

TABLE 1
JOHNSON OLY 1
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	PID Reading (ppm)	Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzne (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽²⁾ (mg/kg)
TP01@4'	6/17/2014	6.6	4	0.064	0.24	0.016	0.23	<0.010	1.8
TP01@8'	6/17/2014	43.5	8	0.10	0.22	0.0086	0.11	<0.010	0.84
TP01@12'	6/17/2014	36.2	12	0.069	0.21	0.010	0.14	<0.010	0.93
TP01@16'	6/17/2014	37.7	16	0.051	0.11	0.0083	0.13	<0.010	0.93
SS01@8'	6/17/2014	200	8	0.60	1.4	0.053	0.60	<0.010	7.8
SS02@8'	6/17/2014	150	8	0.086	0.11	<0.0050	0.069	<0.010	1.1
SS03@18'	6/17/2014	485	18	4.1	64	21	160	3.0	7,700
SS04@10'	6/17/2014	1379	10	1.4	26	6.8	67	1.2	3,800
SS05@8'	6/18/2014	0.3	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS06@14'	6/18/2014	283	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS07@8'	6/19/2014	0.3	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS08@14'	6/19/2014	0.8	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS09@8'	6/19/2014	900	8	14	80	23	150	4.4	12,400
SS10@14'	6/19/2014	1000	14	8.8	59	14	110	2.8	8,200
SS11@8'	6/19/2014	2.7	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS12@14'	6/19/2014	18.8	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS13@8'	6/19/2014	2.1	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS14@14'	6/19/2014	525	14	0.0055	0.020	0.016	0.29	0.020	68.6
SS15@8'	6/19/2014	51.2	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS16@14'	6/19/2014	402	14	0.083	0.030	0.0076	0.13	<0.010	2.5
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 February 1, 2014.

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

PPM - Parts per million

ft bgs - Feet below ground surface

Bold red values indicate an exceedence of COGCC soil standards.

ATTACHMENT A

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 20, 2014

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Johnson OLY 1

Enclosed are the results of analyses for samples received by Summit Scientific on 06/17/14 18:41. 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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@8'	1406121-01	Soil	06/17/14 11:30	06/17/14 18:41
SS02@8'	1406121-02	Soil	06/17/14 11:20	06/17/14 18:41
SS03@18'	1406121-03	Soil	06/17/14 13:00	06/17/14 18:41
SS04@10'	1406121-04	Soil	06/17/14 13:15	06/17/14 18:41
TP01@4'	1406121-05	Soil	06/17/14 13:30	06/17/14 18:41
TP01@8'	1406121-06	Soil	06/17/14 13:35	06/17/14 18:41
TP01@12'	1406121-07	Soil	06/17/14 13:40	06/17/14 18:41
TP01@16'	1406121-08	Soil	06/17/14 13:45	06/17/14 18:41

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

Summit Scientific 1406121

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9910 • 303-374-5933 Fax

Client: PDC Energy Page 1 of 1

Address: _____

City/State/Zip: _____

Phone: _____

Project Manager: Brandon Bruns

Project E-Mail: Brandon.Brunns@PDC.com

Project Name: Johnson Oly 1

Project Number: _____

Sampler Name: Don Bruns

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)			
SS01@8'	6/17	1136	1	X				X						
SS02@8'		1120												
SS03@18'		1300												
SS04@18'		1315												
TP01@4'		1330												
TP01@8'		1335												
TP01@12'		1340												
TP01@16'		1345												
Requisitioned by: <u>D. Bruns</u>	Date/Time: <u>6/17/14 1835</u>	Received by: <u>[Signature]</u>	Date/Time: <u>6/17/14 1655</u>	Turn Around Time (Check):	Same Day	24 Hours	48 Hours	72 Hours	Standard	Notes:				
Requisitioned by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	Temperature	Receipt:								
Requisitioned by:	Date/Time:	Received in Lab by:	Date/Time:											



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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Brunns

Reported:
06/20/14 10:51

SS01@8'
1406121-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 11:30**

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: **06/17/14 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.60	0.0020	"	"	"	"	"	"	
Toluene	1.4	0.0050	"	"	"	"	"	"	E
Ethylbenzene	0.053	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.60	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.8	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		122 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 06/20/14 10:51

SS02@8'
1406121-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		116 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.086	0.0020	"	"	"	"	"	"	
Toluene	0.11	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.069	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.1	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

