

PDC Energy, Inc.
Third Quarter 2020 Groundwater Monitoring Summary

August 20, 2020

Former Schwab 26-6F Tank Battery
SENW Section 26 T4N R66W
Remediation # 15032

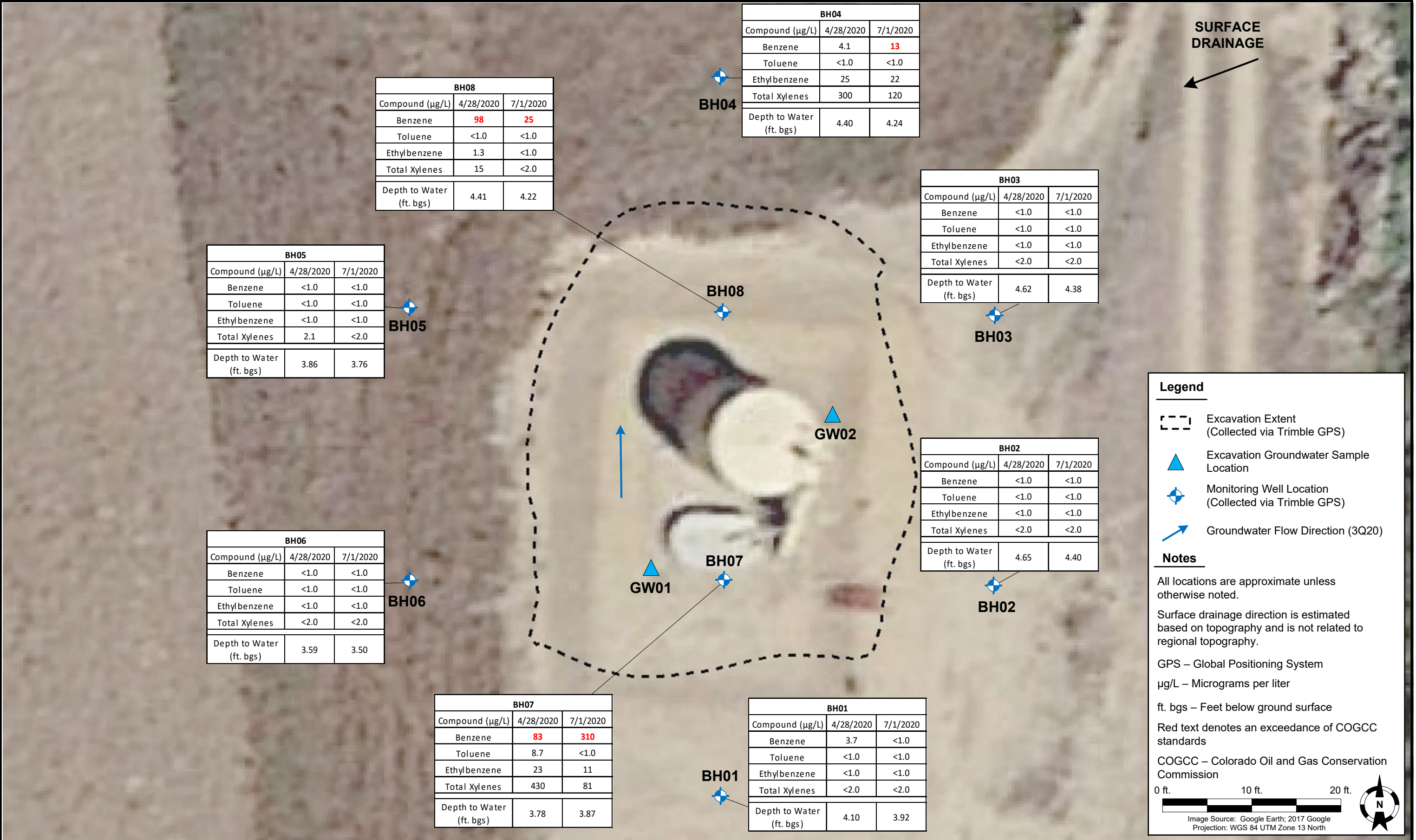
This groundwater monitoring summary has been prepared by Tasman Geosciences, Inc. for the former Schwab 26-6F tank battery. On July 1, 2020, groundwater monitoring was conducted at all eight monitoring wells (BH01 – BH08). Eight groundwater samples were submitted to Summit Scientific Laboratories for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B.

