

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

RECEIVED  
2/10/2013

SPILL/RELEASE REPORT

This form is to be submitted by the party responsible for the oil and gas spill or release. Any spill or release which may impact waters of the State must be reported as soon as practicable; any spill over 20 bbls must be reported within 24 hours and all spills over five bbls must be reported within ten days. Submit a Site Investigation and

Spill report taken by:

FACILITY ID:  
323056

OPERATOR INFORMATION

Name of Operator: <u>PDC Energy, Inc.</u> OGCC Operator No: <u>69175</u>	Phone Numbers
Address: <u>1775 Sherman Street, Suite 3000</u>	No: <u>(303) 831-3971</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80203</u>	Fax: <u>(303) 860-5838</u>
Contact Person: <u>Brandon Bruns</u>	Email: <u>brandon.bruns@pdce.com</u>

DESCRIPTION OF SPILL OR RELEASE

Date of Incident: <u>1/25/2013</u> Facility Name & No: <u>Plumb 1 &amp; 2</u>	County: <u>Weld</u>
Type of Facility (well, tank battery, flow line, pit): <u>Tank Battery</u>	QtrQtr: <u>NWNW</u> Section: <u>8</u>
Well Name and Number: <u>Plumb 1 &amp; 2</u>	Township: <u>5N</u> Range: <u>64W</u>
API Number: <u>05-123-12500</u>	Meridian: <u>6th</u>

Specify volume spilled and recovered (in bbls) for the following materials:  
 Oil spilled: 72 Oil recov'd: 0 Water spilled: 0 Water recov'd: 0 Other spilled: 0 Other recov'd: 0  
 Ground Water impacted?  Yes  No Surface Water impacted?  Yes  No  
 Contained within berm?  Yes  No Area and vertical extent of spill: -378 ft<sup>2</sup> x -6' bgs  
 Current land use: Oil and Gas Production Facility/Agriculture/Livestock Weather conditions: High 30s  
 Soil/geology description: Aquolls and Aquents gravelly substratum, 0 to 3 percent slopes  
**IF LESS THAN A MILE**, report distance **IN FEET** to nearest ... Surface water: -500' N Wetlands: NA Buildings: ~100' SE  
 Livestock: ~150' E Water wells: ~387' SW Depth to shallowest ground water: ~6 feet  
 Cause of spill (e.g. equipment failure, human error, etc.): Equipment failure Detailed description of the spill/release incident:  
 On January 25, 2013, a condensate release was discovered during a daily inspection at the Plumb 1 & 2 tank battery. Wells Plumb 1 (API # 05-123-12500) and Plumb 2 (API # 05-123-13078) produce to this location. A topographic map of the site is included as Figure 1.

CORRECTIVE ACTION

Describe immediate response (how stopped, contained and recovered):  
 Excavation of impacted soil began on January 25, 2013 and concluded on January 28, 2013. Approximately 140 cubic yards (yd3) of impacted material was removed and transported to the Waste Management Facility in Ault, Colorado. The location and extent of the excavation is illustrated on Figure 2. Groundwater was encountered during excavation activities. As part of the initial remediation efforts, liquid recovery was conducted using a vac truck. Approximately 60 barrels of groundwater were recovered.

Describe any emergency pits constructed: NA

How was the extent of contamination determined?  
 Soil samples were collected during the excavation based on field screening of volatile organic compound (VOC) concentrations measured with a photoionization detector (PID). During excavation activities, soil samples SS01 through SS06 were collected at the locations illustrated on Figure 2. Two test pit locations (TP01 and TP02) were excavated and soil samples SS07 and SS08 were collected (35' north and 12' east of the main excavation, respectively) at the groundwater interface. Soil samples at these locations exhibited constituent concentrations above COGCC Table 910-1 soil limits. Test pit TP03 was also completed in the area where the separator was located. This test pit was done to evaluate subsurface conditions to the north along the dumpline alignment. Soil samples were submitted to Summit Scientific Laboratories in Golden, Colorado for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), gasoline range total petroleum hydrocarbons (TPH)-GRO, and naphthalene by EPA Method 8260B and diesel range total petroleum hydrocarbons (TPH-DRO) by EPA Method 8015. A summary of soil analytical data is presented in Table 1. Groundwater was encountered within the excavation and in test pit TP03 at approximately 6 feet below ground surface (bgs). However, a groundwater sample was not collected from the release area excavation due to the presence of LNAPL. A groundwater sample was collected in TP03. Approximately 60 barrels of groundwater was recovered from the test pit TP03 and release area excavations. The groundwater sample GW01, was submitted to Summit Scientific for analysis of BTEX using EPA method 8260B. Analytical results indicate that benzene, toluene, and total xylenes concentrations were above Table 910-1 groundwater limits. Prior to backfilling the excavations, horizontal perforated remediation pipes were installed in the release area excavation and in TP03 as illustrated on Figure 2. A summary of groundwater analytical data is presented in Table 2. The laboratory analytical reports are included as Attachment A. The extent of the excavations, soil and groundwater sample locations, and the remediation pipe locations are illustrated on Figure 2.