SS03@18'
1406121-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	3400	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:00**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	3.0	0.10	mg/kg	10	1406123	"	06/17/14	EPA 8260B	
Benzene	4.1	0.020	"	"	"	"	"	"	
Toluene	64	0.050	"	"	"	"	"	"	E
Ethylbenzene	21	0.050	"	"	"	"	"	"	E
Xylenes (total)	160	0.10	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	4300	5.0	"	"	"	"	"	"	E

Date Sampled: **06/17/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		1260 %	20-170		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>		425 %	21-167		"	"	"	"	S-02

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

SS04@10'
1406121-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	2000	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		62.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	1.2	0.10	mg/kg	10	1406123	"	06/17/14	EPA 8260B	
Benzene	1.4	0.020	"	"	"	"	"	"	
Toluene	26	0.050	"	"	"	"	"	"	E
Ethylbenzene	6.8	0.050	"	"	"	"	"	"	
Xylenes (total)	67	0.10	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	1800	5.0	"	"	"	"	"	"	E

Date Sampled: **06/17/14 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		83.3 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		251 %	20-170		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>		224 %	21-167		"	"	"	"	S-02

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PDC Energy
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 Denver CO, 80203

Project: Johnson OLY 1

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 06/20/14 10:51

TP01@4'
1406121-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.064	0.0020	"	"	"	"	"	"	
Toluene	0.24	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.016	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.23	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.8	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

TP01@8'
1406121-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		114 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.10	0.0020	"	"	"	"	"	"	
Toluene	0.22	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0086	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.11	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.84	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

TP01@12'
1406121-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.069	0.0020	"	"	"	"	"	"	
Toluene	0.21	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.010	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.14	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.93	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

TP01@16'
1406121-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/17/14 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406124	06/17/14	06/17/14	8015M	

Date Sampled: **06/17/14 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		108 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/17/14 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406123	"	06/17/14	EPA 8260B	
Benzene	0.051	0.0020	"	"	"	"	"	"	
Toluene	0.11	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0083	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.13	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.93	0.50	"	"	"	"	"	"	

Date Sampled: **06/17/14 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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

Project: Johnson OLY 1
 Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 06/20/14 10:51

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 1406124 - EPA 3550A

Blank (1406124-BLK1)				Prepared & Analyzed: 06/17/14						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (1406124-BS1)				Prepared & Analyzed: 06/17/14						
C10-C28 (DRO)	536	50	mg/kg	491	109	73-134				
Matrix Spike (1406124-MS1)				Source: 1406113-01 Prepared & Analyzed: 06/17/14						
C10-C28 (DRO)	584	50	mg/kg	499	102	96.4	50-148			
Matrix Spike Dup (1406124-MSD1)				Source: 1406113-01 Prepared & Analyzed: 06/17/14						
C10-C28 (DRO)	581	50	mg/kg	494	102	96.8	50-148	0.503	13	

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

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

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

Batch 1406123 - EPA 5030 Soil MS

Blank (1406123-BLK1)

Prepared & Analyzed: 06/17/14

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0423</i>		<i>"</i>	<i>0.0397</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0434</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>21-167</i>			

LCS (1406123-BS1)

Prepared & Analyzed: 06/17/14

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.115	0.0020	"	0.100		115	58-130			
Toluene	0.123	0.0050	"	0.100		123	61-134			
Ethylbenzene	0.114	0.0050	"	0.0992		115	74-139			
m,p-Xylene	0.213	0.010	"	0.200		107	73-137			
o-Xylene	0.107	0.0050	"	0.0984		109	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0406</i>		<i>"</i>	<i>0.0397</i>		<i>102</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0418</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0430</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>21-167</i>			

Matrix Spike (1406123-MS1)

Source: 1406113-01

Prepared & Analyzed: 06/17/14

Naphthalene	0.0384	0.010	mg/kg		0.0450		10-158			
Benzene	0.121	0.0020	"	0.100	0.00567	115	30-131			
Toluene	0.126	0.0050	"	0.100	ND	126	30-134			
Ethylbenzene	0.122	0.0050	"	0.0992	0.0110	112	22-153			
m,p-Xylene	0.219	0.010	"	0.200	0.00924	105	10-159			
o-Xylene	0.112	0.0050	"	0.0984	0.00660	107	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0415</i>		<i>"</i>	<i>0.0397</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0409</i>		<i>"</i>	<i>0.0400</i>		<i>102</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: Johnson OLY 1

