

0 750 1,500 Feet

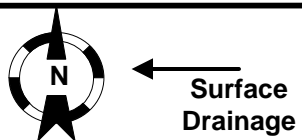


## Figure 1

Site Location Map  
Von Feldt 13-12  
SWSW S12 T6N R65W  
Weld County, Colorado

Drawn By: DBA  
Date: 02/28/2014





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

Scale: 1 inch equals 40 feet

DRAWN BY: CAW

DATE: 1/17/2014

**Facility Diagram**  
PDC Energy – DJ Basin  
Von Feldt 13-12  
SWSW S12 T6N R65W  
Weld County, CO



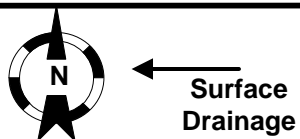
6899 Pecos Street  
Unit C  
Denver, CO 80221

**LEGEND**

- Approximate Excavation Area
- Former Vault Location
- Earthen Berm
- Soil Sample Location
- Groundwater Sample Location

FIGURE 2  
SITE EXCAVATION  
MAP





DRAWN BY: CAW

DATE: 4/10/2014

**Facility Diagram**  
PDC Energy – DJ Basin  
Von Feldt 13-12  
SWSW S12 T6N R65W  
Weld County, CO



6899 Pecos Street  
Unit C  
Denver, CO 80221

**LEGEND**

- Approximate Excavation Area
- Earthen Berm
- ⊗ Groundwater Sample Location
- ⊗ Temporary Monitoring Well

**FIGURE 3**  
**GROUNDWATER ANALYTICAL MAP**

**TABLE 1**  
**VON FELDT 13-12**  
**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	1/17/2014	6	1.0	<0.002	<0.005	<0.005	<0.010	<0.010	72
SS02	1/17/2014	6	0.9	<0.002	<0.005	<0.005	<0.010	<0.010	<50
SS03	1/17/2014	6	1.0	<0.002	<0.005	<0.005	<0.010	<0.010	<50
SS04	1/17/2014	6	1.1	<0.002	<0.005	<0.005	<0.010	<0.010	<50
<b>COGCC standards for soil (mg/kg) <sup>(1)</sup></b>				<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.

**TABLE 2**  
**VON FELDT 13-12**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
GW01	1/21/2014	<b>39</b>	<1.0	120	570
BH01	4/30/2014	<1.0	<1.0	<1.0	<1.0
BH02	4/30/2014	<1.0	<1.0	<1.0	<1.0
BH03	4/30/2014	<1.0	<1.0	<1.0	<1.0
BH04	4/30/2014	<1.0	<1.0	<1.0	<1.0
BH05	4/30/2014	<1.0	<1.0	<1.0	<1.0
<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

January 19, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Von Feldt 13-12

Enclosed are the results of analyses for samples received by Summit Scientific on 01/17/14 14:30. 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' or 'Shrewsbury', written in a cursive style.

Ben Shrewsbury  
President / Laboratory Manager



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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/19/14 20:07

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@6'	1401088-01	Soil	01/17/14 10:00	01/17/14 14:30
SS02@6'	1401088-02	Soil	01/17/14 10:15	01/17/14 14:30
SS03@6'	1401088-03	Soil	01/17/14 12:30	01/17/14 14:30
SS04@6'	1401088-04	Soil	01/17/14 12:45	01/17/14 14:30

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: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/19/14 20:07

**SS01@6'**  
**1401088-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	72	50	mg/kg	1	1401076	01/17/14	01/17/14	8015M	

Date Sampled: **01/17/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		87.2 %	30-150		"	"	"	"	

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

Date Sampled: **01/17/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1401077	"	01/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/17/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		134 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
01/19/14 20:07

**SS02@6'**  
**1401088-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1401076	01/17/14	01/17/14	8015M	

Date Sampled: **01/17/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.4 %	30-150		"	"	"	"	

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

Date Sampled: **01/17/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1401077	"	01/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/17/14 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/19/14 20:07

**SS03@6'**  
**1401088-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/14 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1401076	01/17/14	01/17/14	8015M	

Date Sampled: **01/17/14 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		124 %	30-150		"	"	"	"	

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

Date Sampled: **01/17/14 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1401077	"	01/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/17/14 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		127 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
01/19/14 20:07