Further remediation activities proposed (attach separate sheet if needed):  
 PDC is currently evaluating a remedial approach for the site and will detail this approach in a Form 27 that will be submitted to the COGCC.

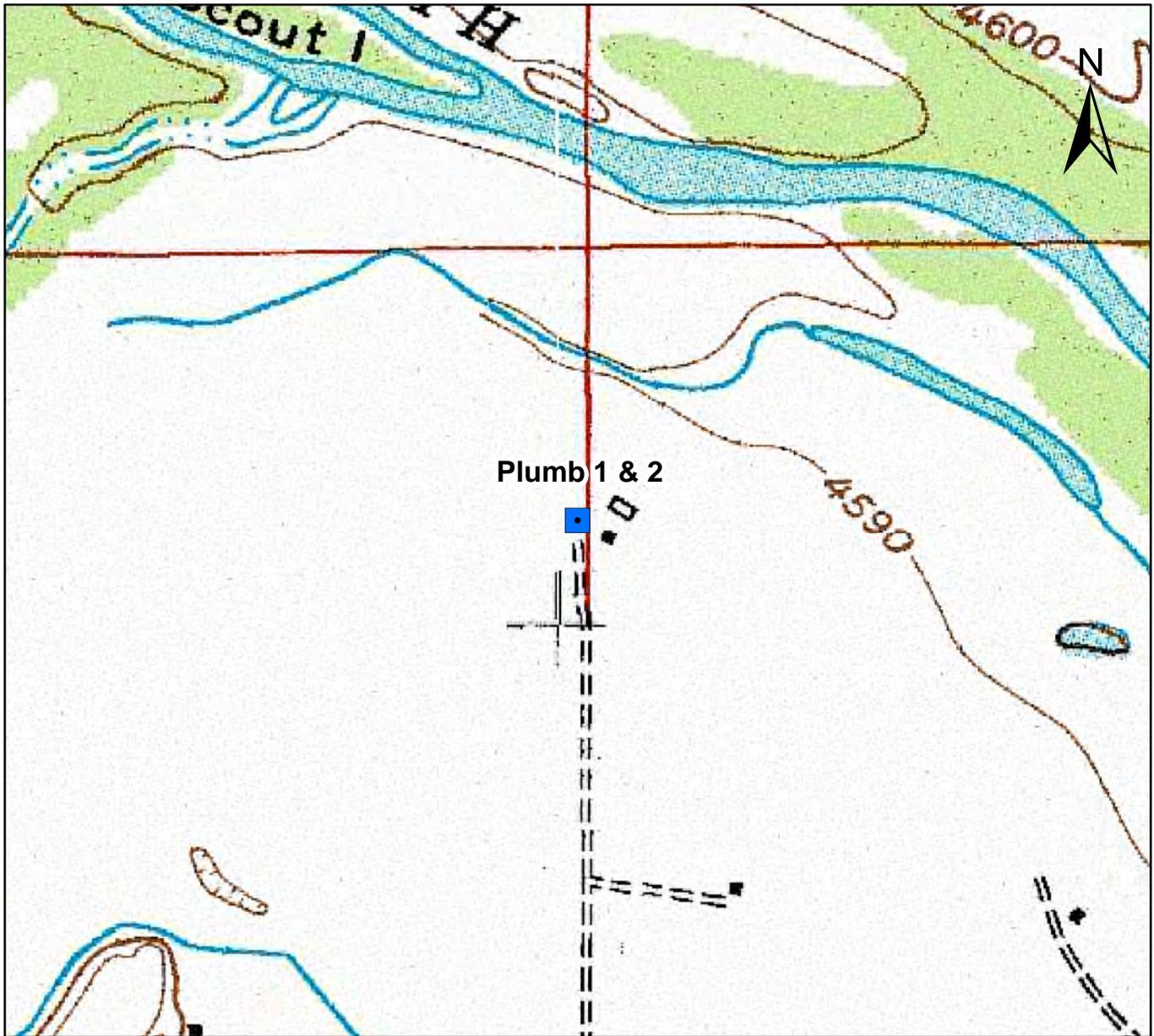
Describe measures taken to prevent problem from reoccurring:  
 PDC will continue yearly production line testing once the location is back to being operational.

