

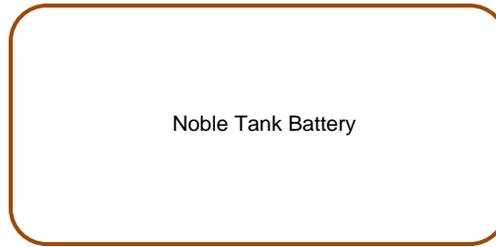
Figure 1
Site Location Map
Jerke Up 8-7
SENE S7 T4N R65W
Weld County, Colorado

Drawn By: DBA
Date: 11/22/2013

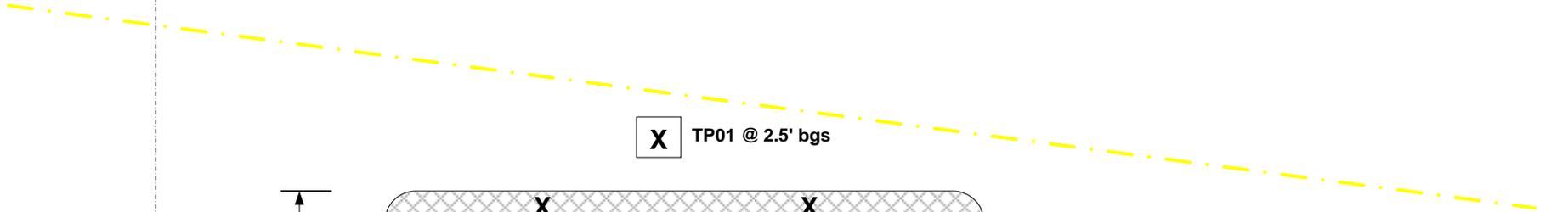




Surface
Drainage



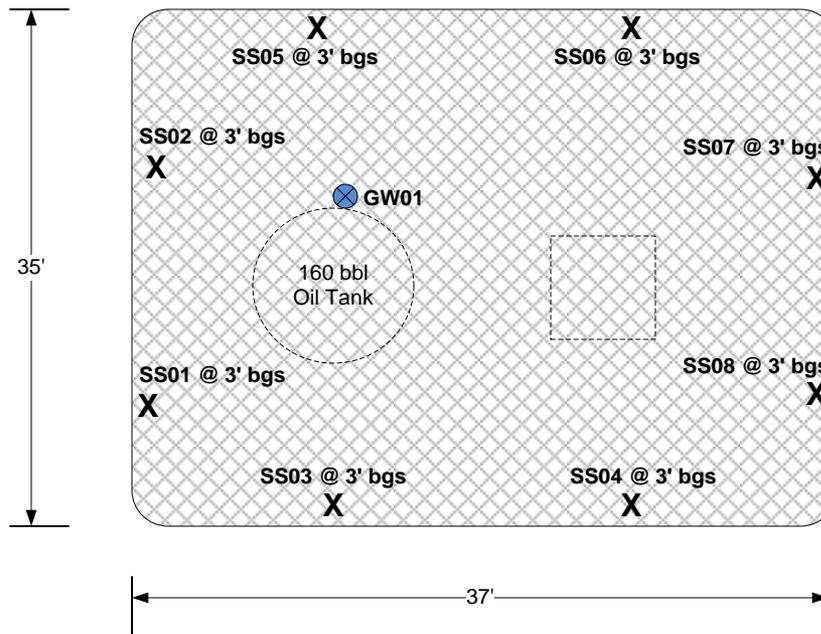
Noble Tank Battery



X TP01 @ 2.5' bgs

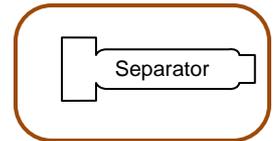
M

Agriculture



35'

37'