Third quarter 2020 analytical results indicated that benzene concentrations were above the applicable COGCC Table 910-1 groundwater standard in monitoring wells BH04, BH07, and BH08. BTEX concentrations were below the applicable standards in the remaining five monitoring well locations. Sample locations and corresponding analytical results are illustrated on Figure 1. Groundwater elevation data is illustrated on Figure 2. Groundwater analytical results are summarized in Table 1. The laboratory analytical report is included in Attachment A.

Based on third quarter 2020 groundwater analytical results, three monitoring wells (BH09 – BH11) were installed on July 24, 2020, to delineate dissolved-phase hydrocarbon impacts down-gradient of the existing monitoring well network and establish point of compliance. Lithologic descriptions and volatile organic compound (VOC) concentrations measured using a photoionization detector (PID) were recorded for each monitoring well. Boring and well completion logs are provided in Attachment B. Monitoring well locations are illustrated on Figure 3.

Monitored natural attenuation (MNA) was selected as the remediation strategy for this site during the second quarter 2020 and will remain the selected remediation strategy through the fourth quarter 2020.

Fourth quarter 2020 groundwater sampling will be conducted in October 2020.





DATE:	July 7, 2020
DESIGNED BY:	C. Hamlin
DRAWN BY:	A. Dahl



TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W. 119th Ave.
Broomfield, CO 80020

PDC Energy, Inc. – DJ Basin
Former Schwab 26-6F Tank Battery
SENW, Section 26, Township 4 North, Range 66 West
Weld County, Colorado

**GROUNDWATER
ELEVATION CONTOUR
MAP (07/01/2020)**

**FIGURE
2**



TABLE 1
FORMER SCHWAB 26-6F 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 ⁽²⁾ (ft)	Groundwater Elevation (ft AMSL)
COGCC Table 910-1 Groundwater Standard (µg/L) ⁽¹⁾		5	560	700	1,400		
GW01	2/21/2020	35	66	24	390	~ 7	NM
GW02	3/2/2020	120	170	15	430	~ 7	NM
BH01	4/28/2020	3.7	<1.0	<1.0	<2.0	4.10	4755.09
BH01	7/1/2020	<1.0	<1.0	<1.0	<2.0	3.92	4755.27
BH02	4/28/2020	<1.0	<1.0	<1.0	<2.0	4.65	4754.83
BH02	7/1/2020	<1.0	<1.0	<1.0	<2.0	4.40	4755.08
BH03	4/28/2020	<1.0	<1.0	<1.0	<2.0	4.62	4754.48
BH03	7/1/2020	<1.0	<1.0	<1.0	<2.0	4.38	4754.72
BH04	4/28/2020	4.1	<1.0	25	300	4.40	4754.23
BH04	7/1/2020	13	<1.0	22	120	4.24	4754.39
BH05	4/28/2020	<1.0	<1.0	<1.0	2.1	3.86	4754.58
BH05	7/1/2020	<1.0	<1.0	<1.0	<2.0	3.76	4754.68
BH06	4/28/2020	<1.0	<1.0	<1.0	<2.0	3.59	4754.84
BH06	7/1/2020	<1.0	<1.0	<1.0	<2.0	3.50	4754.93
BH07	4/28/2020	83	8.7	23	430	3.78	4755.18
BH07	7/1/2020	310	<1.0	11	81	3.87	4755.09
BH08	4/28/2020	98	<1.0	1.3	15	4.41	4754.50
BH08	7/1/2020	25	<1.0	<1.0	<2.0	4.22	4754.69

Notes:

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

2. Depth to water measurements were measured from ground surface for excavation samples. Monitoring well measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

ft = Feet

AMSL = Above Mean Sea Level

NM = Not measured

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

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 09, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

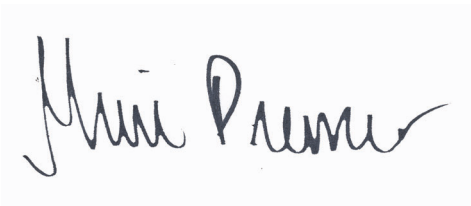
Denver, CO 80203

RE: Schwab 26-6F

Work Order #2007011

Enclosed are the results of analyses for samples received by Summit Scientific on 07/01/20 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read "Muri Premer", is shown within a light gray rectangular box.

