

0 187.5 375 750 1,125 1,500 Feet



## Figure 1

Site Location Map  
Becker 5-1, 2, 14, 15  
SE 1/4 S5 T3N R64W  
Weld County, Colorado

Drawn By: CAW  
Date: 11/29/2012

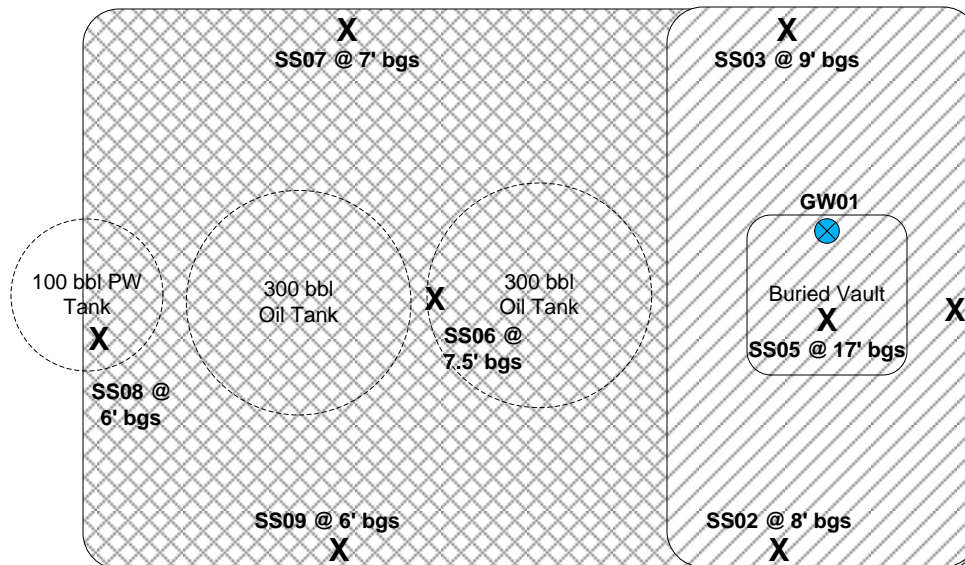




# DCP / PDC Tank Battery

Property Fence

26'



Separator 10 bbl

Trench to 4.5 feet

SS01 @ 4.5' bgs

Separator 10 bbl

Buried Private Water and Gas Lines

57'

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

DRAWN BY: CAW

DATE: 11/29/2012

**Facility Diagram**  
PDC Energy – DJ Basin  
Becker 5-1, 2, 14, 15  
SE 1/4 S5 T3N R64W  
Weld County, CO

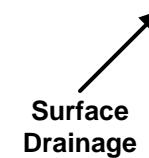


6899 Pecos Street  
Unit C  
Denver, CO 80221

- LEGEND**
- Former Tank Location
  - Earthen Berm
  - Approximate extent of excavation at ~ 7.5 feet bgs
  - Approximate extent of excavation at ~ 17 feet bgs
  - X Soil Sample Location
  - Groundwater Sample Location

FIGURE 2

Not to Scale

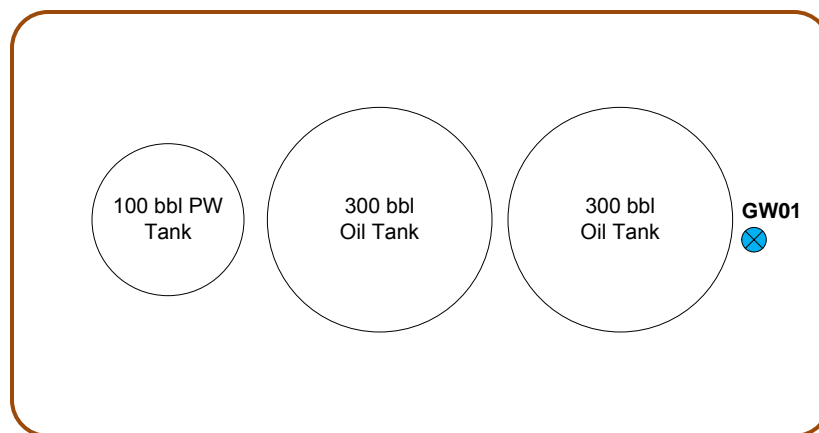


### DCP / PDC Tank Battery

Property Fence

BH03

BH03	
Compound (ug/L)	12/20/2012
Benzene	<1.0
Toluene	<1.0
Ethylbenzene	<1.0
Total Xylenes	<1.0



BH01

BH01	
Compound (ug/L)	12/20/2012
Benzene	97
Toluene	<1.0
Ethylbenzene	180
Total Xylenes	1,200

BH02

BH02	
Compound (ug/L)	12/20/2012
Benzene	170
Toluene	1.6
Ethylbenzene	490
Total Xylenes	1,700

Separator 10 bbl

Separator 10 bbl

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

DRAWN BY: CAW

DATE: 1/14/2013

**Facility Diagram**  
PDC Energy – DJ Basin  
Becker 5-1, 2, 14, 15  
SE 1/4 S5 T3N R64W  
Weld County, CO



6899 Pecos Street  
Unit C  
Denver, CO 80221

#### LEGEND

- Earthen Berm
- Temporary Monitoring Well
- Groundwater Sample Location Collected During Excavation Activities

