

TABLE 1
FORMER CECIL K 35-29, 30; SCHWAB 26-12F, 13F TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽²⁾ (mg/kg)
COGCC Table 910-1 Soil Standard (mg/kg) ⁽¹⁾			0.17	85	100	175	23	500
SS01-N @ 5'	2/5/2020	5	0.17	<0.0050	0.49	<0.010	0.28	720
S01 @ 22'	2/10/2020	22	<0.0020	<0.0050	<0.0050	0.010	<0.010	<50
GS06 @ 16'	2/10/2020	16	<0.0020	<0.0050	<0.0050	<0.010	<0.010	7.4
S02 @ 22'	2/14/2020	22	0.17	<0.0050	0.32	0.17	0.095	520
S03 @ 22.5'	2/18/2020	22.5	0.0046	<0.0050	<0.0050	<0.010	<0.010	0.57
S04 @ 22'	2/20/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S05 @ 8'	2/20/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S06 @ 14'	2/20/2020	14	<0.0020	<0.0050	0.013	0.057	<0.010	9.4
S07 @ 22'	2/25/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S08 @ 8'	2/26/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S09 @ 14'	2/26/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	0.50
S10 @ 8'	2/26/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S11 @ 14'	2/26/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	2.7
S12 @ 22'	2/27/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S13 @ 8'	2/27/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S14 @ 14'	2/27/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S15 @ 8'	2/28/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S16 @ 14'	2/28/2020	14	<0.0020	<0.0050	0.30	2.2	0.057	200
S17 @ 22'	2/28/2020	22	0.032	0.013	0.27	0.31	0.028	310
S18 @ 22'	3/3/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S19 @ 14'	3/3/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S20 @ 8'	3/3/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S21 @ 8'	3/4/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S22 @ 14'	3/4/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S23 @ 22'	3/4/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S24 @ 22'	3/5/2020	22	<0.0020	<0.0050	<0.0050	0.027	<0.010	0.70
S25 @ 8'	3/5/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S26 @ 14'	3/5/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S27 @ 22'	3/5/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S28 @ 8'	3/6/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S29 @ 14'	3/6/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S30 @ 22'	3/6/2020	22	<0.0020	<0.0050	<0.0050	0.032	<0.010	0.58
S31 @ 8'	3/9/2020	8	<0.0020	<0.0050	0.011	0.10	<0.010	1.1
S32 @ 14'	3/9/2020	14	<0.0020	<0.0050	<0.0050	0.019	<0.010	0.80
S33 @ 22'	3/9/2020	22	<0.0020	<0.0050	0.0051	0.049	0.018	34
S34 @ 8'	3/10/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S35 @ 14'	3/10/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	4.1
S36 @ 22'	3/10/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	1.2
S37 @ 8'	3/10/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S38 @ 14'	3/10/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S39 @ 8'	3/11/2020	8	<0.0020	<0.0050	<0.0050	0.029	<0.010	35
S40 @ 14'	3/11/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S41 @ 22'	3/11/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	7.4
S42 @ 8'	3/11/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	27
S43 @ 14'	3/11/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S44 @ 22'	3/11/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S45 @ 8'	3/13/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50

TABLE 1
FORMER CECIL K 35-29, 30; SCHWAB 26-12F, 13F TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE

Sample ID	Date Sampled	Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH ⁽²⁾ (mg/kg)
COGCC Table 910-1 Soil Standard (mg/kg) ⁽¹⁾			0.17	85	100	175	23	500
S46 @ 14'	3/13/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	14
S47 @ 22'	3/13/2020	22	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S48 @ 8'	3/13/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S49 @ 14'	3/13/2020	14	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
S50 @ 22'	3/13/2020	22	<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

ft bgs = Feet below ground surface

BOLD = Analytical result is in exceedance of COGCC soil standards.

TABLE 2
FORMER CECIL K 35-29, 30; SCHWAB 26-12F, 13F TANK BATTERY
SOIL ANALYTICAL RESULTS SUMMARY TABLE
INORGANIC COMPOUNDS

Sample ID	Date Sampled	Depth (ft bgs)	pH (units)	EC (mmhos/cm)
COGCC Table 910-1 Soil Standard (mg/kg) ⁽¹⁾			6-9	<4
SS01-N @ 5'	2/5/2020	5	8.20	0.375

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

ft bgs = Feet below ground surface

EC = Electrical conductivity

mmhos/cm = millimhos per centimeter

TABLE 3
FORMER CECIL K 35-29, 30; SCHWAB 26-12F, 13F 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 (ft bgs) ⁽²⁾
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400	
GS01	3/16/2020	12	26	3.0	51	~ 10

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

ft bgs = Feet Below ground surface

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

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

ATTACHMENT A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 20, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002021

Enclosed are the results of analyses for samples received by Summit Scientific on 02/05/20 17:36. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01-N@5'	2002021-01	Soil	02/05/20 13:35	02/05/20 17:36

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

S₂

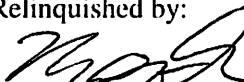
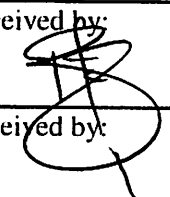
2002021

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Schwab 26-14F
Sampler Name: Max Dahlgren Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions			
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH / EC	Hold					
1	SS01-N	2/5/20	1335	1			X			X						X	X	X				
2	SS02-N		1340	1															X			
3	SS03-N		1345	1															X			
4	SS04-N		1350	1															X			
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: 	Date/Time: 2/5/20 1630	Received by: Tasman's Lock Box	Date/Time:	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 02/05/2020 1730	Received by: 	Date/Time: 02/05/2020 1730	Sample Integrity: Temperature Upon Receipt: 3.4 Samples Intact: <input checked="" type="checkbox"/> Yes No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2002021

Client: PDC / TASMAN

Client Project ID: SCHWAB 26-14F

Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____

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

Temp (°C)	3.4
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/5/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

SS01-N@5'
2002021-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/05/20 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.17	0.0020	mg/kg	1	2002059	02/05/20	02/05/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.49	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	0.28	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	440	5.0	"	10	"	"	"	"	

Date Sampled: **02/05/20 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		230 %	21-167		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/05/20 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	280	50	mg/kg	1	2002058	02/05/20	02/05/20	EPA 8015M	

Date Sampled: **02/05/20 13:35**

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

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/05/20 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	2002057	"	02/05/20	EPA 9045D	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

SS01-N@5'
2002021-01 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1

Date Sampled: **02/05/20 13:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.375	0.0100		mmhos/cm	1	2002056	02/05/20	02/05/20	EPA 120.1	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2002059 - EPA 5030 Soil MS

Blank (2002059-BLK1)

Prepared: 02/05/20 Analyzed: 02/06/20

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	0.0402		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	21-167			

LCS (2002059-BS1)

Prepared: 02/05/20 Analyzed: 02/06/20

Benzene	0.0927	0.0020	mg/kg	0.100		92.7	70-130			
Toluene	0.0919	0.0050	"	0.100		91.9	70-130			
Ethylbenzene	0.113	0.0050	"	0.100		113	70-130			
m,p-Xylene	0.219	0.010	"	0.200		109	70-130			
o-Xylene	0.109	0.0050	"	0.100		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.6	21-167			

Matrix Spike (2002059-MS1)

Source: 2002021-01

Prepared: 02/05/20 Analyzed: 02/06/20

Benzene	0.0967	0.0020	mg/kg	0.100	0.171	NR	70-130			
Toluene	0.0979	0.0050	"	0.100	ND	97.9	70-130			
Ethylbenzene	0.117	0.0050	"	0.100	0.487	NR	70-130			
m,p-Xylene	0.231	0.010	"	0.200	0.00771	112	70-130			
o-Xylene	0.116	0.0050	"	0.100	ND	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0445		"	0.0400		111	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	21-167			

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

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 2002059 - EPA 5030 Soil MS

Matrix Spike Dup (2002059-MSD1)

Source: 2002021-01

Prepared: 02/05/20 Analyzed: 02/06/20

Benzene	0.0741	0.0020	mg/kg	0.100	0.171	NR	70-130	26.5	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	9.09	30	
Ethylbenzene	0.104	0.0050	"	0.100	0.487	NR	70-130	12.4	30	
m,p-Xylene	0.259	0.010	"	0.200	0.00771	126	70-130	11.4	30	
o-Xylene	0.130	0.0050	"	0.100	ND	130	70-130	11.3	30	
Surrogate: 1,2-Dichloroethane-d4	0.0429		"	0.0400		107	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

03/20/20 12:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

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

Batch 2002058 - EPA 3550A

Blank (2002058-BLK1)

Prepared & Analyzed: 02/05/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002058-BS1)

Prepared & Analyzed: 02/05/20

C10-C28 (DRO) 529 50 mg/kg 500 106 70-130

Matrix Spike (2002058-MS1)

Source: 2002019-01

Prepared & Analyzed: 02/05/20

C10-C28 (DRO) 1080 50 mg/kg 500 572 102 70-130

Matrix Spike Dup (2002058-MSD1)

Source: 2002019-01

Prepared & Analyzed: 02/05/20

C10-C28 (DRO) 943 50 mg/kg 500 572 74.2 70-130 13.6 20

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

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

Batch 2002057 - General Preparation

LCS (2002057-BS1)

Prepared & Analyzed: 02/05/20

pH	9.13	pH Units	9.18	99.5	95-105
----	------	----------	------	------	--------

Duplicate (2002057-DUP1)

Source: 2002020-02

Prepared & Analyzed: 02/05/20

pH	7.84	pH Units	7.84	0.00	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

Specific Conductance by EPA Method 120.1 - Quality Control
Summit Scientific

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

Batch 2002056 - General Preparation

Blank (2002056-BLK1)

Prepared & Analyzed: 02/05/20

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (2002056-BS1)

Prepared & Analyzed: 02/05/20

Specific Conductance (EC) 0.755 0.0100 mmhos/cm 0.750 101 90-110

Duplicate (2002056-DUP1)

Source: 2002020-02

Prepared & Analyzed: 02/05/20

Specific Conductance (EC) 5.90 0.0100 mmhos/cm 6.52 9.90 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/20/20 12:48

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
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

February 11, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002057

Enclosed are the results of analyses for samples received by Summit Scientific on 02/10/20 17:31. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01@22'	2002057-01	Soil	02/10/20 13:03	02/10/20 17:31
GS06@16'	2002057-02	Soil	02/10/20 14:53	02/10/20 17:31

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.