Muri Premer For Paul Shrewsbury
President



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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2007011-01	Water	07/01/20 13:06	07/01/20 17:30
BH02	2007011-02	Water	07/01/20 12:37	07/01/20 17:30
BH03	2007011-03	Water	07/01/20 12:47	07/01/20 17:30
BH04	2007011-04	Water	07/01/20 12:55	07/01/20 17:30
BH05	2007011-05	Water	07/01/20 12:46	07/01/20 17:30
BH06	2007011-06	Water	07/01/20 12:58	07/01/20 17:30
BH07	2007011-07	Water	07/01/20 13:15	07/01/20 17:30
BH08	2007011-08	Water	07/01/20 13:04	07/01/20 17:30

Summit Scientific

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2007011

Page 1 of 1

Project Manager: Mark Longhurst
E-Mail: Mr-K.longhurst@PDCI.com
Project Name: Schwab 26-6F
Project Number: n/a

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															
BH01	7/1/20	1306	3	X				X				X															
BH02	7/1/20	1237	3	X				X				X															
BH03	7/1/20	1247	3	X				X				X															
BH04	7/1/20	1255	3	X				X				X															
BH05	7/1/20	1246	3	X				X				X															
BH06	7/1/20	1258	3	X				X				X															
BH07	7/1/20	1315	3	X				X				X															
BH08	7/1/20	1304	3	X				X				X															

Relinquished by:

7/1/20 1436

Received by:

7/1/20 1436

Turn Around Time (Check)

Same Day

24 Hours

48 Hours

72 Hours

Standard

Relinquished by:

07/01/2020 1730

Received by:

07/01/2020 1730

Sample Integrity:

Temperature Upon Receipt:

Intact:

Yes

No

Relinquished by:

2-6

Received in Lab by:

Notes:

Sample Receipt Checklist

S2 Work Order 2007011

Client: POC / TARMAN Client Project ID: SCHWAB 26-6F

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

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

Temp (°C) 2.6

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 type="checkbox"/>	<input checked="" 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.

Custodian Printed Name or Initials TS

Signature of Custodian [Signature]

Date/Time 5/10/2000



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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH01
2007011-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 13:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 13:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		87.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.3 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH02
2007011-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		77.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		65.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.0 %	21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH03
2007011-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 12:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 12:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		81.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.1 %	21-167		"	"	"	"	

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH04
2007011-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	13	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	22	1.0	"	"	"	"	"	"	
Xylenes (total)	120	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		71.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		55.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.6 %	21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH05
2007011-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		65.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %	21-167		"	"	"	"	

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH06
2007011-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 12:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 12:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		133 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.7 %	21-167		"	"	"	"	

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH07
2007011-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	310	1.0	ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	11	1.0	"	"	"	"	"	"	
Xylenes (total)	81	2.0	"	"	"	"	"	"	

Date Sampled: **07/01/20 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		66.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %	21-167		"	"	"	"	

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

BH08
2007011-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/01/20 13:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	25	1.0		ug/l	1	2007046	07/06/20	07/06/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **07/01/20 13:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		76.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %		21-167		"	"	"	"	

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1775 Sherman St. STE. 3000
Denver CO, 80203

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

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 2007046 - EPA 5030 Water MS

Blank (2007046-BLK1)

Prepared & Analyzed: 07/06/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	23-173			
Surrogate: Toluene-d8	11.4		"	13.3		85.4	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

LCS (2007046-BS1)

Prepared & Analyzed: 07/06/20

Benzene	36.4	1.0	ug/l	33.3		109	51-132			
Toluene	36.4	1.0	"	33.3		109	51-138			
Ethylbenzene	35.5	1.0	"	33.3		106	58-146			
m,p-Xylene	71.8	2.0	"	66.7		108	57-144			
o-Xylene	29.1	1.0	"	33.3		87.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.3		99.9	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

Matrix Spike (2007046-MS1)

Source: 2007011-01

Prepared & Analyzed: 07/06/20

Benzene	30.9	1.0	ug/l	33.3	ND	92.8	34-141			
Toluene	36.9	1.0	"	33.3	ND	111	27-151			
Ethylbenzene	34.6	1.0	"	33.3	ND	104	29-160			
m,p-Xylene	68.5	2.0	"	66.7	ND	103	20-166			
o-Xylene	28.2	1.0	"	33.3	ND	84.7	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.3		90.2	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.0	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.7	21-167			