**SS04@6'**  
**1401088-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/17/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1401076	01/17/14	01/18/14	8015M	

Date Sampled: **01/17/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.1 %	30-150		"	"	"	"	

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

Date Sampled: **01/17/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1401077	"	01/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/17/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		129 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/19/14 20:07

**Extractable 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 1401076 - EPA 3550A**

**Blank (1401076-BLK1)**

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) ND 50 mg/kg

**LCS (1401076-BS1)**

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 459 50 mg/kg 501 91.6 73-134

**LCS (1401076-BS2)**

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 471 50 mg/kg 501 93.9 73-134

**Matrix Spike (1401076-MS1)**

Source: 1401082-01

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 395 50 mg/kg 460 ND 86.0 50-148

**Matrix Spike (1401076-MS2)**

Source: 1401082-02

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 460 50 mg/kg 493 ND 93.3 50-148

**Matrix Spike Dup (1401076-MSD1)**

Source: 1401082-01

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 436 50 mg/kg 483 ND 90.4 50-148 9.91 13

**Matrix Spike Dup (1401076-MSD2)**

Source: 1401082-02

Prepared & Analyzed: 01/17/14

C10-C28 (DRO) 435 50 mg/kg 473 ND 92.0 50-148 5.56 13

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/19/14 20:07

**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 1401077 - EPA 5030 Soil MS**

**Blank (1401077-BLK1)**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0397	124	23-173				
Surrogate: Toluene-d8	0.0423		"	0.0400	106	20-170				
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400	103	21-167				

**LCS (1401077-BS1)**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg			66-138				
Benzene	0.104	0.0020	"	0.100	104	58-130				
Toluene	0.106	0.0050	"	0.100	106	61-134				
Ethylbenzene	0.109	0.0050	"	0.100	109	74-139				
m,p-Xylene	0.207	0.010	"	0.200	103	73-137				
o-Xylene	0.0996	0.0050	"	0.100	99.6	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0503		"	0.0397	127	23-173				
Surrogate: Toluene-d8	0.0426		"	0.0400	107	20-170				
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0400	104	21-167				

**LCS (1401077-BS2)**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg			66-138				
Benzene	0.102	0.0020	"	0.100	102	58-130				
Toluene	0.106	0.0050	"	0.100	106	61-134				
Ethylbenzene	0.110	0.0050	"	0.100	110	74-139				
m,p-Xylene	0.210	0.010	"	0.200	105	73-137				
o-Xylene	0.100	0.0050	"	0.100	100	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0496		"	0.0397	125	23-173				
Surrogate: Toluene-d8	0.0416		"	0.0400	104	20-170				
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400	105	21-167				

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/19/14 20:07

**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 1401077 - EPA 5030 Soil MS**

**Matrix Spike (1401077-MS1)**

**Source: 1401082-01**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0972	0.0020	"	0.0951	ND	102	30-131			
Toluene	0.0996	0.0050	"	0.0951	ND	105	30-134			
Ethylbenzene	0.103	0.0050	"	0.0951	ND	108	22-153			
m,p-Xylene	0.197	0.010	"	0.190	ND	104	10-159			
o-Xylene	0.0959	0.0050	"	0.0951	ND	101	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0478		"	0.0377		127	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0380		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0380		102	21-167			

**Matrix Spike (1401077-MS2)**

**Source: 1401082-02**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0966	0.0020	"	0.0949	ND	102	30-131			
Toluene	0.0999	0.0050	"	0.0949	ND	105	30-134			
Ethylbenzene	0.103	0.0050	"	0.0949	ND	108	22-153			
m,p-Xylene	0.195	0.010	"	0.190	ND	103	10-159			
o-Xylene	0.0953	0.0050	"	0.0949	ND	100	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0477		"	0.0377		127	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0380		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0380		104	21-167			

**Matrix Spike Dup (1401077-MSD1)**

**Source: 1401082-01**

Prepared & Analyzed: 01/17/14

Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0990	0.0020	"	0.0967	ND	102	30-131	1.84	34	
Toluene	0.102	0.0050	"	0.0967	ND	105	30-134	2.41	30	
Ethylbenzene	0.104	0.0050	"	0.0967	ND	108	22-153	1.22	24	
m,p-Xylene	0.200	0.010	"	0.193	ND	103	10-159	1.18	68	
o-Xylene	0.0959	0.0050	"	0.0967	ND	99.2	31-151	0.0764	38	
Surrogate: 1,2-Dichloroethane-d4	0.0486		"	0.0384		127	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0387		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0387		102	21-167			