2002057

Page 1 of 1

Project Manager:	Mark Longhurst
E-Mail:	Mark.Longhurst@pdce.com
Project Name:	LeClair 35-29,30; Schwab 26-12F, 13F
Project Number:	

www.s2scientific.com

S2 Work Order

2002057

Client: PDC

Client Project ID: LECIL K 35-29,30;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: SCHWAB 26-12F,13F

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

Temp (°C) 4.8

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/10/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

S01@22'
2002057-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/10/20 13:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2002092	02/10/20	02/10/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.010	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/10/20 13:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/10/20 13:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2002093	02/10/20	02/10/20	EPA 8015M	

Date Sampled: **02/10/20 13:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

GS06@16'
2002057-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/10/20 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002092	02/10/20	02/10/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.4	0.50	"	"	"	"	"	"	

Date Sampled: **02/10/20 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/10/20 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002093	02/10/20	02/10/20	EPA 8015M	

Date Sampled: **02/10/20 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.8 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2002092 - EPA 5030 Soil MS

Blank (2002092-BLK1)

Prepared & Analyzed: 02/10/20

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	0.0412		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

LCS (2002092-BS1)

Prepared & Analyzed: 02/10/20

Benzene	0.0865	0.0020	mg/kg	0.100		86.5	70-130			
Toluene	0.0940	0.0050	"	0.100		94.0	70-130			
Ethylbenzene	0.0891	0.0050	"	0.100		89.1	70-130			
m,p-Xylene	0.161	0.010	"	0.200		80.3	70-130			
o-Xylene	0.0847	0.0050	"	0.100		84.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0376		"	0.0400		93.9	23-173			
Surrogate: Toluene-d8	0.0488		"	0.0400		122	20-170			
Surrogate: 4-Bromofluorobenzene	0.0358		"	0.0400		89.6	21-167			

Matrix Spike (2002092-MS1)

Source: 2002057-01

Prepared & Analyzed: 02/10/20

Benzene	0.0941	0.0020	mg/kg	0.100	ND	94.1	70-130			
Toluene	0.101	0.0050	"	0.100	ND	101	70-130			
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
m,p-Xylene	0.195	0.010	"	0.200	0.0102	92.4	70-130			
o-Xylene	0.0964	0.0050	"	0.100	ND	96.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0439		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

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 2002092 - EPA 5030 Soil MS

Matrix Spike Dup (2002092-MSD1)

Source: 2002057-01

Prepared & Analyzed: 02/10/20

Benzene	0.0991	0.0020	mg/kg	0.100	ND	99.1	70-130	5.19	30	
Toluene	0.106	0.0050	"	0.100	ND	106	70-130	4.43	30	
Ethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	6.15	30	
m,p-Xylene	0.196	0.010	"	0.200	0.0102	93.1	70-130	0.705	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	6.68	30	
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002093 - EPA 3550A

Blank (2002093-BLK1)

Prepared & Analyzed: 02/10/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002093-BS1)

Prepared & Analyzed: 02/10/20

C10-C28 (DRO) 585 50 mg/kg 500 117 70-130

Matrix Spike (2002093-MS1)

Source: 2002057-01

Prepared & Analyzed: 02/10/20

C10-C28 (DRO) 519 50 mg/kg 500 17.3 100 70-130

Matrix Spike Dup (2002093-MSD1)

Source: 2002057-01

Prepared & Analyzed: 02/10/20

C10-C28 (DRO) 538 50 mg/kg 500 17.3 104 70-130 3.66 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/11/20 06:11

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

February 16, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002126

Enclosed are the results of analyses for samples received by Summit Scientific on 02/14/20 17:32. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S02@22'	2002126-01	Soil	02/14/20 12:46	02/14/20 17:32

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.

2002126

Page 1 of 1

Project Manager:	Mark Longhurst
E-Mail:	Mark.Longhurst@pdce.com
Project Name:	Cecil K 35-29,30; Schwab 26-12F,13F
Project Number:	

[illegible]

Sample Receipt Checklist

S2 Work Order 2002126

Client: PDC Client Project ID: CECIL K 35-29;30;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F,13F

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

Temp (°C)	2.8
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/14/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

S02@22'
2002126-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/14/20 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.17	0.0020	mg/kg	1	2002151	02/14/20	02/15/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.32	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.17	0.010	"	"	"	"	"	"	
Naphthalene	0.095	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	520	5.0	"	10	"	"	"	"	

Date Sampled: **02/14/20 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		87.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		128 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/14/20 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2002152	02/14/20	02/14/20	EPA 8015M	

Date Sampled: **02/14/20 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.9 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2002151 - EPA 5030 Soil MS

Blank (2002151-BLK1)

Prepared & Analyzed: 02/14/20

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	0.0399		"	0.0400		99.8	23-173			
Surrogate: Toluene-d8	0.0376		"	0.0400		94.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.3	21-167			

LCS (2002151-BS1)

Prepared & Analyzed: 02/14/20

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.110	0.0050	"	0.100		110	70-130			
Ethylbenzene	0.115	0.0050	"	0.100		115	70-130			
m,p-Xylene	0.205	0.010	"	0.200		102	70-130			
o-Xylene	0.107	0.0050	"	0.100		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0403		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.2	21-167			

Matrix Spike (2002151-MS1)

Source: 2002114-01

Prepared & Analyzed: 02/14/20

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.108	0.0050	"	0.100	ND	108	70-130			
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130			
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130			
o-Xylene	0.109	0.0050	"	0.100	ND	109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.4	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

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 2002151 - EPA 5030 Soil MS

Matrix Spike Dup (2002151-MSD1)		Source: 2002114-01			Prepared & Analyzed: 02/14/20					
Benzene	0.104	0.0020	mg/kg	0.100	ND	104	70-130	3.46	30	
Toluene	0.114	0.0050	"	0.100	ND	114	70-130	4.79	30	
Ethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130	1.46	30	
m,p-Xylene	0.213	0.010	"	0.200	ND	107	70-130	2.39	30	
o-Xylene	0.112	0.0050	"	0.100	ND	112	70-130	3.28	30	
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.1	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002152 - EPA 3550A

Blank (2002152-BLK1)

Prepared & Analyzed: 02/14/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002152-BS1)

Prepared & Analyzed: 02/14/20

C10-C28 (DRO) 581 50 mg/kg 500 116 70-130

Matrix Spike (2002152-MS1)

Source: 2002114-01

Prepared & Analyzed: 02/14/20

C10-C28 (DRO) 475 50 mg/kg 500 16.3 91.7 70-130

Matrix Spike Dup (2002152-MSD1)

Source: 2002114-01

Prepared & Analyzed: 02/14/20

C10-C28 (DRO) 478 50 mg/kg 500 16.3 92.4 70-130 0.655 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/16/20 14:25

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

February 19, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002149

Enclosed are the results of analyses for samples received by Summit Scientific on 02/18/20 17:28. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S03@22.5'	2002149-01	Soil	02/18/20 14:57	02/18/20 17:28

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.

200214^c

Page 1 of 1

Project Manager:	Mark Longhurst
E-Mail:	Mark.Longhurst@pdce.com
Project Name:	Cecil K 35-29,30; Schwab 26-12F,13F
Project Number:	

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2002149

Client: PDC Client Project ID: CECIL K 35-29, 30;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-121

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

Temp (°C)	4.7
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/18/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

S03@22.5'
2002149-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/20 14:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0046	0.0020	mg/kg	1	2002178	02/18/20	02/18/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.57	0.50	"	"	"	"	"	"	

Date Sampled: **02/18/20 14:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/20 14:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2002177	02/18/20	02/18/20	EPA 8015M	

Date Sampled: **02/18/20 14:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2002178 - EPA 5030 Soil MS

Blank (2002178-BLK1)

Prepared & Analyzed: 02/18/20

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	0.0374		"	0.0400		93.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	21-167			

LCS (2002178-BS1)

Prepared & Analyzed: 02/18/20

Benzene	0.0848	0.0020	mg/kg	0.100		84.8	70-130			
Toluene	0.0958	0.0050	"	0.100		95.8	70-130			
Ethylbenzene	0.0995	0.0050	"	0.100		99.5	70-130			
m,p-Xylene	0.218	0.010	"	0.200		109	70-130			
o-Xylene	0.0989	0.0050	"	0.100		98.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.6	23-173			
Surrogate: Toluene-d8	0.0378		"	0.0400		94.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	21-167			

Matrix Spike (2002178-MS1)

Source: 2002149-01

Prepared & Analyzed: 02/18/20

Benzene	0.0908	0.0020	mg/kg	0.100	0.00465	86.2	70-130			
Toluene	0.0931	0.0050	"	0.100	ND	93.1	70-130			
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
m,p-Xylene	0.213	0.010	"	0.200	0.00411	104	70-130			
o-Xylene	0.0964	0.0050	"	0.100	ND	96.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0406		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0375		"	0.0400		93.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

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 2002178 - EPA 5030 Soil MS

Matrix Spike Dup (2002178-MSD1)	Source: 2002149-01			Prepared & Analyzed: 02/18/20						
Benzene	0.0930	0.0020	mg/kg	0.100	0.00465	88.4	70-130	2.38	30	
Toluene	0.0960	0.0050	"	0.100	ND	96.0	70-130	3.11	30	
Ethylbenzene	0.0997	0.0050	"	0.100	ND	99.7	70-130	1.70	30	
m,p-Xylene	0.214	0.010	"	0.200	0.00411	105	70-130	0.535	30	
o-Xylene	0.0938	0.0050	"	0.100	ND	93.8	70-130	2.81	30	
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0378		"	0.0400		94.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002177 - EPA 3550A

Blank (2002177-BLK1)

Prepared & Analyzed: 02/18/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002177-BS1)

Prepared & Analyzed: 02/18/20

C10-C28 (DRO) 554 50 mg/kg 500 111 70-130

Matrix Spike (2002177-MS1)

Source: 2002122-02

Prepared & Analyzed: 02/18/20

C10-C28 (DRO) 639 50 mg/kg 500 68.7 114 70-130

Matrix Spike Dup (2002177-MSD1)

Source: 2002122-02

Prepared & Analyzed: 02/18/20

C10-C28 (DRO) 599 50 mg/kg 500 68.7 106 70-130 6.52 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/19/20 06:28

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

February 21, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002184

Enclosed are the results of analyses for samples received by Summit Scientific on 02/20/20 17:45. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S04@22'	2002184-01	Soil	02/20/20 11:31	02/20/20 17:45
S05@8'	2002184-02	Soil	02/20/20 13:40	02/20/20 17:45
S06@14'	2002184-03	Soil	02/20/20 13:44	02/20/20 17:45

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.

2002184

Page 1 of 1

Project Manager:	Mark Longhurst
E-Mail:	Mark.Longhurst@pdce.com
Project Name:	Cecil K 35-29, 30; Schwab 26-12F, 13F
Project Number:	

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 2002184

Client: PDC Client Project ID: CEDUK 35-29, 30; SchwAB

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: 26-12F, 23F

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

Temp (°C)	<u>2.6</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"/>			
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⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
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.