Summit Scientific

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

Project: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

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 2007046 - EPA 5030 Water MS

Matrix Spike Dup (2007046-MSD1)		Source: 2007011-01			Prepared & Analyzed: 07/06/20					
Benzene	34.6	1.0	ug/l	33.3	ND	104	34-141	11.2	30	
Toluene	37.5	1.0	"	33.3	ND	113	27-151	1.75	30	
Ethylbenzene	37.0	1.0	"	33.3	ND	111	29-160	6.87	30	
m,p-Xylene	63.9	2.0	"	66.7	ND	95.9	20-166	6.95	30	
o-Xylene	29.7	1.0	"	33.3	ND	89.0	33-159	4.94	30	
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.2	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.1	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.5	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: Schwab 26-6F
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
07/09/20 11:48

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Attachment B



Borehole Logging Form

BOREHOLE ID: <u>BH09</u>		SITE NAME: <u>Schnab 26-6F</u>		CLIENT NAME: <u>PDC ENERGY</u>			
Date Completed: <u>7/24/20</u>		Location:					
Drilling Company: <u>Tasman</u>		Surface Completion: <u>Stick up</u>		DTW: <u>6'</u>	TD:		
Type of Drill: <u>Direct Push Probe</u>		Geologist: <u>J. McCarver</u>		Project Manager: <u>C. Hamlin</u>			
Bit Size: <u>2 3/8"</u>		Logging Method: <u>hand auger / macro core liner</u>					
Well Const. Material: Diameter: 1" Screen: Sch 40 PVC Slotted 0.10 Riser: Sch 40 PVC Blank							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		hand auger	↑	↑		SM	Bm silty sand, fine gr, poorly graded, dry, no binder
2				0.0			
3			100%				
4							
5							
6							moist
7		macro core	↑	↑		SM	same as above, saturated
8				0.1			
9			75%				
10							
11							
12			75%	0.3			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



Borehole Logging Form

BOREHOLE ID: <u>BH10</u>		SITE NAME: <u>Schwab 26-6F</u>		CLIENT NAME: <u>PDC ENERGY</u>				
Date Completed: <u>7/24/20</u>		Location:						
Drilling Company: <u>Tasman</u>		Surface Completion: <u>Stizler</u>		DTW: <u>6'</u>	TD: <u>13</u>			
Type of Drill: <u>Direct Push Probe</u>		Geologist: <u>J. McCarver</u>		Project Manager: <u>C. Hamlin</u>				
Bit Size: <u>2 3/8"</u>		Logging Method: <u>hand auger / macrocore liner</u>						
Well Const. Material: Diameter: 1" Screen: Sch 40 PVC Slotted 0.10 Riser: Sch 40 PVC Blank								
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description	
1		Hand auger	↑	↑		SM	Brn silty sand, fine-med gr, well sorted, dry, no odor	
2				0.1				
3			100%					
4								
5								
6								
7			macro core	↑	↑		SM	Same as above, saturated
8				50%	0.4			
9								
10								
11							SM	same as above
12				100%	0.3			
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								



Borehole Logging Form

BOREHOLE ID: <u>BH 11</u>		SITE NAME: <u>Schweb 26-6F</u>		CLIENT NAME: <u>PDC ENERGY</u>				
Date Completed: <u>7/24/20</u>		Location:						
Drilling Company: <u>Tasman</u>		Surface Completion: <u>Stick up</u>		DTW: <u>6"</u>	TD: <u>13</u>			
Type of Drill: <u>Direct Push Probe</u>		Geologist: <u>J. McCarver</u>		Project Manager: <u>C. Hamlin</u>				
Bit Size: <u>2 1/8"</u>		Logging Method: <u>hand auger / macro core liner</u>						
Well Const. Material: Diameter: 1" Screen: Sch 40 PVC Slotted 0.10 Riser: Sch 40 PVC Blank								
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description	
1		hand auger	↑	↑		SM	Brn silty sand, fine gr, poorly graded, dry, no odor	
2								
3			100%	0.0				
4								
5								
6								moist
7		macro core	↑	↑			SM	same as above, saturated
8			75%	0.4				
9								
10								
11								
12			100%	0.6				
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								