FIGURE 3  
GROUNDWATER  
ANALYTICAL RESULTS  
Not to Scale

**TABLE 1**  
**BECKER 5-1, 2, 14, 15**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth (Feet bgs)	PID Readings (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH <sup>(2)</sup> (mg/kg)
SS01	11/27/2012	4.5	0	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS02	11/27/2012	8	0	<0.005	<0.005	<0.005	<0.010	0.0081	<50
SS03	11/27/2012	9	480	<0.005	1.3	0.79	16	2.1	<b>3,500</b>
SS04	11/28/2012	7.5	6	<0.005	<0.005	<0.005	<0.010	<0.005	<50
SS05	11/28/2012	17	2,875	<b>1.5</b>	6.5	12	100	4.7	<b>5,020</b>
SS06	11/28/2012	7.5	3	0.088	<0.005	0.038	0.076	0.029	2.1
SS07	11/28/2012	7	465	<0.005	<0.005	<0.005	<0.010	<0.005	1.2
SS08	11/29/2012	6	60	<0.005	<0.005	<0.005	0.024	<0.005	<50
SS09	11/29/2012	6	6	<0.005	<0.005	<0.005	0.031	<0.005	1.4
SS10 (BH01)	12/13/2012	12-15	1,431	0.08	<0.005	1.9	21	0.59	<b>1,700</b>
SS11 (BH02)	12/13/2012	14-15	1,035	0.0092	<0.005	0.11	0.76	0.032	38
COGCC standards for Soil (mg/kg) <sup>(1)</sup>				<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>23</b>	<b>500</b>

Notes:

1). Standards for Soil are taken from 2 CCR 404-1, Table 910-1, effective April 1, 2009.

2). TPH - Total volatile and extractable petroleum hydrocarbons. Value calculated by adding GRO and DRO concentrations.

GRO - Gasoline range organics.

DRO - Diesel range organics.

mg/kg= Milligrams per kilogram.

bgs - Below ground surface.

ppm - Parts per million

**Bold** red values indicate an exceedance of the COGCC soil standards for the Site.

*Italicized* PID readings were taken with a Benzene Photoionization Dectecor.

**TABLE 2**  
**BECKER 5-1, 2, 14, 15**  
**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)
GW01	11/29/2012	<b>3,100</b>	<b>610</b>	320	<b>3,700</b>	16
BH01	12/20/2012	<b>97</b>	<1.0	180	1,200	13.24
BH02	12/20/2012	<b>170</b>	1.6	490	<b>1,700</b>	10.20
BH03	12/20/2012	<1.0	<1.0	<1.0	<1.0	12.78
<b>COGCC standards for Groundwater (ug/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	

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.

**Bold** red values indicate an exceedance of the COGCC groundwater standards for the Site.

ug/L= Micrograms per liter.

## **ATTACHMENT A**

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 29, 2012

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Becker 5-1,2,14,15

Enclosed are the results of analyses for samples received by Summit Scientific on 11/27/12 17:11. 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 distinct "IV" at the end.

Joseph J Egry IV  
Laboratory Director



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:25

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@4.5'	R211172-01	Soil	11/27/12 12:40	11/27/12 17:11
SS02@8'	R211172-02	Soil	11/27/12 14:15	11/27/12 17:11
SS03@9'	R211172-03	Soil	11/27/12 14:40	11/27/12 17:11

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: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:25

Summit Scientific  
R211172

S<sub>2</sub>  
741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

Page / of

Client: PDC Energy

Address: 1775 Sherman St Suite 3000  
Project Manager: Brandon Bruins

City/State/Zip: Denver CO 80203 E-Mail: bbruns@oetd.com

Project Name:	Project Name:	Project Name:
Phone: (303) 960-5800	Phone: (303) 960-5800	Phone: (303) 960-5800
For more info:	For more info:	For more info:

1006, (505) 800-2800 1 WA. **Penet Number**

Signature Name: William J. Williams JUDGE, NATIONAL

[illegible]

www.s2scientific.com

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Regel IV



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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
11/29/12 09:25

SS01@4.5'  
R211172-01 (Soil)

Summit Scientific

Total Petroleum Hydrocarbons by 8015

Date Sampled: 11/27/12 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112702	11/27/12	11/28/12	8015 DRO	

Date Sampled: 11/27/12 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/27/12 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	2112703	"	11/28/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 11/27/12 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.6 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/29/12 09:25

**SS02@8'**  
**R211172-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/27/12 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112702	11/27/12	11/28/12	8015 DRO	

Date Sampled: 11/27/12 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.3 %	30-150		"	"	"	"	

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

Date Sampled: 11/27/12 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.0081	0.0050	mg/kg	1	2112703	"	11/28/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 11/27/12 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.0 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/29/12 09:25

**SS03@9'**  
**R211172-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/27/12 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	2000	50	mg/kg	1	2112702	11/27/12	11/28/12	8015 DRO	

Date Sampled: 11/27/12 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		119 %	30-150		"	"	"	"	

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

Date Sampled: 11/27/12 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	2.1	0.050	mg/kg	10	2112703	"	11/28/12	EPA 8260B	
Benzene	ND	0.050	"	"	"	"	"	"	
Toluene	1.3	0.050	"	"	"	"	"	"	
Ethylbenzene	0.79	0.050	"	"	"	"	"	"	
Xylenes (total)	16	0.10	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1500	5.0	"	"	"	"	"	"	

Date Sampled: 11/27/12 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.9 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		92.3 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		59.0 %	30-150		"	"	"	"	