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

02/26/2020



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

S04@22'
2002184-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/20 11:31**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2002200	02/20/20	02/20/20	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: **02/20/20 11:31**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		99.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/20 11:31**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2002201	"	02/20/20	EPA 8015M	

Date Sampled: **02/20/20 11:31**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		115 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

S05@8'
2002184-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/20 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002200	02/20/20	02/20/20	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: **02/20/20 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/20 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002201	"	02/20/20	EPA 8015M	

Date Sampled: **02/20/20 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.8 %	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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

S06@14'
2002184-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/20/20 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2002200	02/20/20	02/21/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.013	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.057	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.4	0.50	"	"	"	"	"	"	

Date Sampled: **02/20/20 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		87.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		129 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/20/20 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2002201	"	02/21/20	EPA 8015M	

Date Sampled: **02/20/20 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		109 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

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 2002200 - EPA 5030 Soil MS

Blank (2002200-BLK1)

Prepared & Analyzed: 02/20/20

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	0.0411		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	21-167			

LCS (2002200-BS1)

Prepared & Analyzed: 02/20/20

Benzene	0.0856	0.0020	mg/kg	0.100		85.6	70-130			
Toluene	0.0916	0.0050	"	0.100		91.6	70-130			
Ethylbenzene	0.0809	0.0050	"	0.100		80.9	70-130			
m,p-Xylene	0.159	0.010	"	0.200		79.3	70-130			
o-Xylene	0.0801	0.0050	"	0.100		80.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

Matrix Spike (2002200-MS1)

Source: 2002169-01

Prepared & Analyzed: 02/20/20

Benzene	0.0857	0.0020	mg/kg	0.100	ND	85.7	70-130			
Toluene	0.0916	0.0050	"	0.100	ND	91.6	70-130			
Ethylbenzene	0.0816	0.0050	"	0.100	ND	81.6	70-130			
m,p-Xylene	0.159	0.010	"	0.200	0.00564	76.8	70-130			
o-Xylene	0.0832	0.0050	"	0.100	ND	83.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		104	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

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 2002200 - EPA 5030 Soil MS

Matrix Spike Dup (2002200-MSD1)	Source: 2002169-01			Prepared & Analyzed: 02/20/20						
Benzene	0.0850	0.0020	mg/kg	0.100	ND	85.0	70-130	0.844	30	
Toluene	0.0912	0.0050	"	0.100	ND	91.2	70-130	0.394	30	
Ethylbenzene	0.0802	0.0050	"	0.100	ND	80.2	70-130	1.67	30	
m,p-Xylene	0.161	0.010	"	0.200	0.00564	77.5	70-130	0.844	30	
o-Xylene	0.0818	0.0050	"	0.100	ND	81.8	70-130	1.75	30	
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/21/20 06:30

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002201 - EPA 3550A

Blank (2002201-BLK1)

Prepared & Analyzed: 02/20/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002201-BS1)

Prepared & Analyzed: 02/20/20

C10-C28 (DRO) 578 50 mg/kg 500 116 70-130

Matrix Spike (2002201-MS1)

Source: 2002169-01

Prepared & Analyzed: 02/20/20

C10-C28 (DRO) 557 50 mg/kg 500 9.01 110 70-130

Matrix Spike Dup (2002201-MSD1)

Source: 2002169-01

Prepared & Analyzed: 02/20/20

C10-C28 (DRO) 562 50 mg/kg 500 9.01 111 70-130 0.777 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

02/21/20 06:30

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

February 26, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000


Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002247

Enclosed are the results of analyses for samples received by Summit Scientific on 02/25/20 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 "Muri Premier", on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S07@22'	2002247-01	Soil	02/25/20 10:29	02/25/20 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.

2002247

Page 1 of 1

Project Manager:	Mark Longhurst
E-Mail:	Mark.Longhurst@pdce.com
Project Name:	Cecil K 35-29,30, Schwab 26-12 F, 13 F
Project Number:	

[illegible]

Sample Receipt Checklist

S2 Work Order 2002247

Client: PDC

Client Project ID: CEIL K 35 - 29, 30;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26 - 12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	4.9
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/25/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

S07@22'
2002247-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/25/20 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2002261	02/25/20	02/25/20	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: **02/25/20 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		96.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/25/20 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2002262	"	02/25/20	EPA 8015M	

Date Sampled: **02/25/20 10:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		99.3 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

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 2002261 - EPA 5030 Soil MS

Blank (2002261-BLK1)

Prepared: 02/25/20 Analyzed: 02/26/20

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	0.0368		"	0.0400		91.9	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0360		"	0.0400		90.1	21-167			

LCS (2002261-BS1)

Prepared: 02/25/20 Analyzed: 02/26/20

Benzene	0.0926	0.0020	mg/kg	0.100		92.6	70-130			
Toluene	0.0877	0.0050	"	0.100		87.7	70-130			
Ethylbenzene	0.0930	0.0050	"	0.100		93.0	70-130			
m,p-Xylene	0.183	0.010	"	0.200		91.3	70-130			
o-Xylene	0.0931	0.0050	"	0.100		93.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.0	23-173			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.4	21-167			

Matrix Spike (2002261-MS1)

Source: 2002243-01

Prepared: 02/25/20 Analyzed: 02/26/20

Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130			
Toluene	0.122	0.0050	"	0.100	ND	122	70-130			
Ethylbenzene	0.129	0.0050	"	0.100	ND	129	70-130			
m,p-Xylene	0.232	0.010	"	0.200	ND	116	70-130			
o-Xylene	0.122	0.0050	"	0.100	ND	122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

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 2002261 - EPA 5030 Soil MS

Matrix Spike Dup (2002261-MSD1)

Source: 2002243-01

Prepared: 02/25/20 Analyzed: 02/26/20

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130	6.91	30	
Toluene	0.120	0.0050	"	0.100	ND	120	70-130	1.83	30	
Ethylbenzene	0.126	0.0050	"	0.100	ND	126	70-130	2.02	30	
m,p-Xylene	0.228	0.010	"	0.200	ND	114	70-130	2.01	30	
o-Xylene	0.119	0.0050	"	0.100	ND	119	70-130	2.57	30	
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0409		"	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002262 - EPA 3550A

Blank (2002262-BLK1)

Prepared & Analyzed: 02/25/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002262-BS1)

Prepared & Analyzed: 02/25/20

C10-C28 (DRO) 609 50 mg/kg 500 122 70-130

Matrix Spike (2002262-MS1)

Source: 2002243-01

Prepared & Analyzed: 02/25/20

C10-C28 (DRO) 599 50 mg/kg 500 24.2 115 70-130

Matrix Spike Dup (2002262-MSD1)

Source: 2002243-01

Prepared & Analyzed: 02/25/20

C10-C28 (DRO) 568 50 mg/kg 500 24.2 109 70-130 5.37 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/26/20 13:00

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

March 23, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

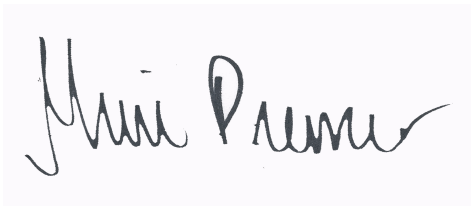
Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002263

Enclosed are the results of analyses for samples received by Summit Scientific on 02/26/20 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 "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S08@8'	2002263-01	Soil	02/26/20 09:42	02/26/20 17:30
S09@14'	2002263-02	Soil	02/26/20 09:45	02/26/20 17:30
S10@8'	2002263-03	Soil	02/26/20 10:02	02/26/20 17:30
S11@14'	2002263-04	Soil	02/26/20 10:05	02/26/20 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.

Summit Scientific

S₂

2002263

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29,30; Schwab 26-12F,13F
Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260B GBTEXN	8015 DRO	pH/PC				
1	508 @ 8'	2/26/20	0942	1			X			X				X	X				
2	504 @ 14'	↓	0945	1			X			X				↓	↓				
3	510 @ 8'		1002	1			X			X									
4	511 @ 14'	↓	1005	1			X			X				↓	↓				
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: Cody Gessell	Date/Time: 2/26/20 1651	Received by: Tasman's Lock Box	Date/Time: 2/26/20 1651	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 02/26/2020 1730	Received by: [Signature]	Date/Time: 02/26/2020 1730	Sample Integrity: Temperature Upon Receipt: 4.3	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order 2002263

Client: PDC / TASMAN

Client Project ID: CECIL K 35 - 29, 30 ;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	4.3
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/26/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

S08@8'
2002263-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/20 09:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2002276	02/26/20	02/27/20	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: **02/26/20 09:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/20 09:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2002277	"	02/26/20	EPA 8015M	

Date Sampled: **02/26/20 09:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		112 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

S09@14'
2002263-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/20 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002276	02/26/20	02/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.50	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/20 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/20 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002277	"	02/26/20	EPA 8015M	

Date Sampled: **02/26/20 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

S10@8'
2002263-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/20 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002276	02/26/20	02/26/20	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: **02/26/20 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/20 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002277	"	02/26/20	EPA 8015M	

Date Sampled: **02/26/20 10:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

S11@14'
2002263-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/20 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002276	02/26/20	02/26/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.7	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/20 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		121 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/20 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002277	"	02/27/20	EPA 8015M	

Date Sampled: **02/26/20 10:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		107 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2002276 - EPA 5030 Soil MS

Blank (2002276-BLK1)

Prepared: 02/26/20 Analyzed: 02/27/20

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	0.0411		"	0.0400		103	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.7	21-167			

LCS (2002276-BS1)

Prepared: 02/26/20 Analyzed: 02/27/20

Benzene	0.0988	0.0020	mg/kg	0.100		98.8	70-130			
Toluene	0.108	0.0050	"	0.100		108	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.201	0.010	"	0.200		100	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0364		"	0.0400		90.9	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	21-167			

Matrix Spike (2002276-MS1)

Source: 2002259-01

Prepared: 02/26/20 Analyzed: 02/27/20

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130			
Toluene	0.111	0.0050	"	0.100	ND	111	70-130			
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130			
m,p-Xylene	0.210	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.110	0.0050	"	0.100	ND	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.6	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	21-167			

Summit Scientific

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



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

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 2002276 - EPA 5030 Soil MS

Matrix Spike Dup (2002276-MSD1)

Source: 2002259-01

Prepared: 02/26/20 Analyzed: 02/27/20

Benzene	0.117	0.0020	mg/kg	0.100	ND	117	70-130	9.65	30	
Toluene	0.117	0.0050	"	0.100	ND	117	70-130	5.81	30	
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	11.9	30	
m,p-Xylene	0.246	0.010	"	0.200	ND	123	70-130	15.5	30	
o-Xylene	0.128	0.0050	"	0.100	ND	128	70-130	15.0	30	
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0353		"	0.0400		88.4	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002277 - EPA 3550A

Blank (2002277-BLK1)

Prepared & Analyzed: 02/26/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002277-BS1)

Prepared & Analyzed: 02/26/20

C10-C28 (DRO) 551 50 mg/kg 500 110 70-130

Matrix Spike (2002277-MS1)

Source: 2002259-01

Prepared: 02/26/20 Analyzed: 02/27/20

C10-C28 (DRO) 557 50 mg/kg 500 18.1 108 70-130

Matrix Spike Dup (2002277-MSD1)

Source: 2002259-01

Prepared: 02/26/20 Analyzed: 02/27/20

C10-C28 (DRO) 581 50 mg/kg 500 18.1 113 70-130 4.21 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/23/20 14:51

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

February 28, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002279

Enclosed are the results of analyses for samples received by Summit Scientific on 02/27/20 18:12. 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, flowing script.