Separator

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

Agriculture

DRAWN BY: CAW

DATE: 11/11/2013

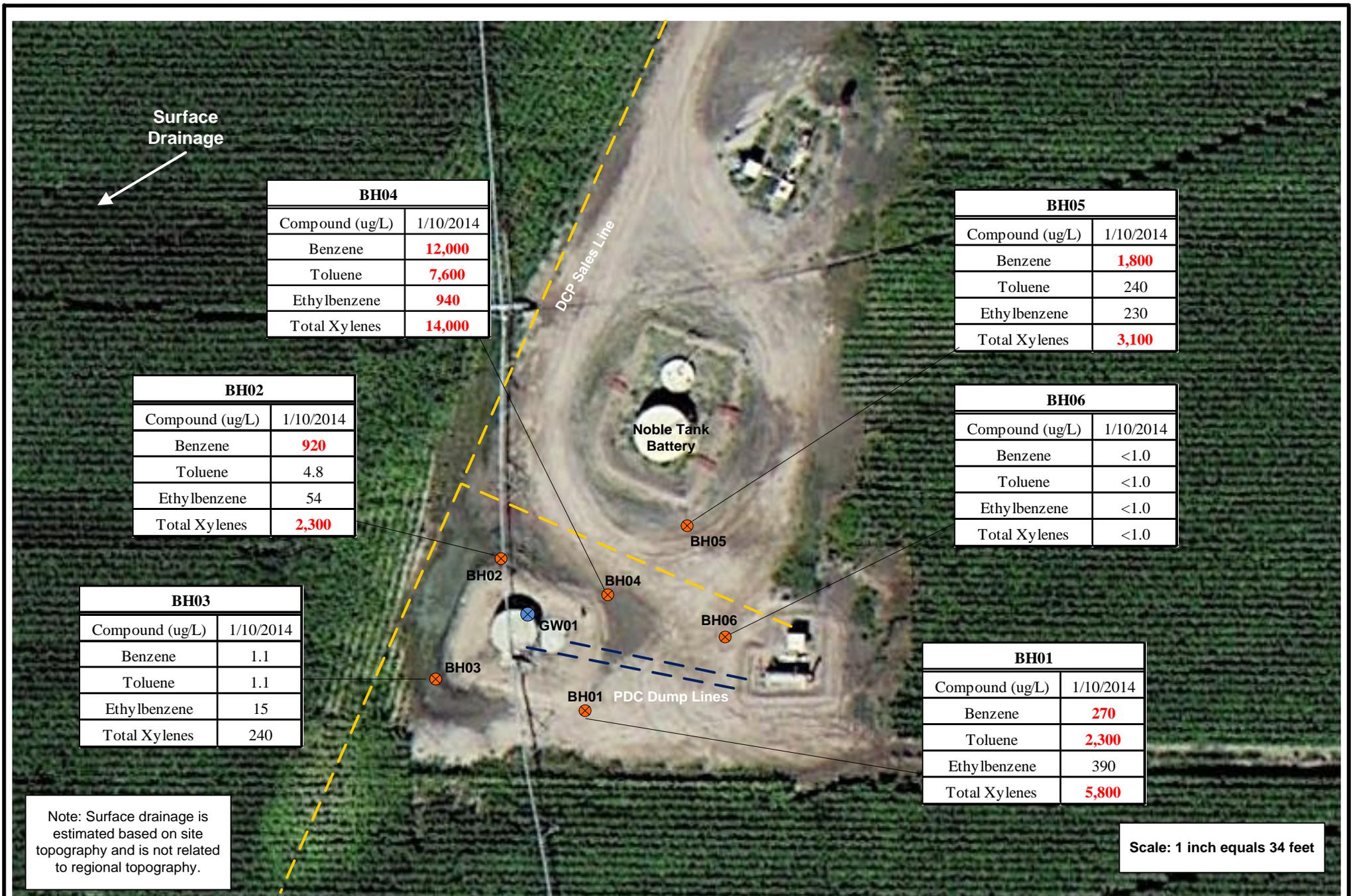
Facility Diagram
PDC Energy – DJ Basin
Jerke Up 8-7
SENE S7 T4N 65W
Weld County, CO



6899 Pecos Street
Unit C
Denver, CO 80221

- LEGEND**
- Former Tank Location
 - Earthen Berm
 - Buried Gas Line
 - Approximate Area of Excavation
 - Soil Sample Location
 - Groundwater Sample Location

FIGURE 2
EXCAVATION
SITE MAP
Not to Scale



DRAWN BY: ESS

DATE: 1/22/2013

Facility Diagram
 PDC Energy – DJ Basin
 Jerke UP 8-7
 SENE S7 T4N R65W
 Weld County, CO

 6899 Pecos Street
 Unit C
 Denver, CO 80221

LEGEND

-  Monitoring Well Location
-  Excavation Groundwater Sample Location
-  Underground Gas Line
-  Underground Production Line

FIGURE 3
 GROUNDWATER
 ANALYTICAL RESULTS

**TABLE 1
JERKE UP 8-7
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 ⁽²⁾ (mg/kg)
TP01	11/6/2013	2.5	178	0.022	0.0058	0.032	0.73	<0.010	4.6
SS01	11/7/2013	3	89	<0.002	<0.005	<0.005	<0.010	<0.010	0.82
SS02	11/8/2013	3	67	<0.002	<0.005	<0.005	<0.010	<0.010	0.88
SS03	11/8/2013	3	85	0.003	<0.005	<0.005	0.022	<0.010	0.54
SS04	11/8/2013	3	26.2	0.017	0.064	0.085	1.40	0.022	21.0
SS05	11/11/2013	3	190	<0.002	<0.005	0.0096	0.16	<0.010	1.8
SS06	11/11/2013	3	225	0.010	<0.005	0.020	0.37	<0.010	4.3
SS07	11/11/2013	3	210	0.019	<0.005	0.013	0.21	<0.010	1.1
SS08	11/11/2013	3	115	0.100	0.053	0.050	0.79	<0.010	4.0
COGCC standards for soil (mg/kg) ⁽¹⁾				0.17	85	100	175	23	500

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
JERKE UP 8-7
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
GW01	11/12/2013	230	370	160	2,220
BH01	1/10/2014	270	2,300	390	5,800
BH02	1/10/2014	920	4.8	54	2,300
BH03	1/10/2014	1.1	1.1	15	240
BH04	1/10/2014	12,000	7,600	940	14,000
BH05	1/10/2014	1,800	240	230	3,100
BH06	1/10/2014	<1.0	<1.0	<1.0	<1.0
COGCC standards for groundwater (ug/L) ⁽¹⁾		5	560	700	1,400

