

**TABLE 1**  
**MAXEY 2, 33, 43, 22-24, 24D**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth (bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH <sup>(2)</sup> (mg/kg)	Naphthalene (mg/kg)
<b>COGCC standards for soil (mg/kg) <sup>(1)</sup></b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500</b>	<b>23</b>
SS01	2/12/2015	5'	<b>0.80</b>	11	13	140	<b>6100</b>	2.6
SS02	2/12/2015	5'	<0.0020	<0.0050	<0.0050	<0.010	<50	<0.010
SS03	2/12/2015	5'	<0.0020	<0.0050	<0.0050	<0.010	<50	<0.010
SS04	2/12/2015	5'	0.0085	<0.0050	<0.0050	0.017	<50	<0.010
LD-SS01	2/12/2015	8"	<0.0020	<0.0050	<0.0050	<0.010	<50	<0.010

**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.

COGCC = Colorado Oil and Gas Conservation Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

**BOLD** = Analytical result is in exceedance of COGCC Table 910-1 soil standards.

**TABLE 2**  
**MAXEY 2, 33, 43, 44-24, 24D**  
**GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
COGCC Table 910-1 Groundwater Standard (ug/L) <sup>(1)</sup>		5	560	700	1,400
S-GW01	2/11/2015	<b>90</b>	130	100	<b>1700</b>

**Notes:**

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

ug/L = Micrograms per liter

(<) = Analytical result is less than the indicated laboratory reporting limit.

**BOLD**= Analytical result is in exceedance of COGCC groundwater standards.

## **ATTACHMENT A**

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 13, 2015

Brandon Bruns

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Maxey 2, 33, 34, 43, 44-24, 24D

Enclosed are the results of analyses for samples received by Summit Scientific on 02/12/15 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Ben Shrewsbury For Paul Shrewsbury  
President



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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/15 01:43

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@5'	1502089-01	Soil	02/12/15 00:00	02/12/15 15:55
SS02@5'	1502089-02	Soil	02/12/15 00:00	02/12/15 15:55
SS03@5'	1502089-03	Soil	02/12/15 00:00	02/12/15 15:55
SS04@5'	1502089-04	Soil	02/12/15 00:00	02/12/15 15:55

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/13/15 01:43

# Summit Scientific *1502089*

S<sub>2</sub>

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: *PDC Energy*

Project Manager: *Brandon Bruns*

Address:

E-Mail: *brandon.bruns@pdce.com*

City/State/Zip:

Phone:

Fax:

Project Name: *Maxey 2, 33, 43, 44-24 + 24D*

Sampler Name:

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTX	TPH	DO/COD	NAP	
1	<i>SS01 @ 5'</i>	<i>1/12/15</i>		1			X			X			X	X	X		
2	<i>SS02 @ 5'</i>			1			X			X			X	X	X		
3	<i>SS03 @ 5'</i>			1			X			X			X	X	X		
4	<i>SS04 @ 5'</i>	<i>X</i>		1			X			X			X	X	X		
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by: <i>[Signature]</i>	Date/Time: <i>1/12/15 15:55</i>	Received by: <i>[Signature]</i>	Date/Time: <i>2-12-15 3:55</i>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
				48 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: <i>6.8°C</i>	
				Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/13/15 01:43

**SS01@5'**  
**1502089-01 (Soil)**

### Summit Scientific

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 02/12/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (TEPH-DRO)</b>	<b>1900</b>	50	mg/kg	1	1502146	02/12/15	02/12/15	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 02/12/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		127 %	30-150		"	"	"	"	

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

Date Sampled: 02/12/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>2.6</b>	0.10	mg/kg	10	1502147	02/12/15	02/12/15	EPA 8260B	
<b>Benzene</b>	<b>0.80</b>	0.020	"	"	"	"	"	"	
<b>Toluene</b>	<b>11</b>	0.050	"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>13</b>	0.050	"	"	"	"	"	"	E
<b>Xylenes (total)</b>	<b>140</b>	0.10	"	"	"	"	"	"	E
<b>Gasoline Range Hydrocarbons</b>	<b>4200</b>	5.0	"	"	"	"	"	"	E

Date Sampled: 02/12/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		745 %	20-170		"	"	"	"	S-02
Surrogate: 4-Bromofluorobenzene		400 %	21-167		"	"	"	"	S-02

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/15 01:43

**SS02@5'**  
**1502089-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	1502146	02/12/15	02/13/15	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/12/15 00:00**