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 06/20/14 10:51

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 1406123 - EPA 5030 Soil MS

Matrix Spike Dup (1406123-MSD1)	Source: 1406113-01			Prepared & Analyzed: 06/17/14						
Naphthalene	0.0384	0.010	mg/kg		0.0450		10-158	0.00	42	
Benzene	0.121	0.0020	"	0.100	0.00567	116	30-131	0.223	34	
Toluene	0.125	0.0050	"	0.100	ND	125	30-134	0.120	30	
Ethylbenzene	0.124	0.0050	"	0.0992	0.0110	114	22-153	1.78	24	
m,p-Xylene	0.223	0.010	"	0.200	0.00924	107	10-159	1.60	68	
o-Xylene	0.116	0.0050	"	0.0984	0.00660	112	31-151	3.76	38	
<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>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</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

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/20/14 10:51

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 19, 2014

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Johnson OLY 1

Enclosed are the results of analyses for samples received by Summit Scientific on 06/18/14 17:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to 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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/19/14 01:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS05@8'	1406128-01	Soil	06/18/14 08:30	06/18/14 17:35
SS06@14	1406128-02	Soil	06/18/14 08:45	06/18/14 17:35

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/19/14 01:03

SS05@8'
1406128-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/18/14 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406139	06/18/14	06/18/14	8015M	

Date Sampled: **06/18/14 08:30**

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: **06/18/14 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406138	06/18/14	06/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/18/14 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		47.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/19/14 01:03

SS06@14
1406128-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/18/14 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406139	06/18/14	06/18/14	8015M	

Date Sampled: **06/18/14 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/18/14 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406138	06/18/14	06/18/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/18/14 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		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: Johnson OLY 1
 Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 06/19/14 01:03

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 1406139 - EPA 3550A

Blank (1406139-BLK1)				Prepared & Analyzed: 06/18/14						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (1406139-BS1)				Prepared & Analyzed: 06/18/14						
C10-C28 (DRO)	532	50	mg/kg	501	106	73-134				
Matrix Spike (1406139-MS1)				Source: 1406123-01 Prepared & Analyzed: 06/18/14						
C10-C28 (DRO)	469	50	mg/kg	501	ND	93.7	50-148			
Matrix Spike Dup (1406139-MSD1)				Source: 1406123-01 Prepared & Analyzed: 06/18/14						
C10-C28 (DRO)	502	50	mg/kg	501	ND	100	50-148	6.77	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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/19/14 01:03

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

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 22, 2014

Brandon Bruns
PDC Energy
1775 Sherman St. STE. 3000
Denver, CO 80203
RE: Johnson OLY 1

Enclosed are the results of analyses for samples received by Summit Scientific on 06/19/14 17:30. 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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS07@8'	1406140-01	Soil	06/19/14 10:00	06/19/14 17:30
SS08@14'	1406140-02	Soil	06/19/14 10:05	06/19/14 17:30
SS09@8'	1406140-03	Soil	06/19/14 12:00	06/19/14 17:30
SS10@14'	1406140-04	Soil	06/19/14 12:05	06/19/14 17:30
SS11@8'	1406140-05	Soil	06/19/14 13:00	06/19/14 17:30
SS12@14'	1406140-06	Soil	06/19/14 13:05	06/19/14 17:30
SS13@8'	1406140-07	Soil	06/19/14 14:00	06/19/14 17:30
SS14@14'	1406140-08	Soil	06/19/14 14:05	06/19/14 17:30
SS15@8'	1406140-09	Soil	06/19/14 14:20	06/19/14 17:30
SS16@14'	1406140-10	Soil	06/19/14 14:25	06/19/14 17:30

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

Summit Scientific 1406140

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Client: PDC Energy Page 1 of 1
 Address: _____
 City/State/Zip: _____
 Phone: _____ Fax: _____
 Sampler Name: Dow Backlogs
 Project Manager: Brandon Bruns
 E-Mail: Brandon.Bruns@PDC.com
 Project Name: Johnson Oly
 Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:	Special Instructions	
				HCl	HNO ₃	Zone	Other (Specify)	Soil	Air - Canister Serial #	Other (Specify)	BTX (EPA)			
SS07 @ 8'	6/19	1000	1	X										
SS08 @ 14'		1005												
SS09 @ 8'		1200												
SS10 @ 14'		1205												
SS11 @ 6'		1300												
SS12 @ 14'		1305												
SS13 @ 8'		1400												
SS14 @ 14'		1405												
SS15 @ 8'		1420												
SS16 @ 14'		1425												
Requisitioned by: <u>Dow Backlogs</u>	Date/Time: <u>6/19/14 1400</u>	Received by: <u>MB</u>	Date/Time: <u>6/19/14 1700</u>	Turn Around Time (Check)				Notes:						
Requisitioned by: <u>Dow Backlogs</u>	Date/Time: <u>6/19/14 1400</u>	Received by: <u>MB</u>	Date/Time: <u>6/19/14 1700</u>	Same Day	24-Hours	48-Hours	72-Hours	Standard	Sample Integrity: Temperature Upon Receipt: <u>-1°C</u> Intact: (Yes) No					