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/19/14 20:07

**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 1401077 - EPA 5030 Soil MS**

Matrix Spike Dup (1401077-MSD2)	Source: 1401082-02			Prepared & Analyzed: 01/17/14						
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0969	0.0020	"	0.0958	ND	101	30-131	0.303	34	
Toluene	0.101	0.0050	"	0.0958	ND	106	30-134	1.46	30	
Ethylbenzene	0.103	0.0050	"	0.0958	ND	108	22-153	0.454	24	
m,p-Xylene	0.199	0.010	"	0.192	ND	104	10-159	2.10	68	
o-Xylene	0.0972	0.0050	"	0.0958	ND	101	31-151	1.96	38	
Surrogate: 1,2-Dichloroethane-d4	0.0491		"	0.0380		129	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0383		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0383		105	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: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/19/14 20:07

### 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

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

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 27, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Von Feldt 13-12

Enclosed are the results of analyses for samples received by Summit Scientific on 01/21/14 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' or 'Shrewsbury', written in a cursive style.

Ben Shrewsbury  
President / Laboratory Manager







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

Project: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/27/14 17:13

**GW01**  
**1401104-01 (Water)**

**Summit Scientific**

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

Date Sampled: **01/21/14 07:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>39</b>	1.0	ug/l	1	1401119	01/25/14	01/25/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>120</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>570</b>	1.0	"	"	"	"	"	"	

Date Sampled: **01/21/14 07:45**

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>Surrogate: Toluene-d8</i>		<i>102 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.4 %</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: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/27/14 17:13

## 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 1401119 - EPA 5030 Water MS

##### Blank (1401119-BLK1)

Prepared & Analyzed: 01/25/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2	107	37-154				
Surrogate: Toluene-d8	13.4		"	13.3	100	45-149				
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3	103	45-146				

##### LCS (1401119-BS1)

Prepared & Analyzed: 01/25/14

Benzene	33.0	1.0	ug/l	33.3	99.1	51-132				
Toluene	34.0	1.0	"	33.3	102	51-138				
Ethylbenzene	35.3	1.0	"	33.3	106	58-146				
m,p-Xylene	65.4	2.0	"	66.7	98.2	57-144				
o-Xylene	32.0	1.0	"	33.3	95.9	53-146				
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.2	108	37-154				
Surrogate: Toluene-d8	16.1		"	13.3	121	45-149				
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3	101	45-146				

##### LCS (1401119-BS2)

Prepared & Analyzed: 01/25/14

Benzene	33.4	1.0	ug/l	33.3	100	51-132				
Toluene	34.5	1.0	"	33.3	104	51-138				
Ethylbenzene	33.8	1.0	"	33.3	101	58-146				
m,p-Xylene	66.5	2.0	"	66.7	99.7	57-144				
o-Xylene	32.2	1.0	"	33.3	96.5	53-146				
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.2	107	37-154				
Surrogate: Toluene-d8	14.1		"	13.3	105	45-149				
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3	102	45-146				

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/27/14 17:13

**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 1401119 - EPA 5030 Water MS**

Matrix Spike (1401119-MS1)		Source: 1401105-01			Prepared & Analyzed: 01/25/14					
Benzene	34.3	1.0	ug/l	33.3	ND	103	34-141			
Toluene	35.1	1.0	"	33.3	ND	105	27-151			
Ethylbenzene	34.2	1.0	"	33.3	ND	103	29-160			
m,p-Xylene	66.4	2.0	"	66.7	ND	99.6	20-166			
o-Xylene	32.4	1.0	"	33.3	ND	97.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.2		112	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146			

Matrix Spike (1401119-MS2)		Source: 1401105-02			Prepared & Analyzed: 01/25/14					
Benzene	34.3	1.0	ug/l	33.3	ND	103	34-141			
Toluene	35.0	1.0	"	33.3	ND	105	27-151			
Ethylbenzene	34.4	1.0	"	33.3	ND	103	29-160			
m,p-Xylene	69.6	2.0	"	66.7	ND	104	20-166			
o-Xylene	32.5	1.0	"	33.3	ND	97.5	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.2		113	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.4	45-149			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		103	45-146			

