i>	<i>45-146</i>			

Matrix Spike (1501215-MS1)

Source: 1501127-01

Prepared & Analyzed: 01/22/15

Benzene	30.7	1.0	ug/l	33.3	ND	92.2	34-141			
Toluene	29.2	1.0	"	33.3	ND	87.6	27-151			
Ethylbenzene	32.1	1.0	"	33.1	ND	97.0	29-160			
m,p-Xylene	59.8	2.0	"	66.5	ND	89.9	20-166			
o-Xylene	31.5	1.0	"	32.8	ND	96.1	33-159			
<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>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.6</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.2</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: Seele 31, 41, 42-31

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 01/26/15 11:34

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 1501215 - EPA 5030 Water MS

Matrix Spike Dup (1501215-MSD1)	Source: 1501127-01			Prepared & Analyzed: 01/22/15						
Benzene	31.2	1.0	ug/l	33.3	ND	93.7	34-141	1.61	32	
Toluene	30.0	1.0	"	33.3	ND	89.9	27-151	2.54	25	
Ethylbenzene	32.1	1.0	"	33.1	ND	97.2	29-160	0.156	50	
m,p-Xylene	59.2	2.0	"	66.5	ND	89.0	20-166	1.01	36	
o-Xylene	31.6	1.0	"	32.8	ND	96.3	33-159	0.222	26	
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.2		112	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.4	45-146			

Summit Scientific

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Denver CO, 80203

Project: Seele 31, 41, 42-31

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/26/15 11:34

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

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Joseph J Egry IV For Paul Shrewsbury, President