Paul Shrewsbury

President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S12@22'	2002279-01	Soil	02/27/20 12:47	02/27/20 18:12
S13@8'	2002279-02	Soil	02/27/20 13:21	02/27/20 18:12
S14@14'	2002279-03	Soil	02/27/20 13:24	02/27/20 18:12

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

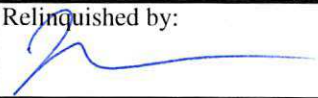
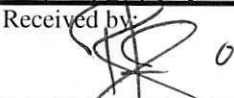
2002279

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: Cecil K 35-29,30; Schwab 26-12 F, 13 F
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)														
S12 @ 22'	2/27/20	1247	1			X			X			BTEX N	TPH-GR/DRO												
S13 @ 8'	↓	1321	↓			↓			↓			X	X												
S14 @ 14'	↓	1324	↓			↓			↓			X	X												
Relinquished by: 	Date/Time: <u>2/27/20</u> <u>2:40 pm</u>	Received by: 		Date/Time: <u>02/27/2020</u> <u>1800</u>		Turn Around Time (Check)																			
Relinquished by:	Date/Time:	Received by:		Date/Time:		Same Day	<input checked="" type="checkbox"/>	72 Hours	<input type="checkbox"/>	24 Hours	<input type="checkbox"/>	Standard	<input type="checkbox"/>	48 Hours	<input type="checkbox"/>										
Relinquished by:	Date/Time:	Received in Lab by:		Date/Time:		Sample Integrity:																			
Temperature Upon Receipt: <u>5.9</u>																									
Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																									

Sample Receipt Checklist

S2 Work Order 2002279

Client: PDC

Client Project ID: CECIL K 35 - 29, 30 ;

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

Airbill #: SCHWAB 26 -1

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

Temp (°C)	5.9
-----------	-----

Thermometer ID: 61857155-K

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

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

2/27/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

S12@22'
2002279-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/27/20 12:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2002300	02/27/20	02/27/20	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: **02/27/20 12:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		97.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/27/20 12:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2002299	02/27/20	02/27/20	EPA 8015M	

Date Sampled: **02/27/20 12:47**

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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

S13@8'
2002279-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/27/20 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002300	02/27/20	02/27/20	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: **02/27/20 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/27/20 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002299	02/27/20	02/27/20	EPA 8015M	

Date Sampled: **02/27/20 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

S14@14'
2002279-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/27/20 13:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2002300	02/27/20	02/27/20	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: **02/27/20 13:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/27/20 13:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2002299	02/27/20	02/27/20	EPA 8015M	

Date Sampled: **02/27/20 13:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

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 2002300 - EPA 5030 Soil MS

Blank (2002300-BLK1)

Prepared: 02/27/20 Analyzed: 02/28/20

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	0.0461		"	0.0400		115	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	21-167			

LCS (2002300-BS1)

Prepared: 02/27/20 Analyzed: 02/28/20

Benzene	0.112	0.0020	mg/kg	0.100		112	70-130			
Toluene	0.119	0.0050	"	0.100		119	70-130			
Ethylbenzene	0.119	0.0050	"	0.100		119	70-130			
m,p-Xylene	0.211	0.010	"	0.200		105	70-130			
o-Xylene	0.111	0.0050	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0487		"	0.0400		122	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	21-167			

Matrix Spike (2002300-MS1)

Source: 2002279-01

Prepared: 02/27/20 Analyzed: 02/28/20

Benzene	0.0939	0.0020	mg/kg	0.100	ND	93.9	70-130			
Toluene	0.103	0.0050	"	0.100	ND	103	70-130			
Ethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130			
m,p-Xylene	0.234	0.010	"	0.200	ND	117	70-130			
o-Xylene	0.0956	0.0050	"	0.100	ND	95.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.6	23-173			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.6	21-167			

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

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 2002300 - EPA 5030 Soil MS

Matrix Spike Dup (2002300-MSD1)		Source: 2002279-01			Prepared: 02/27/20 Analyzed: 02/28/20					
Benzene	0.0960	0.0020	mg/kg	0.100	ND	96.0	70-130	2.24	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	2.06	30	
Ethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130	0.580	30	
m,p-Xylene	0.233	0.010	"	0.200	ND	116	70-130	0.553	30	
o-Xylene	0.0945	0.0050	"	0.100	ND	94.5	70-130	1.07	30	
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0379		"	0.0400		94.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002299 - EPA 3550A

Blank (2002299-BLK1)

Prepared: 02/27/20 Analyzed: 02/28/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002299-BS1)

Prepared: 02/27/20 Analyzed: 02/28/20

C10-C28 (DRO) 506 50 mg/kg 501 101 70-130

Matrix Spike (2002299-MS1)

Source: 2002279-01

Prepared: 02/27/20 Analyzed: 02/28/20

C10-C28 (DRO) 481 50 mg/kg 501 18.8 92.3 70-130

Matrix Spike Dup (2002299-MSD1)

Source: 2002279-01

Prepared: 02/27/20 Analyzed: 02/28/20

C10-C28 (DRO) 499 50 mg/kg 501 18.8 95.9 70-130 3.65 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
02/28/20 06:32

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

March 02, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2002297

Enclosed are the results of analyses for samples received by Summit Scientific on 02/28/20 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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S15@8'	2002297-01	Soil	02/28/20 12:51	02/28/20 17:30
S16@14'	2002297-02	Soil	02/28/20 12:54	02/28/20 17:30
S17@22'	2002297-03	Soil	02/28/20 12:57	02/28/20 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.

Summit Scientific

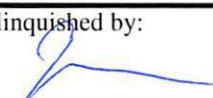
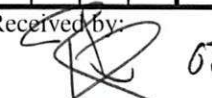
2002297

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: Cecil K 35-29, 30; Schwab 26-12 F, 13 F
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)	BTEX	TPH	60/120											
S15 @ 8'	2/28/20	1251	1			X			X				X	X											
S16 @ 14'	↓	1254	↓			↓			↓				X	X											
S17 @ 22'	↓	1257	↓			↓			↓				X	X											
Relinquished by: 	Date/Time: <u>2/28/20</u> <u>2:08 PM</u>	Date/Time: <u>1:30</u>	Received by: 	Date/Time: <u>02/28/2020</u> <u>1:30</u>	Turn Around Time (Check)										Sample Integrity: <u>3.8</u>										
Relinquished by:	Date/Time:	Date/Time:	Received by:	Date/Time:	Same Day	<input checked="" type="checkbox"/>	72 Hours	<input type="checkbox"/>	24 Hours	<input type="checkbox"/>	Standard	<input type="checkbox"/>	48 Hours	<input type="checkbox"/>											
Relinquished by:	Date/Time:	Date/Time:	Received in Lab by:	Date/Time:	Intact:	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>																	

Sample Receipt Checklist

S2 Work Order 2002297

Client: PDC

Client Project ID: Cecil & 35-29, 30; 26-12 F, 13F Schwab

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>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"/>			
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.

Custodian Printed Name or Initials RE

Signature of Custodian [Signature]

Date/Time 02/28/2020 1802



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

S15@8'
2002297-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/20 12:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2002316	02/28/20	02/28/20	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: **02/28/20 12:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/28/20 12:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2002315	"	02/28/20	EPA 8015M	

Date Sampled: **02/28/20 12:51**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		96.1 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

S16@14'
2002297-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/20 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2002316	02/28/20	02/28/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.30	0.0050	"	"	"	"	"	"	
Xylenes (total)	2.2	0.10	"	10	"	"	"	"	
Naphthalene	0.057	0.010	"	1	"	"	"	"	
Gasoline Range Hydrocarbons	70	5.0	"	10	"	"	"	"	

Date Sampled: **02/28/20 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		142 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/28/20 12:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	130	50	mg/kg	1	2002315	"	02/28/20	EPA 8015M	

Date Sampled: **02/28/20 12:54**

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

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

S17@22'
2002297-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/20 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.032	0.0020	mg/kg	1	2002316	02/28/20	02/28/20	EPA 8260B	
Toluene	0.013	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.27	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.31	0.010	"	"	"	"	"	"	
Naphthalene	0.028	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	110	5.0	"	10	"	"	"	"	

Date Sampled: **02/28/20 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		155 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		124 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/28/20 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	200	50	mg/kg	1	2002315	"	02/28/20	EPA 8015M	

Date Sampled: **02/28/20 12:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

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 2002316 - EPA 5030 Soil MS

Blank (2002316-BLK1)

Prepared & Analyzed: 02/28/20

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	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0434		"	0.0400		109	21-167			

LCS (2002316-BS1)

Prepared & Analyzed: 02/28/20

Benzene	0.126	0.0020	mg/kg	0.100		126	70-130			
Toluene	0.125	0.0050	"	0.100		125	70-130			
Ethylbenzene	0.0983	0.0050	"	0.100		98.3	70-130			
m,p-Xylene	0.190	0.010	"	0.200		94.8	70-130			
o-Xylene	0.0959	0.0050	"	0.100		95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

Matrix Spike (2002316-MS1)

Source: 2002296-05

Prepared & Analyzed: 02/28/20

Benzene	0.125	0.0020	mg/kg	0.100	ND	125	70-130			
Toluene	0.124	0.0050	"	0.100	ND	124	70-130			
Ethylbenzene	0.0971	0.0050	"	0.100	ND	97.1	70-130			
m,p-Xylene	0.186	0.010	"	0.200	ND	93.0	70-130			
o-Xylene	0.0948	0.0050	"	0.100	ND	94.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

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 2002316 - EPA 5030 Soil MS

Matrix Spike Dup (2002316-MSD1)

Source: 2002296-05

Prepared & Analyzed: 02/28/20

Benzene	0.128	0.0020	mg/kg	0.100	ND	128	70-130	2.37	30	
Toluene	0.128	0.0050	"	0.100	ND	128	70-130	2.81	30	
Ethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130	3.34	30	
m,p-Xylene	0.194	0.010	"	0.200	ND	97.2	70-130	4.32	30	
o-Xylene	0.0976	0.0050	"	0.100	ND	97.6	70-130	2.99	30	
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		107	23-173			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2002315 - EPA 3550A

Blank (2002315-BLK1)

Prepared & Analyzed: 02/28/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2002315-BS1)

Prepared & Analyzed: 02/28/20

C10-C28 (DRO) 625 50 mg/kg 500 125 70-130

Matrix Spike (2002315-MS1)

Source: 2002296-05

Prepared & Analyzed: 02/28/20

C10-C28 (DRO) 492 50 mg/kg 500 14.0 95.6 70-130

Matrix Spike Dup (2002315-MSD1)

Source: 2002296-05

Prepared & Analyzed: 02/28/20

C10-C28 (DRO) 518 50 mg/kg 500 14.0 101 70-130 5.14 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/02/20 06:54

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

March 04, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003014

Enclosed are the results of analyses for samples received by Summit Scientific on 03/03/20 17:26. 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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S18@22'	2003014-01	Soil	03/03/20 09:35	03/03/20 17:26
S19@14'	2003014-02	Soil	03/03/20 09:52	03/03/20 17:26
S20@8'	2003014-03	Soil	03/03/20 09:54	03/03/20 17:26

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

S₂

2003014

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29, 30; Schwab 26-12F, 13F
Sampler Name: Cody Gessel Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH / EC				
1	518 @ 22'	3/3/20	0935	1			X			X				X	X					
2	519 @ 14'	1	0952	1			1			1				1	1					
3	520 @ 8'	1	0954	1			1			1				1	1					
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: Cody Gessel	Date/Time: 3/3/20 1526	Received by: Tasman's Lock Box	Date/Time: 3/3/20 1526	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/03/2020 1730	Received by: 	Date/Time: 03/03/2020 1730	Sample Integrity: Temperature Upon Receipt: 2.7	
Relinquished by:	Date/Time:	Received by: 	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order 2003014

Client: PDC / TASMAN

Client Project ID: CECIL K 35-29 ;

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	2.7
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/3/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

S18@22'
2003014-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/03/20 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003028	03/03/20	03/03/20	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: **03/03/20 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/03/20 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003029	"	03/03/20	EPA 8015M	