OTHER NOTIFICATIONS

List the parties and agencies notified (County, BLM, EPA, DOT, Local Emergency Planning Coordinator or other).

Date	Agency	Contact	Phone	Response
1/24/2012	COGCC	Bob Chesson	970-625-2497 Ext.5112	

Spill/Release Tracking No: **2231969**



### Figure 1

Site Location Map  
 Plumb 1 & 2  
 NWNW S8 T5N R64W  
 Weld County, Colorado

Drawn By: BDH  
 Date: 02/01/2013

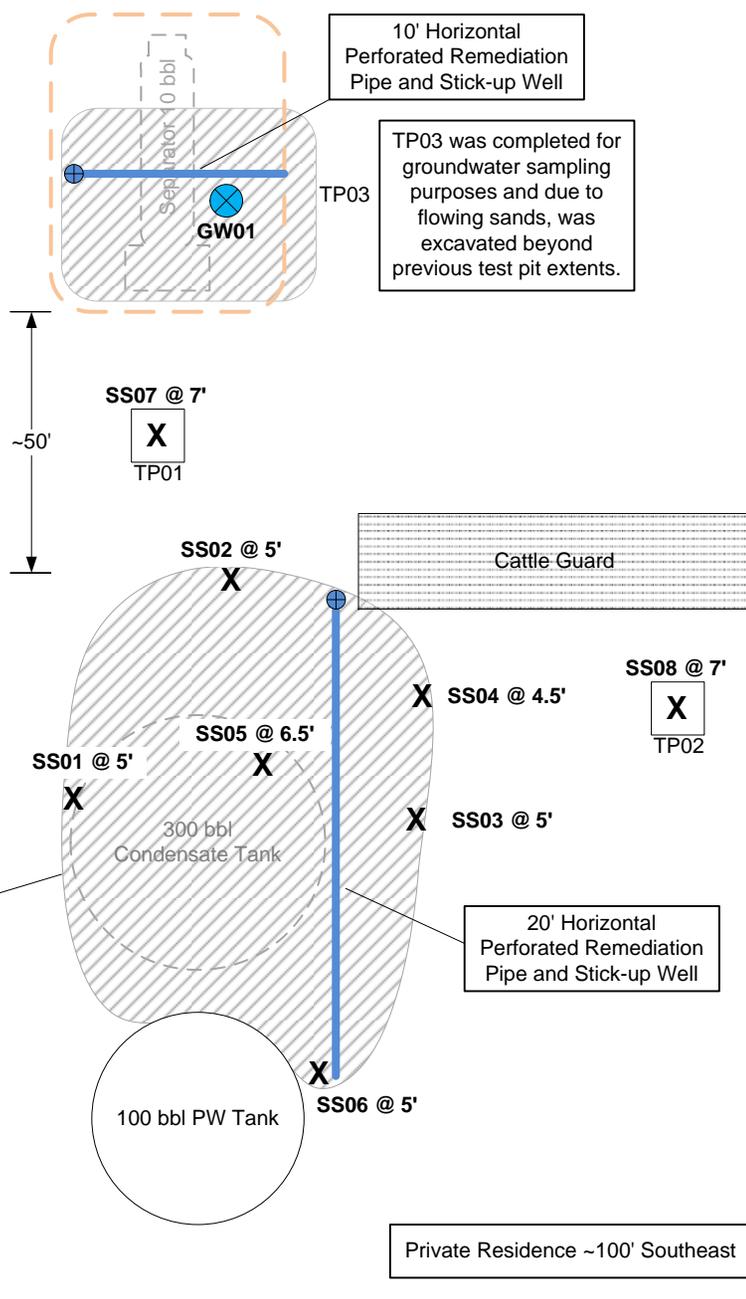




Surface  
Drainage

Cultivated Land

Fenceline



TP03 was completed for groundwater sampling purposes and due to flowing sands, was excavated beyond previous test pit extents.

