

**PDC Energy, Inc.**  
**Second Quarter 2020 Groundwater Monitoring Summary**

May 15, 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 April 22, 2020, eight monitoring wells (BH01 – BH08) were installed to delineate dissolved-phase hydrocarbon impacts and establish point of compliance in all cardinal directions of the former excavation extent. Lithologic descriptions and volatile organic compound (VOC) concentrations measured using a photoionization detector (PID) were recorded for each monitoring well. Based on field measurements and observations encountered in boreholes BH04 and BH07, soil samples were collected from the intervals exhibiting the highest VOC concentrations, and the terminus of the boring. Four soil samples were submitted to Summit Scientific Laboratories (Summit) for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, total petroleum hydrocarbons (TPH) – gasoline range organics by USEPA Method 8260B, and TPH – diesel range organics (DRO) by USEPA Method 8015. Boring and well completion logs are provided in Attachment A.

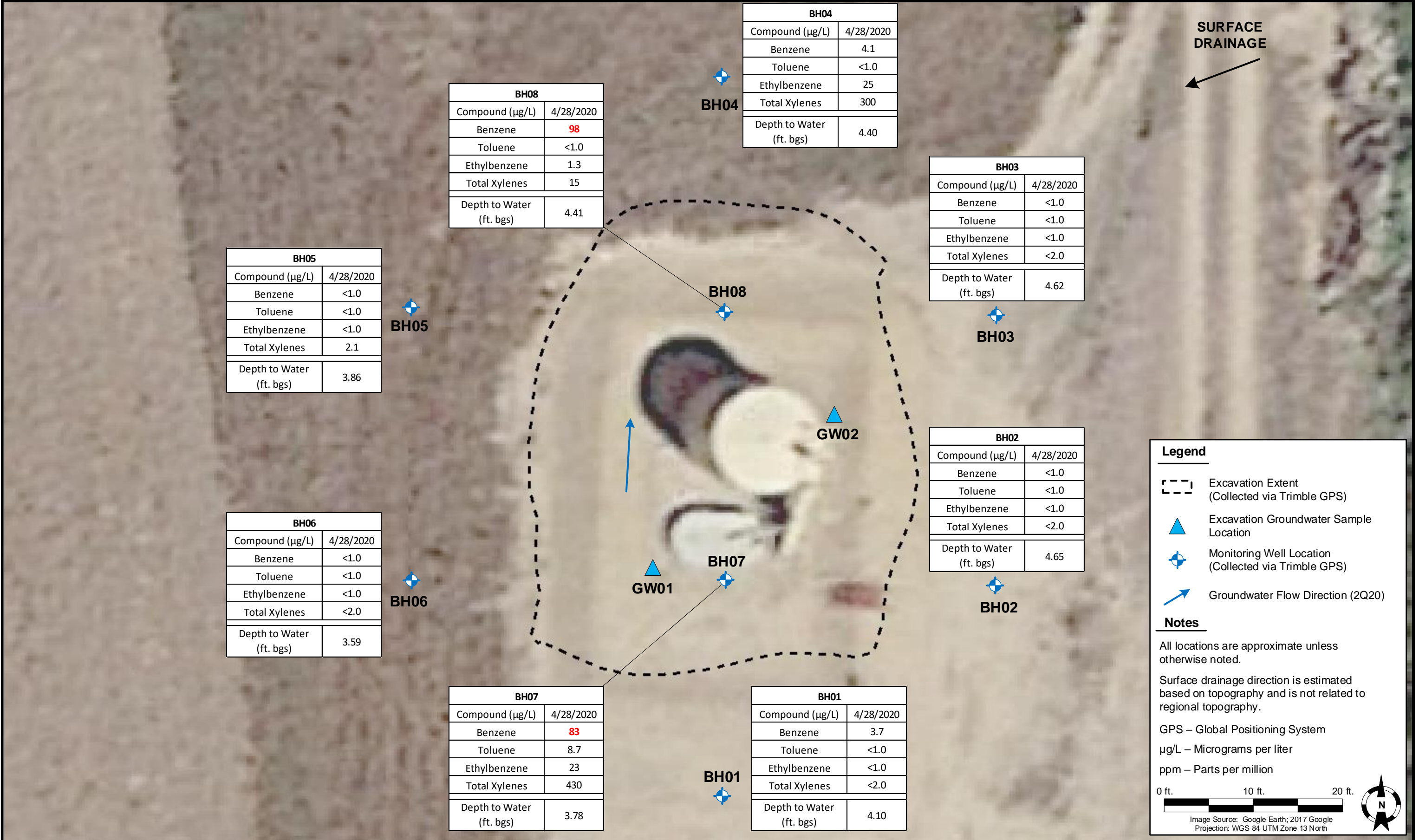
Soil analytical results collected during monitoring well installation activities indicated that organic compound concentrations were below the applicable COGCC Table 910-1 soil standards in all sampled intervals. Soil analytical results are summarized in Table 1 and the laboratory analytical report is included in Attachment B.