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

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

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502147	02/12/15	02/12/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>13</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/15 01:43

**SS03@5'**  
**1502089-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	1502146	02/12/15	02/13/15	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/12/15 00:00**

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

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

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502147	02/12/15	02/12/15	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: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %	21-167		"	"	"	"	

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/15 01:43

**SS04@5'**  
**1502089-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	1502146	02/12/15	02/13/15	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.8 %	30-150		"	"	"	"	

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

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502147	02/12/15	02/12/15	EPA 8260B	
<b>Benzene</b>	<b>0.0085</b>	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.017</b>	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.1</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/12/15 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/13/15 01:43

**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 1502146 - EPA 3550A**

**Blank (1502146-BLK1)**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	ND	50	mg/kg
C28-C36 (TEPH-ORO)	ND	50	"

Surrogate: o-Terphenyl	12.9	"	12.2	106	30-150
------------------------	------	---	------	-----	--------

**LCS (1502146-BS1)**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	461	50	mg/kg	501	92.0	73-134
Surrogate: o-Terphenyl	12.0	"	12.2	98.4	30-150	

**Matrix Spike (1502146-MS1)**

Source: 1502087-01

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	435	45	mg/kg	455	ND	95.6	50-148
Surrogate: o-Terphenyl	11.6	"	11.1	105	30-150		

**Matrix Spike Dup (1502146-MSD1)**

Source: 1502087-01

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	428	50	mg/kg	473	ND	90.5	50-148	1.78	13
Surrogate: o-Terphenyl	11.4	"	11.5	99.2	30-150				

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/13/15 01:43

**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 1502147 - EPA 5030 Soil MS**

**Blank (1502147-BLK1)**

Prepared & Analyzed: 02/12/15

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	0.0382		"	0.0396	96.4	23-173				
Surrogate: Toluene-d8	0.0403		"	0.0400	101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400	99.6	21-167				

**LCS (1502147-BS1)**

Prepared & Analyzed: 02/12/15

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0999	0.0020	"	0.100	99.9	58-130				
Toluene	0.104	0.0050	"	0.100	104	61-134				
Ethylbenzene	0.0996	0.0050	"	0.0992	100	74-139				
m,p-Xylene	0.200	0.010	"	0.200	100	73-137				
o-Xylene	0.101	0.0050	"	0.0984	102	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0396	98.6	23-173				
Surrogate: Toluene-d8	0.0406		"	0.0400	102	20-170				
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400	96.8	21-167				

**Matrix Spike (1502147-MS1)**

Source: 1502087-01

Prepared & Analyzed: 02/12/15

Naphthalene	0.00352	0.010	mg/kg	0.00352		10-158				
Benzene	0.0922	0.0020	"	0.0947	ND	97.4	30-131			
Toluene	0.0942	0.0050	"	0.0947	ND	99.5	30-134			
Ethylbenzene	0.0928	0.0050	"	0.0939	ND	98.8	22-153			
m,p-Xylene	0.186	0.010	"	0.189	ND	98.2	10-159			
o-Xylene	0.0956	0.0050	"	0.0932	ND	103	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0375		103	23-173			
Surrogate: Toluene-d8	0.0372		"	0.0379		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0379		96.1	21-167			

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/13/15 01:43

**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 1502147 - EPA 5030 Soil MS**

Matrix Spike Dup (1502147-MSD1)		Source: 1502087-01			Prepared & Analyzed: 02/12/15					
Naphthalene	0.00306	0.010	mg/kg		0.00352		10-158	14.2	42	
Benzene	0.0932	0.0020	"	0.0943	ND	98.8	30-131	0.998	34	
Toluene	0.0953	0.0050	"	0.0943	ND	101	30-134	1.15	30	
Ethylbenzene	0.0952	0.0050	"	0.0936	ND	102	22-153	2.46	24	
m,p-Xylene	0.189	0.010	"	0.188	ND	101	10-159	1.97	68	
o-Xylene	0.0979	0.0050	"	0.0928	ND	105	31-151	2.38	38	
Surrogate: 1,2-Dichloroethane-d4	0.0384		"	0.0374		103	23-173			
Surrogate: Toluene-d8	0.0380		"	0.0377		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0377		97.4	21-167			

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/15 01:43

### 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

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# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 13, 2015

Brandon Bruns

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Maxey 2, 33, 34, 43, 44-24, 24D

Enclosed are the results of analyses for samples received by Summit Scientific on 02/12/15 15:48. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/15 00:14

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LD-SS01	1502090-01	Soil	02/12/15 13:15	02/12/15 15:48

Summit Scientific 1502090

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-277-9531 Fax

Page ( of )

**Client:** PDC Energy

**Address:**

**Project Manager:** Brandon Bruns

City/State/Zip: \_\_\_\_\_

E-Mail: [bbruns@petd.com](mailto:bbruns@petd.com)

Phone: 720 409-8791

Fax:

Project Name: MAYAN 2343.44-74.24D

Sampler Name: C. W. G. S. D.