A groundwater sample was not collected from the south excavation due to the presence of LNAPL.

20' Horizontal Perforated Remediation Pipe and Stick-up Well

Private Residence ~100' Southeast

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

PROJECT NO:	
DRAWN BY:	BDH
DATE:	1/29/13

**Facility Diagram**  
 PDC Energy – DJ Basin  
 Plumb 1 & 2  
 NWNW S8 T5N R64W  
 Weld County, CO



6899 Pecos St., Unit C  
 Denver CO 80221

LEGEND	
	Approximate Excavation Extents
	Soil Sample Location
	Groundwater Sample Location
	Remediation Well Stick-up Pipe
	Horizontal Perforated Remediation Well

FIGURE 2  
 Not to Scale

**TABLE 1  
PLUMB 1 and 2  
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	1/25/2013	5	206	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS02	1/25/2013	5	55.7	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS03	1/25/2013	5	85.5	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS04	1/25/2013	4.5	67	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS05	1/25/2013	6.5	9.8	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS06	1/25/2013	5	130	<0.005	<0.005	<0.005	<0.01	<0.005	<50
SS07	1/25/2013	7	1,750	0.0064	0.038	0.11	1.9	0.07	<b>820</b>
SS08	1/25/2013	7	1,395	<b>19</b>	<b>210</b>	23	<b>340</b>	2.5	<b>12,700</b>
<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  
PLUMB 1 and 2  
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
GW01	1/29/2013	<b>640</b>	<b>1,100</b>	340	<b>3,700</b>
<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 30, 2013

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Plumb 1 & 2

Enclosed are the results of analyses for samples received by Summit Scientific on 01/25/13 16:27. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV  
Laboratory Director

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/30/13 08:21

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01	R301161-01	Soil	01/25/13 08:35	01/25/13 16:27
SS02	R301161-02	Soil	01/25/13 08:40	01/25/13 16:27
SS03	R301161-03	Soil	01/25/13 08:55	01/25/13 16:27
SS04	R301161-04	Soil	01/25/13 11:40	01/25/13 16:27
SS05	R301161-05	Soil	01/25/13 12:15	01/25/13 16:27
SS06	R301161-06	Soil	01/25/13 13:53	01/25/13 16:27
SS07	R301161-07	Soil	01/25/13 14:15	01/25/13 16:27
SS08	R301161-08	Soil	01/25/13 14:35	01/25/13 16:27

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
 Project Manager: Brandon Bruns

Reported:  
 01/30/13 08:21

R301161

Summit Scientific

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
 303-277-9310 • 303-277-9311 Fax

Client: PDC Energy  
 Address: 1775 Sherman St Suite 3000  
 City/State/Zip: Denver CO 80203  
 Phone: (303) 860-3000  
 Sample Name: Blowdown

Project Manager: Brandon Bruns  
 E-Mail: brunb@pdc.com  
 Project Name: Plumb 1 & 2  
 Project Number: \_\_\_\_\_

Page 1 of 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix	Analyze For:	Special Instructions
				HCl	HNO <sub>3</sub>	None	Other (Specify)			
SS01	1/25/13	0835	1			X		Air - Canister Series #		
SS02		0840	1			X		Soil		
SS03		0855	1			X		Groundwater		
SS04		1140	1					Other (Specify)		
SS05		1215	1					Other (Specify)		
SS06		1415	1					Other (Specify)		
SS07		1415	1					Other (Specify)		
SS08		1435	1					Other (Specify)		

Retinquished by: <u>[Signature]</u>	Date Time: <u>1-25-13/1607</u>	Received by:	Date Time:	Turn Around Time (Check)	Notes:
Retinquished by:	Date Time:	Received by:	Date Time:	Some Day <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Retinquished by:	Date Time:	Received in Lab by: <u>[Signature]</u>	Date Time: <u>1-25-13 1627</u>	24 Hours <input type="checkbox"/>	Standard <input checked="" type="checkbox"/>
				48 Hours <input type="checkbox"/>	6A ICE

[Signature]



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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

**SS01**  
**R301161-01 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		105 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 08:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	21-167		"	"	"	"	