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:25

**Total Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 2112702 - EPA 3550A**

**Blank (2112702-BLK1)**

Prepared & Analyzed: 11/27/12

C10-C28 (DRO) ND 50 mg/kg

**LCS (2112702-BS1)**

Prepared & Analyzed: 11/27/12

C10-C28 (DRO) 533 50 mg/kg 501 106 73-134

**LCS Dup (2112702-BSD1)**

Prepared & Analyzed: 11/27/12

C10-C28 (DRO) 561 50 mg/kg 501 112 73-134 5.03 11

**Matrix Spike (2112702-MS1)**

**Source: R211158-01**

Prepared & Analyzed: 11/27/12

C10-C28 (DRO) 498 50 mg/kg 461 29.5 101 50-148

**Matrix Spike Dup (2112702-MSD1)**

**Source: R211158-01**

Prepared & Analyzed: 11/27/12

C10-C28 (DRO) 522 50 mg/kg 488 29.5 101 50-148 4.71 13

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
11/29/12 09:25

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

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

**Batch 2112703 - EPA 5030 Soil MS**

**Blank (2112703-BLK1)**

Prepared & Analyzed: 11/27/12

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0397	90.2	30-150				
Surrogate: Toluene-d8	0.0380		"	0.0400	95.0	30-150				
Surrogate: 4-Bromofluorobenzene	0.0351		"	0.0400	87.8	30-150				

**LCS (2112703-BS1)**

Prepared & Analyzed: 11/27/12

Naphthalene	ND	0.0050	mg/kg			66-138				
Benzene	0.0724	0.0050	"	0.100	72.4	58-130				
Toluene	0.0798	0.0050	"	0.100	79.8	61-134				
Ethylbenzene	0.0925	0.0050	"	0.100	92.5	74-139				
m,p-Xylene	0.183	0.010	"	0.200	91.4	73-137				
o-Xylene	0.0852	0.0050	"	0.100	85.2	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0350		"	0.0397	88.2	30-150				
Surrogate: Toluene-d8	0.0377		"	0.0400	94.3	30-150				
Surrogate: 4-Bromofluorobenzene	0.0358		"	0.0400	89.4	30-150				

**LCS Dup (2112703-BSD1)**

Prepared & Analyzed: 11/27/12

Naphthalene	ND	0.0050	mg/kg			66-138			12	
Benzene	0.0794	0.0050	"	0.100	79.4	58-130	9.33		13	
Toluene	0.0868	0.0050	"	0.100	86.8	61-134	8.39		16	
Ethylbenzene	0.100	0.0050	"	0.100	100	74-139	8.12		12	
m,p-Xylene	0.201	0.010	"	0.200	100	73-137	9.37		14	
o-Xylene	0.0936	0.0050	"	0.100	93.6	73-141	9.40		12	
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0397	90.3	30-150				
Surrogate: Toluene-d8	0.0394		"	0.0400	98.6	30-150				
Surrogate: 4-Bromofluorobenzene	0.0347		"	0.0400	86.8	30-150				

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
11/29/12 09:25

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

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

**Batch 2112703 - EPA 5030 Soil MS**

**Matrix Spike (2112703-MS1)**

**Source: R211158-01**

Prepared & Analyzed: 11/27/12

Naphthalene	ND	0.0050	mg/kg	ND	ND		10-158			
Benzene	0.0726	0.0050	"	0.0936	0.00	77.5	30-131			
Toluene	0.0794	0.0050	"	0.0936	0.00	84.8	30-134			
Ethylbenzene	0.0896	0.0050	"	0.0936	0.00	95.6	22-153			
m,p-Xylene	0.178	0.010	"	0.187	0.00	94.8	10-159			
o-Xylene	0.0837	0.0050	"	0.0936	0.00	89.4	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0372		100	30-150			
Surrogate: Toluene-d8	0.0360		"	0.0375		96.2	30-150			
Surrogate: 4-Bromofluorobenzene	0.0338		"	0.0375		90.3	30-150			

**Matrix Spike Dup (2112703-MSD1)**

**Source: R211158-01**

Prepared & Analyzed: 11/27/12

Naphthalene	ND	0.0050	mg/kg	ND	ND		10-158		42	
Benzene	0.0627	0.0050	"	0.0923	0.00	68.0	30-131	14.6	34	
Toluene	0.0688	0.0050	"	0.0923	0.00	74.6	30-134	14.3	30	
Ethylbenzene	0.0766	0.0050	"	0.0923	0.00	83.0	22-153	15.6	24	
m,p-Xylene	0.154	0.010	"	0.185	0.00	83.5	10-159	14.2	68	
o-Xylene	0.0718	0.0050	"	0.0923	0.00	77.8	31-151	15.3	38	
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0366		98.8	30-150			
Surrogate: Toluene-d8	0.0356		"	0.0369		96.6	30-150			
Surrogate: 4-Bromofluorobenzene	0.0320		"	0.0369		86.8	30-150			

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:25

### 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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.



# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 29, 2012

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Becker 5-1,2,14,15

Enclosed are the results of analyses for samples received by Summit Scientific on 11/28/12 16:55. 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 stylized with a large, sweeping initial "J" and a distinct "IV" at the end.