Date Sampled: **03/03/20 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.0 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

S19@14'
2003014-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/03/20 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003028	03/03/20	03/03/20	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: **03/03/20 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/03/20 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003029	"	03/03/20	EPA 8015M	

Date Sampled: **03/03/20 09:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.0 %	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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

S20@8'
2003014-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/03/20 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003028	03/03/20	03/03/20	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: **03/03/20 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/03/20 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003029	"	03/03/20	EPA 8015M	

Date Sampled: **03/03/20 09:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.2 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003028 - EPA 5030 Soil MS

Blank (2003028-BLK1)

Prepared: 03/03/20 Analyzed: 03/04/20

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	0.0394		"	0.0400		98.5	23-173			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

LCS (2003028-BS1)

Prepared: 03/03/20 Analyzed: 03/04/20

Benzene	0.0865	0.0020	mg/kg	0.100		86.5	70-130			
Toluene	0.0922	0.0050	"	0.100		92.2	70-130			
Ethylbenzene	0.0794	0.0050	"	0.100		79.4	70-130			
m,p-Xylene	0.162	0.010	"	0.200		80.8	70-130			
o-Xylene	0.0786	0.0050	"	0.100		78.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

Matrix Spike (2003028-MS1)

Source: 2003012-01

Prepared: 03/03/20 Analyzed: 03/04/20

Benzene	0.0916	0.0020	mg/kg	0.100	ND	91.6	70-130			
Toluene	0.0905	0.0050	"	0.100	ND	90.5	70-130			
Ethylbenzene	0.0872	0.0050	"	0.100	ND	87.2	70-130			
m,p-Xylene	0.173	0.010	"	0.200	ND	86.3	70-130			
o-Xylene	0.0838	0.0050	"	0.100	ND	83.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0403		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

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 2003028 - EPA 5030 Soil MS

Matrix Spike Dup (2003028-MSD1)		Source: 2003012-01			Prepared: 03/03/20 Analyzed: 03/04/20					
Benzene	0.0956	0.0020	mg/kg	0.100	ND	95.6	70-130	4.17	30	
Toluene	0.0939	0.0050	"	0.100	ND	93.9	70-130	3.64	30	
Ethylbenzene	0.0890	0.0050	"	0.100	ND	89.0	70-130	1.98	30	
m,p-Xylene	0.172	0.010	"	0.200	ND	86.2	70-130	0.104	30	
o-Xylene	0.0837	0.0050	"	0.100	ND	83.7	70-130	0.107	30	
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0401		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003029 - EPA 3550A

Blank (2003029-BLK1)

Prepared & Analyzed: 03/03/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003029-BS1)

Prepared & Analyzed: 03/03/20

C10-C28 (DRO) 595 50 mg/kg 500 119 70-130

Matrix Spike (2003029-MS1)

Source: 2003012-01

Prepared & Analyzed: 03/03/20

C10-C28 (DRO) 490 50 mg/kg 500 14.5 95.0 70-130

Matrix Spike Dup (2003029-MSD1)

Source: 2003012-01

Prepared: 03/03/20 Analyzed: 03/04/20

C10-C28 (DRO) 541 50 mg/kg 500 14.5 105 70-130 9.97 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/04/20 06:31

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

March 05, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003028

Enclosed are the results of analyses for samples received by Summit Scientific on 03/04/20 17:57. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:

03/05/20 06:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S21@8'	2003028-01	Soil	03/04/20 12:57	03/04/20 17:57
S22@14'	2003028-02	Soil	03/04/20 13:00	03/04/20 17:57
S23@22'	2003028-03	Soil	03/04/20 12:55	03/04/20 17:57

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

S₂

2003028

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29, 30; Schwab 26-12F, 13F
Sampler Name: Cody Gersell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH / EC				
1	521 @ 8'	3/4/20	1257	1			X			X				X	X					
2	522 @ 14'	↓	1300	1			↓			↓				↓	↓					
3	523 @ 22'	↓	1255	1			↓			↓				↓	↓					
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: Cody Gersell	Date/Time: 3/4/20 1506	Received by: Tasman's Lock Box	Date/Time: 3/4/20 1506	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours 48 hours	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/04/2020 1800	Received by: [Signature]	Date/Time: 03/04/2020 1800	Sample Integrity: 7.1	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order

2003028

Client: PDC

Client Project ID: Cecil K 35, 29, 30; Schwab 2.0

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>7.9</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⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rush
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

03/04/202



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

S21@8'
2003028-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/04/20 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2003039	03/04/20	03/04/20	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: **03/04/20 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		94.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/04/20 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2003037	"	03/04/20	EPA 8015M	

Date Sampled: **03/04/20 12:57**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		110 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

S22@14'
2003028-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/04/20 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003039	03/04/20	03/04/20	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: **03/04/20 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/04/20 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003037	"	03/04/20	EPA 8015M	

Date Sampled: **03/04/20 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		113 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

S23@22'
2003028-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/04/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003039	03/04/20	03/04/20	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: **03/04/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/04/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003037	"	03/04/20	EPA 8015M	

Date Sampled: **03/04/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		113 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

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 2003039 - EPA 5030 Soil MS

Blank (2003039-BLK1)

Prepared: 03/04/20 Analyzed: 03/05/20

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	0.0399		"	0.0400		99.8	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

LCS (2003039-BS1)

Prepared: 03/04/20 Analyzed: 03/05/20

Benzene	0.0967	0.0020	mg/kg	0.100		96.7	70-130			
Toluene	0.0961	0.0050	"	0.100		96.1	70-130			
Ethylbenzene	0.0871	0.0050	"	0.100		87.1	70-130			
m,p-Xylene	0.173	0.010	"	0.200		86.7	70-130			
o-Xylene	0.0845	0.0050	"	0.100		84.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.2	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	21-167			

Matrix Spike (2003039-MS1)

Source: 2003025-03

Prepared: 03/04/20 Analyzed: 03/05/20

Benzene	0.0891	0.0020	mg/kg	0.100	ND	89.1	70-130			
Toluene	0.0880	0.0050	"	0.100	ND	88.0	70-130			
Ethylbenzene	0.0829	0.0050	"	0.100	ND	82.9	70-130			
m,p-Xylene	0.161	0.010	"	0.200	ND	80.4	70-130			
o-Xylene	0.0773	0.0050	"	0.100	ND	77.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		98.0	23-173			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0524		"	0.0400		131	21-167			

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

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 2003039 - EPA 5030 Soil MS

Matrix Spike Dup (2003039-MSD1)

Source: 2003025-03

Prepared: 03/04/20 Analyzed: 03/05/20

Benzene	0.110	0.0020	mg/kg	0.100	ND	110	70-130	21.0	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	19.1	30	
Ethylbenzene	0.0955	0.0050	"	0.100	ND	95.5	70-130	14.1	30	
m,p-Xylene	0.183	0.010	"	0.200	ND	91.3	70-130	12.7	30	
o-Xylene	0.0895	0.0050	"	0.100	ND	89.5	70-130	14.6	30	
Surrogate: 1,2-Dichloroethane-d4	0.0446		"	0.0400		112	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0575		"	0.0400		144	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

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 2003037 - EPA 3550A

Blank (2003037-BLK1)

Prepared & Analyzed: 03/04/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003037-BS1)

Prepared & Analyzed: 03/04/20

C10-C28 (DRO) 568 50 mg/kg 500 114 70-130

Matrix Spike (2003037-MS1)

Source: 2003025-03

Prepared & Analyzed: 03/04/20

C10-C28 (DRO) 636 50 mg/kg 500 ND 127 70-130

Matrix Spike Dup (2003037-MSD1)

Source: 2003025-03

Prepared & Analyzed: 03/04/20

C10-C28 (DRO) 608 50 mg/kg 500 ND 122 70-130 4.57 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/05/20 06:19

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

March 06, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003055

Enclosed are the results of analyses for samples received by Summit Scientific on 03/05/20 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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S24@22'	2003055-01	Soil	03/05/20 10:20	03/05/20 17:30
S25@8'	2003055-02	Soil	03/05/20 10:45	03/05/20 17:30
S26@14'	2003055-03	Soil	03/05/20 10:48	03/05/20 17:30
S27@22'	2003055-04	Soil	03/05/20 10:51	03/05/20 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.

Summit Scientific

S₂

2003055

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29,30; Schwab 26-12F,13F
Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH / EC		
1	S24 @ 22'	3/5/20	1020	1			X			X				X	X			
2	S25 @ 8'	↓	1045	1			↓			↓				↓	↓			
3	S26 @ 14'	↓	1048	1			↓			↓				↓	↓			
4	S27 @ 22'	↓	1051	1			↓			↓				↓	↓			
5																		
6																		
7																		
8																		
9																		
10																		

Relinquished by: Cody Gessell	Date/Time: 3/5/20 1518	Received by: Tasman's Lock Box	Date/Time: 3/5/20 1518	Turn Around Time (Check) Same Day <u>X</u> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>S.S</u> Samples Intact: <u>Yes</u> No ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 6/3/2020 1736	Received by: [Signature]	Date/Time: 6/3/2020 1736		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order

2003055

Client: PDC / TASMAN

Client Project ID: CECIL 35-29, 30

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F,13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	5.5
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/5/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

S24@22'
2003055-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/05/20 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003067	03/05/20	03/05/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.027	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.70	0.50	"	"	"	"	"	"	

Date Sampled: **03/05/20 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		119 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/05/20 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003068	03/05/20	03/05/20	EPA 8015M	

Date Sampled: **03/05/20 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.3 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

S25@8'
2003055-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/05/20 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003067	03/05/20	03/05/20	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: **03/05/20 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/05/20 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003068	03/05/20	03/05/20	EPA 8015M	

Date Sampled: **03/05/20 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		104 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

S26@14'
2003055-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/05/20 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003067	03/05/20	03/05/20	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: **03/05/20 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/05/20 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003068	03/05/20	03/05/20	EPA 8015M	

Date Sampled: **03/05/20 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

S27@22'
2003055-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/05/20 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003067	03/05/20	03/05/20	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: **03/05/20 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/05/20 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003068	03/05/20	03/05/20	EPA 8015M	

Date Sampled: **03/05/20 10:51**

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

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003067 - EPA 5030 Soil MS

Blank (2003067-BLK1)

Prepared: 03/05/20 Analyzed: 03/06/20

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	0.0368		"	0.0400		92.1	23-173			
Surrogate: Toluene-d8	0.0452		"	0.0400		113	20-170			
Surrogate: 4-Bromofluorobenzene	0.0452		"	0.0400		113	21-167			

LCS (2003067-BS1)

Prepared: 03/05/20 Analyzed: 03/06/20

Benzene	0.114	0.0020	mg/kg	0.100		114	70-130			
Toluene	0.118	0.0050	"	0.100		118	70-130			
Ethylbenzene	0.0807	0.0050	"	0.100		80.7	70-130			
m,p-Xylene	0.155	0.010	"	0.200		77.5	70-130			
o-Xylene	0.0754	0.0050	"	0.100		75.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.4	23-173			
Surrogate: Toluene-d8	0.0452		"	0.0400		113	20-170			
Surrogate: 4-Bromofluorobenzene	0.0445		"	0.0400		111	21-167			

Matrix Spike (2003067-MS1)

Source: 2003054-01

Prepared: 03/05/20 Analyzed: 03/06/20

Benzene	0.116	0.0020	mg/kg	0.100	ND	116	70-130			
Toluene	0.121	0.0050	"	0.100	ND	121	70-130			
Ethylbenzene	0.0817	0.0050	"	0.100	ND	81.7	70-130			
m,p-Xylene	0.158	0.010	"	0.200	ND	79.2	70-130			
o-Xylene	0.0763	0.0050	"	0.100	ND	76.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0445		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0446		"	0.0400		112	21-167			

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

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 2003067 - EPA 5030 Soil MS

Matrix Spike Dup (2003067-MSD1)	Source: 2003054-01			Prepared: 03/05/20 Analyzed: 03/06/20						
Benzene	0.108	0.0020	mg/kg	0.100	ND	108	70-130	7.83	30	
Toluene	0.118	0.0050	"	0.100	ND	118	70-130	2.67	30	
Ethylbenzene	0.0878	0.0050	"	0.100	ND	87.8	70-130	7.26	30	
m,p-Xylene	0.171	0.010	"	0.200	ND	85.7	70-130	7.88	30	
o-Xylene	0.0792	0.0050	"	0.100	ND	79.2	70-130	3.74	30	
Surrogate: 1,2-Dichloroethane-d4	0.0365		"	0.0400		91.3	23-173			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	21-167			

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003068 - EPA 3550A

Blank (2003068-BLK1)

Prepared: 03/05/20 Analyzed: 03/06/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003068-BS1)

Prepared: 03/05/20 Analyzed: 03/06/20

C10-C28 (DRO) 571 50 mg/kg 500 114 70-130

Matrix Spike (2003068-MS1)

Source: 2003054-01

Prepared: 03/05/20 Analyzed: 03/06/20

C10-C28 (DRO) 549 50 mg/kg 500 16.1 107 70-130

Matrix Spike Dup (2003068-MSD1)

Source: 2003054-01

Prepared: 03/05/20 Analyzed: 03/06/20

C10-C28 (DRO) 575 50 mg/kg 500 16.1 112 70-130 4.61 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/06/20 06:10

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

March 09, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003076

Enclosed are the results of analyses for samples received by Summit Scientific on 03/06/20 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S28@8'	2003076-01	Soil	03/06/20 14:05	03/06/20 17:30
S29@14'	2003076-02	Soil	03/06/20 14:08	03/06/20 17:30
S30@22'	2003076-03	Soil	03/06/20 12:50	03/06/20 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.

2003076

Summit Scientific

S₂4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Cecil K 35-24, 30; Schwab 26-12F, 13F
 Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH/EC			
1	S28 @ 8'	3/6/20	1405	1			X			X				X	X				
2	S29 @ 14'	3/6/20	1408	1															
3	S30 @ 22'	3/6/20	1250	1															
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: Cody Gessell	Date/Time: 3/6/20 1530	Received by: Tasman's Lock Box	Date/Time: 3/6/20 1530	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/06/20 1730	Received by: 	Date/Time: 03/06/2020 1730	Sample Integrity: Temperature Upon Receipt: 4.5	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order 2003076

Client: PDC/Herman

Client Project ID: Cecil K35-24, 30, 26-12F, 13F Schwab

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

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

Temp (°C)	<u>4.5</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.	<u>X</u>			
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?			<u>X</u>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<u>✓</u>			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>✓</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>✓</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<u>X</u>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<u>X</u>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			<u>X</u>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>X</u>	

Additional Comments (if any):

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

Custodian Printed Name or Initials

Signature of Custodian

Date/Time

03/06/2020



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

S28@8'
2003076-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/06/20 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2003088	03/06/20	03/06/20	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: **03/06/20 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/06/20 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2003087	"	03/06/20	EPA 8015M	

Date Sampled: **03/06/20 14:05**

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

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

S29@14'
2003076-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/06/20 14:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003088	03/06/20	03/06/20	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: **03/06/20 14:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/06/20 14:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003087	"	03/06/20	EPA 8015M	

Date Sampled: **03/06/20 14:08**

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

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

S30@22'
2003076-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/06/20 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003088	03/06/20	03/06/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.032	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.58	0.50	"	"	"	"	"	"	

Date Sampled: **03/06/20 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/06/20 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003087	"	03/07/20	EPA 8015M	

Date Sampled: **03/06/20 12:50**

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

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003088 - EPA 5030 Soil MS

Blank (2003088-BLK1)

Prepared & Analyzed: 03/06/20

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	0.0370		"	0.0400		92.6	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

LCS (2003088-BS1)

Prepared & Analyzed: 03/06/20

Benzene	0.106	0.0020	mg/kg	0.100		106	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.0878	0.0050	"	0.100		87.8	70-130			
m,p-Xylene	0.175	0.010	"	0.200		87.3	70-130			
o-Xylene	0.0849	0.0050	"	0.100		84.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0383		"	0.0400		95.8	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

Matrix Spike (2003088-MS1)

Source: 2003075-01

Prepared & Analyzed: 03/06/20

Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130			
Toluene	0.112	0.0050	"	0.100	ND	112	70-130			
Ethylbenzene	0.0911	0.0050	"	0.100	ND	91.1	70-130			
m,p-Xylene	0.179	0.010	"	0.200	0.00378	87.6	70-130			
o-Xylene	0.0859	0.0050	"	0.100	ND	85.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		97.0	23-173			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

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 2003088 - EPA 5030 Soil MS

Matrix Spike Dup (2003088-MSD1)

Source: 2003075-01

Prepared & Analyzed: 03/06/20

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130	6.39	30	
Toluene	0.104	0.0050	"	0.100	ND	104	70-130	7.56	30	
Ethylbenzene	0.0898	0.0050	"	0.100	ND	89.8	70-130	1.46	30	
m,p-Xylene	0.178	0.010	"	0.200	0.00378	87.0	70-130	0.740	30	
o-Xylene	0.0867	0.0050	"	0.100	ND	86.7	70-130	0.938	30	
Surrogate: 1,2-Dichloroethane-d4	0.0376		"	0.0400		94.1	23-173			
Surrogate: Toluene-d8	0.0415		"	0.0400		104	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003087 - EPA 3550A

Blank (2003087-BLK1)

Prepared & Analyzed: 03/06/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003087-BS1)

Prepared & Analyzed: 03/06/20

C10-C28 (DRO) 632 50 mg/kg 500 126 70-130

Matrix Spike (2003087-MS1)

Source: 2003075-01

Prepared & Analyzed: 03/06/20

C10-C28 (DRO) 627 50 mg/kg 500 16.8 122 70-130

Matrix Spike Dup (2003087-MSD1)

Source: 2003075-01

Prepared & Analyzed: 03/06/20

C10-C28 (DRO) 651 50 mg/kg 500 16.8 127 70-130 3.77 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/09/20 06:51

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

March 10, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

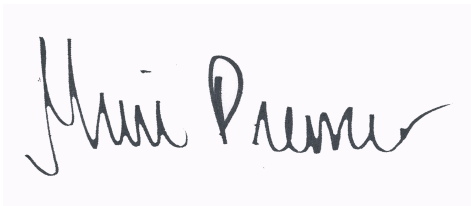
Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003085

Enclosed are the results of analyses for samples received by Summit Scientific on 03/09/20 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S31@8'	2003085-01	Soil	03/09/20 13:30	03/09/20 18:00
S32@14'	2003085-02	Soil	03/09/20 13:45	03/09/20 18:00
S33@22'	2003085-03	Soil	03/09/20 13:48	03/09/20 18:00

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

2003085

4653 Table Mountain Drive ♦ Golden, Colorado 80402
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29,30; Schwab 26-12F,13F
Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH/EC	
1	S31 @ 8'	3/09/20	1330	1			X			X				X	X		
2	S32 @ 14'	↓	1345	1			↓			↓				↓	↓		
3	S33 @ 22'	↓	1348	1			↓			↓				↓	↓		
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by: Cody Gessell	Date/Time: 3/09/20 1520	Received by: Tasman's Lock Box	Date/Time: 3/09/20 1520	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 38 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/09/2020 1830	Received by: 	Date/Time: 03/09/2020 1830		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 200308S

Client: PDC / TASMAN

Client Project ID: CECIL K 35 - 29, 30

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	3.8
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/9/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

S31@8'
2003085-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003102	03/09/20	03/09/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.011	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.10	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.1	0.50	"	"	"	"	"	"	

Date Sampled: **03/09/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/09/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003103	03/09/20	03/09/20	EPA 8015M	

Date Sampled: **03/09/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.4 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

S32@14'
2003085-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/20 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003102	03/09/20	03/09/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.019	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.80	0.50	"	"	"	"	"	"	

Date Sampled: **03/09/20 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/09/20 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003103	03/09/20	03/09/20	EPA 8015M	

Date Sampled: **03/09/20 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

S33@22'
2003085-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/09/20 13:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003102	03/09/20	03/10/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0051	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.049	0.010	"	"	"	"	"	"	
Naphthalene	0.018	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	34	0.50	"	"	"	"	"	"	

Date Sampled: **03/09/20 13:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		133 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/09/20 13:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003103	03/09/20	03/09/20	EPA 8015M	

Date Sampled: **03/09/20 13:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		107 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003102 - EPA 5030 Soil MS

Blank (2003102-BLK1)

Prepared: 03/09/20 Analyzed: 03/10/20

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	0.0400		"	0.0400		100	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	21-167			

LCS (2003102-BS1)

Prepared: 03/09/20 Analyzed: 03/10/20

Benzene	0.0946	0.0020	mg/kg	0.100		94.6	70-130			
Toluene	0.0969	0.0050	"	0.100		96.9	70-130			
Ethylbenzene	0.0811	0.0050	"	0.100		81.1	70-130			
m,p-Xylene	0.161	0.010	"	0.200		80.6	70-130			
o-Xylene	0.0736	0.0050	"	0.100		73.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0380		"	0.0400		95.0	23-173			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

Matrix Spike (2003102-MS1)

Source: 2003084-01

Prepared: 03/09/20 Analyzed: 03/10/20

Benzene	0.211	0.0020	mg/kg	0.100	0.180	31.3	70-130			QM-07
Toluene	0.0918	0.0050	"	0.100	ND	91.8	70-130			
Ethylbenzene	1.33	0.0050	"	0.100	5.62	NR	70-130			E, QM-07
m,p-Xylene	6.47	0.010	"	0.200	27.8	NR	70-130			E, QM-07
o-Xylene	0.0948	0.0050	"	0.100	0.0600	34.8	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0503		"	0.0400		126	23-173			
Surrogate: Toluene-d8	0.0381		"	0.0400		95.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.159		"	0.0400		397	21-167			S-02

Summit Scientific

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



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

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 2003102 - EPA 5030 Soil MS

Matrix Spike Dup (2003102-MSD1)

Source: 2003084-01

Prepared: 03/09/20 Analyzed: 03/10/20

Benzene	0.215	0.0020	mg/kg	0.100	0.180	35.2	70-130	1.86	30	QM-07
Toluene	0.0954	0.0050	"	0.100	ND	95.4	70-130	3.81	30	
Ethylbenzene	1.37	0.0050	"	0.100	5.62	NR	70-130	3.12	30	E, QM-07
m,p-Xylene	6.21	0.010	"	0.200	27.8	NR	70-130	4.12	30	E, QM-07
o-Xylene	0.0898	0.0050	"	0.100	0.0600	29.8	70-130	5.39	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0541		"	0.0400		135	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.163		"	0.0400		407	21-167			S-02

Summit Scientific

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



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003103 - EPA 3550A

Blank (2003103-BLK1)

Prepared: 03/09/20 Analyzed: 03/10/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003103-BS1)

Prepared: 03/09/20 Analyzed: 03/10/20

C10-C28 (DRO) 538 50 mg/kg 500 108 70-130

Matrix Spike (2003103-MS1)

Source: 2003084-01

Prepared: 03/09/20 Analyzed: 03/10/20

C10-C28 (DRO) 7220 50 mg/kg 500 6650 115 70-130

Matrix Spike Dup (2003103-MSD1)

Source: 2003084-01

Prepared: 03/09/20 Analyzed: 03/10/20

C10-C28 (DRO) 7140 50 mg/kg 500 6650 98.4 70-130 1.15 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/10/20 10:50

Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 11, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003106

Enclosed are the results of analyses for samples received by Summit Scientific on 03/10/20 17:38. 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S34@8'	2003106-01	Soil	03/10/20 10:27	03/10/20 17:38
S35@14'	2003106-02	Soil	03/10/20 10:30	03/10/20 17:38
S36@22'	2003106-03	Soil	03/10/20 10:36	03/10/20 17:38
S37@8'	2003106-04	Soil	03/10/20 11:10	03/10/20 17:38
S38@14'	2003106-05	Soil	03/10/20 11:13	03/10/20 17:38

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

2003106

4653 Table Mountain Drive ♦ Golden, Colorado 80402
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K, 35-29, 30 ; Schwab 26-12F, 13F
Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	\$260B GBTEXN	\$015 DRO	pH/EC		
1	S34 @ 8'	3/10/20	1027	1			X			X				X	X			
2	S35 @ 14'		1030															
3	S36 @ 22'		1036															
4	S37 @ 8'		1110															
5	S38 @ 14'		1113															
6																		
7																		
8																		
9																		
10																		

Relinquished by: Cody Gessell	Date/Time: 3/10/20 1515	Received by: Tasman's Lock Box	Date/Time: 3/10/20 1515	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours 24 hours 48 hours	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/10/2020 1730	Received by: 	Date/Time: 03/10/2020 1730	Sample Integrity: Temperature Upon Receipt: 5.5	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes No	

Sample Receipt Checklist

S2 Work Order 2003106

Client: PDC / TASMAN

Client Project ID: CECIL K 35-29,30

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26-12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	5.5
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/10/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

S34@8'
2003106-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/10/20 10:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2003122	03/10/20	03/10/20	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: **03/10/20 10:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		95.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/10/20 10:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2003121	03/10/20	03/10/20	EPA 8015M	

Date Sampled: **03/10/20 10:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		103 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

S35@14'
2003106-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/10/20 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003122	03/10/20	03/10/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.1	0.50	"	"	"	"	"	"	

Date Sampled: **03/10/20 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/10/20 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003121	03/10/20	03/10/20	EPA 8015M	

Date Sampled: **03/10/20 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		85.3 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

S36@22'
2003106-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/10/20 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003122	03/10/20	03/10/20	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: **03/10/20 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/10/20 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003121	03/10/20	03/10/20	EPA 8015M	

Date Sampled: **03/10/20 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.7 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

S37@8'
2003106-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/10/20 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003122	03/10/20	03/11/20	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: **03/10/20 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/10/20 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003121	03/10/20	03/10/20	EPA 8015M	

Date Sampled: **03/10/20 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		87.1 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

S38@14'
2003106-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/10/20 11:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003122	03/10/20	03/11/20	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: **03/10/20 11:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/10/20 11:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003121	03/10/20	03/10/20	EPA 8015M	

Date Sampled: **03/10/20 11:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		83.7 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003122 - EPA 5030 Soil MS

Blank (2003122-BLK1)

Prepared & Analyzed: 03/10/20

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	0.0379		"	0.0400		94.6	23-173			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	21-167			

LCS (2003122-BS1)

Prepared & Analyzed: 03/10/20

Benzene	0.0911	0.0020	mg/kg	0.100		91.1	70-130			
Toluene	0.0951	0.0050	"	0.100		95.1	70-130			
Ethylbenzene	0.0779	0.0050	"	0.100		77.9	70-130			
m,p-Xylene	0.152	0.010	"	0.200		76.0	70-130			
o-Xylene	0.0704	0.0050	"	0.100		70.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0385		"	0.0400		96.3	23-173			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	21-167			

Matrix Spike (2003122-MS1)

Source: 2003102-01

Prepared & Analyzed: 03/10/20

Benzene	0.0909	0.0020	mg/kg	0.100	0.00360	87.3	70-130			
Toluene	0.0940	0.0050	"	0.100	0.00306	91.0	70-130			
Ethylbenzene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
m,p-Xylene	0.154	0.010	"	0.200	0.00459	74.8	70-130			
o-Xylene	0.0713	0.0050	"	0.100	ND	71.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.2	23-173			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

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 2003122 - EPA 5030 Soil MS

Matrix Spike Dup (2003122-MSD1)

Source: 2003102-01

Prepared & Analyzed: 03/10/20

Benzene	0.0928	0.0020	mg/kg	0.100	0.00360	89.2	70-130	1.99	30	
Toluene	0.0984	0.0050	"	0.100	0.00306	95.4	70-130	4.55	30	
Ethylbenzene	0.0794	0.0050	"	0.100	ND	79.4	70-130	1.10	30	
m,p-Xylene	0.155	0.010	"	0.200	0.00459	75.3	70-130	0.601	30	
o-Xylene	0.0722	0.0050	"	0.100	ND	72.2	70-130	1.30	30	
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.6	23-173			
Surrogate: Toluene-d8	0.0429		"	0.0400		107	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003121 - EPA 3550A

Blank (2003121-BLK1)

Prepared & Analyzed: 03/10/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003121-BS1)

Prepared & Analyzed: 03/10/20

C10-C28 (DRO) 591 50 mg/kg 500 118 70-130

Matrix Spike (2003121-MS1)

Source: 2003102-01

Prepared & Analyzed: 03/10/20

C10-C28 (DRO) 474 50 mg/kg 500 7.18 93.3 70-130

Matrix Spike Dup (2003121-MSD1)

Source: 2003102-01

Prepared & Analyzed: 03/10/20

C10-C28 (DRO) 531 50 mg/kg 500 7.18 105 70-130 11.5 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/11/20 06:45

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

March 12, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

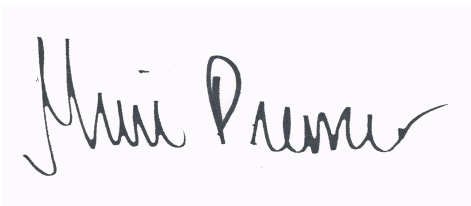
Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003119

Enclosed are the results of analyses for samples received by Summit Scientific on 03/11/20 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premer", is displayed on a light purple rectangular background.

Muri Premer For Paul Shrewsbury
President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S39@8'	2003119-01	Soil	03/11/20 10:33	03/11/20 17:30
S40@14'	2003119-02	Soil	03/11/20 10:50	03/11/20 17:30
S41@22'	2003119-03	Soil	03/11/20 10:53	03/11/20 17:30
S42@8'	2003119-04	Soil	03/11/20 13:20	03/11/20 17:30
S43@14'	2003119-05	Soil	03/11/20 13:30	03/11/20 17:30
S44@22'	2003119-06	Soil	03/11/20 13:33	03/11/20 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.

Summit Scientific

2003119

4653 Table Mountain Drive ♦ Golden, Colorado 80402
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name: Cecil K 35-29, 30; Schwab 26-12F, 13F
Sampler Name: Cody Gessell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	\$260B GBTEXN	\$015 DRO	pH/EC			
1	534 @ 8'	3/11/20	1033	1			X			X				X	X				
2	540 @ 14'		1050																
3	541 @ 22'		1053																
4	542 @ 8'		1320																
5	543 @ 14'		1330																
6	544 @ 22'		1333																
7																			
8																			
9																			
10																			

Relinquished by: Cody Gessell	Date/Time: 3/11/20 1500	Received by: Tasman's Lock Box	Date/Time: 3/11/20 1500	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: 2.3 Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 03/11/2020 1730	Received by:	Date/Time: 03/11/2020 1730		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 2003119

Client: PDC / TASMAN

Client Project ID: CECIL K 35 - 29, 30

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: SCHWAB 26 - 12F, 13F

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	5.3
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/11/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S39@8'
2003119-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/12/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.029	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	35	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/20 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		68.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		158 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S40@14'
2003119-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/11/20	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: **03/11/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		74.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		96.6 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S41@22'
2003119-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 10:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/11/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	7.4	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/20 10:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		74.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 10:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 10:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.7 %	30-150		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S42@8'
2003119-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/12/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	27	0.50	"	"	"	"	"	"	

Date Sampled: **03/11/20 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		76.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		161 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		111 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S43@14'
2003119-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/11/20	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: **03/11/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		76.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.8 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

S44@22'
2003119-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/20 13:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003144	03/11/20	03/11/20	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: **03/11/20 13:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		72.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/11/20 13:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003146	03/11/20	03/12/20	EPA 8015M	

Date Sampled: **03/11/20 13:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		110 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 2003144 - EPA 5030 Soil MS

Blank (2003144-BLK1)

Prepared: 03/11/20 Analyzed: 03/12/20

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	0.0572		"	0.0400		143	23-173			
Surrogate: Toluene-d8	0.0305		"	0.0400		76.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0345		"	0.0400		86.2	21-167			

LCS (2003144-BS1)

Prepared: 03/11/20 Analyzed: 03/12/20

Benzene	0.0851	0.0020	mg/kg	0.100		85.1	70-130			
Toluene	0.0822	0.0050	"	0.100		82.2	70-130			
Ethylbenzene	0.0766	0.0050	"	0.100		76.6	70-130			
m,p-Xylene	0.194	0.010	"	0.200		97.1	70-130			
o-Xylene	0.0988	0.0050	"	0.100		98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0388		"	0.0400		96.9	23-173			
Surrogate: Toluene-d8	0.0282		"	0.0400		70.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0309		"	0.0400		77.3	21-167			

Matrix Spike (2003144-MS1)

Source: 2003119-01

Prepared: 03/11/20 Analyzed: 03/12/20

Benzene	0.0863	0.0020	mg/kg	0.100	ND	86.3	70-130			
Toluene	0.0840	0.0050	"	0.100	ND	84.0	70-130			
Ethylbenzene	0.0818	0.0050	"	0.100	ND	81.8	70-130			
m,p-Xylene	0.203	0.010	"	0.200	0.0292	86.7	70-130			
o-Xylene	0.0715	0.0050	"	0.100	ND	71.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.5	23-173			
Surrogate: Toluene-d8	0.0277		"	0.0400		69.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0516		"	0.0400		129	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

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 2003144 - EPA 5030 Soil MS

Matrix Spike Dup (2003144-MSD1)