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

**SS02**  
**R301161-02 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		103 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 08:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
01/30/13 08:21

**SS03**  
**R301161-03 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		100 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		119 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

**SS04**  
**R301161-04 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

**SS05**  
**R301161-05 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.2 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		94.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
01/30/13 08:21

**SS06**  
**R301161-06 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.7 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.0050	mg/kg	1	3012806	01/28/13	01/28/13	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: **01/25/13 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	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: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/30/13 08:21

**SS07**  
**R301161-07 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>260</b>	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		100 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.070</b>	0.0050	mg/kg	1	3012806	01/28/13	01/29/13	EPA 8260B	
<b>Benzene</b>	<b>0.0064</b>	0.0050	"	"	"	"	"	"	
<b>Toluene</b>	<b>0.038</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.11</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.9</b>	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>560</b>	50	"	100	"	"	"	"	

Date Sampled: **01/25/13 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		98.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		42.8 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
01/30/13 08:21

**SS08**  
**R301161-08 (Soil)**

**Summit Scientific**

**Total Petroleum Hydrocarbons by 8015**

Date Sampled: **01/25/13 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>3900</b>	50	mg/kg	1	3012807	01/28/13	01/29/13	8015 DRO	

Date Sampled: **01/25/13 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		103 %	30-150		"	"	"	"	

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

Date Sampled: **01/25/13 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>2.5</b>	0.50	mg/kg	100	3012806	01/28/13	01/28/13	EPA 8260B	
<b>Benzene</b>	<b>19</b>	0.50	"	"	"	"	"	"	
<b>Toluene</b>	<b>210</b>	5.0	"	1000	"	"	"	"	
<b>Ethylbenzene</b>	<b>23</b>	0.50	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>340</b>	10	"	1000	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>8800</b>	500	"	"	"	"	"	"	

Date Sampled: **01/25/13 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.0 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2  
 Project Number: [none]  
 Project Manager: Brandon Brunns

**Reported:**  
 01/30/13 08:21

**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 3012807 - EPA 3550A**

**Blank (3012807-BLK1)**

Prepared: 01/28/13 Analyzed: 01/29/13

C10-C28 (DRO) ND 50 mg/kg

**LCS (3012807-BS1)**

Prepared: 01/28/13 Analyzed: 01/29/13

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

**LCS Dup (3012807-BSD1)**

Prepared: 01/28/13 Analyzed: 01/29/13

C10-C28 (DRO) 491 50 mg/kg 501 97.9 73-134 8.30 11

**Matrix Spike (3012807-MS1)**

**Source: R301161-01**

Prepared: 01/28/13 Analyzed: 01/29/13

C10-C28 (DRO) 504 50 mg/kg 501 ND 101 50-148

**Matrix Spike Dup (3012807-MSD1)**

**Source: R301161-01**

Prepared: 01/28/13 Analyzed: 01/29/13

C10-C28 (DRO) 504 50 mg/kg 501 ND 101 50-148 0.0202 13

Summit Scientific

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

Project: Plumb 1 & 2  
Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

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

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

**Batch 3012806 - EPA 5030 Soil MS**

**Blank (3012806-BLK1)**

Prepared: 01/28/13 Analyzed: 01/29/13

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0370</i>		<i>"</i>	<i>0.0397</i>	<i>93.2</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0469</i>		<i>"</i>	<i>0.0400</i>	<i>117</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>	<i>110</i>	<i>21-167</i>				

**LCS (3012806-BS1)**

Prepared: 01/28/13 Analyzed: 01/29/13

Naphthalene	ND	0.0050	mg/kg			66-138				
Benzene	0.0862	0.0050	"	0.100	86.2	58-130				
Toluene	0.120	0.0050	"	0.100	120	61-134				
Ethylbenzene	0.119	0.0050	"	0.100	119	74-139				
m,p-Xylene	0.220	0.010	"	0.200	110	73-137				
o-Xylene	0.121	0.0050	"	0.100	121	73-141				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0374</i>		<i>"</i>	<i>0.0397</i>	<i>94.2</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0477</i>		<i>"</i>	<i>0.0400</i>	<i>119</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0432</i>		<i>"</i>	<i>0.0400</i>	<i>108</i>	<i>21-167</i>				