On April 28, 2020, groundwater monitoring was conducted at all eight monitoring wells (BH01 – BH08). Eight groundwater samples were submitted to Summit for analysis of BTEX by USEPA Method 8260B.

Second quarter 2020 analytical results indicated that benzene concentrations were above the applicable COGCC Table 910-1 groundwater standard in monitoring wells BH07 and BH08. BTEX concentrations were below the regulatory standards in the remaining six 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 2. The laboratory analytical report is included in Attachment B.

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 third quarter 2020.

Third quarter 2020 groundwater sampling will be conducted in July 2020.



DATE:	May 15, 2020
DESIGNED BY:	C. Hamlin
DRAWN BY:	M. Dahlgren



**TASMAN**  
GEOSCIENCES

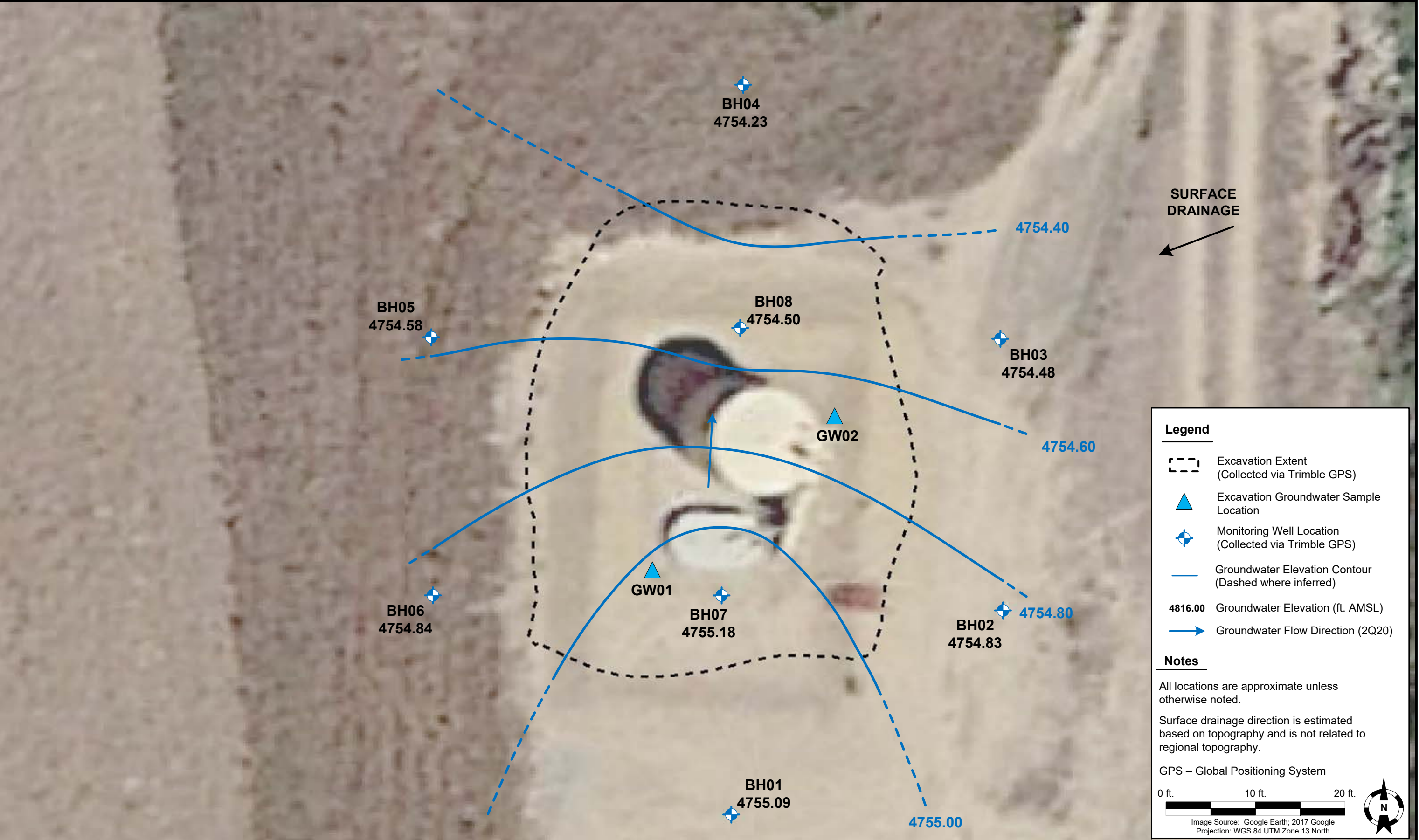
**Tasman Geosciences, Inc.**  
6855 W. 119<sup>th</sup> Ave.  
Broomfield, CO 80020