Joseph J Egry IV  
Laboratory Director



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:41

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS04@7.5'	R211184-01	Soil	11/28/12 08:45	11/28/12 16:55
SS05@17'	R211184-02	Soil	11/28/12 12:15	11/28/12 16:55
SS06@7.5'	R211184-03	Soil	11/28/12 14:00	11/28/12 16:55
SS07@7'	R211184-04	Soil	11/28/12 14:05	11/28/12 16:55

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:41

Summit Scientific  
R21184

**S<sub>2</sub>**  
741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933 Fax

Client: <u>DDU Energy</u>	Project Manager: <u>Frank BonBum</u>	Page <u>    </u> of <u>    </u>
Address: _____	E-Mail: _____	
City/State/Zip: _____	Project Name: <u>Packey 5-12-14-15</u>	
Phone: _____	Project Number: _____	
Fax: _____		
Sampler Name: <u>Christina Wicks</u>		

[illegible]

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

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*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.*

Regel IV



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
11/29/12 09:41

**SS04@7.5'**  
**R211184-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/28/12 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112806	11/28/12	11/28/12	8015 DRO	

Date Sampled: 11/28/12 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.7 %	30-150		"	"	"	"	

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

Date Sampled: 11/28/12 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	2112807	11/28/12	11/28/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 11/28/12 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		98.4 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/29/12 09:41

**SS05@17'**  
**R211184-02 (Soil)**

### Summit Scientific

#### Total Petroleum Hydrocarbons by 8015

Date Sampled: 11/28/12 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	420	50	mg/kg	1	2112806	11/28/12	11/28/12	8015 DRO	

Date Sampled: 11/28/12 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.0 %	30-150		"	"	"	"	

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

Date Sampled: 11/28/12 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	4.7	0.050	mg/kg	10	2112807	11/28/12	11/29/12	EPA 8260B	
Benzene	1.5	0.050	"	"	"	"	"	"	
Toluene	6.5	0.050	"	"	"	"	"	"	
Ethylbenzene	12	0.050	"	"	"	"	"	"	E
Xylenes (total)	100	0.10	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	4600	5.0	"	"	"	"	"	"	E

Date Sampled: 11/28/12 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		89.2 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		310 %	30-150		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene		87.2 %	30-150		"	"	"	"	

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/29/12 09:41

**SS06@7.5'**  
**R211184-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/28/12 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112806	11/28/12	11/28/12	8015 DRO	

Date Sampled: 11/28/12 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.4 %	30-150		"	"	"	"	

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

Date Sampled: 11/28/12 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.029	0.0050	mg/kg	1	2112807	11/28/12	11/28/12	EPA 8260B	
Benzene	0.088	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.038	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.076	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.1	0.50	"	"	"	"	"	"	

Date Sampled: 11/28/12 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	30-150		"	"	"	"	

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/29/12 09:41

**SS07@7'**  
**R211184-04 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/28/12 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112806	11/28/12	11/28/12	8015 DRO	

Date Sampled: 11/28/12 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.7 %	30-150		"	"	"	"	

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

Date Sampled: 11/28/12 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	2112807	11/28/12	11/28/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.2	0.50	"	"	"	"	"	"	

Date Sampled: 11/28/12 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		91.6 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:41

**Total Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 2112806 - EPA 3550A**

**Blank (2112806-BLK1)**

Prepared: 11/28/12 Analyzed: 11/29/12

C10-C28 (DRO) ND 50 mg/kg

**LCS (2112806-BS1)**

Prepared: 11/28/12 Analyzed: 11/29/12

C10-C28 (DRO) 643 50 mg/kg 501 128 73-134

**LCS Dup (2112806-BSD1)**

Prepared: 11/28/12 Analyzed: 11/29/12

C10-C28 (DRO) 665 50 mg/kg 501 133 73-134 3.38 11

**Matrix Spike (2112806-MS1)**

**Source: R211183-01**

Prepared: 11/28/12 Analyzed: 11/29/12

C10-C28 (DRO) 661 50 mg/kg 494 32.3 127 50-148

**Matrix Spike Dup (2112806-MSD1)**

**Source: R211183-01**

Prepared: 11/28/12 Analyzed: 11/29/12

C10-C28 (DRO) 610 50 mg/kg 484 32.3 119 50-148 8.02 13

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/29/12 09:41

### Notes and Definitions

S-02      The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

E          The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

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

November 30, 2012

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Becker 5-1,2,14,15

Enclosed are the results of analyses for samples received by Summit Scientific on 11/29/12 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV", with a stylized flourish at the end.

Joseph J Egry IV  
Laboratory Director



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/30/12 09:38

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	R211200-01	Water	11/29/12 07:50	11/29/12 12:00
SS08@6'	R211200-02	Soil	11/29/12 08:00	11/29/12 12:00
SS09@6'	R211200-03	Soil	11/29/12 10:15	11/29/12 12:00

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/30/12 09:38

**GW01**  
**R211200-01 (Water)**

**Summit Scientific**

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

Date Sampled: 11/29/12 07:50

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>3100</b>	100		ug/l	100	2112808	11/29/12	11/29/12	EPA 8260B	
<b>Toluene</b>	<b>610</b>	100		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>320</b>	100		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>3700</b>	100		"	"	"	"	"	"	

Date Sampled: 11/29/12 07:50

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %		49.7-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %		51-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		50.1-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/30/12 09:38

**SS08@6'**  
**R211200-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 11/29/12 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112911	11/29/12	11/29/12	8015 DRO	

Date Sampled: 11/29/12 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.6 %	30-150		"	"	"	"	

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

Date Sampled: 11/29/12 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	2112910	11/29/12	11/29/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.024</b>	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 11/29/12 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
11/30/12 09:38

**SS09@6'**  
**R211200-03 (Soil)**

### Summit Scientific

#### Total Petroleum Hydrocarbons by 8015

Date Sampled: 11/29/12 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2112911	11/29/12	11/29/12	8015 DRO	

Date Sampled: 11/29/12 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.7 %	30-150		"	"	"	"	