**LCS Dup (3012806-BSD1)**

Prepared: 01/28/13 Analyzed: 01/29/13

Naphthalene	ND	0.0050	mg/kg			66-138		12		
Benzene	0.0876	0.0050	"	0.100	87.6	58-130	1.59	13		
Toluene	0.118	0.0050	"	0.100	118	61-134	1.03	16		
Ethylbenzene	0.122	0.0050	"	0.100	122	74-139	2.71	12		
m,p-Xylene	0.225	0.010	"	0.200	112	73-137	2.12	14		
o-Xylene	0.124	0.0050	"	0.100	124	73-141	2.74	12		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0380</i>		<i>"</i>	<i>0.0397</i>	<i>95.7</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0453</i>		<i>"</i>	<i>0.0400</i>	<i>113</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0427</i>		<i>"</i>	<i>0.0400</i>	<i>107</i>	<i>21-167</i>				

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
01/30/13 08:21

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

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

**Batch 3012806 - EPA 5030 Soil MS**

**Matrix Spike (3012806-MS1)**

Source: R301161-01

Prepared: 01/28/13

Analyzed: 01/29/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			
Benzene	0.0868	0.0050	"	0.100	0.00	86.8	30-131			
Toluene	0.116	0.0050	"	0.100	0.00	116	30-134			
Ethylbenzene	0.116	0.0050	"	0.100	0.00	116	22-153			
m,p-Xylene	0.212	0.010	"	0.200	0.00	106	10-159			
o-Xylene	0.121	0.0050	"	0.100	0.00	121	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0397		105	23-173			
Surrogate: Toluene-d8	0.0482		"	0.0400		120	20-170			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	21-167			

**Matrix Spike Dup (3012806-MSD1)**

Source: R301161-01

Prepared: 01/28/13

Analyzed: 01/29/13

Naphthalene	ND	0.0050	mg/kg		ND		10-158			42
Benzene	0.0845	0.0050	"	0.100	0.00	84.5	30-131	2.70		34
Toluene	0.111	0.0050	"	0.100	0.00	111	30-134	4.57		30
Ethylbenzene	0.116	0.0050	"	0.100	0.00	116	22-153	0.104		24
m,p-Xylene	0.212	0.010	"	0.200	0.00	106	10-159	0.0284		68
o-Xylene	0.121	0.0050	"	0.100	0.00	121	31-151	0.198		38
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0397		97.1	23-173			
Surrogate: Toluene-d8	0.0457		"	0.0400		114	20-170			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	21-167			

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
01/30/13 08:21

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 04, 2013

Brandon Bruns  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Plumb 1 & 2

Enclosed are the results of analyses for samples received by Summit Scientific on 01/29/13 15:11. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury For Joseph J Egry IV  
Laboratory Director





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

Project: Plumb 1 & 2  
 Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 02/04/13 18:21

**GW-01**  
**R301185-01 (Water)**

**Summit Scientific**

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

Date Sampled: **01/29/13 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>640</b>	100	ug/l	100	3013113	01/31/13	02/01/13	EPA 8260B	
<b>Toluene</b>	<b>1100</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>340</b>	100	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>3700</b>	100	"	"	"	"	"	"	

Date Sampled: **01/29/13 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.9 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/04/13 18:21

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

**Summit Scientific**

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

**Batch 3013113 - EPA 5030 Water MS**

**Blank (3013113-BLK1)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.2		105	37-154				
Surrogate: Toluene-d8	12.9		"	13.3		97.1	45-149				
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	45-146				

**Blank (3013113-BLK2)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.2		104	37-154				
Surrogate: Toluene-d8	13.2		"	13.3		99.0	45-149				
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	45-146				

**LCS (3013113-BS1)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	22.0	1.0	ug/l	33.3		65.9	51-132				
Toluene	23.6	1.0	"	33.3		70.8	51-138				
Ethylbenzene	23.7	1.0	"	33.3		71.1	58-146				
m,p-Xylene	48.6	2.0	"	66.7		72.9	57-144				
o-Xylene	23.7	1.0	"	33.3		71.0	53-146				
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.2		109	37-154				
Surrogate: Toluene-d8	13.3		"	13.3		99.5	45-149				
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146				

**LCS (3013113-BS2)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	21.2	1.0	ug/l	33.3		63.5	51-132				
Toluene	22.6	1.0	"	33.3		67.8	51-138				
Ethylbenzene	23.8	1.0	"	33.3		71.3	58-146				
m,p-Xylene	48.8	2.0	"	66.7		73.2	57-144				
o-Xylene	23.9	1.0	"	33.3		71.7	53-146				
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.2		99.5	37-154				
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149				
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146				