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

**GROUNDWATER  
ANALYTICAL RESULTS  
MAP**

**FIGURE  
1**





DATE: May 5, 2020

DESIGNED BY: C. Hamlin

DRAWN BY: L. Martin



**TASMAN**  
GEOSCIENCES

**Tasman Geosciences, Inc.**  
6855 W. 119<sup>th</sup> 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 (04/28/2020)**

**FIGURE  
2**

**TABLE 1**  
**FORMER SCHWAB 26-6F 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 <sup>(2)</sup> (mg/kg)
<b>COGCC Table 910-1 Soil Standard (mg/kg) <sup>(1)</sup></b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>23</b>	<b>500</b>
SS03 @ 6'	2/21/2020	6	<b>1.5</b>	2.9	3.4	37	0.61	<b>1,590</b>
S01 @ 8'	2/24/2020	8	0.11	0.22	0.12	14	0.017	40
SS11 @ 6'	2/26/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS12 @ 7.5'	2/26/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS13 @ 8'	2/26/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS14 @ 6'	2/26/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS15 @ 7.5'	2/26/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS16 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	4.4
SS17 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS18 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS19 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS20 @ 8'	2/27/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS21 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS22 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS23 @ 8'	2/27/2020	8	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS24 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS25 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	1.4
SS26 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS27 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS28 @ 6'	2/27/2020	6	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
SS29 @ 7.5'	2/27/2020	7.5	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH04 @ 4-5'	4/22/2020	4-5	<0.0020	<0.0050	0.012	0.33	<0.010	76
BH04 @ 12-13'	4/22/2020	12-13	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<50
BH07 @ 8-9'	4/22/2020	8-9	<0.0020	0.0080	<0.0050	1.1	<0.010	127
BH07 @ 12-13'	4/22/2020	12-13	<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 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 <sup>(2)</sup> (ft)	Groundwater Elevation (ft AMSL)
<b>COGCC Table 910-1 Groundwater Standard (µg/L) <sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>		
GW01	2/21/2020	<b>35</b>	66	24	390	~ 7	NM
GW02	3/2/2020	<b>120</b>	170	15	430	~ 7	NM
BH01	4/28/2020	3.7	<1.0	<1.0	<2.0	4.10	4755.09
BH02	4/28/2020	<1.0	<1.0	<1.0	<2.0	4.65	4754.83
BH03	4/28/2020	<1.0	<1.0	<1.0	<2.0	4.62	4754.48
BH04	4/28/2020	4.1	<1.0	25	300	4.40	4754.23
BH05	4/28/2020	<1.0	<1.0	<1.0	2.1	3.86	4754.58
BH06	4/28/2020	<1.0	<1.0	<1.0	<2.0	3.59	4754.84
BH07	4/28/2020	<b>83</b>	8.7	23	430	3.78	4755.18
BH08	4/28/2020	<b>98</b>	<1.0	1.3	15	4.41	4754.50