Matrix Spike Dup (1401119-MSD1)		Source: 1401105-01			Prepared & Analyzed: 01/25/14					
Benzene	33.1	1.0	ug/l	33.3	ND	99.3	34-141	3.59	32	
Toluene	34.5	1.0	"	33.3	ND	103	27-151	1.75	25	
Ethylbenzene	34.1	1.0	"	33.3	ND	102	29-160	0.176	50	
m,p-Xylene	66.8	2.0	"	66.7	ND	100	20-166	0.615	36	
o-Xylene	32.3	1.0	"	33.3	ND	96.8	33-159	0.495	26	
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.2		111	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.5	45-146			

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
01/27/14 17:13

**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 1401119 - EPA 5030 Water MS**

Matrix Spike Dup (1401119-MSD2)		Source: 1401105-02			Prepared & Analyzed: 01/25/14					
Benzene	35.0	1.0	ug/l	33.3	ND	105	34-141	2.08	32	
Toluene	36.2	1.0	"	33.3	ND	108	27-151	3.20	25	
Ethylbenzene	34.6	1.0	"	33.3	ND	104	29-160	0.579	50	
m,p-Xylene	67.6	2.0	"	66.7	ND	101	20-166	2.99	36	
o-Xylene	32.8	1.0	"	33.3	ND	98.5	33-159	1.04	26	
Surrogate: 1,2-Dichloroethane-d4	15.3		"	13.2		116	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/27/14 17:13

### 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 be 'JMM' followed by a long horizontal stroke.

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

May 06, 2014

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Von Feldt 13-12

Enclosed are the results of analyses for samples received by Summit Scientific on 04/30/14 16:45. 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: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/06/14 16:23

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1405007-01	Water	04/30/14 10:50	04/30/14 16:45
BH02	1405007-02	Water	04/30/14 10:55	04/30/14 16:45
BH03	1405007-03	Water	04/30/14 11:05	04/30/14 16:45
BH04	1405007-04	Water	04/30/14 11:05	04/30/14 16:45
BH05	1405007-05	Water	04/30/14 11:10	04/30/14 16:45

Summit Scientific

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

Project: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
05/06/14 16:23

Summit Scientific

741 Corporate Circle Suite J • Golden, Colorado 80401  
303-277-9310 • 303-374-5933 Fax

Client: PDC Energy  
Address:  
City/State/Zip:  
Phone:  
Sample Name: Von Feldt 13-12  
Project Manager: Brandon Bruns  
E-Mail: Brandon.Bruns@PDC.com  
Project Name: Von Feldt 13-12  
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)			
B401	4/30/14	10:50	3	X				Soil		
B402	4/30/14	10:55	3	X				Other (Specify)		
B403	4/30/14	11:05	3	X				Air - Canister Serial #		
B404	4/30/14	11:05	3	X				Other (Specify)		
B405	4/30/14	11:10	3	X				Soil		
								Other (Specify)		
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PDC Energy  
1775 Sherman St. STE. 3000  
Denver CO, 80203

Project: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
05/06/14 16:23

**BH01**  
**1405007-01 (Water)**

**Summit Scientific**

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

Date Sampled: **04/30/14 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1405010	05/03/14	05/03/14	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/30/14 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		112 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		45-146		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
05/06/14 16:23

**BH02**  
**1405007-02 (Water)**

**Summit Scientific**

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

Date Sampled: **04/30/14 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1405010	05/03/14	05/03/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **04/30/14 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
05/06/14 16:23

**BH03**  
**1405007-03 (Water)**

**Summit Scientific**

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

Date Sampled: **04/30/14 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1405010	05/03/14	05/03/14	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/30/14 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		109 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		45-146		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
05/06/14 16:23

**BH04**  
**1405007-04 (Water)**

**Summit Scientific**

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

Date Sampled: **04/30/14 11:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1405010	05/03/14	05/03/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **04/30/14 11:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
05/06/14 16:23

**BH05**  
**1405007-05 (Water)**

**Summit Scientific**

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

Date Sampled: **04/30/14 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1405010	05/03/14	05/03/14	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **04/30/14 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		118 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		45-146		"	"	"	"	

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
05/06/14 16:23

## 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 1405010 - EPA 5030 Water MS

##### Blank (1405010-BLK1)

Prepared & Analyzed: 05/02/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.2	107	37-154				
Surrogate: Toluene-d8	13.3		"	13.3	99.7	45-149				
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3	108	45-146				