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/04/13 18:21

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

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

**Batch 3013113 - EPA 5030 Water MS**

**LCS Dup (3013113-BSD1)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	20.9	1.0	ug/l	33.3		62.8	51-132	4.81	17	
Toluene	22.2	1.0	"	33.3		66.7	51-138	5.89	17	
Ethylbenzene	23.3	1.0	"	33.3		69.9	58-146	1.70	16	
m,p-Xylene	47.9	2.0	"	66.7		71.8	57-144	1.51	16	
o-Xylene	23.2	1.0	"	33.3		69.8	53-146	1.79	15	
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.2		103	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		97.1	45-149			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146			

**LCS Dup (3013113-BSD2)**

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	20.4	1.0	ug/l	33.3		61.3	51-132	3.56	17	
Toluene	21.8	1.0	"	33.3		65.5	51-138	3.42	17	
Ethylbenzene	23.0	1.0	"	33.3		69.0	58-146	3.21	16	
m,p-Xylene	47.2	2.0	"	66.7		70.7	57-144	3.42	16	
o-Xylene	23.3	1.0	"	33.3		69.8	53-146	2.67	15	
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.2		104	37-154			
Surrogate: Toluene-d8	12.6		"	13.3		94.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146			

**Matrix Spike (3013113-MS1)**

Source: R301192-01

Prepared: 01/31/13 Analyzed: 02/01/13

Benzene	25.7	1.0	ug/l	33.3	1.70	71.9	34-141			
Toluene	24.0	1.0	"	33.3	ND	72.1	27-151			
Ethylbenzene	27.4	1.0	"	33.3	1.06	79.0	29-160			
m,p-Xylene	51.7	2.0	"	66.7	ND	77.6	20-166			
o-Xylene	25.2	1.0	"	33.3	ND	75.6	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2		106	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149			
Surrogate: 4-Bromofluorobenzene	12.0		"	13.3		90.2	45-146			

Summit Scientific

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/04/13 18:21

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

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

**Batch 3013113 - EPA 5030 Water MS**

<b>Matrix Spike (3013113-MS2)</b>	<b>Source: R301192-02</b>			Prepared: 01/31/13		Analyzed: 02/02/13				
Benzene	20.5	1.0	ug/l	33.3	ND	61.4	34-141			
Toluene	21.7	1.0	"	33.3	ND	65.2	27-151			
Ethylbenzene	23.0	1.0	"	33.3	ND	69.1	29-160			
m,p-Xylene	47.4	2.0	"	66.7	ND	71.2	20-166			
o-Xylene	22.9	1.0	"	33.3	ND	68.8	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.2		97.3	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		101	45-146			

<b>Matrix Spike Dup (3013113-MSD1)</b>	<b>Source: R301192-01</b>			Prepared: 01/31/13		Analyzed: 02/01/13				
Benzene	22.1	1.0	ug/l	33.3	1.70	61.1	34-141	15.1	32	
Toluene	20.7	1.0	"	33.3	ND	62.0	27-151	15.0	25	
Ethylbenzene	22.4	1.0	"	33.3	1.06	63.9	29-160	20.2	50	
m,p-Xylene	42.8	2.0	"	66.7	ND	64.3	20-166	18.7	36	
o-Xylene	21.1	1.0	"	33.3	ND	63.3	33-159	17.6	26	
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		110	37-154			
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.3	45-146			

<b>Matrix Spike Dup (3013113-MSD2)</b>	<b>Source: R301192-02</b>			Prepared: 01/31/13		Analyzed: 02/02/13				
Benzene	20.0	1.0	ug/l	33.3	ND	60.0	34-141	2.32	32	
Toluene	21.4	1.0	"	33.3	ND	64.2	27-151	1.53	25	
Ethylbenzene	22.1	1.0	"	33.3	ND	66.3	29-160	4.08	50	
m,p-Xylene	44.8	2.0	"	66.7	ND	67.2	20-166	5.75	36	
o-Xylene	22.2	1.0	"	33.3	ND	66.6	33-159	3.28	26	
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2		106	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

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

Project: Plumb 1 & 2

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/04/13 18:21

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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