**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

# Borehole Logging Form

BOREHOLE ID: BH01 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: S POC

Drilling Company: Tasman Surface Completion: stick-up DTW: 5' TD: 13'

Type of Drill: Direct Push Probe Geologist: M. Dehler Project Manager: C. Hamlin

Bit Size: 2 7/8" Logging Method: Hand Auger / Macro log

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							
2							
3		HA		2.2		SM	
4			100%				
5							Same as above, Saturated
6							
7				3.1			
8		macro	50%				
9		low		1.6		SC	Tan Clayey Sand, moderately sorted, fine to coarse grain, Saturated, no odor
10							
11							
12			75%	1.5			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



# Borehole Logging Form

BOREHOLE ID: BH02 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: SE POC

Drilling Company: Tasman Surface Completion: Stick-up DTW: 5.5' TD: 13'

Type of Drill: Direct Push Probe Geologist: M. Dahlgren Project Manager: C. Hamlin

Bit Size: 2 1/8" Logging Method: Ham Auger / Macro liner

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							Brn silty sand, Moderately sorted, fine to med. grain, dry, no odor
2							
3		HA	100%	0.7		SM	
4							
5							
6							Same as 5 above, saturated
7		Macro		1.7			
8		liner	100%				
9				0.9		SC	Fin clayey sand, Moderately sorted, fine to medium grain, saturated, no odor
10							
11			100%	1.9			
12							
13							
14	X						
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: BH03 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: NP, POC

Drilling Company: Tasman Surface Completion: stick-up DTW: 5' TD: 13

Type of Drill: Direct Push Probe Geologist: M. Dahlgren Project Manager: C. Hamlin

Bit Size: 2 3/8" Logging Method: Hand Auger / Macro liner

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							Brn Silty Sand, moderately sorted, fine to coarse grain, dry, no odor
2							
3		HA	100%	0.9		SM	
4							
5							Same as above, Saturated
6							
7							
8		Macro		0.7			
9		liner	100%	1.2		SC	fin clayey Sand, moderately sorted, fine to med. grain, Saturated, no odor
10							
11							
12			100%	1.1			
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: <b>BH04</b>	SITE NAME: <b>Schwab 26-6F</b>	CLIENT NAME: <b>PDC ENERGY</b>
Date Completed: <b>4/22/20</b>	Location: <b>N POC</b>	
Drilling Company: <b>Tasman</b>	Surface Completion: <b>St-cl-2P</b>	DTW: <b>5.5</b> TD: <b>13'</b>
Type of Drill: <b>Direct Push Probe</b>	Geologist: <b>M. Dahlgren</b>	Project Manager: <b>C. Hamlin</b>
Bit Size: <b>2 3/8"</b>	Logging Method: <b>Hand Auger / Macro Lines</b>	
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						SM	Brn Silty Sand, Poorly sorted, fine to coarse grain, dis, no odor
2							
3		HA	100%				
4							
5				65.4	BH04-5" 935	SC	Grny/black clayey Sand, moderately sorted, fine to med. grain, no st, slight odor
6							Same as above, Saturated
7				434.2			
8		Macro	90%				Tan clayey Sand, moderately sorted, fine to med. grain, Saturated, no odor
9				12.2			
10							
11			80%	8.2			
12							
13					BH04-12-3" 940		
14	X						
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: BH05 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: NW Pec