Project Number:

[illegible]

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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: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
02/13/15 00:14

**LD-SS01**  
**1502090-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/12/15 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	1502146	02/12/15	02/12/15	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/12/15 13:15**

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

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

Date Sampled: **02/12/15 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1502147	02/12/15	02/12/15	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: **02/12/15 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/15 00:14

**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 1502146 - EPA 3550A**

**Blank (1502146-BLK1)**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	ND	50	mg/kg
C28-C36 (TEPH-ORO)	ND	50	"

Surrogate: o-Terphenyl	12.9	"	12.2	106	30-150
------------------------	------	---	------	-----	--------

**LCS (1502146-BS1)**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	461	50	mg/kg	501	92.0	73-134
Surrogate: o-Terphenyl	12.0	"	12.2	98.4	30-150	

**Matrix Spike (1502146-MS1)**

**Source: 1502087-01**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	435	45	mg/kg	455	ND	95.6	50-148
Surrogate: o-Terphenyl	11.6	"	11.1	105	30-150		

**Matrix Spike Dup (1502146-MSD1)**

**Source: 1502087-01**

Prepared & Analyzed: 02/12/15

C10-C28 (TEPH-DRO)	428	50	mg/kg	473	ND	90.5	50-148	1.78	13
Surrogate: o-Terphenyl	11.4	"	11.5	99.2	30-150				

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/13/15 00:14

**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 1502147 - EPA 5030 Soil MS**

**Blank (1502147-BLK1)**

Prepared & Analyzed: 02/12/15

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	0.0382		"	0.0396	96.4	23-173				
Surrogate: Toluene-d8	0.0403		"	0.0400	101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400	99.6	21-167				

**LCS (1502147-BS1)**

Prepared & Analyzed: 02/12/15

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0999	0.0020	"	0.100	99.9	58-130				
Toluene	0.104	0.0050	"	0.100	104	61-134				
Ethylbenzene	0.0996	0.0050	"	0.0992	100	74-139				
m,p-Xylene	0.200	0.010	"	0.200	100	73-137				
o-Xylene	0.101	0.0050	"	0.0984	102	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0396	98.6	23-173				
Surrogate: Toluene-d8	0.0406		"	0.0400	102	20-170				
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400	96.8	21-167				

**Matrix Spike (1502147-MS1)**

Source: 1502087-01

Prepared & Analyzed: 02/12/15

Naphthalene	0.00352	0.010	mg/kg	0.00352		10-158				
Benzene	0.0922	0.0020	"	0.0947	ND	97.4	30-131			
Toluene	0.0942	0.0050	"	0.0947	ND	99.5	30-134			
Ethylbenzene	0.0928	0.0050	"	0.0939	ND	98.8	22-153			
m,p-Xylene	0.186	0.010	"	0.189	ND	98.2	10-159			
o-Xylene	0.0956	0.0050	"	0.0932	ND	103	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0375		103	23-173			
Surrogate: Toluene-d8	0.0372		"	0.0379		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0379		96.1	21-167			

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/15 00:14

**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 1502147 - EPA 5030 Soil MS**

Matrix Spike Dup (1502147-MSD1)		Source: 1502087-01			Prepared & Analyzed: 02/12/15					
Naphthalene	0.00306	0.010	mg/kg		0.00352		10-158	14.2	42	
Benzene	0.0932	0.0020	"	0.0943	ND	98.8	30-131	0.998	34	
Toluene	0.0953	0.0050	"	0.0943	ND	101	30-134	1.15	30	
Ethylbenzene	0.0952	0.0050	"	0.0936	ND	102	22-153	2.46	24	
m,p-Xylene	0.189	0.010	"	0.188	ND	101	10-159	1.97	68	
o-Xylene	0.0979	0.0050	"	0.0928	ND	105	31-151	2.38	38	
Surrogate: 1,2-Dichloroethane-d4	0.0384		"	0.0374		103	23-173			
Surrogate: Toluene-d8	0.0380		"	0.0377		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0377		97.4	21-167			