Source: 2003119-01

Prepared: 03/11/20 Analyzed: 03/12/20

Benzene	0.0890	0.0020	mg/kg	0.100	ND	89.0	70-130	3.05	30	
Toluene	0.0857	0.0050	"	0.100	ND	85.7	70-130	1.98	30	
Ethylbenzene	0.0853	0.0050	"	0.100	ND	85.3	70-130	4.13	30	
m,p-Xylene	0.206	0.010	"	0.200	0.0292	88.5	70-130	1.75	30	
o-Xylene	0.0755	0.0050	"	0.100	ND	75.5	70-130	5.43	30	
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0279		"	0.0400		69.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0534		"	0.0400		134	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003146 - EPA 3550A

Blank (2003146-BLK1)

Prepared: 03/11/20 Analyzed: 03/12/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003146-BS1)

Prepared: 03/11/20 Analyzed: 03/12/20

C10-C28 (DRO) 476 50 mg/kg 500 95.2 70-130

Matrix Spike (2003146-MS1)

Source: 2003119-01

Prepared: 03/11/20 Analyzed: 03/12/20

C10-C28 (DRO) 475 50 mg/kg 500 20.7 90.8 70-130

Matrix Spike Dup (2003146-MSD1)

Source: 2003119-01

Prepared: 03/11/20 Analyzed: 03/12/20

C10-C28 (DRO) 495 50 mg/kg 500 20.7 94.8 70-130 4.04 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/12/20 15:20

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

March 16, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003168

Enclosed are the results of analyses for samples received by Summit Scientific on 03/13/20 17:00. 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', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S45@8'	2003168-01	Soil	03/13/20 09:30	03/13/20 17:00
S46@14'	2003168-02	Soil	03/13/20 09:36	03/13/20 17:00
S47@22'	2003168-03	Soil	03/13/20 09:39	03/13/20 17:00
S48@8'	2003168-04	Soil	03/13/20 09:55	03/13/20 17:00
S49@14'	2003168-05	Soil	03/13/20 09:58	03/13/20 17:00
S50@22'	2003168-06	Soil	03/13/20 10:01	03/13/20 17:00

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

2003167

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 303-487-1228 Project Name:
Sampler Name: Coody Gessell Project Number: Cecil K 35-24, 30; Schwab 26-12F, 13F

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested					Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH/EC		
1	S45 @ 8'	3/13/20	0930	1			X			X				X	X			
2	S46 @ 14'		0936															
3	S47 @ 22'		0939															
4	S48 @ 8'		0955															
5	S49 @ 14'		0958															
6	S50 @ 22'		1001															
7																		
8																		
9																		
10																		

Relinquished by: Coody Gessell	Date/Time: 3/13/20 1410	Received by: Tasman's Lock Box Alan Dahl	Date/Time: 3/13/20 1410	Turn Around Time (Check)	Notes:
				Same Day <input checked="" type="checkbox"/> 72 hours	
				24 hours <input type="checkbox"/> Standard	
				48 hours <input type="checkbox"/>	
Relinquished by: Tasman's Lock Box	Date/Time: 3/13/20	Received by: Tasman's Lock Box	Date/Time: 3/13/20	Sample Integrity:	
				Temperature Upon Receipt: 4.9	
Relinquished by:	Date/Time:	Received by:	Date/Time: 1700 3/13/20	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

Sample Receipt Checklist

S2 Work Order 2003168

Client: PDC

Client Project ID: Cecil K 35-29,30; Schwab 26-12

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

☐ ☒ ☐ ☐ ☐

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

Temp (°C)	4.9
-----------	-----

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rush
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

PS

Custodian Printed Name or Initials

Signature of Custodian

3/13/20

Date/Time

1700



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S45@8'
2003168-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 09:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	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: **03/13/20 09:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 09:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 09:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		117 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S46@14'
2003168-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	14	0.50	"	"	"	"	"	"	

Date Sampled: **03/13/20 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		111 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		157 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.8 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S47@22'
2003168-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	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: **03/13/20 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 09:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		99.2 %	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: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S48@8'
2003168-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	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: **03/13/20 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		116 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S49@14'
2003168-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 09:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	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: **03/13/20 09:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 09:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 09:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		97.4 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

S50@22'
2003168-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/13/20 10:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2003185	03/13/20	03/14/20	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: **03/13/20 10:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/13/20 10:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2003184	"	03/14/20	EPA 8015M	

Date Sampled: **03/13/20 10:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		109 %	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

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 2003185 - EPA 5030 Soil MS

Blank (2003185-BLK1)

Prepared & Analyzed: 03/13/20

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	0.0396		"	0.0400		99.1	23-173			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	20-170			
Surrogate: 4-Bromofluorobenzene	0.0441		"	0.0400		110	21-167			

LCS (2003185-BS1)

Prepared & Analyzed: 03/13/20

Benzene	0.0723	0.0020	mg/kg	0.100		72.3	70-130			
Toluene	0.0973	0.0050	"	0.100		97.3	70-130			
Ethylbenzene	0.0772	0.0050	"	0.100		77.2	70-130			
m,p-Xylene	0.153	0.010	"	0.200		76.6	70-130			
o-Xylene	0.0724	0.0050	"	0.100		72.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.1	23-173			
Surrogate: Toluene-d8	0.0438		"	0.0400		109	20-170			
Surrogate: 4-Bromofluorobenzene	0.0435		"	0.0400		109	21-167			

Matrix Spike (2003185-MS1)

Source: 2003167-01

Prepared & Analyzed: 03/13/20

Benzene	0.0743	0.0020	mg/kg	0.100	ND	74.3	70-130			
Toluene	0.101	0.0050	"	0.100	ND	101	70-130			
Ethylbenzene	0.0800	0.0050	"	0.100	ND	80.0	70-130			
m,p-Xylene	0.154	0.010	"	0.200	ND	77.0	70-130			
o-Xylene	0.0738	0.0050	"	0.100	ND	73.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		104	23-173			
Surrogate: Toluene-d8	0.0446		"	0.0400		111	20-170			
Surrogate: 4-Bromofluorobenzene	0.0530		"	0.0400		132	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

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 2003185 - EPA 5030 Soil MS

Matrix Spike Dup (2003185-MSD1)		Source: 2003167-01			Prepared & Analyzed: 03/13/20					
Benzene	0.0789	0.0020	mg/kg	0.100	ND	78.9	70-130	5.99	30	
Toluene	0.0939	0.0050	"	0.100	ND	93.9	70-130	7.38	30	
Ethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130	1.59	30	
m,p-Xylene	0.157	0.010	"	0.200	ND	78.3	70-130	1.62	30	
o-Xylene	0.0750	0.0050	"	0.100	ND	75.0	70-130	1.69	30	
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0400		99.8	23-173			
Surrogate: Toluene-d8	0.0448		"	0.0400		112	20-170			
Surrogate: 4-Bromofluorobenzene	0.0584		"	0.0400		146	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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 06:13

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 2003184 - EPA 3550A

Blank (2003184-BLK1)

Prepared: 03/13/20 Analyzed: 03/14/20

C10-C28 (DRO) ND 50 mg/kg

LCS (2003184-BS1)

Prepared: 03/13/20 Analyzed: 03/14/20

C10-C28 (DRO) 504 50 mg/kg 500 101 70-130

Matrix Spike (2003184-MS1)

Source: 2003167-01

Prepared: 03/13/20 Analyzed: 03/14/20

C10-C28 (DRO) 592 50 mg/kg 500 158 86.8 70-130

Matrix Spike Dup (2003184-MSD1)

Source: 2003167-01

Prepared: 03/13/20 Analyzed: 03/14/20

C10-C28 (DRO) 529 50 mg/kg 500 158 74.3 70-130 11.1 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: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/16/20 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

March 17, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Cecil K 35-29,30; Schwab 26-12F,13F

Work Order #2003186

Enclosed are the results of analyses for samples received by Summit Scientific on 03/16/20 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury

President



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
03/17/20 06:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GS01	2003186-01	Water	03/16/20 08:50	03/16/20 16:30

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.

Summit Scientific

2003/86

3657 Table Mountain Drive • Golden, Colorado 80402

303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCE.com
 City/State/Zip: Broomfield/ CO/ 80020
 Phone: 303-487-1228 Project Name: Cecil K 35-29,30 ; Schwab 26-12F,13F
 Sampler Name: Cody Gressell Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH / EC	Hold		
1	G501	3/16/20	0850	1	X				X					X					
2	G502	↓	0853	1	↓				↓									X	
3	G503	↓	0856	1	↓				↓									X	
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: Cody Gressell	Date/Time: 3/16/20 1620	Received by: Tasman's Lock Box Summit	Date/Time: 03/16/2020 1630	Turn Around Time (Check): Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: Tasman's Lock Box Summit	Date/Time: 03/16/2020 1630	Received by: [Signature]	Date/Time: 03/16/2020 1630	Sample Integrity: 5.5	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: 5.5 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order

2003186

Client: PDC / TASMAN

Client Project ID: CECIL K 35 - 29, 30

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

Airbill #: SCHWAB 26 -12F, 13F

☐ ☒ ☐ ☐ ☐

Matrix (check all that apply):

☐ Air

☐ Soil/Solid

☒ Water

☐ Other:

(Describe)

Temp (°C)

5.5

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCL
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

3/16/20

Date/Time



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

Project: Cecil K 35-29,30; Schwab 26-12F,13F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/17/20 06:37

GS01
2003186-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/16/20 08:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	12	1.0		ug/l	1	2003197	03/16/20	03/16/20	EPA 8260B	
Toluene	26	1.0		"	"	"	"	"	"	
Ethylbenzene	3.0	1.0		"	"	"	"	"	"	
Xylenes (total)	51	2.0		"	"	"	"	"	"	

Date Sampled: **03/16/20 08:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Cecil K 35-29,30; Schwab 26-12F,13F

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/17/20 06:37

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 2003197 - EPA 5030 Water MS

Blank (2003197-BLK1)

Prepared & Analyzed: 03/16/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.9		"	13.3		96.8	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.6	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.8	21-167			

LCS (2003197-BS1)

Prepared: 03/16/20 Analyzed: 03/17/20

Benzene	30.4	1.0	ug/l	33.3		91.3	51-132			
Toluene	34.6	1.0	"	33.3		104	51-138			
Ethylbenzene	30.6	1.0	"	33.3		91.7	58-146			
m,p-Xylene	59.2	2.0	"	66.7		88.7	57-144			
o-Xylene	29.0	1.0	"	33.3		87.1	53-146			
Surrogate: 1,2-Dichloroethane-d4	11.2		"	13.3		84.2	23-173			
Surrogate: Toluene-d8	15.8		"	13.3		119	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.2	21-167			

LCS Dup (2003197-BSD1)

Prepared: 03/16/20 Analyzed: 03/17/20

Benzene	35.3	1.0	ug/l	33.3		106	51-132	14.9	20	
Toluene	37.2	1.0	"	33.3		112	51-138	7.18	20	
Ethylbenzene	36.6	1.0	"	33.3		110	58-146	18.0	20	
m,p-Xylene	70.5	2.0	"	66.7		106	57-144	17.5	20	
o-Xylene	35.0	1.0	"	33.3		105	53-146	18.5	20	
Surrogate: 1,2-Dichloroethane-d4	11.6		"	13.3		87.4	23-173			
Surrogate: Toluene-d8	14.1		"	13.3		106	20-170			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.3	21-167			

Summit Scientific

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Project Number: [none]
Project Manager: Mark Longhurst

Reported:
03/17/20 06:37

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