Drilling Company: Tasman Surface Completion: Stick-UP DTW: 6' TD: 13'

Type of Drill: Direct Push Probe Geologist: M. Dalgren Project Manager: C. Hamlin

Bit Size:  Logging Method: Hand Auger / Macro lines

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							Blk-Tan silty sand, poorly sorted, fine to coarse grain, log, no order
2		HA		0.0		SM	
3			100%				
4							Tan silty sand moderately sorted, fine to medium grain, Mo-St no order
5				0.8			
6							
7		Macro lines					Same as above, Saturated
8			50%	1.7			
9							
10				1.8		SC	Tan clayey sand, moderately sorted, fine to medium grain, Saturated, no order
11							
12			75%	0.9			
13							
14	X						
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: BH06 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: SW POC

Drilling Company: Tasman Surface Completion: Stick-UP DTW: 6' TD: 13'

Type of Drill: Direct Push Probe Geologist: M. Dahlgren Project Manager: C. Hamlin

Bit Size: Logging Method:

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							
2							
3		HA	100%	0.7		SM	Bn Silty Sand Moderately sorted, fine to med. grain, dry, no odor
4							
5							
6							
7							Same as above, Saturated
8		Macro	50%	1.6			
9		finer					
10						SC	Tan Clayey Sand, moderately sorted, fine to med. grain, Saturated, no odor
11							
12			75%	1.8			
13							
14	x						
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



# Borehole Logging Form

BOREHOLE ID: **BH07** SITE NAME: **Schwab 26-6F** CLIENT NAME: **PDC ENERGY**

Date Completed: **4/22/20** Location: **S Source**

Drilling Company: **Tasman** Surface Completion: **Stick-UP** DTW: **5'** TD: **13'**

Type of Drill: **Direct Push Probe** Geologist: **M. Dahlgren** Project Manager: **C. Hamlin**

Bit Size: **2 3/8"** Logging Method: **Hand Auger / Macro liner**

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							Ben Silty Sand moderately sorted, fine to med. grain, dry, no odor
2							
3		HA	100%	0.7		SM	
4							
5							
6							Same as above, Saturated
7							
8		Macro		22.1			
9		lin	80%	1,105	BH07081' 1050	SM	Gray-Tan Silty Sand, moderately sorted, fine to coarse grain, Saturated, slight odor
10				15.7		SC	Tan Clayey Sand, moderately sorted, fine to coarse grain, Saturated, no odor
11				2.8			
12							
13				2.9	BH07012-13' 1055		
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: BH08 SITE NAME: Schwab 26-6F CLIENT NAME: PDC ENERGY

Date Completed: 4/22/20 Location: N Source

Drilling Company: Tasman Surface Completion: St-CK-vp DTW: 6' TD: 13'

Type of Drill: Direct Push Probe Geologist: M. Doherty Project Manager: C. Hamlin

Bit Size: 2 3/8" Logging Method: HARD/Arer / Macro liner

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						↑	Bm s. ita Sand, moderately sorted, fine to med. grain, dry, no odor
2							
3		HA	100%	0.7		SM	
4							
5							
6							
7		Macro		42.4			Lt gray/tan s. ita Sand, saturated, moderately sorted, fine to med. grain, no odor
8		1.0	90%			↓	
9				10.4		SC	Tan clayey Sand, moderately sorted, fine to coarse grain, saturated, no odor
10							
11			75%	3.9			
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

## Attachment B

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 27, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Schwab 26-6F

Work Order #2004299

Enclosed are the results of analyses for samples received by Summit Scientific on 04/22/20 16:10. 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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH04@4-5'	2004299-01	Soil	04/22/20 09:35	04/22/20 16:10
BH04@12-13'	2004299-02	Soil	04/22/20 09:40	04/22/20 16:10
BH07@8-9'	2004299-03	Soil	04/22/20 10:50	04/22/20 16:10
BH07@12-13'	2004299-04	Soil	04/22/20 10:55	04/22/20 16:10