##### LCS (1405010-BS1)

Prepared & Analyzed: 05/02/14

Benzene	32.3	1.0	ug/l	33.2	97.3	51-132				
Toluene	34.5	1.0	"	33.3	104	51-138				
Ethylbenzene	34.0	1.0	"	33.1	103	58-146				
m,p-Xylene	71.7	2.0	"	66.7	108	57-144				
o-Xylene	35.0	1.0	"	32.9	106	53-146				
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.2	114	37-154				
Surrogate: Toluene-d8	13.5		"	13.3	101	45-149				
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3	105	45-146				

##### LCS (1405010-BS2)

Prepared & Analyzed: 05/02/14

Benzene	33.0	1.0	ug/l	33.2	99.3	51-132				
Toluene	35.1	1.0	"	33.3	105	51-138				
Ethylbenzene	35.1	1.0	"	33.1	106	58-146				
m,p-Xylene	73.4	2.0	"	66.7	110	57-144				
o-Xylene	36.0	1.0	"	32.9	109	53-146				
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.2	108	37-154				
Surrogate: Toluene-d8	13.5		"	13.3	101	45-149				
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3	103	45-146				

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

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
05/06/14 16:23

**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 1405010 - EPA 5030 Water MS**

Matrix Spike (1405010-MS1)				Source: 1405007-01		Prepared & Analyzed: 05/02/14				
Benzene	32.9	1.0	ug/l	33.2	ND	98.9	34-141			
Toluene	34.5	1.0	"	33.3	ND	103	27-151			
Ethylbenzene	34.8	1.0	"	33.1	ND	105	29-160			
m,p-Xylene	72.4	2.0	"	66.7	ND	109	20-166			
o-Xylene	35.6	1.0	"	32.9	ND	108	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.0		"	13.2		106	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

Matrix Spike (1405010-MS2)				Source: 1405007-02		Prepared & Analyzed: 05/02/14				
Benzene	33.1	1.0	ug/l	33.2	ND	99.6	34-141			
Toluene	35.5	1.0	"	33.3	ND	106	27-151			
Ethylbenzene	35.1	1.0	"	33.1	ND	106	29-160			
m,p-Xylene	74.1	2.0	"	66.7	ND	111	20-166			
o-Xylene	36.2	1.0	"	32.9	ND	110	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.2		110	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

Matrix Spike Dup (1405010-MSD1)				Source: 1405007-01		Prepared & Analyzed: 05/02/14				
Benzene	34.6	1.0	ug/l	33.2	ND	104	34-141	5.13	32	
Toluene	38.0	1.0	"	33.3	ND	114	27-151	9.67	25	
Ethylbenzene	29.0	1.0	"	33.1	ND	87.8	29-160	18.2	50	
m,p-Xylene	60.4	2.0	"	66.7	ND	90.7	20-166	18.0	36	
o-Xylene	29.7	1.0	"	32.9	ND	90.2	33-159	18.1	26	
Surrogate: 1,2-Dichloroethane-d4	17.1		"	13.2		129	37-154			
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	11.5		"	13.3		86.2	45-146			

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Denver CO, 80203

Project: Von Feldt 13-12  
Project Number: [none]  
Project Manager: Brandon Brunns

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05/06/14 16:23

**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 1405010 - EPA 5030 Water MS**

Matrix Spike Dup (1405010-MSD2)		Source: 1405007-02			Prepared & Analyzed: 05/03/14					
Benzene	33.6	1.0	ug/l	33.2	ND	101	34-141	1.50	32	
Toluene	36.1	1.0	"	33.3	ND	108	27-151	1.59	25	
Ethylbenzene	35.7	1.0	"	33.1	ND	108	29-160	1.58	50	
m,p-Xylene	75.2	2.0	"	66.7	ND	113	20-166	1.45	36	
o-Xylene	36.4	1.0	"	32.9	ND	111	33-159	0.578	26	
Surrogate: 1,2-Dichloroethane-d4	15.2		"	13.2		115	37-154			
Surrogate: Toluene-d8	13.7		"	13.3		103	45-149			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	45-146			

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

Project: Von Feldt 13-12

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/06/14 16:23

### 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 be 'JMM'.