

**TABLE 1**  
**CARACCIOLI 1 TANK BATTERY**  
**SOIL ANALYTICAL RESULTS SUMMARY TABLE**

Sample ID	Date Sampled	Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH <sup>(2)</sup> (mg/kg)
COGCC standards for soil (mg/kg) <sup>(1)</sup>			0.17	85	100	175	23	500
SS01 @ 8'	2/7/2017	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS02 @ 7'	2/7/2017	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS03 @ 8'	2/7/2017	8	<0.0020	0.0057	<0.0050	0.067	0.015	9.5
SS04 @ 7'	2/7/2017	7	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS05 @ 7'	2/8/2017	7	<0.0020	<0.0050	<0.0050	<0.010	0.048	286
SS06 @ 7'	2/8/2017	7	<0.0020	<0.0050	<0.0050	0.012	<0.010	80
SS07 @ 7'	2/8/2017	7	<0.0020	<0.0050	<0.0050	<0.0050	<0.010	1
SS08 @ 7'	2/8/2017	7	<0.0020	<0.0050	<0.0050	<0.0050	<0.010	<50

**Notes:**

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective January 30, 2015.

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 soil standards.

**ATTACHMENT A**

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 08, 2017

Mark Longhurst  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Caraccioli 1

Enclosed are the results of analyses for samples received by Summit Scientific on 02/07/17 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 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury  
President



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

Project: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/08/17 07:19

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@8'	1702050-01	Soil	02/07/17 11:02	02/07/17 17:30
SS02@7'	1702050-02	Soil	02/07/17 11:04	02/07/17 17:30
SS03@8'	1702050-03	Soil	02/07/17 12:45	02/07/17 17:30
SS04@7'	1702050-04	Soil	02/07/17 15:17	02/07/17 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.*

Page 2 of 11



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

Project: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/08/17 07:19

#### Sample Receipt Checklist

S2 Work Order: 1702050

Client: PDC Energy

Client Project ID: Caraccioli

Shipped Via: P/U

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)

Cooler ID					
Temp (°C)	<u>2.5</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	✓			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	✓			
Was adequate sample volume provided <sup>(1)</sup> ?	✓			
If custody seals are present, are they intact <sup>(1)</sup> ?			✓	
Are short holding time analytes or samples with HTs due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	✓			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	✓			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	✓			
For volatiles in water — is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			✓	
Note the type of preservative in the Comments column — HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			✓	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

2/7/19 1730  
Date/Time



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

Project: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/08/17 07:19

**SS01@8'**  
**1702050-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/17 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702078	02/07/17	02/07/17	8015M	

Date Sampled: **02/07/17 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.4 %	30-150		"	"	"	"	

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

Date Sampled: **02/07/17 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702077	02/07/17	02/07/17	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: **02/07/17 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.8 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/08/17 07:19

SS02@7'  
1702050-02 (Soil)

### Summit Scientific

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 02/07/17 11:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702078	02/07/17	02/07/17	8015M	

Date Sampled: 02/07/17 11:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.0 %	30-150		"	"	"	"	

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

Date Sampled: 02/07/17 11:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702077	02/07/17	02/07/17	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: 02/07/17 11:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.8 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/08/17 07:19

**SS03@8'**  
**1702050-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/17 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702078	02/07/17	02/07/17	8015M	

Date Sampled: **02/07/17 12:45**

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

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

Date Sampled: **02/07/17 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.015	0.010	mg/kg	1	1702077	02/07/17	02/07/17	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	0.0057	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.067	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.5	0.50	"	"	"	"	"	"	

Date Sampled: **02/07/17 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/08/17 07:19

**SS04@7'**  
**1702050-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/07/17 15:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702078	02/07/17	02/08/17	8015M	

Date Sampled: **02/07/17 15:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.9 %	30-150		"	"	"	"	

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

Date Sampled: **02/07/17 15:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702077	02/07/17	02/07/17	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: **02/07/17 15:17**

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		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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/08/17 07:19

**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 1702078 - EPA 3550A**

**Blank (1702078-BLK1)**

Prepared & Analyzed: 02/07/17

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	12.0		"	12.5		96.1	30-150			

**LCS (1702078-BS1)**

Prepared & Analyzed: 02/07/17

C10-C28 (DRO)	505	50	mg/kg	499		101	73-134			
Surrogate: o-Terphenyl	12.2		"	12.5		97.4	30-150			

**Matrix Spike (1702078-MS1)**

Source: 1702048-01

Prepared & Analyzed: 02/07/17

C10-C28 (DRO)	402	50	mg/kg	499	53.0	69.9	50-148			
Surrogate: o-Terphenyl	7.78		"	12.5		62.2	30-150			