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

2004299


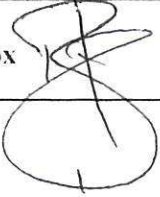
4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: PDC / Tasman Project Manager: Mark Longhurst  
 Address: 6855 W 119th Ave E-Mail: mark.longhurst@PDCI.com  
 City/State/Zip: Broomfield/ CO/ 80020  
 Phone: 303-487-1228 Project Name: Schwab 26-6F  
 Sample Name: Max Dehlgren 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	\$8015 DRO	pH/EC			
1	BH04 @ 4-5'	4/22/20	935	1			X			X				X	X				
2	BH04 @ 12-13'		940	1															
3	BH07 @ 8-9'		1050	1															
4	BH07 @ 12-13'		1055	1															
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: 	Date/Time: 4/22/20 1616	Received by:  Tasman's Lock Box	Date/Time: 4/22/2020 1616	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes:
Relinquished by: Tasman's Lock Box	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: 5.7 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Sample Receipt Checklist

S2 Work Order 2004299

Client: PDC/TASMAN Client Project ID: SCHWAB 2C-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)	5.7
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? 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):

<sup>(1)</sup> 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

04/22/2020 1616



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

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

**Reported:**  
04/27/20 16:21

**BH04@4-5'**  
**2004299-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/22/20 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2004284	04/23/20	04/24/20	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	<b>0.012</b>	0.0050	"	"	"	"	"	"	
Xylenes (total)	<b>0.33</b>	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	<b>11</b>	0.50	"	"	"	"	"	"	

Date Sampled: **04/22/20 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		95.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		131 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/22/20 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	<b>65</b>	50	mg/kg	1	2004283	04/23/20	04/23/20	EPA 8015M	

Date Sampled: **04/22/20 09:35**

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

**Reported:**  
04/27/20 16:21

**BH04@12-13'**  
**2004299-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/22/20 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2004284	04/23/20	04/24/20	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: **04/22/20 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.6 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/22/20 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2004283	04/23/20	04/23/20	EPA 8015M	

Date Sampled: **04/22/20 09:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		106 %	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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

**BH07@8-9'**  
**2004299-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/22/20 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	2004284	04/23/20	04/24/20	EPA 8260B	
<b>Toluene</b>	<b>0.0080</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.1</b>	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>42</b>	0.50	"	"	"	"	"	"	

Date Sampled: **04/22/20 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		209 %	21-167		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/22/20 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>85</b>	50	mg/kg	1	2004283	04/23/20	04/23/20	EPA 8015M	

Date Sampled: **04/22/20 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.5 %	30-150		"	"	"	"	

Summit Scientific

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





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

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

**Reported:**  
04/27/20 16:21

**BH07@12-13'**  
**2004299-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **04/22/20 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	2004284	04/23/20	04/24/20	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: **04/22/20 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		90.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.3 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/22/20 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	2004283	04/23/20	04/23/20	EPA 8015M	

Date Sampled: **04/22/20 10:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		108 %	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: Schwab 26-6F

Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

## 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 2004284 - EPA 5030 Soil MS

##### Blank (2004284-BLK1)

Prepared: 04/23/20 Analyzed: 04/24/20

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	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

##### LCS (2004284-BS1)

Prepared: 04/23/20 Analyzed: 04/24/20

Benzene	0.0704	0.0020	mg/kg	0.100		70.4	70-130			
Toluene	0.0721	0.0050	"	0.100		72.1	70-130			
Ethylbenzene	0.0874	0.0050	"	0.100		87.4	70-130			
m,p-Xylene	0.166	0.010	"	0.200		83.1	70-130			
o-Xylene	0.0850	0.0050	"	0.100		85.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0298		"	0.0400		74.6	23-173			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	21-167			