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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS07@8'
1406140-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		112 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS08@14'
1406140-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		123 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		35.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		248 %	21-167		"	"	"	"	S-02

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS09@8'
1406140-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	7400	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		130 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	4.4	0.10	mg/kg	10	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	14	0.020	"	"	"	"	"	"	E
Toluene	80	0.050	"	"	"	"	"	"	E
Ethylbenzene	23	0.050	"	"	"	"	"	"	E
Xylenes (total)	150	0.10	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	5000	5.0	"	"	"	"	"	"	E

Date Sampled: **06/19/14 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		300 %	20-170		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>		444 %	21-167		"	"	"	"	S-02

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS10@14'
1406140-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	4600	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		214 %	30-150		"	"	"	"	S-02

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	2.8	0.10	mg/kg	10	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	8.8	0.020	"	"	"	"	"	"	
Toluene	59	0.050	"	"	"	"	"	"	E
Ethylbenzene	14	0.050	"	"	"	"	"	"	E
Xylenes (total)	110	0.10	"	"	"	"	"	"	E
Gasoline Range Hydrocarbons	3600	5.0	"	"	"	"	"	"	E

Date Sampled: **06/19/14 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		90.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		304 %	20-170		"	"	"	"	S-02
<i>Surrogate: 4-Bromofluorobenzene</i>		375 %	21-167		"	"	"	"	S-02

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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS11@8'
1406140-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 13:00**

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: **06/19/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS12@14'
1406140-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		121 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS13@8'
1406140-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 14:00**

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: **06/19/14 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS14@14'
1406140-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	60	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 14:05**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/19/14 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.020	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	0.0055	0.0020	"	"	"	"	"	"	
Toluene	0.020	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.016	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.29	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.6	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 14:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		108 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Johnson OLY 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS15@8'
1406140-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 14:20**

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: **06/19/14 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	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: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

SS16@14'
1406140-10 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/19/14 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1406156	06/19/14	06/19/14	8015M	

Date Sampled: **06/19/14 14:25**

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: **06/19/14 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1406155	06/19/14	06/20/14	EPA 8260B	
Benzene	0.083	0.0020	"	"	"	"	"	"	
Toluene	0.030	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0076	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.13	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.5	0.50	"	"	"	"	"	"	

Date Sampled: **06/19/14 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
 Project Manager: Brandon Brunns

Reported:
 06/22/14 21:02

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 1406156 - EPA 3550A

Blank (1406156-BLK1)			Prepared: 06/19/14 Analyzed: 06/20/14								
C10-C28 (DRO)	ND	50	mg/kg								
LCS (1406156-BS1)			Prepared: 06/19/14 Analyzed: 06/20/14								
C10-C28 (DRO)	462	50	mg/kg	501		92.3	73-134				
LCS (1406156-BS2)			Prepared: 06/19/14 Analyzed: 06/20/14								
C10-C28 (DRO)	462	50	mg/kg	501		92.2	73-134				
Matrix Spike (1406156-MS1)			Source: 1406126-01			Prepared: 06/19/14 Analyzed: 06/20/14					
C10-C28 (DRO)	502	50	mg/kg	499	ND	101	50-148				
Matrix Spike (1406156-MS2)			Source: 1406126-02			Prepared: 06/19/14 Analyzed: 06/20/14					
C10-C28 (DRO)	639	50	mg/kg	484	ND	132	50-148				
Matrix Spike Dup (1406156-MSD2)			Source: 1406126-02			Prepared: 06/19/14 Analyzed: 06/20/14					
C10-C28 (DRO)	607	50	mg/kg	484	ND	126	50-148	5.11	13		

Summit Scientific

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

Project: Johnson OLY 1
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
06/22/14 21:02

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 1406155 - EPA 5030 Soil MS

Blank (1406155-BLK1)