**Matrix Spike Dup (1702078-MSD1)**

Source: 1702048-01

Prepared & Analyzed: 02/07/17

C10-C28 (DRO)	526	50	mg/kg	499	53.0	94.9	50-148	26.8	20	QR-02
Surrogate: o-Terphenyl	10.5		"	12.5		83.8	30-150			

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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/08/17 07:19

**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 1702077 - EPA 5030 Soil MS**

**Blank (1702077-BLK1)**

Prepared & Analyzed: 02/07/17

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>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0379</i>		<i>"</i>	<i>0.0400</i>		<i>94.6</i>	<i>21-167</i>			

**LCS (1702077-BS1)**

Prepared & Analyzed: 02/07/17

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0915	0.0020	"	0.100		91.5	58-130			
Toluene	0.0993	0.0050	"	0.100		99.3	61-134			
Ethylbenzene	0.112	0.0050	"	0.0992		113	74-139			
m,p-Xylene	0.222	0.010	"	0.200		111	73-137			
o-Xylene	0.111	0.0050	"	0.0980		113	73-141			
Xylenes (total)	0.333	0.010	"				0-200			
Gasoline Range Hydrocarbons	1.15	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.0</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.0</i>	<i>21-167</i>			

**Matrix Spike (1702077-MS1)**

Source: 1702048-01

Prepared & Analyzed: 02/07/17

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0931	0.0020	"	0.100	ND	93.1	30-131			
Toluene	0.105	0.0050	"	0.100	ND	105	30-134			
Ethylbenzene	0.112	0.0050	"	0.0992	ND	113	22-153			
m,p-Xylene	0.229	0.010	"	0.200	ND	115	10-159			
o-Xylene	0.114	0.0050	"	0.0980	ND	116	31-151			
Xylenes (total)	0.343	0.010	"		ND		30-160			
Gasoline Range Hydrocarbons	1.21	0.50	"		ND		30-160			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0428</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0387</i>		<i>"</i>	<i>0.0400</i>		<i>96.8</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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/08/17 07:19

**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 1702077 - EPA 5030 Soil MS**

Matrix Spike Dup (1702077-MSD1)		Source: 1702048-01			Prepared & Analyzed: 02/07/17					
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0932	0.0020	"	0.100	ND	93.2	30-131	0.129	34	
Toluene	0.104	0.0050	"	0.100	ND	104	30-134	1.26	30	
Ethylbenzene	0.114	0.0050	"	0.0992	ND	115	22-153	1.96	24	
m,p-Xylene	0.232	0.010	"	0.200	ND	116	10-159	1.05	68	
o-Xylene	0.117	0.0050	"	0.0980	ND	119	31-151	2.94	38	
Xylenes (total)	0.349	0.010	"		ND		30-160	1.68	30	
Gasoline Range Hydrocarbons	1.23	0.50	"		ND		30-160	1.85	30	
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/08/17 07:19

### Notes and Definitions

QR-02     The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

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

February 09, 2017

Mark Longhurst  
PDC Energy  
1775 Sherman St. STE. 3000  
Denver, CO 80203  
RE: Caraccioli 1

Enclosed are the results of analyses for samples received by Summit Scientific on 02/08/17 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 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury  
President



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

Project: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/09/17 09:19

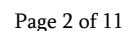
### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS05@7'	1702066-01	Soil	02/08/17 08:47	02/08/17 17:30
SS06@7'	1702066-02	Soil	02/08/17 08:54	02/08/17 17:30
SS07@7'	1702066-03	Soil	02/08/17 09:40	02/08/17 17:30
SS08@7'	1702066-04	Soil	02/08/17 10:19	02/08/17 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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

#### Sample Receipt Checklist

S2 Work Order: 1702062

Client: PDC Energy

Client Project ID: Caraccioli 1

Shipped Via: P/U

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_ (Describe)

Cooler ID					
Temp (°C)	3.2				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

2/8/17 1205  
Date/Time



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

Project: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**SS05@7'**  
**1702066-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/08/17 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>240</b>	50	mg/kg	1	1702092	02/08/17	02/08/17	8015M	

Date Sampled: **02/08/17 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		104 %	30-150		"	"	"	"	

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

Date Sampled: **02/08/17 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.048</b>	0.010	mg/kg	1	1702091	02/08/17	02/08/17	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>46</b>	0.50	"	"	"	"	"	"	

Date Sampled: **02/08/17 08:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		128 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**SS06@7'**  
**1702066-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/08/17 08:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	74	50	mg/kg	1	1702092	02/08/17	02/08/17	8015M	

Date Sampled: **02/08/17 08:54**

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: **02/08/17 08:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702091	02/08/17	02/08/17	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.012	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6.1	0.50	"	"	"	"	"	"	

Date Sampled: **02/08/17 08:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**SS07@7'**  
**1702066-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/08/17 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702092	02/08/17	02/08/17	8015M	

Date Sampled: **02/08/17 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.8 %	30-150		"	"	"	"	

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

Date Sampled: **02/08/17 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702091	02/08/17	02/08/17	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.3	0.50	"	"	"	"	"	"	

Date Sampled: **02/08/17 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**SS08@7'**  
**1702066-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/08/17 10:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1702092	02/08/17	02/08/17	8015M	

Date Sampled: **02/08/17 10:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.0 %	30-150		"	"	"	"	

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

Date Sampled: **02/08/17 10:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1702091	02/08/17	02/08/17	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: **02/08/17 10:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/09/17 09:19

**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 1702092 - EPA 3550A**

**Blank (1702092-BLK1)**

Prepared & Analyzed: 02/08/17

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	12.0		"	12.5		95.8	30-150			

**LCS (1702092-BS1)**

Prepared & Analyzed: 02/08/17

C10-C28 (DRO)	487	50	mg/kg	499		97.6	73-134			
Surrogate: o-Terphenyl	11.9		"	12.5		95.0	30-150			

**Matrix Spike (1702092-MS1)**

**Source: 1702065-04**

Prepared & Analyzed: 02/08/17

C10-C28 (DRO)	576	50	mg/kg	499	54.9	104	50-148			
Surrogate: o-Terphenyl	12.0		"	12.5		96.2	30-150			

**Matrix Spike Dup (1702092-MSD1)**

**Source: 1702065-04**

Prepared & Analyzed: 02/08/17

C10-C28 (DRO)	562	50	mg/kg	499	54.9	102	50-148	2.39	20	
Surrogate: o-Terphenyl	11.8		"	12.5		94.5	30-150			

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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**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 1702091 - EPA 5030 Soil MS**

**Blank (1702091-BLK1)**

Prepared & Analyzed: 02/08/17

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	0.0412		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	21-167			

**LCS (1702091-BS1)**

Prepared & Analyzed: 02/08/17

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0897	0.0020	"	0.100		89.7	58-130			
Toluene	0.101	0.0050	"	0.100		101	61-134			
Ethylbenzene	0.114	0.0050	"	0.0992		115	74-139			
m,p-Xylene	0.227	0.010	"	0.200		114	73-137			
o-Xylene	0.116	0.0050	"	0.0980		118	73-141			
Xylenes (total)	0.343	0.010	"				0-200			
Gasoline Range Hydrocarbons	1.15	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	21-167			

**Matrix Spike (1702091-MS1)**

Source: 1702065-04

Prepared & Analyzed: 02/08/17

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.0935	0.0020	"	0.100	ND	93.5	30-131			
Toluene	0.102	0.0050	"	0.100	ND	102	30-134			
Ethylbenzene	0.114	0.0050	"	0.0992	ND	115	22-153			
m,p-Xylene	0.227	0.010	"	0.200	ND	114	10-159			
o-Xylene	0.115	0.0050	"	0.0980	ND	117	31-151			
Xylenes (total)	0.342	0.010	"		ND		30-160			
Gasoline Range Hydrocarbons	3.12	0.50	"		8.02		30-160			
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0441		"	0.0400		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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

Reported:  
02/09/17 09:19

**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 1702091 - EPA 5030 Soil MS**

Matrix Spike Dup (1702091-MSD1)	Source: 1702065-04			Prepared & Analyzed: 02/08/17						
Naphthalene	ND	0.010	mg/kg		ND		10-158		42	
Benzene	0.0913	0.0020	"	0.100	ND	91.3	30-131	2.40	34	
Toluene	0.101	0.0050	"	0.100	ND	101	30-134	1.57	30	
Ethylbenzene	0.113	0.0050	"	0.0992	ND	114	22-153	0.476	24	
m,p-Xylene	0.219	0.010	"	0.200	ND	110	10-159	3.50	68	
o-Xylene	0.112	0.0050	"	0.0980	ND	114	31-151	2.54	38	
Xylenes (total)	0.331	0.010	"		ND		30-160	3.18	30	
Gasoline Range Hydrocarbons	3.33	0.50	"		8.02		30-160	6.47	30	
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0456		"	0.0400		114	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: Caraccioli 1  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
02/09/17 09:19

### 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