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

Date Sampled: 11/29/12 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	2112910	11/29/12	11/29/12	EPA 8260B	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.031</b>	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.4</b>	0.50	"	"	"	"	"	"	

Date Sampled: 11/29/12 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	30-150		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	30-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/30/12 09:38

**Total Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 2112911 - EPA 3550A**

**Blank (2112911-BLK1)**

Prepared & Analyzed: 11/29/12

C10-C28 (DRO) ND 50 mg/kg

**LCS (2112911-BS1)**

Prepared & Analyzed: 11/29/12

C10-C28 (DRO) 610 50 mg/kg 501 122 73-134

**LCS Dup (2112911-BSD1)**

Prepared & Analyzed: 11/29/12

C10-C28 (DRO) 609 50 mg/kg 501 122 73-134 0.137 11

**Matrix Spike (2112911-MS1)**

**Source: R211192-11**

Prepared & Analyzed: 11/29/12

C10-C28 (DRO) 619 50 mg/kg 490 ND 126 50-148

**Matrix Spike Dup (2112911-MSD1)**

**Source: R211192-11**

Prepared & Analyzed: 11/29/12

C10-C28 (DRO) 606 50 mg/kg 492 ND 123 50-148 2.10 13

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
11/30/12 09:38

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

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

**Batch 2112808 - EPA 5030 Water MS**

**Blank (2112808-BLK1)**

Prepared & Analyzed: 11/28/12

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.2		99.7	49.7-150			
Surrogate: Toluene-d8	13.5		"	13.3		101	51-150			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	50.1-150			

**LCS (2112808-BS1)**

Prepared & Analyzed: 11/28/12

Benzene	34.1	1.0	ug/l	33.3		102	51-132			
Toluene	34.4	1.0	"	33.3		103	51-138			
Ethylbenzene	35.3	1.0	"	33.3		106	58-146			
m,p-Xylene	70.3	2.0	"	66.7		105	57-144			
o-Xylene	34.4	1.0	"	33.3		103	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.2		111	49.7-150			
Surrogate: Toluene-d8	13.3		"	13.3		99.8	51-150			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	50.1-150			

**LCS Dup (2112808-BSD1)**

Prepared & Analyzed: 11/28/12

Benzene	32.6	1.0	ug/l	33.3		97.7	51-132	4.56	17	
Toluene	32.8	1.0	"	33.3		98.5	51-138	4.79	17	
Ethylbenzene	36.0	1.0	"	33.3		108	58-146	1.99	16	
m,p-Xylene	71.2	2.0	"	66.7		107	57-144	1.23	16	
o-Xylene	34.5	1.0	"	33.3		104	53-146	0.435	15	
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.2		95.2	49.7-150			
Surrogate: Toluene-d8	13.3		"	13.3		99.5	51-150			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	50.1-150			

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
11/30/12 09:38

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

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

**Batch 2112808 - EPA 5030 Water MS**

**Matrix Spike (2112808-MS1)**

Source: R211150-05

Prepared & Analyzed: 11/28/12

Benzene	31.8	1.0	ug/l	33.3	ND	95.3	34-141			
Toluene	32.0	1.0	"	33.3	ND	96.1	27-151			
Ethylbenzene	33.5	1.0	"	33.3	ND	100	29-160			
m,p-Xylene	66.6	2.0	"	66.7	ND	99.9	20-166			
o-Xylene	32.1	1.0	"	33.3	ND	96.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.2		98.9	49.7-150			
Surrogate: Toluene-d8	13.4		"	13.3		101	51-150			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	50.1-150			

**Matrix Spike Dup (2112808-MSD1)**

Source: R211150-05

Prepared & Analyzed: 11/28/12

Benzene	26.6	1.0	ug/l	33.3	ND	79.7	34-141	17.8	32	
Toluene	26.8	1.0	"	33.3	ND	80.4	27-151	17.7	25	
Ethylbenzene	28.0	1.0	"	33.3	ND	84.0	29-160	17.9	50	
m,p-Xylene	55.6	2.0	"	66.7	ND	83.4	20-166	18.0	36	
o-Xylene	27.8	1.0	"	33.3	ND	83.3	33-159	14.4	26	
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2		106	49.7-150			
Surrogate: Toluene-d8	13.3		"	13.3		100	51-150			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	50.1-150			

**Batch 2112910 - EPA 5030 Soil MS**

**Blank (2112910-BLK1)**

Prepared & Analyzed: 11/29/12

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0397		104	30-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	30-150			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.1	30-150			

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: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
11/30/12 09:38

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

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

**Batch 2112910 - EPA 5030 Soil MS**

**LCS (2112910-BS1)**

Prepared & Analyzed: 11/29/12

Naphthalene	0.00495	0.0050	mg/kg				66-138		
Benzene	0.0732	0.0050	"	0.100		73.2	58-130		
Toluene	0.0776	0.0050	"	0.100		77.6	61-134		
Ethylbenzene	0.100	0.0050	"	0.100		100	74-139		
m,p-Xylene	0.182	0.010	"	0.200		90.9	73-137		
o-Xylene	0.0944	0.0050	"	0.100		94.4	73-141		
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0397		103	30-150		
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	30-150		
Surrogate: 4-Bromofluorobenzene	0.0345		"	0.0400		86.2	30-150		

**LCS Dup (2112910-BSD1)**

Prepared & Analyzed: 11/29/12

Naphthalene	0.00453	0.0050	mg/kg				66-138	8.86	12
Benzene	0.0747	0.0050	"	0.100		74.7	58-130	1.95	13
Toluene	0.0792	0.0050	"	0.100		79.2	61-134	1.95	16
Ethylbenzene	0.103	0.0050	"	0.100		103	74-139	2.84	12
m,p-Xylene	0.186	0.010	"	0.200		93.1	73-137	2.36	14
o-Xylene	0.0972	0.0050	"	0.100		97.2	73-141	2.91	12
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0397		103	30-150		
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	30-150		
Surrogate: 4-Bromofluorobenzene	0.0367		"	0.0400		91.7	30-150		

**Matrix Spike (2112910-MS1)**

Source: R211192-11

Prepared & Analyzed: 11/29/12

Naphthalene	0.00385	0.0050	mg/kg		0.0110		10-158		
Benzene	0.0733	0.0050	"	0.0988	0.00	74.2	30-131		
Toluene	0.0784	0.0050	"	0.0988	0.00	79.4	30-134		
Ethylbenzene	0.101	0.0050	"	0.0988	0.00	102	22-153		
m,p-Xylene	0.184	0.010	"	0.198	0.00	93.2	10-159		
o-Xylene	0.0974	0.0050	"	0.0988	0.00	98.6	31-151		
Surrogate: 1,2-Dichloroethane-d4	0.0465		"	0.0392		119	30-150		
Surrogate: Toluene-d8	0.0405		"	0.0395		103	30-150		
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0395		93.0	30-150		

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: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
11/30/12 09:38

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

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

**Batch 2112910 - EPA 5030 Soil MS**

Matrix Spike Dup (2112910-MSD1)	Source: R211192-11			Prepared & Analyzed: 11/29/12						
Naphthalene	0.00392	0.0050	mg/kg		0.0110		10-158	1.69	42	
Benzene	0.0732	0.0050	"	0.0982	0.00	74.5	30-131	0.188	34	
Toluene	0.0797	0.0050	"	0.0982	0.00	81.1	30-134	1.65	30	
Ethylbenzene	0.102	0.0050	"	0.0982	0.00	104	22-153	0.749	24	
m,p-Xylene	0.183	0.010	"	0.196	0.00	93.0	10-159	0.817	68	
o-Xylene	0.0959	0.0050	"	0.0982	0.00	97.6	31-151	1.57	38	
Surrogate: 1,2-Dichloroethane-d4	0.0457		"	0.0390		117	30-150			
Surrogate: Toluene-d8	0.0389		"	0.0393		98.9	30-150			
Surrogate: 4-Bromofluorobenzene	0.0359		"	0.0393		91.4	30-150			

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: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
11/30/12 09:38

### 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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 19, 2012

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Becker 5-1,2,14,15

Enclosed are the results of analyses for samples received by Summit Scientific on 12/14/12 14:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Joseph J Egry IV  
Laboratory Director



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/19/12 13:13

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS10	R212087-01	Soil	12/13/12 12:45	12/14/12 14:25
SS11	R212087-02	Soil	12/13/12 12:50	12/14/12 14:25

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.*

[illegible]

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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/19/12 13:13

**SS10**  
**R212087-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/12 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	400	50	mg/kg	1	2121502	12/15/12	12/18/12	8015 DRO	

Date Sampled: 12/13/12 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		84.8 %	30-150		"	"	"	"	

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

Date Sampled: 12/13/12 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.59	0.0050	mg/kg	1	2121501	12/15/12	12/18/12	EPA 8260B	
Benzene	0.080	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	1.9	0.50	"	100	"	"	"	"	
Xylenes (total)	21	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1300	50	"	"	"	"	"	"	

Date Sampled: 12/13/12 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/19/12 13:13

**SS11**  
**R212087-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: 12/13/12 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2121502	12/15/12	12/18/12	8015 DRO	

Date Sampled: 12/13/12 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		81.6 %	30-150		"	"	"	"	

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

Date Sampled: 12/13/12 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.032	0.0050	mg/kg	1	2121501	12/15/12	12/18/12	EPA 8260B	
Benzene	0.0092	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.11	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.76	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	38	0.50	"	"	"	"	"	"	

Date Sampled: 12/13/12 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %	21-167		"	"	"	"	

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: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/19/12 13:13

**Total Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 2121502 - EPA 3550A**

**Blank (2121502-BLK1)**

Prepared & Analyzed: 12/15/12

C10-C28 (DRO) ND 50 mg/kg

**LCS (2121502-BS1)**

Prepared & Analyzed: 12/15/12

C10-C28 (DRO) 451 50 mg/kg 501 90.1 73-134

**LCS Dup (2121502-BSD1)**

Prepared & Analyzed: 12/15/12

C10-C28 (DRO) 446 50 mg/kg 501 89.1 73-134 1.13 11

**Matrix Spike (2121502-MS1)**

**Source: R212089-01**

Prepared & Analyzed: 12/15/12

C10-C28 (DRO) 450 50 mg/kg 495 38.1 83.3 50-148

**Matrix Spike Dup (2121502-MSD1)**

**Source: R212089-01**

Prepared & Analyzed: 12/15/12

C10-C28 (DRO) 446 50 mg/kg 489 38.1 83.4 50-148 0.909 13

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: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/19/12 13:13

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

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

**Batch 2121501 - EPA 5030 Soil MS**

**Blank (2121501-BLK1)**

Prepared & Analyzed: 12/15/12

Naphthalene	ND	0.0050	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0379		"	0.0397	95.4	23-173				
Surrogate: Toluene-d8	0.0396		"	0.0400	98.9	20-170				
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400	94.0	21-167				