Notes:

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

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 06, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 11/06/13 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 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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/06/13 17:45

TP01@2.5'
R311041-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3110512	11/06/13	11/06/13	8015M	

Date Sampled: **11/06/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		113 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3110511	11/06/13	11/06/13	EPA 8260B	
Benzene	0.022	0.0020	"	"	"	"	"	"	
Toluene	0.0058	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.032	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.73	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.6	0.50	"	"	"	"	"	"	

Date Sampled: **11/06/13 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 11/06/13 17:45

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3110512 - EPA 3550A

Blank (3110512-BLK1)				Prepared & Analyzed: 11/05/13							
C10-C28 (DRO)	ND	50	mg/kg								
LCS (3110512-BS1)				Prepared & Analyzed: 11/05/13							
C10-C28 (DRO)	467	50	mg/kg	501	93.3	73-134					
LCS Dup (3110512-BSD1)				Prepared & Analyzed: 11/05/13							
C10-C28 (DRO)	471	50	mg/kg	501	93.9	73-134	0.681	11			
Matrix Spike (3110512-MS1)				Source: R311015-03		Prepared: 11/05/13 Analyzed: 11/06/13					
C10-C28 (DRO)	448	50	mg/kg	451	20.0	94.9	50-148				
Matrix Spike Dup (3110512-MSD1)				Source: R311015-03		Prepared: 11/05/13 Analyzed: 11/06/13					
C10-C28 (DRO)	463	50	mg/kg	462	20.0	95.8	50-148	3.26	13		

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/06/13 17:45

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 3110511 - EPA 5030 Soil MS

Blank (3110511-BLK1)

Prepared: 11/05/13 Analyzed: 11/06/13

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0386</i>		<i>"</i>	<i>0.0397</i>	<i>97.2</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0374</i>		<i>"</i>	<i>0.0400</i>	<i>93.4</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0360</i>		<i>"</i>	<i>0.0400</i>	<i>90.1</i>	<i>21-167</i>				

LCS (3110511-BS1)

Prepared: 11/05/13 Analyzed: 11/06/13

Naphthalene	0.138	0.010	mg/kg	0.150	92.0	66-138				
Benzene	0.149	0.0020	"	0.150	99.2	58-130				
Toluene	0.159	0.0050	"	0.150	106	61-134				
Ethylbenzene	0.160	0.0050	"	0.150	107	74-139				
m,p-Xylene	0.324	0.010	"	0.300	108	73-137				
o-Xylene	0.162	0.0050	"	0.150	108	73-141				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0291</i>		<i>"</i>	<i>0.0397</i>	<i>73.3</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>	<i>97.3</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>	<i>95.7</i>	<i>21-167</i>				

LCS Dup (3110511-BSD1)

Prepared: 11/05/13 Analyzed: 11/06/13

Naphthalene	0.151	0.010	mg/kg	0.150	100	66-138	8.79	12		
Benzene	0.142	0.0020	"	0.150	94.6	58-130	4.66	13		
Toluene	0.148	0.0050	"	0.150	98.6	61-134	7.52	16		
Ethylbenzene	0.152	0.0050	"	0.150	102	74-139	5.03	12		
m,p-Xylene	0.309	0.010	"	0.300	103	73-137	4.59	14		
o-Xylene	0.155	0.0050	"	0.150	104	73-141	4.38	12		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0360</i>		<i>"</i>	<i>0.0397</i>	<i>90.7</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0378</i>		<i>"</i>	<i>0.0400</i>	<i>94.5</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>	<i>95.7</i>	<i>21-167</i>				

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/06/13 17:45

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 3110511 - EPA 5030 Soil MS

Matrix Spike (3110511-MS1)

Source: R311013-01

Prepared: 11/05/13

Analyzed: 11/06/13

Naphthalene	0.127	0.010	mg/kg	0.148	ND	85.5	10-158			
Benzene	0.124	0.0020	"	0.148	ND	84.0	30-131			
Toluene	0.131	0.0050	"	0.148	ND	88.3	30-134			
Ethylbenzene	0.129	0.0050	"	0.148	ND	86.9	22-153			
m,p-Xylene	0.263	0.010	"	0.296	ND	89.0	10-159			
o-Xylene	0.132	0.0050	"	0.148	ND	89.1	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0392		97.4	23-173			
Surrogate: Toluene-d8	0.0377		"	0.0394		95.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0394		96.8	21-167			

Matrix Spike Dup (3110511-MSD1)

