



0 375 750 1,500
Feet

Figure 1

Site Location Map
Kelly Estate (William) 44-19
SESE S19 T6N R65W
Weld County, Colorado

Drawn By: DBA
Date: 01/10/2014



Surface
Drainage

Agriculture

SS01

Production Tank Containment
Approximately 550 feet

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

© 2013 Google

Battery Access Road

HWY 85

85

Scale: 1 inch equals 30 feet

DRAWN BY: CAW

DATE: 1/28/2014

Facility Diagram
PDC Energy – DJ Basin
Kelly Estate (Williams) 44-19
SESE Sec 19 T6N R65W
Weld County, CO



6899 Pecos Street
Unit C
Denver, CO 80221

LEGEND

- Former Produced Water Vessel Location
X Soil Sample Location

FIGURE 2
EXCAVATION
SITE MAP

TABLE 1
KELLY ESTATE (WILLIAMS) 44-19
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)
SS01	12/20/2013	7	0.3	<0.002	<0.005	<0.005	<0.010	<0.010	<50
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.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 15, 2014

Brandon Bruns

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Kelly Estate (William) 44-19

Enclosed are the results of analyses for samples received by Summit Scientific on 12/20/13 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' or 'Shrewsbury', 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: Kelly Estate (William) 44-19

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
01/15/14 11:18

SS01@7'
R312145-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/20/13 07:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3122304	12/23/13	12/23/13	8015M	

Date Sampled: 12/20/13 07:45

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/20/13 07:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	3122303	12/23/13	12/24/13	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 12/20/13 07:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.2 %	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: Kelly Estate (William) 44-19

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
01/15/14 11:18

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3122304 - EPA 3550A

Blank (3122304-BLK1)

Prepared & Analyzed: 12/23/13

C10-C28 (DRO) ND 50 mg/kg

LCS (3122304-BS1)

Prepared & Analyzed: 12/23/13

C10-C28 (DRO) 494 50 mg/kg 495 99.7 73-134

Matrix Spike (3122304-MS1)

Source: R312151-02

Prepared & Analyzed: 12/23/13

C10-C28 (DRO) 494 50 mg/kg 495 ND 99.7 50-148

Matrix Spike Dup (3122304-MSD1)

Source: R312151-02

Prepared & Analyzed: 12/23/13

C10-C28 (DRO) 484 50 mg/kg 492 ND 98.3 50-148 1.98 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: Kelly Estate (William) 44-19
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/15/14 11:18

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

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

Batch 3122303 - EPA 5030 Soil MS

Blank (3122303-BLK1)

Prepared & Analyzed: 12/23/13

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>0.0394</i>		<i>"</i>	<i>0.0387</i>		<i>102</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0377</i>		<i>"</i>	<i>0.0391</i>		<i>96.4</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0390</i>		<i>"</i>	<i>0.0391</i>		<i>99.9</i>	<i>21-167</i>			

LCS (3122303-BS1)

Prepared & Analyzed: 12/23/13

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0823	0.0020	"	0.0960		85.7	58-130			
Toluene	0.101	0.0050	"	0.0960		105	61-134			
Ethylbenzene	0.132	0.0050	"	0.0960		138	74-139			
m,p-Xylene	0.231	0.010	"	0.192		120	73-137			
o-Xylene	0.120	0.0050	"	0.0960		126	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0381</i>		<i>"</i>	<i>0.0380</i>		<i>100</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0379</i>		<i>"</i>	<i>0.0384</i>		<i>98.6</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0368</i>		<i>"</i>	<i>0.0384</i>		<i>95.8</i>	<i>21-167</i>			

Matrix Spike (3122303-MS1)

Source: R312151-02

Prepared & Analyzed: 12/23/13

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0851	0.0020	"	0.0960	ND	88.7	30-131			
Toluene	0.103	0.0050	"	0.0960	ND	107	30-134			
Ethylbenzene	0.133	0.0050	"	0.0960	ND	138	22-153			
m,p-Xylene	0.232	0.010	"	0.192	ND	121	10-159			
o-Xylene	0.123	0.0050	"	0.0960	ND	128	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0415</i>		<i>"</i>	<i>0.0380</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0384</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0384</i>		<i>97.5</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: Kelly Estate (William) 44-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/15/14 11:18

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

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

Batch 3122303 - EPA 5030 Soil MS

Matrix Spike Dup (3122303-MSD1)		Source: R312151-02			Prepared & Analyzed: 12/23/13					
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0852	0.0020	"	0.0978	ND	87.0	30-131	0.0599	34	
Toluene	0.104	0.0050	"	0.0978	ND	106	30-134	0.786	30	
Ethylbenzene	0.135	0.0050	"	0.0978	ND	138	22-153	1.89	24	
m,p-Xylene	0.238	0.010	"	0.196	ND	122	10-159	2.66	68	
o-Xylene	0.125	0.0050	"	0.0978	ND	127	31-151	1.16	38	
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0387		107	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0391		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0391		97.7	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: Kelly Estate (William) 44-19

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
01/15/14 11:18

Notes and Definitions

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

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