**LCS (2121501-BS1)**

Prepared & Analyzed: 12/15/12

Naphthalene	ND	0.0050	mg/kg			66-138				
Benzene	0.0870	0.0050	"	0.100	87.0	58-130				
Toluene	0.0972	0.0050	"	0.100	97.2	61-134				
Ethylbenzene	0.102	0.0050	"	0.100	102	74-139				
m,p-Xylene	0.208	0.010	"	0.200	104	73-137				
o-Xylene	0.106	0.0050	"	0.100	106	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0397	97.6	23-173				
Surrogate: Toluene-d8	0.0401		"	0.0400	100	20-170				
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400	94.9	21-167				

**LCS Dup (2121501-BSD1)**

Prepared: 12/15/12 Analyzed: 12/16/12

Naphthalene	ND	0.0050	mg/kg			66-138		12		
Benzene	0.0950	0.0050	"	0.100	95.0	58-130	8.77	13		
Toluene	0.104	0.0050	"	0.100	104	61-134	6.71	16		
Ethylbenzene	0.106	0.0050	"	0.100	106	74-139	3.62	12		
m,p-Xylene	0.215	0.010	"	0.200	107	73-137	3.05	14		
o-Xylene	0.107	0.0050	"	0.100	107	73-141	1.24	12		
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0397	99.1	23-173				
Surrogate: Toluene-d8	0.0396		"	0.0400	99.1	20-170				
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400	93.2	21-167				

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: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/19/12 13:13

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

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

**Batch 2121501 - EPA 5030 Soil MS**

Matrix Spike (2121501-MS1)				Source: R212089-01		Prepared: 12/15/12		Analyzed: 12/16/12	
Naphthalene	ND	0.0050	mg/kg		ND			10-158	
Benzene	0.0912	0.0050	"	0.0977	0.00	93.4	30-131		
Toluene	0.101	0.0050	"	0.0977	0.00	104	30-134		
Ethylbenzene	0.103	0.0050	"	0.0977	0.00	106	22-153		
m,p-Xylene	0.210	0.010	"	0.195	0.00	108	10-159		
o-Xylene	0.106	0.0050	"	0.0977	0.00	108	31-151		
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0388		108	23-173		
Surrogate: Toluene-d8	0.0387		"	0.0391		99.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0391		97.9	21-167		

Matrix Spike Dup (2121501-MSD1)				Source: R212089-01		Prepared: 12/15/12		Analyzed: 12/16/12	
Naphthalene	ND	0.0050	mg/kg		ND		10-158		42
Benzene	0.0919	0.0050	"	0.0996	0.00	92.3	30-131	0.745	34
Toluene	0.101	0.0050	"	0.0996	0.00	101	30-134	0.312	30
Ethylbenzene	0.100	0.0050	"	0.0996	0.00	100	22-153	3.10	24
m,p-Xylene	0.200	0.010	"	0.199	0.00	100	10-159	5.02	68
o-Xylene	0.102	0.0050	"	0.0996	0.00	103	31-151	3.60	38
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0395		109	23-173		
Surrogate: Toluene-d8	0.0396		"	0.0398		99.3	20-170		
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0398		94.6	21-167		

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: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/19/12 13:13

### 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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 27, 2012

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Becker 5-1,2,14,15

Enclosed are the results of analyses for samples received by Summit Scientific on 12/21/12 12:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph J. Egry IV". The signature is stylized with a large, sweeping initial "J" and a distinct "IV" at the end.

Joseph J Egry IV  
Laboratory Director



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/27/12 15:50

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	R212143-01	Water	12/20/12 13:20	12/21/12 12:00
BH02	R212143-02	Water	12/20/12 13:25	12/21/12 12:00
BH03	R212143-03	Water	12/20/12 13:30	12/21/12 12:00

Summit Scientific

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







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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/27/12 15:50

**BH01**  
**R212143-01 (Water)**

**Summit Scientific**

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

Date Sampled: 12/20/12 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>97</b>	1.0	ug/l	1	2122608	12/26/12	12/27/12	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>180</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1200</b>	100	"	100	"	"	12/27/12	"	

Date Sampled: 12/20/12 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	37-154		"	"	12/27/12	"	
Surrogate: Toluene-d8		115 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		75.7 %	45-146		"	"	"	"	

Summit Scientific

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



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

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/27/12 15:50

**BH02**  
**R212143-02 (Water)**

**Summit Scientific**

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

Date Sampled: 12/20/12 13:25

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>170</b>	1.0		ug/l	1	2122608	12/26/12	12/27/12	EPA 8260B	
<b>Toluene</b>	<b>1.6</b>	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>490</b>	100		"	100	"	"	12/27/12	"	
<b>Xylenes (total)</b>	<b>1700</b>	100		"	"	"	"	"	"	

Date Sampled: 12/20/12 13:25

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		109 %		37-154		"	"	12/27/12	"	
Surrogate: Toluene-d8		104 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		75.3 %		45-146		"	"	"	"	

Summit Scientific

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/27/12 15:50

**BH03**  
**R212143-03 (Water)**

**Summit Scientific**

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

Date Sampled: 12/20/12 13:30

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2122608	12/26/12	12/27/12	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: 12/20/12 13:30

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		117 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		98.4 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		45-146		"	"	"	"	

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
12/27/12 15:50

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

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

**Batch 2122608 - EPA 5030 Water MS**

**Blank (2122608-BLK1)**

Prepared & Analyzed: 12/26/12

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.2		96.9	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	45-149			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.4	45-146			

**Blank (2122608-BLK2)**

Prepared & Analyzed: 12/26/12

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		93.3	37-154			
Surrogate: Toluene-d8	12.7		"	13.3		95.0	45-149			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.7	45-146			