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/15 00:14

### 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

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

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# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 12, 2015

Brandon Bruns

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Maxey 2, 33, 34, 43, 44-24, 24D

Enclosed are the results of analyses for samples received by Summit Scientific on 02/11/15 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury  
President



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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/12/15 06:33

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-GW01	1502079-01	Water	02/11/15 15:00	02/11/15 15:55

## Summit Scientific 1502079

S<sub>2</sub>

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: PDC Energy

Project Manager: Brandon Bruns

Address:

E-Mail: brandon.bruns@pdce.com

City/State/Zip:

Phone:

Fax:

Project Name: Maxey 2, 33, 43, 44-24, 24D

Sampler Name: Paul Downey

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested								Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)	BTEX								
1	S-GW01	2/11/15	15:00	2	X				X				X								
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <u>Paul Downey</u>	Date/Time: <u>2/11/15 15:55</u>	Received by: <u>Mon Bruns</u>	Date/Time: <u>02-11-15 15:55</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours <input type="checkbox"/>	Sample Integrity:
				Temperature Upon Receipt: <u>6.4°C</u>	
				Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D  
Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/12/15 06:33

**S-GW01**  
**1502079-01 (Water)**

**Summit Scientific**

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

Date Sampled: 02/11/15 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>90</b>	1.0	ug/l	1	1502132	02/11/15	02/11/15	EPA 8260B	
<b>Toluene</b>	<b>130</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>100</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1700</b>	100	"	100	"	"	"	"	

Date Sampled: 02/11/15 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		105 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.6 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	45-146		"	"	"	"	

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/12/15 06:33

## 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 1502132 - EPA 5030 Water MS

##### Blank (1502132-BLK1)

Prepared & Analyzed: 02/11/15

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.2	101	37-154				
Surrogate: Toluene-d8	12.9		"	13.3	96.6	45-149				
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3	103	45-146				

##### LCS (1502132-BS1)

Prepared & Analyzed: 02/11/15

Benzene	31.3	1.0	ug/l	33.3	93.8	51-132				
Toluene	29.2	1.0	"	33.3	87.6	51-138				
Ethylbenzene	30.2	1.0	"	33.1	91.3	58-146				
m,p-Xylene	61.6	2.0	"	66.5	92.7	57-144				
o-Xylene	29.5	1.0	"	32.8	89.8	53-146				
Xylenes (total)	91.1	1.0	"			30-150				
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.2	107	37-154				
Surrogate: Toluene-d8	12.8		"	13.3	96.0	45-149				
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3	99.5	45-146				

##### Matrix Spike (1502132-MS1)

Source: 1502070-01

Prepared & Analyzed: 02/11/15

Benzene	31.8	1.0	ug/l	33.3	ND	95.6	34-141			
Toluene	29.6	1.0	"	33.3	ND	88.8	27-151			
Ethylbenzene	31.3	1.0	"	33.1	ND	94.5	29-160			
m,p-Xylene	62.6	2.0	"	66.5	ND	94.0	20-166			
o-Xylene	30.4	1.0	"	32.8	ND	92.6	33-159			
Xylenes (total)	92.9	1.0	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.2	112	37-154				
Surrogate: Toluene-d8	13.1		"	13.3	98.3	45-149				
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3	102	45-146				

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D  
Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/12/15 06:33

**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 1502132 - EPA 5030 Water MS**

Matrix Spike Dup (1502132-MSD1)	Source: 1502070-01			Prepared & Analyzed: 02/11/15						
Benzene	31.7	1.0	ug/l	33.3	ND	95.1	34-141	0.504	32	
Toluene	29.1	1.0	"	33.3	ND	87.3	27-151	1.70	25	
Ethylbenzene	31.6	1.0	"	33.1	ND	95.6	29-160	1.15	50	
m,p-Xylene	62.5	2.0	"	66.5	ND	94.0	20-166	0.0640	36	
o-Xylene	29.9	1.0	"	32.8	ND	91.2	33-159	1.49	26	
Xylenes (total)	92.4	1.0	"		ND		30-150	0.529	25	
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.2		116	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

Summit Scientific

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

Project: Maxey 2, 33, 34, 43, 44-24, 24D

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/12/15 06:33

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