Source: R311013-01

Prepared: 11/05/13

Analyzed: 11/06/13

Naphthalene	0.135	0.010	mg/kg	0.146	ND	92.6	10-158	6.41	42	
Benzene	0.127	0.0020	"	0.146	ND	87.3	30-131	2.29	34	
Toluene	0.133	0.0050	"	0.146	ND	91.4	30-134	1.97	30	
Ethylbenzene	0.133	0.0050	"	0.146	ND	91.4	22-153	3.53	24	
m,p-Xylene	0.272	0.010	"	0.291	ND	93.3	10-159	3.07	68	
o-Xylene	0.136	0.0050	"	0.146	ND	93.4	31-151	3.19	38	
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0385		100	23-173			
Surrogate: Toluene-d8	0.0375		"	0.0388		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0388		98.3	21-167			

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/06/13 17:45

Notes and Definitions

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

Summit Scientific

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Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 08, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 11/07/13 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read '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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/08/13 18:11

SS01@3'
R311046-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/07/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3110709	11/07/13	11/07/13	8015M	

Date Sampled: 11/07/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		109 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/07/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3110708	11/07/13	11/07/13	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.82	0.50	"	"	"	"	"	"	

Date Sampled: 11/07/13 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 11/08/13 18:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3110709 - EPA 3550A

Blank (3110709-BLK1)				Prepared & Analyzed: 11/07/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3110709-BS1)				Prepared & Analyzed: 11/07/13						
C10-C28 (DRO)	549	50	mg/kg	501		110	73-134			
Matrix Spike (3110709-MS1)				Source: R311045-01 Prepared & Analyzed: 11/07/13						
C10-C28 (DRO)	474	50	mg/kg	469	ND	101	50-148			
Matrix Spike Dup (3110709-MSD1)				Source: R311045-01 Prepared & Analyzed: 11/07/13						
C10-C28 (DRO)	476	50	mg/kg	474	ND	101	50-148	0.515	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/08/13 18:11

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 3110708 - EPA 5030 Soil MS

Blank (3110708-BLK1)

Prepared & Analyzed: 11/07/13

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0397</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>21-167</i>			

LCS (3110708-BS1)

Prepared: 11/07/13 Analyzed: 11/08/13

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0942	0.0020	"	0.100		94.2	58-130			
Toluene	0.0979	0.0050	"	0.100		97.9	61-134			
Ethylbenzene	0.103	0.0050	"	0.100		103	74-139			
m,p-Xylene	0.207	0.010	"	0.200		104	73-137			
o-Xylene	0.0997	0.0050	"	0.100		99.7	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0408</i>		<i>"</i>	<i>0.0397</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>21-167</i>			

Matrix Spike (3110708-MS1)

Source: R311045-01

Prepared & Analyzed: 11/07/13

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0936	0.0020	"	0.0986	ND	94.9	30-131			
Toluene	0.0970	0.0050	"	0.0986	ND	98.3	30-134			
Ethylbenzene	0.101	0.0050	"	0.0986	ND	103	22-153			
m,p-Xylene	0.201	0.010	"	0.197	ND	102	10-159			
o-Xylene	0.0978	0.0050	"	0.0986	ND	99.1	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0405</i>		<i>"</i>	<i>0.0392</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0394</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0394</i>		<i>98.4</i>	<i>21-167</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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 11/08/13 18:11

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 3110708 - EPA 5030 Soil MS

Matrix Spike Dup (3110708-MSD1)	Source: R311045-01			Prepared & Analyzed: 11/07/13						
Naphthalene	ND	0.010	mg/kg	ND	ND	100	10-158			42
Benzene	0.0933	0.0020	"	0.0984	ND	94.8	30-131	0.324		34
Toluene	0.0972	0.0050	"	0.0984	ND	98.8	30-134	0.229		30
Ethylbenzene	0.102	0.0050	"	0.0984	ND	103	22-153	0.444		24
m,p-Xylene	0.202	0.010	"	0.197	ND	103	10-159	0.684		68
o-Xylene	0.0984	0.0050	"	0.0984	ND	100	31-151	0.647		38
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0415</i>		<i>"</i>	<i>0.0391</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0396</i>		<i>"</i>	<i>0.0394</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0384</i>		<i>"</i>	<i>0.0394</i>		<i>97.4</i>	<i>21-167</i>			

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/08/13 18:11

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

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.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 10, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 11/08/13 17:00. 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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/10/13 21:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02@3'	R311053-01	Soil	11/08/13 13:00	11/08/13 17:00
SS03@3'	R311053-02	Soil	11/08/13 13:10	11/08/13 17:00
SS04@3'	R311053-03	Soil	11/08/13 13:20	11/08/13 17:00

Summit Scientific

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



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

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 11/10/13 21:03

SS02@3'
R311053-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/08/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3110809	11/08/13	11/10/13	8015M	

Date Sampled: 11/08/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/08/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3110808	11/08/13	11/08/13	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.88	0.50	"	"	"	"	"	"	

Date Sampled: 11/08/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/10/13 21:03

SS03@3'
R311053-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/08/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3110809	11/08/13	11/10/13	8015M	

Date Sampled: **11/08/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		97.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/08/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3110808	11/08/13	11/08/13	EPA 8260B	
Benzene	0.0030	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.022	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.54	0.50	"	"	"	"	"	"	

Date Sampled: **11/08/13 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/10/13 21:03

SS04@3'
R311053-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/08/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3110809	11/08/13	11/10/13	8015M	

Date Sampled: 11/08/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/08/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.022	0.010	mg/kg	1	3110808	11/08/13	11/08/13	EPA 8260B	
Benzene	0.017	0.0020	"	"	"	"	"	"	
Toluene	0.064	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.085	0.0050	"	"	"	"	"	"	
Xylenes (total)	1.4	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	21	0.50	"	"	"	"	"	"	

Date Sampled: 11/08/13 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		129 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 11/10/13 21:03

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3110809 - EPA 3550A

Blank (3110809-BLK1)		Prepared: 11/08/13 Analyzed: 11/10/13									
C10-C28 (DRO)	ND	50	mg/kg								
LCS (3110809-BS1)		Prepared: 11/08/13 Analyzed: 11/10/13									
C10-C28 (DRO)	506	50	mg/kg	501	101	73-134					
LCS Dup (3110809-BSD1)		Prepared: 11/08/13 Analyzed: 11/10/13									
C10-C28 (DRO)	515	50	mg/kg	501	103	73-134	1.77	11			
Matrix Spike (3110809-MS1)		Source: R311052-01		Prepared: 11/08/13 Analyzed: 11/10/13							
C10-C28 (DRO)	438	50	mg/kg	485	28.8	84.2	50-148				
Matrix Spike Dup (3110809-MSD1)		Source: R311052-01		Prepared: 11/08/13 Analyzed: 11/10/13							
C10-C28 (DRO)	429	50	mg/kg	488	28.8	81.9	50-148	2.07	13		

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/10/13 21:03

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 3110808 - EPA 5030 Soil MS

Blank (3110808-BLK1)

Prepared & Analyzed: 11/08/13

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0428</i>		<i>"</i>	<i>0.0397</i>		<i>108</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>21-167</i>			

LCS (3110808-BS1)

Prepared & Analyzed: 11/08/13

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0906	0.0020	"	0.100		90.6	58-130			
Toluene	0.105	0.0050	"	0.100		105	61-134			
Ethylbenzene	0.130	0.0050	"	0.100		130	74-139			
m,p-Xylene	0.247	0.010	"	0.200		123	73-137			
o-Xylene	0.120	0.0050	"	0.100		120	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0397</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>21-167</i>			

LCS Dup (3110808-BSD1)

Prepared & Analyzed: 11/08/13

Naphthalene	ND	0.010	mg/kg				66-138		12	
Benzene	0.0913	0.0020	"	0.100		91.3	58-130	0.792	13	
Toluene	0.109	0.0050	"	0.100		109	61-134	4.01	16	
Ethylbenzene	0.130	0.0050	"	0.100		130	74-139	0.00	12	
m,p-Xylene	0.247	0.010	"	0.200		124	73-137	0.207	14	
o-Xylene	0.120	0.0050	"	0.100		120	73-141	0.0752	12	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0419</i>		<i>"</i>	<i>0.0397</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>21-167</i>			

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/10/13 21:03

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 3110808 - EPA 5030 Soil MS

Matrix Spike (3110808-MS1)

Source: **R311052-01**

Prepared & Analyzed: 11/08/13

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0904	0.0020	"	0.0990	ND	91.4	30-131			
Toluene	0.104	0.0050	"	0.0990	ND	105	30-134			
Ethylbenzene	0.129	0.0050	"	0.0990	ND	130	22-153			
m,p-Xylene	0.244	0.010	"	0.198	ND	123	10-159			
o-Xylene	0.118	0.0050	"	0.0990	ND	119	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0393		110	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0396		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0396		99.5	21-167			

Matrix Spike Dup (3110808-MSD1)

Source: **R311052-01**

Prepared & Analyzed: 11/08/13

Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0885	0.0020	"	0.0977	ND	90.6	30-131	2.17	34	
Toluene	0.106	0.0050	"	0.0977	ND	108	30-134	1.66	30	
Ethylbenzene	0.127	0.0050	"	0.0977	ND	130	22-153	1.61	24	
m,p-Xylene	0.239	0.010	"	0.195	ND	122	10-159	2.09	68	
o-Xylene	0.118	0.0050	"	0.0977	ND	120	31-151	0.550	38	
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0388		111	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0391		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0391		101	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/10/13 21:03

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

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.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 12, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 11/11/13 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to 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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS05@3'	R311063-01	Soil	11/11/13 09:15	11/11/13 16:30
SS06@3'	R311063-02	Soil	11/11/13 09:20	11/11/13 16:30
SS07@3'	R311063-03	Soil	11/11/13 13:00	11/11/13 16:30
SS08@3'	R311063-04	Soil	11/11/13 13:15	11/11/13 16:30

Summit Scientific

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



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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

R311063

Summit Scientific

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-8910 • 303-374-9933 Fax

Client: PDC Energy Project Manager: Brandon Bruns
 Address: _____ E-Mail: _____
 City/State/Zip: _____ Project Name: Jerke Up 8-7
 Phone: _____ Fax: _____ Project Number: _____
 Sampler Name: Calvin

Page 1 of 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:	Special Instructions	
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)			
880503	11/13/13	9:15	1			X					X			
880603	11/13/13	9:20	1											
880703	11/13/13	13:00	1											
880803	11/13/13	13:15	1											

Retrieved by: <u>[Signature]</u>	Date/Time: <u>11/13/13 14:00</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11/13/13 14:30</u>	Turn Around Time (Check): <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Standard	Notes: <u>2015 DEP</u>
Retrieved by:	Date/Time:	Received by:	Date/Time:	48 Hours	Sample Integrity: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Retrieved by:	Date/Time:	Received in Lab by:	Date/Time:		Temperature Upon Receipt: <input type="checkbox"/> Yes <input type="checkbox"/> No

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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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

SS05@3'
R311063-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/11/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3111114	11/11/13	11/11/13	8015M	

Date Sampled: 11/11/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		111 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/11/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3111113	11/11/13	11/11/13	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0096	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.16	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.8	0.50	"	"	"	"	"	"	

Date Sampled: 11/11/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.1 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

SS06@3'
R311063-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/11/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3111114	11/11/13	11/11/13	8015M	

Date Sampled: 11/11/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		107 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/11/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3111113	11/11/13	11/11/13	EPA 8260B	
Benzene	0.010	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.020	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.37	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.3	0.50	"	"	"	"	"	"	

Date Sampled: 11/11/13 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

SS07@3'
R311063-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/11/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3111114	11/11/13	11/11/13	8015M	

Date Sampled: 11/11/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/11/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3111113	11/11/13	11/11/13	EPA 8260B	
Benzene	0.019	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.013	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.21	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.1	0.50	"	"	"	"	"	"	

Date Sampled: 11/11/13 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

SS08@3'
R311063-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 11/11/13 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3111114	11/11/13	11/11/13	8015M	

Date Sampled: 11/11/13 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/11/13 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3111113	11/11/13	11/11/13	EPA 8260B	
Benzene	0.10	0.0020	"	"	"	"	"	"	
Toluene	0.053	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.050	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.79	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.0	0.50	"	"	"	"	"	"	

Date Sampled: 11/11/13 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 11/12/13 20:40

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3111114 - EPA 3550A

Blank (3111114-BLK1)

Prepared & Analyzed: 11/11/13

C10-C28 (DRO) ND 50 mg/kg

LCS (3111114-BS1)

Prepared & Analyzed: 11/11/13

C10-C28 (DRO) 512 50 mg/kg 501 102 73-134

Matrix Spike (3111114-MS1)

Source: R311062-01

Prepared & Analyzed: 11/11/13

C10-C28 (DRO) 521 50 mg/kg 467 20.3 107 50-148

Matrix Spike Dup (3111114-MSD1)

Source: R311062-01

Prepared: 11/11/13 Analyzed: 11/12/13

C10-C28 (DRO) 470 50 mg/kg 461 20.3 97.4 50-148 10.3 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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

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 311113 - EPA 5030 Soil MS

Blank (311113-BLK1)

Prepared & Analyzed: 11/11/13

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0419</i>		<i>"</i>	<i>0.0397</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

LCS (311113-BS1)

Prepared & Analyzed: 11/11/13

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0914	0.0020	"	0.100		91.4	58-130			
Toluene	0.106	0.0050	"	0.100		106	61-134			
Ethylbenzene	0.129	0.0050	"	0.100		129	74-139			
m,p-Xylene	0.243	0.010	"	0.200		122	73-137			
o-Xylene	0.119	0.0050	"	0.100		119	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0424</i>		<i>"</i>	<i>0.0397</i>		<i>107</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>21-167</i>			

Matrix Spike (311113-MS1)

Source: R311062-01

Prepared & Analyzed: 11/11/13

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0846	0.0020	"	0.0933	ND	90.7	30-131			
Toluene	0.0982	0.0050	"	0.0933	ND	105	30-134			
Ethylbenzene	0.120	0.0050	"	0.0933	ND	129	22-153			
m,p-Xylene	0.226	0.010	"	0.187	ND	121	10-159			
o-Xylene	0.112	0.0050	"	0.0933	ND	120	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0414</i>		<i>"</i>	<i>0.0370</i>		<i>112</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0372</i>		<i>"</i>	<i>0.0373</i>		<i>99.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0372</i>		<i>"</i>	<i>0.0373</i>		<i>99.6</i>	<i>21-167</i>			

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 11/12/13 20:40

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 311113 - EPA 5030 Soil MS

Matrix Spike Dup (311113-MSD1)	Source: R311062-01			Prepared & Analyzed: 11/11/13						
Naphthalene	ND	0.010	mg/kg	ND	ND	10-158			42	
Benzene	0.0816	0.0020	"	0.0898	ND	90.9	30-131	3.61	34	
Toluene	0.0947	0.0050	"	0.0898	ND	105	30-134	3.67	30	
Ethylbenzene	0.117	0.0050	"	0.0898	ND	130	22-153	3.24	24	
m,p-Xylene	0.220	0.010	"	0.180	ND	123	10-159	2.80	68	
o-Xylene	0.108	0.0050	"	0.0898	ND	120	31-151	3.82	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0388</i>		<i>"</i>	<i>0.0356</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0356</i>		<i>"</i>	<i>0.0359</i>		<i>99.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0357</i>		<i>"</i>	<i>0.0359</i>		<i>99.5</i>	<i>21-167</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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/12/13 20:40

Notes and Definitions

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 19, 2013

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/13 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read '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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 11/19/13 15:58

GW01
R311075-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 11/12/13 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	230	100	ug/l	100	3111706	11/17/13	11/18/13	EPA 8260B	
Toluene	370	100	"	"	"	"	"	"	
Ethylbenzene	160	100	"	"	"	"	"	"	
Xylenes (total)	2200	100	"	"	"	"	"	"	

Date Sampled: 11/12/13 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.4 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/19/13 15:58

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 3111706 - EPA 5030 Water MS

Blank (3111706-BLK1)

Prepared & Analyzed: 11/17/13

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.2	104	37-154					
Surrogate: Toluene-d8	13.2		"	13.3	99.4	45-149					
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3	102	45-146					

LCS (3111706-BS1)

Prepared & Analyzed: 11/17/13

Benzene	30.1	1.0	ug/l	33.3	90.3	51-132					
Toluene	31.8	1.0	"	33.3	95.3	51-138					
Ethylbenzene	33.7	1.0	"	33.3	101	58-146					
m,p-Xylene	65.1	2.0	"	66.7	97.6	57-144					
o-Xylene	32.7	1.0	"	33.3	98.2	53-146					
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.2	104	37-154					
Surrogate: Toluene-d8	13.3		"	13.3	100	45-149					
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3	98.3	45-146					

LCS (3111706-BS2)

Prepared & Analyzed: 11/17/13

Benzene	30.7	1.0	ug/l	33.3	92.1	51-132					
Toluene	32.8	1.0	"	33.3	98.3	51-138					
Ethylbenzene	34.3	1.0	"	33.3	103	58-146					
m,p-Xylene	67.0	2.0	"	66.7	101	57-144					
o-Xylene	33.3	1.0	"	33.3	99.9	53-146					
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.2	111	37-154					
Surrogate: Toluene-d8	13.5		"	13.3	101	45-149					
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3	97.8	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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/19/13 15:58

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 3111706 - EPA 5030 Water MS

Matrix Spike (3111706-MS1)		Source: R311091-04			Prepared & Analyzed: 11/17/13						
Benzene	31.1	1.0	ug/l	33.3	1.86	87.7	34-141				
Toluene	32.1	1.0	"	33.3	ND	96.2	27-151				
Ethylbenzene	38.9	1.0	"	33.3	5.70	99.7	29-160				
m,p-Xylene	76.3	2.0	"	66.7	15.5	91.3	20-166				
o-Xylene	33.4	1.0	"	33.3	ND	100	33-159				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.1</i>		<i>"</i>	<i>13.2</i>		<i>106</i>	<i>37-154</i>				
<i>Surrogate: Toluene-d8</i>	<i>13.8</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>45-149</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.7</i>	<i>45-146</i>				

Matrix Spike (3111706-MS2)		Source: R311091-05			Prepared & Analyzed: 11/17/13						
Benzene	30.4	1.0	ug/l	33.3	ND	91.2	34-141				
Toluene	33.3	1.0	"	33.3	ND	99.9	27-151				
Ethylbenzene	34.0	1.0	"	33.3	ND	102	29-160				
m,p-Xylene	66.2	2.0	"	66.7	ND	99.3	20-166				
o-Xylene	33.0	1.0	"	33.3	ND	99.1	33-159				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.4</i>		<i>"</i>	<i>13.2</i>		<i>109</i>	<i>37-154</i>				
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.4</i>	<i>45-146</i>				

Matrix Spike Dup (3111706-MSD1)		Source: R311091-04			Prepared & Analyzed: 11/17/13						
Benzene	31.1	1.0	ug/l	33.3	1.86	87.8	34-141	0.129	32		
Toluene	32.5	1.0	"	33.3	ND	97.4	27-151	1.18	25		
Ethylbenzene	42.1	1.0	"	33.3	5.70	109	29-160	7.90	50		
m,p-Xylene	80.8	2.0	"	66.7	15.5	98.0	20-166	5.70	36		
o-Xylene	34.4	1.0	"	33.3	ND	103	33-159	3.04	26		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.9</i>		<i>"</i>	<i>13.2</i>		<i>105</i>	<i>37-154</i>				
<i>Surrogate: Toluene-d8</i>	<i>13.7</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>45-149</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.8</i>		<i>"</i>	<i>13.3</i>		<i>96.3</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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/19/13 15:58

Notes and Definitions

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 16, 2014

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Jerke Up 8-7

Enclosed are the results of analyses for samples received by Summit Scientific on 01/10/14 15:13. 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: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/16/14 16:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1401044-01	Water	01/10/14 12:40	01/10/14 15:13
BH02	1401044-02	Water	01/10/14 12:45	01/10/14 15:13
BH03	1401044-03	Water	01/10/14 12:50	01/10/14 15:13
BH04	1401044-04	Water	01/10/14 12:55	01/10/14 15:13
BH05	1401044-05	Water	01/10/14 13:00	01/10/14 15:13
BH06	1401044-06	Water	01/10/14 13:05	01/10/14 15:13

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: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/16/14 16:39

BH01
1401044-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	270	1.0	ug/l	1	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	2300	50	"	50	"	"	01/14/14	"	
Ethylbenzene	390	50	"	"	"	"	"	"	
Xylenes (total)	5800	50	"	"	"	"	"	"	

Date Sampled: **01/10/14 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.2 %	37-154		"	"	01/14/14	"	
<i>Surrogate: Toluene-d8</i>		112 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/16/14 16:39

BH02
1401044-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	920	50	ug/l	50	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	4.8	1.0	"	1	"	"	01/14/14	"	
Ethylbenzene	54	1.0	"	"	"	"	"	"	
Xylenes (total)	2300	50	"	50	"	"	01/14/14	"	

Date Sampled: **01/10/14 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		113 %	37-154		"	"	01/14/14	"	
<i>Surrogate: Toluene-d8</i>		106 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %	45-146		"	"	"	"	

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

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/16/14 16:39

BH03
1401044-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.1	1.0	ug/l	1	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	1.1	1.0	"	"	"	"	"	"	
Ethylbenzene	15	1.0	"	"	"	"	"	"	
Xylenes (total)	240	1.0	"	"	"	"	"	"	

Date Sampled: **01/10/14 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		110 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.3 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	45-146		"	"	"	"	

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 1775 Sherman St. STE. 3000
 Denver CO, 80203

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/16/14 16:39

BH04
1401044-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	12000	50	ug/l	50	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	7600	50	"	"	"	"	"	"	
Ethylbenzene	940	50	"	"	"	"	"	"	
Xylenes (total)	14000	50	"	"	"	"	"	"	

Date Sampled: **01/10/14 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.6 %	37-154		"	"	01/14/14	"	
<i>Surrogate: Toluene-d8</i>		134 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.4 %	45-146		"	"	"	"	

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 Denver CO, 80203

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 01/16/14 16:39

BH05
1401044-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1800	50	ug/l	50	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	240	1.0	"	1	"	"	01/14/14	"	
Ethylbenzene	230	1.0	"	"	"	"	"	"	
Xylenes (total)	3100	50	"	50	"	"	01/14/14	"	

Date Sampled: **01/10/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		95.2 %	37-154		"	"	01/14/14	"	
<i>Surrogate: Toluene-d8</i>		103 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %	45-146		"	"	"	"	

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PDC Energy
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 Denver CO, 80203

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 01/16/14 16:39

BH06
1401044-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/10/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1401046	01/14/14	01/14/14	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **01/10/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>107 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>96.0 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/16/14 16:39

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 1401046 - EPA 5030 Water MS

Blank (1401046-BLK1)

Prepared & Analyzed: 01/14/14

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.2		110	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	45-146			

LCS (1401046-BS1)

Prepared & Analyzed: 01/14/14

Benzene	31.8	1.0	ug/l	33.3		95.4	51-132			
Toluene	31.1	1.0	"	33.3		93.2	51-138			
Ethylbenzene	33.5	1.0	"	33.3		100	58-146			
m,p-Xylene	64.3	2.0	"	66.7		96.4	57-144			
o-Xylene	32.2	1.0	"	33.3		96.6	53-146			
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	13.6		"	13.3		102	45-146			

Matrix Spike (1401046-MS1)

Source: 1401040-01

Prepared & Analyzed: 01/14/14

Benzene	31.9	1.0	ug/l	33.3	ND	95.6	34-141			
Toluene	31.1	1.0	"	33.3	ND	93.4	27-151			
Ethylbenzene	33.2	1.0	"	33.3	ND	99.5	29-160			
m,p-Xylene	63.8	2.0	"	66.7	1.36	93.6	20-166			
o-Xylene	31.1	1.0	"	33.3	ND	93.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.7		"	13.2		111	37-154			
Surrogate: Toluene-d8	13.5		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	45-146			

Summit Scientific

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

Project: Jerke Up 8-7

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 01/16/14 16:39

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 1401046 - EPA 5030 Water MS

Matrix Spike Dup (1401046-MSD1)	Source: 1401040-01			Prepared & Analyzed: 01/14/14						
Benzene	32.3	1.0	ug/l	33.3	ND	96.8	34-141	1.18	32	
Toluene	31.4	1.0	"	33.3	ND	94.1	27-151	0.832	25	
Ethylbenzene	33.9	1.0	"	33.3	ND	102	29-160	2.29	50	
m,p-Xylene	65.6	2.0	"	66.7	1.36	96.3	20-166	2.80	36	
o-Xylene	32.8	1.0	"	33.3	ND	98.3	33-159	5.20	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.6</i>		<i>"</i>	<i>13.2</i>		<i>118</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.5</i>		<i>"</i>	<i>13.3</i>		<i>101</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.3</i>	<i>45-146</i>			

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Denver CO, 80203

Project: Jerke Up 8-7

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/16/14 16:39

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