**LCS (2122608-BS1)**

Prepared & Analyzed: 12/26/12

Benzene	27.1	1.0	ug/l	33.3		81.3	51-132			
Toluene	32.3	1.0	"	33.3		96.9	51-138			
Ethylbenzene	42.1	1.0	"	33.3		126	58-146			
m,p-Xylene	77.3	2.0	"	66.7		116	57-144			
o-Xylene	40.5	1.0	"	33.3		121	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.2		94.9	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.5	45-149			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		95.9	45-146			

**LCS (2122608-BS2)**

Prepared & Analyzed: 12/26/12

Benzene	27.5	1.0	ug/l	33.3		82.4	51-132			
Toluene	32.3	1.0	"	33.3		97.0	51-138			
Ethylbenzene	41.5	1.0	"	33.3		124	58-146			
m,p-Xylene	75.5	2.0	"	66.7		113	57-144			
o-Xylene	40.1	1.0	"	33.3		120	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.3		"	13.2		93.2	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.1	45-146			

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
12/27/12 15:50

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

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

**Batch 2122608 - EPA 5030 Water MS**

**LCS Dup (2122608-BSD1)**

Prepared & Analyzed: 12/26/12

Benzene	27.7	1.0	ug/l	33.3		83.1	51-132	2.19	17	
Toluene	32.1	1.0	"	33.3		96.4	51-138	0.497	17	
Ethylbenzene	41.8	1.0	"	33.3		126	58-146	0.524	16	
m,p-Xylene	74.9	2.0	"	66.7		112	57-144	3.11	16	
o-Xylene	40.7	1.0	"	33.3		122	53-146	0.468	15	
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.2		94.6	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		96.6	45-149			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		93.2	45-146			

**LCS Dup (2122608-BSD2)**

Prepared & Analyzed: 12/26/12

Benzene	27.9	1.0	ug/l	33.3		83.8	51-132	1.70	17	
Toluene	33.2	1.0	"	33.3		99.5	51-138	2.50	17	
Ethylbenzene	41.3	1.0	"	33.3		124	58-146	0.387	16	
m,p-Xylene	75.1	2.0	"	66.7		113	57-144	0.624	16	
o-Xylene	40.6	1.0	"	33.3		122	53-146	1.29	15	
Surrogate: 1,2-Dichloroethane-d4	12.7		"	13.2		95.9	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	45-149			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		92.7	45-146			

**Matrix Spike (2122608-MS1)**

Source: R212154-01

Prepared & Analyzed: 12/26/12

Benzene	27.7	1.0	ug/l	33.3	ND	83.2	34-141			
Toluene	33.3	1.0	"	33.3	ND	99.9	27-151			
Ethylbenzene	40.9	1.0	"	33.3	ND	123	29-160			
m,p-Xylene	75.5	2.0	"	66.7	ND	113	20-166			
o-Xylene	40.0	1.0	"	33.3	ND	120	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.2		98.4	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.2	45-149			
Surrogate: 4-Bromofluorobenzene	11.8		"	13.3		88.6	45-146			

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

Project: Becker 5-1,2,14,15  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
12/27/12 15:50

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

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

**Batch 2122608 - EPA 5030 Water MS**

Matrix Spike (2122608-MS2)		Source: R212154-02			Prepared & Analyzed: 12/26/12					
Benzene	28.5	1.0	ug/l	33.3	ND	85.5	34-141			
Toluene	33.2	1.0	"	33.3	ND	99.5	27-151			
Ethylbenzene	42.1	1.0	"	33.3	ND	126	29-160			
m,p-Xylene	77.0	2.0	"	66.7	ND	116	20-166			
o-Xylene	41.0	1.0	"	33.3	ND	123	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		94.1	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		99.7	45-149			
Surrogate: 4-Bromofluorobenzene	12.4		"	13.3		92.6	45-146			

Matrix Spike Dup (2122608-MSD1)		Source: R212154-01			Prepared & Analyzed: 12/26/12					
Benzene	28.3	1.0	ug/l	33.3	ND	85.0	34-141	2.18	32	
Toluene	33.6	1.0	"	33.3	ND	101	27-151	0.926	25	
Ethylbenzene	42.7	1.0	"	33.3	ND	128	29-160	4.38	50	
m,p-Xylene	78.3	2.0	"	66.7	ND	117	20-166	3.66	36	
o-Xylene	41.7	1.0	"	33.3	ND	125	33-159	4.24	26	
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.2		94.5	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		99.9	45-149			
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.7	45-146			

Matrix Spike Dup (2122608-MSD2)		Source: R212154-02			Prepared & Analyzed: 12/26/12					
Benzene	28.4	1.0	ug/l	33.3	ND	85.3	34-141	0.211	32	
Toluene	33.7	1.0	"	33.3	ND	101	27-151	1.56	25	
Ethylbenzene	41.2	1.0	"	33.3	ND	124	29-160	2.04	50	
m,p-Xylene	75.1	2.0	"	66.7	ND	113	20-166	2.50	36	
o-Xylene	40.7	1.0	"	33.3	ND	122	33-159	0.832	26	
Surrogate: 1,2-Dichloroethane-d4	12.4		"	13.2		93.9	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.6	45-149			
Surrogate: 4-Bromofluorobenzene	12.1		"	13.3		90.8	45-146			

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1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Becker 5-1,2,14,15

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
12/27/12 15:50

### 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

A handwritten signature in black ink, appearing to read 'Daniel A. Bruns IV'.