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0397	103	23-173				
Surrogate: Toluene-d8	0.0427		"	0.0400	107	20-170				
Surrogate: 4-Bromofluorobenzene	0.0459		"	0.0400	115	21-167				

LCS (1406155-BS1)

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg			66-138				
Benzene	0.127	0.0020	"	0.100	127	58-130				
Toluene	0.146	0.0050	"	0.100	146	61-134				
Ethylbenzene	0.110	0.0050	"	0.0992	111	74-139				
m,p-Xylene	0.205	0.010	"	0.200	103	73-137				
o-Xylene	0.106	0.0050	"	0.0984	107	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0397	93.6	23-173				
Surrogate: Toluene-d8	0.0444		"	0.0400	111	20-170				
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0400	108	21-167				

LCS (1406155-BS2)

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg			66-138				
Benzene	0.128	0.0020	"	0.100	128	58-130				
Toluene	0.151	0.0050	"	0.100	151	61-134				
Ethylbenzene	0.114	0.0050	"	0.0992	115	74-139				
m,p-Xylene	0.217	0.010	"	0.200	109	73-137				
o-Xylene	0.108	0.0050	"	0.0984	110	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0397	98.8	23-173				
Surrogate: Toluene-d8	0.0446		"	0.0400	111	20-170				
Surrogate: 4-Bromofluorobenzene	0.0462		"	0.0400	116	21-167				

Summit Scientific

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

Project: Johnson OLY 1
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

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 1406155 - EPA 5030 Soil MS

Matrix Spike (1406155-MS1)

Source: 1406126-01

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.122	0.0020	"	0.0986	ND	123	30-131			
Toluene	0.143	0.0050	"	0.0986	0.00324	142	30-134			
Ethylbenzene	0.112	0.0050	"	0.0978	ND	114	22-153			
m,p-Xylene	0.210	0.010	"	0.197	0.00605	103	10-159			
o-Xylene	0.104	0.0050	"	0.0970	ND	107	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0371		"	0.0392		94.8	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0394		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0438		"	0.0394		111	21-167			

Matrix Spike (1406155-MS2)

Source: 1406126-02

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.121	0.0020	"	0.0928	0.00493	125	30-131			
Toluene	0.140	0.0050	"	0.0928	ND	151	30-134			
Ethylbenzene	0.107	0.0050	"	0.0920	ND	116	22-153			
m,p-Xylene	0.199	0.010	"	0.185	0.00535	105	10-159			
o-Xylene	0.0986	0.0050	"	0.0913	ND	108	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0378		"	0.0368		103	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0371		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0371		113	21-167			

Matrix Spike Dup (1406155-MSD1)

Source: 1406126-01

Prepared: 06/19/14 Analyzed: 06/20/14

Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.125	0.0020	"	0.0969	ND	129	30-131	2.71	34	
Toluene	0.146	0.0050	"	0.0969	0.00324	148	30-134	2.21	30	
Ethylbenzene	0.109	0.0050	"	0.0961	ND	114	22-153	2.16	24	
m,p-Xylene	0.208	0.010	"	0.193	0.00605	104	10-159	0.930	68	
o-Xylene	0.104	0.0050	"	0.0953	ND	109	31-151	0.0963	38	
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0385		101	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0388		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0427		"	0.0388		110	21-167			

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
 Project Manager: Brandon Bruns

Reported:
 06/22/14 21:02

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 1406155 - EPA 5030 Soil MS

Matrix Spike Dup (1406155-MSD2)	Source: 1406126-02			Prepared: 06/19/14	Analyzed: 06/20/14					
Naphthalene	ND	0.010	mg/kg	ND		10-158				42
Benzene	0.153	0.0020	"	0.0986	0.00493	150	30-131	23.2		34
Toluene	0.141	0.0050	"	0.0986	ND	143	30-134	0.659		30
Ethylbenzene	0.116	0.0050	"	0.0978	ND	119	22-153	8.69		24
m,p-Xylene	0.217	0.010	"	0.197	0.00535	108	10-159	8.68		68
o-Xylene	0.110	0.0050	"	0.0970	ND	113	31-151	10.6		38
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0439</i>		<i>"</i>	<i>0.0392</i>		<i>112</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0394</i>		<i>97.4</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0446</i>		<i>"</i>	<i>0.0394</i>		<i>113</i>	<i>21-167</i>			

Summit Scientific

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

Project: Johnson OLY 1

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
06/22/14 21:02

Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference