

TABLE 1
BAUER 5; 12, 21-4 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 ⁽²⁾ (mg/kg)
COGCC standards for soil (mg/kg) ⁽¹⁾			0.17	85	100	175	23	500
SS01 @ 18'	6/20/2019	18	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS02 @ 15'	6/20/2019	15	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS03 @ 17'	6/20/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS04 @ 15'	6/26/2019	15	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS05 @ 17'	6/26/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS06 @ 15'	6/28/2019	15	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS07 @ 17'	6/28/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS08 @ 18'	7/1/2019	18	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS09 @ 15'	7/1/2019	15	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS10 @ 17'	7/1/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS11 @ 15'	7/1/2019	15	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS12 @ 17'	7/1/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS13 @ 15'	7/1/2019	15	0.0040	<0.0050	<0.0050	<0.010	<0.010	1.2
SS14 @ 17'	7/1/2019	17	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS15 @ 18'	7/1/2019	18	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50

Notes:

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

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

TABLE 2
BAUER 5; 12, 21-4 TANK BATTERY
GROUNDWATER ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Depth to Water (feet bgs) ⁽²⁾
COGCC Table 910-1 Groundwater Standard (µg/L)⁽¹⁾		5	560	700	1,400	
GW01	7/3/2019	3.5	<1.0	1.6	16	~16

Notes:

1. Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective May 1, 2018.

2. Depth to groundwater measured from ground surface.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L= Micrograms per liter

bgs = Below ground surface

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

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 23, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906271

Enclosed are the results of analyses for samples received by Summit Scientific on 06/20/19 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@18'	1906271-01	Soil	06/20/19 12:10	06/20/19 16:00
SS02@15'	1906271-02	Soil	06/20/19 13:01	06/20/19 16:00
SS03@17'	1906271-03	Soil	06/20/19 13:04	06/20/19 16:00

Summit Scientific

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

Summit Scientific

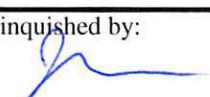
1906271

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

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)	GBTEXN (8260)	TPH - DRO								
SS01 @ 18'	6/20/2019	12:10	1			X		X				X	X								
SS02 @ 15'	6/20/2019	1:01	1			X		X				X	X								
SS03 @ 17'	6/20/2019	1:04	1			X		X				X	X								
Relinquished by: 	Date/Time: <u>6/20/19</u> <u>3:16</u>	Received by: 	Date/Time: <u>6-20-19</u> <u>16:00</u>	Turn Around Time (Check)																	
				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: <u>10.2°</u>																	
				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																	

Sample Receipt Checklist

S2 Work Order 1906271

Client: PDC Client Project ID: Bauer 5; 12, 21-4

Shipped Via: H.D. (P.U.)/FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air Soil/Solid _____ Water _____ Other: _____
(Describe)

Temp (°C)	10.2°
-----------	-------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			on ice
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			Same Day
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? 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 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6-20-19 16:00
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS01@18'
1906271-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1906302	06/20/19	06/20/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/20/19 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		83.2 %			23-173	"	"	"	"
Surrogate: Toluene-d8		93.7 %			20-170	"	"	"	"
Surrogate: 4-Bromofluorobenzene		92.2 %			21-167	"	"	"	"

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1906306	06/20/19	06/20/19	EPA 8015M	

Date Sampled: **06/20/19 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		83.4 %			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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS02@15'
1906271-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 13:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1906302	06/20/19	06/20/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/20/19 13:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		84.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 13:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1906306	06/20/19	06/20/19	EPA 8015M	

Date Sampled: **06/20/19 13:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		85.5 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

SS03@17'
1906271-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/20/19 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1906302	06/20/19	06/21/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/20/19 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		77.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/20/19 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1906306	06/20/19	06/20/19	EPA 8015M	

Date Sampled: **06/20/19 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.8 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906302 - EPA 5030 Soil MS

Blank (1906302-BLK1)

Prepared: 06/20/19 Analyzed: 06/21/19

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Naphthalene	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173				
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167				

LCS (1906302-BS1)

Prepared: 06/20/19 Analyzed: 06/21/19

Benzene	0.0939	0.0020	mg/kg	0.100		93.9	70-130				
Toluene	0.102	0.0050	"	0.100		102	70-130				
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130				
m,p-Xylene	0.228	0.010	"	0.200		114	70-130				
o-Xylene	0.109	0.0050	"	0.100		109	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0465		"	0.0400		116	23-173				
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	20-170				
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167				

Matrix Spike (1906302-MS1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

Benzene	0.0985	0.0020	mg/kg	0.100	ND	98.5	70-130				
Toluene	0.106	0.0050	"	0.100	ND	106	70-130				
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130				
m,p-Xylene	0.221	0.010	"	0.200	ND	110	70-130				
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0501		"	0.0400		125	23-173				
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170				
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	21-167				

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/23/19 12:19

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 1906302 - EPA 5030 Soil MS

Matrix Spike Dup (1906302-MSD1)	Source: 1906272-21			Prepared: 06/20/19 Analyzed: 06/21/19						
Benzene	0.0946	0.0020	mg/kg	0.100	ND	94.6	70-130	3.95	30	
Toluene	0.108	0.0050	"	0.100	ND	108	70-130	1.72	30	
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	2.80	30	
m,p-Xylene	0.227	0.010	"	0.200	ND	113	70-130	2.70	30	
o-Xylene	0.109	0.0050	"	0.100	ND	109	70-130	2.26	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>103</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: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/23/19 12:19

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906306 - EPA 3550A

Blank (1906306-BLK1)

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906306-BS1)

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 464 50 mg/kg 500 92.7 70-130

Matrix Spike (1906306-MS1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 449 50 mg/kg 500 15.9 86.6 70-130

Matrix Spike Dup (1906306-MSD1)

Source: 1906272-21

Prepared: 06/20/19 Analyzed: 06/21/19

C10-C28 (DRO) 435 50 mg/kg 500 15.9 83.7 70-130 3.23 20

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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/23/19 12:19

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 27, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906343

Enclosed are the results of analyses for samples received by Summit Scientific on 06/26/19 16:00. 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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS04@15'	1906343-01	Soil	06/26/19 13:12	06/26/19 16:00
SS05@17'	1906343-02	Soil	06/26/19 13:15	06/26/19 16:00

Summit Scientific

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

Summit Scientific

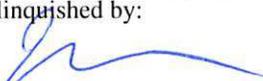
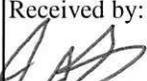
1906343

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

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)	GBTEXN (8260)	TPH - DRO												
SS04 @ 15'	6/26/2019	1:12	1		X			X					X	X											
SS05 @ 17'	6/26/2019	1:15	1		X			X					X	X											
Relinquished by:  Date/Time: <u>6/26/19 3:22</u>				Received by:  Date/Time: <u>6-26-19 10:00</u>				Turn Around Time (Check)																	
								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 in Lab by: _____ Date/Time: _____				Sample Integrity: Temperature Upon Receipt: <u>8.5°</u>																	
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																	

Sample Receipt Checklist

S2 Work Order 1906343

Client: PDC Client Project ID: Bauer 5; 12, 21-4

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air Soil/Solid _____ Water _____ Other: _____
(Describe)

Temp (°C)	<u>8.5°</u>
-----------	-------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			<u>on ice</u>
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			<u>Same Day</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ? 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 ⁽¹⁾ ? 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):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Log S
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

6-26-19 16:00
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

SS04@15'
1906343-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/19 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1906388	06/26/19	06/26/19	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Naphthalene	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **06/26/19 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		84.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.5 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/19 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1906390	06/26/19	06/26/19	EPA 8015M	

Date Sampled: **06/26/19 13:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		96.2 %		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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

SS05@17'
1906343-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/26/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1906388	06/26/19	06/26/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/26/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/26/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1906390	06/26/19	06/26/19	EPA 8015M	

Date Sampled: **06/26/19 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		105 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906388 - EPA 5030 Soil MS

Blank (1906388-BLK1)

Prepared: 06/26/19 Analyzed: 06/27/19

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Naphthalene	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.4	23-173				
Surrogate: Toluene-d8	0.0330		"	0.0400		82.4	20-170				
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		104	21-167				

LCS (1906388-BS1)

Prepared: 06/26/19 Analyzed: 06/27/19

Benzene	0.0846	0.0020	mg/kg	0.100		84.6	70-130				
Toluene	0.0976	0.0050	"	0.100		97.6	70-130				
Ethylbenzene	0.112	0.0050	"	0.100		112	70-130				
m,p-Xylene	0.223	0.010	"	0.200		111	70-130				
o-Xylene	0.102	0.0050	"	0.100		102	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0553		"	0.0400		138	23-173				
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	20-170				
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167				

Matrix Spike (1906388-MS1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

Benzene	0.0877	0.0020	mg/kg	0.100	ND	87.7	70-130				
Toluene	0.0996	0.0050	"	0.100	ND	99.6	70-130				
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130				
m,p-Xylene	0.220	0.010	"	0.200	0.00981	105	70-130				
o-Xylene	0.107	0.0050	"	0.100	ND	107	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0564		"	0.0400		141	23-173				
Surrogate: Toluene-d8	0.0405		"	0.0400		101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	21-167				

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/27/19 06:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906388 - EPA 5030 Soil MS

Matrix Spike Dup (1906388-MSD1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

Benzene	0.0878	0.0020	mg/kg	0.100	ND	87.8	70-130	0.137	30	
Toluene	0.102	0.0050	"	0.100	ND	102	70-130	2.09	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	2.22	30	
m,p-Xylene	0.217	0.010	"	0.200	0.00981	104	70-130	1.40	30	
o-Xylene	0.108	0.0050	"	0.100	ND	108	70-130	0.754	30	
Surrogate: 1,2-Dichloroethane-d4	0.0553		"	0.0400		138	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	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: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 06/27/19 06:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906390 - EPA 3550A

Blank (1906390-BLK1)

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906390-BS1)

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 483 50 mg/kg 500 96.7 70-130

Matrix Spike (1906390-MS1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 516 50 mg/kg 500 ND 103 70-130

Matrix Spike Dup (1906390-MSD1)

Source: 1906341-01

Prepared: 06/26/19 Analyzed: 06/27/19

C10-C28 (DRO) 478 50 mg/kg 500 ND 95.5 70-130 7.66 20

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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
06/27/19 06:48

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

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 01, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1906391

Enclosed are the results of analyses for samples received by Summit Scientific on 06/28/19 17:58. 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', written in a cursive style.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS06@15'	1906391-01	Soil	06/28/19 11:16	06/28/19 17:58
SS07@17'	1906391-02	Soil	06/28/19 11:19	06/28/19 17:58

Summit Scientific

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

Summit Scientific

190291

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

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)	GBTEXN (8260)	TPH - DRO								
SS06 @ 15'	6/28/2019	11:16	1		X			X					X	X							
SS07 @ 17'	6/28/2019	11:19	1		X			X					X	X							
Relinquished by: <u>[Signature]</u> Date/Time: <u>6/28/19 2:14 1730</u>				Received by: <u>[Signature]</u> Date/Time: <u>6/28/19 1730</u>				Turn Around Time (Check) 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: <u>4.4</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													
Relinquished by: _____ Date/Time: _____				Received in Lab by: _____ Date/Time: _____																	

Sample Receipt Checklist

S2 Work Order 1906391

Client: PDC Client Project ID: BAUER 5; 1271-4

Shipped Via: H.D. FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air Soil/Solid _____ Water _____ Other: _____
(Describe)

Temp (°C)	<u>4.4</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			<u>SAME DAY DEL</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ? 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 ⁽¹⁾ ? 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):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

RE
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

06/28/19
Date/Time 1802



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

SS06@15'
1906391-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	1906445	06/28/19	06/29/19	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Naphthalene	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **06/28/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	1906446	06/28/19	06/28/19	EPA 8015M	

Date Sampled: **06/28/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		99.6 %		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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

SS07@17'
1906391-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/28/19 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1906445	06/28/19	06/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/28/19 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/28/19 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1906446	06/28/19	06/28/19	EPA 8015M	

Date Sampled: **06/28/19 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.4 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1906445 - EPA 5030 Soil MS

Blank (1906445-BLK1)

Prepared & Analyzed: 06/28/19

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
Naphthalene	ND	0.010	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101		23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1		20-170			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.6		21-167			

LCS (1906445-BS1)

Prepared & Analyzed: 06/28/19

Benzene	0.0856	0.0020	mg/kg	0.100		85.6		70-130			
Toluene	0.0940	0.0050	"	0.100		94.0		70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103		70-130			
m,p-Xylene	0.206	0.010	"	0.200		103		70-130			
o-Xylene	0.0976	0.0050	"	0.100		97.6		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0400		101		23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8		20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102		21-167			

Matrix Spike (1906445-MS1)

Source: 1906391-01

Prepared: 06/28/19 Analyzed: 06/29/19

Benzene	0.0846	0.0020	mg/kg	0.100	ND	84.6		70-130			
Toluene	0.0919	0.0050	"	0.100	ND	91.9		70-130			
Ethylbenzene	0.102	0.0050	"	0.100	ND	102		70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	102		70-130			
o-Xylene	0.0968	0.0050	"	0.100	ND	96.8		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		105		23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.6		20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		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: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/01/19 06:13

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 1906445 - EPA 5030 Soil MS

Matrix Spike Dup (1906445-MSD1)

Source: 1906391-01

Prepared: 06/28/19 Analyzed: 06/29/19

Benzene	0.0838	0.0020	mg/kg	0.100	ND	83.8	70-130	0.962	30
Toluene	0.0912	0.0050	"	0.100	ND	91.2	70-130	0.754	30
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	1.19	30
m,p-Xylene	0.201	0.010	"	0.200	ND	100	70-130	1.95	30
o-Xylene	0.0968	0.0050	"	0.100	ND	96.8	70-130	0.00	30
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173		
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170		
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		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: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/01/19 06:13

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1906446 - EPA 3550A

Blank (1906446-BLK1)

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1906446-BS1)

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 487 50 mg/kg 500 97.4 70-130

Matrix Spike (1906446-MS1)

Source: 1906387-01

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 506 50 mg/kg 500 87.8 83.7 70-130

Matrix Spike Dup (1906446-MSD1)

Source: 1906387-01

Prepared & Analyzed: 06/28/19

C10-C28 (DRO) 497 50 mg/kg 500 87.8 81.8 70-130 1.92 20

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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/01/19 06:13

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

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 02, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

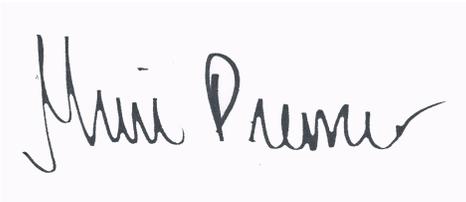
Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1907010

Enclosed are the results of analyses for samples received by Summit Scientific on 07/01/19 18:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large, stylized initial "M".

Muri Premer For Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS08@18'	1907010-01	Soil	07/01/19 08:49	07/01/19 18:46
SS09@15'	1907010-02	Soil	07/01/19 11:21	07/01/19 18:46
SS10@17'	1907010-03	Soil	07/01/19 11:24	07/01/19 18:46
SS11@15'	1907010-04	Soil	07/01/19 11:42	07/01/19 18:46
SS12@17'	1907010-05	Soil	07/01/19 11:45	07/01/19 18:46
SS13@15'	1907010-06	Soil	07/01/19 15:02	07/01/19 18:46
SS14@17'	1907010-07	Soil	07/01/19 15:05	07/01/19 18:46
SS15@18'	1907010-08	Soil	07/01/19 15:19	07/01/19 18:46

Summit Scientific

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

Summit Scientific

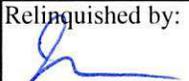
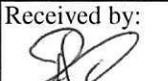
1907010

741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 1 of 1

Client: PDC
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Jake McCarver

Project Manager: Mark Longhurst
E-Mail: Mark.Longhurst@pdce.com
Project Name: Bauer 5; 12, 21-4
Project Number: _____

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)	GBTEXN (8260)	TPH - DRO														
SS08 @ 18'	7/1/2019	8:49	1			X		X					X	X													
SS09 @ 15'	7/1/2019	11:21	1			X		X					X	X													
SS10 @ 17'	7/1/2019	11:24	1			X		X					X	X													
SS11 @ 15'	7/1/2019	11:42	1			X		X					X	X													
SS12 @ 17'	7/1/2019	11:45	1			X		X					X	X													
SS13 @ 15'	7/1/2019	3:02	1			X		X					X	X													
SS14 @ 17'	7/1/2019	3:05	1			X		X					X	X													
SS15 @ 18'	7/1/2019	3:19	1			X		X					X	X													
Relinquished by:  Date/Time: <u>7/1/19 4:42</u>				Received by:  Date/Time: <u>07/01/19 1800</u>				Turn Around Time (Check)																			
								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:				Received in Lab by:				Sample Integrity:																			
								Temperature Upon Receipt: <u>3.8</u>																			
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																			

Sample Receipt Checklist

S2 Work Order 1907010

Client: PDC Client Project ID: BAUER 5; 12, 21-4

Shipped Via: H.D./P.D./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

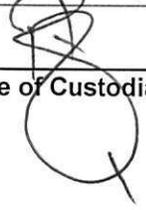
Temp (°C)	<u>3.8</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			<u>SAME DAY/FAST</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ? 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 ⁽¹⁾ ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
<u>Additional Comments (if any):</u> 				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name or Initials


Signature of Custodian

07/01/19
Date/Time 1840



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS08@18'
1907010-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 08:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 08:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 08:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 08:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		123 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS09@15'
1907010-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 11:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		99.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 11:21**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		130 %	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	Project: Bauer 5; 12, 21-4	
1775 Sherman St. STE. 3000	Project Number: [none]	Reported:
Denver CO, 80203	Project Manager: Mark Longhurst	07/02/19 17:38

SS10@17'
1907010-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 11:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 11:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		135 %	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	Project: Bauer 5; 12, 21-4	
1775 Sherman St. STE. 3000	Project Number: [none]	Reported:
Denver CO, 80203	Project Manager: Mark Longhurst	07/02/19 17:38

SS11@15'
1907010-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		136 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS12@17'
1907010-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		126 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS13@15'
1907010-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0040	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.2	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 15:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 15:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		136 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

SS14@17'
1907010-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/01/19	EPA 8015M	

Date Sampled: **07/01/19 15:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		114 %	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: Bauer 5; 12, 21-4 Project Number: [none] Project Manager: Mark Longhurst	Reported: 07/02/19 17:38
--	---	------------------------------------

SS15@18'
1907010-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/19 15:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1907020	07/01/19	07/02/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/01/19 15:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/01/19 15:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1907022	07/01/19	07/02/19	EPA 8015M	

Date Sampled: **07/01/19 15:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		139 %	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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

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 1907020 - EPA 5030 Soil MS

Blank (1907020-BLK1)

Prepared: 07/01/19 Analyzed: 07/02/19

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Naphthalene	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.2	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

LCS (1907020-BS1)

Prepared: 07/01/19 Analyzed: 07/02/19

Benzene	0.162	0.0020	mg/kg	0.150		108	70-130			
Toluene	0.164	0.0050	"	0.150		109	70-130			
Ethylbenzene	0.161	0.0050	"	0.150		107	70-130			
m,p-Xylene	0.316	0.010	"	0.300		105	70-130			
o-Xylene	0.166	0.0050	"	0.150		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.5	23-173			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		98.9	21-167			

Matrix Spike (1907020-MS1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

Benzene	0.168	0.0020	mg/kg	0.150	ND	112	70-130			
Toluene	0.169	0.0050	"	0.150	ND	113	70-130			
Ethylbenzene	0.166	0.0050	"	0.150	ND	111	70-130			
m,p-Xylene	0.326	0.010	"	0.300	ND	109	70-130			
o-Xylene	0.169	0.0050	"	0.150	ND	113	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.6	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	21-167			

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/02/19 17:38

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

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

Batch 1907020 - EPA 5030 Soil MS

Matrix Spike Dup (1907020-MSD1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

Benzene	0.167	0.0020	mg/kg	0.150	ND	111	70-130	0.323	30	
Toluene	0.168	0.0050	"	0.150	ND	112	70-130	0.696	30	
Ethylbenzene	0.166	0.0050	"	0.150	ND	111	70-130	0.0180	30	
m,p-Xylene	0.328	0.010	"	0.300	ND	109	70-130	0.698	30	
o-Xylene	0.170	0.0050	"	0.150	ND	113	70-130	0.460	30	
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.6	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		94.9	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: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/02/19 17:38

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1907022 - EPA 3550A

Blank (1907022-BLK1)

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1907022-BS1)

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 474 50 mg/kg 500 94.7 70-130

Matrix Spike (1907022-MS1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 497 50 mg/kg 500 ND 99.4 70-130

Matrix Spike Dup (1907022-MSD1)

Source: 1907010-01

Prepared: 07/01/19 Analyzed: 07/02/19

C10-C28 (DRO) 511 50 mg/kg 500 ND 102 70-130 2.76 20

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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/02/19 17:38

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

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 04, 2019

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Bauer 5; 12, 21-4

Work Order # 1907052

Enclosed are the results of analyses for samples received by Summit Scientific on 07/03/19 17:20. 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', written in a cursive style.

Paul Shrewsbury

President



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GW01	1907052-01	Water	07/03/19 08:34	07/03/19 17:20

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.

Sample Receipt Checklist

S2 Work Order 19070S2

Client: PDC Client Project ID: Bauer 5; 12, 12-4

Shipped Via: H.D. (P.U.) / FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air _____ Soil/Solid X Water _____ Other: _____
(Describe)

Temp (°C)	6-0°
-----------	------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			on ice
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✓			Same Day
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		✓		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

7-3-19 17:20
Date/Time



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/04/19 21:49

GW01
1907052-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/19 08:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	3.5	1.0	ug/l	1	1907029	07/03/19	07/03/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	1.6	1.0	"	"	"	"	"	"	
Xylenes (total)	16	2.0	"	"	"	"	"	"	

Date Sampled: **07/03/19 08:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		94.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		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: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1907029 - EPA 5030 Water MS

Blank (1907029-BLK1)

Prepared & Analyzed: 07/03/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.7		23-173		
Surrogate: Toluene-d8	12.8		"	13.3		96.1		20-170		
Surrogate: 4-Bromofluorobenzene	12.6		"	13.3		94.5		21-167		

LCS (1907029-BS1)

Prepared & Analyzed: 07/03/19

Benzene	27.3	1.0	ug/l	33.3		82.0		51-132		
Toluene	29.9	1.0	"	33.3		89.6		51-138		
Ethylbenzene	32.3	1.0	"	33.3		96.8		58-146		
m,p-Xylene	64.5	2.0	"	66.7		96.8		57-144		
o-Xylene	31.0	1.0	"	33.3		93.1		53-146		
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.7		23-173		
Surrogate: Toluene-d8	13.0		"	13.3		97.8		20-170		
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.3		21-167		

Matrix Spike (1907029-MS1)

Source: 1906398-01

Prepared & Analyzed: 07/03/19

Benzene	27.0	1.0	ug/l	33.3	ND	81.2		34-141		
Toluene	29.9	1.0	"	33.3	ND	89.6		27-151		
Ethylbenzene	31.9	1.0	"	33.3	ND	95.8		29-160		
m,p-Xylene	63.9	2.0	"	66.7	ND	95.8		20-166		
o-Xylene	31.0	1.0	"	33.3	ND	93.2		33-159		
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3		99.0		23-173		
Surrogate: Toluene-d8	12.8		"	13.3		96.3		20-170		
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100		21-167		

Summit Scientific

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



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

Project: Bauer 5; 12, 21-4

Project Number: [none]
 Project Manager: Mark Longhurst

Reported:
 07/04/19 21:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1907029 - EPA 5030 Water MS

Matrix Spike Dup (1907029-MSD1)	Source: 1906398-01			Prepared & Analyzed: 07/03/19						
Benzene	27.6	1.0	ug/l	33.3	ND	82.9	34-141	2.12	30	
Toluene	30.2	1.0	"	33.3	ND	90.5	27-151	0.999	30	
Ethylbenzene	32.4	1.0	"	33.3	ND	97.1	29-160	1.43	30	
m,p-Xylene	64.8	2.0	"	66.7	ND	97.2	20-166	1.40	30	
o-Xylene	31.4	1.0	"	33.3	ND	94.3	33-159	1.18	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.2</i>		<i>"</i>	<i>13.3</i>		<i>107</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.3</i>		<i>"</i>	<i>13.3</i>		<i>99.5</i>	<i>21-167</i>			

Summit Scientific

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

Project: Bauer 5; 12, 21-4

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/04/19 21:49

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