##### Matrix Spike (2004284-MS1)

Source: 2004299-02

Prepared: 04/23/20 Analyzed: 04/24/20

Benzene	0.0708	0.0020	mg/kg	0.100	ND	70.8	70-130			
Toluene	0.0738	0.0050	"	0.100	ND	73.8	70-130			
Ethylbenzene	0.0911	0.0050	"	0.100	ND	91.1	70-130			
m,p-Xylene	0.173	0.010	"	0.200	0.00468	83.9	70-130			
o-Xylene	0.0885	0.0050	"	0.100	ND	88.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0314		"	0.0400		78.5	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.8	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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

**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 2004284 - EPA 5030 Soil MS**

Matrix Spike Dup (2004284-MSD1)		Source: 2004299-02			Prepared: 04/23/20 Analyzed: 04/24/20					
Benzene	0.0739	0.0020	mg/kg	0.100	ND	73.9	70-130	4.23	30	
Toluene	0.0775	0.0050	"	0.100	ND	77.5	70-130	4.88	30	
Ethylbenzene	0.0946	0.0050	"	0.100	ND	94.6	70-130	3.78	30	
m,p-Xylene	0.180	0.010	"	0.200	0.00468	87.6	70-130	4.15	30	
o-Xylene	0.0914	0.0050	"	0.100	ND	91.4	70-130	3.20	30	
Surrogate: 1,2-Dichloroethane-d4	0.0316		"	0.0400		79.0	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0371		"	0.0400		92.8	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: Schwab 26-6F

Project Number: [none]

Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

**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 2004283 - EPA 3550A**

**Blank (2004283-BLK1)**

Prepared & Analyzed: 04/23/20

C10-C28 (DRO) ND 50 mg/kg

**LCS (2004283-BS1)**

Prepared & Analyzed: 04/23/20

C10-C28 (DRO) 530 50 mg/kg 500 106 70-130

**Matrix Spike (2004283-MS1)**

**Source: 2004299-01**

Prepared & Analyzed: 04/23/20

C10-C28 (DRO) 511 50 mg/kg 500 65.4 89.2 70-130

**Matrix Spike Dup (2004283-MSD1)**

**Source: 2004299-01**

Prepared & Analyzed: 04/23/20

C10-C28 (DRO) 521 50 mg/kg 500 65.4 91.2 70-130 1.94 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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
04/27/20 16:21

### 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

May 04, 2020

Mark Longhurst

PDC Energy

1775 Sherman St. STE. 3000

Denver, CO 80203

RE: Schwab 26-6F

Work Order #2004379

Enclosed are the results of analyses for samples received by Summit Scientific on 04/28/20 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 "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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
05/04/20 12:46

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2004379-01	Water	04/28/20 15:42	04/28/20 17:30
BH02	2004379-02	Water	04/28/20 15:48	04/28/20 17:30
BH03	2004379-03	Water	04/28/20 15:53	04/28/20 17:30
BH04	2004379-04	Water	04/28/20 16:00	04/28/20 17:30
BH05	2004379-05	Water	04/28/20 15:48	04/28/20 17:30
BH06	2004379-06	Water	04/28/20 15:53	04/28/20 17:30
BH07	2004379-07	Water	04/28/20 15:58	04/28/20 17:30
BH08	2004379-08	Water	04/28/20 16:03	04/28/20 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.*

20043791

Page 1 of 1

Sampler Name: J. Marks

Project Number: 2/19

[www.s2scientific.com](http://www.s2scientific.com)

# Sample Receipt Checklist

S2 Work Order 2004379

Client: PDC / TASMAN

Client Project ID:         

**Schwab 26-14F**

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

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 <sup>(1)</sup> ? 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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<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 <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<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) <sup>(1)</sup> ? 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 <sup>(1)</sup> ? 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):

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

RZ

Custodian Printed Name or Initials

Signature of Custodian

4/28/20

Date/Time



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

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

**Reported:**  
05/04/20 12:46

**BH01**  
**2004379-01 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>3.7</b>	1.0		ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **04/28/20 15:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		142 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		21-167		"	"	"	"	

Summit Scientific

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



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

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

**Reported:**  
05/04/20 12:46

**BH02**  
**2004379-02 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/28/20 15:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		140 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	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:**  
05/04/20 12:46

**BH03**  
**2004379-03 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/28/20 15:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		153 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	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:**  
05/04/20 12:46

**BH04**  
**2004379-04 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>4.1</b>	1.0	ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>25</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>300</b>	2.0	"	"	"	"	"	"	

Date Sampled: **04/28/20 16:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		139 %		23-173	"	"	"	"	
Surrogate: Toluene-d8		81.2 %		20-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		120 %		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:**  
05/04/20 12:46

**BH05**  
**2004379-05 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2.1</b>	2.0		"	"	"	"	"	"	

Date Sampled: **04/28/20 15:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		145 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		90.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %		21-167		"	"	"	"	

Summit Scientific

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



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

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

**Reported:**  
05/04/20 12:46

**BH06**  
**2004379-06 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/28/20 15:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		147 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	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:**  
05/04/20 12:46

**BH07**  
**2004379-07 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 15:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>83</b>	1.0		ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
<b>Toluene</b>	<b>8.7</b>	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>23</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>430</b>	2.0		"	"	"	"	"	"	

Date Sampled: **04/28/20 15:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		116 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		89.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %		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:**  
05/04/20 12:46

**BH08**  
**2004379-08 (Water)**

**Summit Scientific**

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

Date Sampled: **04/28/20 16:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>98</b>	1.0		ug/l	1	2004385	04/30/20	05/01/20	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.3</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>15</b>	2.0		"	"	"	"	"	"	

Date Sampled: **04/28/20 16:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		110 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		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:**  
05/04/20 12:46

## 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 2004385 - EPA 5030 Water MS

##### Blank (2004385-BLK1)

Prepared & Analyzed: 04/30/20

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	16.2		"	13.3		122	23-173			
Surrogate: Toluene-d8	12.3		"	13.3		92.6	20-170			
Surrogate: 4-Bromofluorobenzene	14.4		"	13.3		108	21-167			

##### LCS (2004385-BS1)

Prepared & Analyzed: 04/30/20

Benzene	40.1	1.0	ug/l	33.3		120	51-132			
Toluene	37.4	1.0	"	33.3		112	51-138			
Ethylbenzene	39.1	1.0	"	33.3		117	58-146			
m,p-Xylene	72.1	2.0	"	66.7		108	57-144			
o-Xylene	38.2	1.0	"	33.3		114	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.3		113	23-173			
Surrogate: Toluene-d8	13.4		"	13.3		101	20-170			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	21-167			

##### Matrix Spike (2004385-MS1)

Source: 2004380-01

Prepared & Analyzed: 04/30/20

Benzene	40.1	1.0	ug/l	33.3	ND	120	34-141			
Toluene	37.7	1.0	"	33.3	ND	113	27-151			
Ethylbenzene	40.3	1.0	"	33.3	ND	121	29-160			
m,p-Xylene	74.2	2.0	"	66.7	1.05	110	20-166			
o-Xylene	39.6	1.0	"	33.3	ND	119	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.9		"	13.3		119	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.5	20-170			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	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:**  
05/04/20 12:46

**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 2004385 - EPA 5030 Water MS**

Matrix Spike Dup (2004385-MSD1)	Source: 2004380-01			Prepared: 04/30/20 Analyzed: 05/01/20						
Benzene	41.0	1.0	ug/l	33.3	ND	123	34-141	2.10	30	
Toluene	38.6	1.0	"	33.3	ND	116	27-151	2.28	30	
Ethylbenzene	42.6	1.0	"	33.3	ND	128	29-160	5.48	30	
m,p-Xylene	77.8	2.0	"	66.7	1.05	115	20-166	4.75	30	
o-Xylene	41.0	1.0	"	33.3	ND	123	33-159	3.40	30	
Surrogate: 1,2-Dichloroethane-d4	15.8		"	13.3		118	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.0	20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		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: Schwab 26-6F  
Project Number: [none]  
Project Manager: Mark Longhurst

**Reported:**  
05/04/20 12:46

### 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