

## Attachment C

# Borehole Logging Form

BOREHOLE ID: SB01 SITE NAME: Dinner 2, E. Unit 72 Tank Battery CLIENT NAME: PDC ENERGY

Date Completed: 7/19/21 Location: N

Drilling Company: Site Services Surface Completion: N/A DTW: 14' TD: 33

Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: B. Nelson

Bit Size: 8-1/2 8" Logging Method: Hollow Stem Auger Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared w/ hydro-vac to 6'
2							Lithology not logged
3		N/A	N/A				
4							
5							
6							
7		HSA	80%	200			Tan/Brown s. lly. Snd, well sorted, fine grain, dry, no color
8							
9							same as above
10			70%	145.3	145.3 <sup>nd</sup>		
11							Black s. lly. Snd moderately sorted, fine to medium grain, dry, no color
12					SB01 @ 10-11' 1045		
13							same as above, no st
14							Gray/black s. lly. Snd, poorly sorted, fine to coarse grain, no st, strong HC odor
15				1573			same as above, saturated
16			20%				
17					SB01 @ 16-17' 1050		
18							
19							same as above
20			45%	1110			
21							
22							
23							
24			70%				same as above
25							

# Borehole Logging Form

BOREHOLE ID: SB01 SITE NAME: Dinner CLIENT NAME: PDC ENERGY

Date Completed: 7/11/21 Location: N

Drilling Company: S.H. Services Surface Completion: N/A DTW: 14' TD: 33

Type of Drill: CME SS HSA Geologist: M. DeGlen Project Manager: B. Nelson

Bit Size 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26 +				988.8			Gray Tan Silty Clay, low plasticity, He older Saturated
27 +		HSA	70%				↓
28 +				24.4	SB01D 27-28' 1100		Tan Silty Sand, Poorly Sorted, fine to coarse grain, Saturated, no other
29 +				2012			Same as above
30 +			60 1/2				↓
31 +							Tan Silty Sand, moderately sorted, fine to medium grain, Saturated, no other
32 +				6.5	SB01D 31-33' 1110		
33 +							
9	X						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: <b>5302</b>	SITE NAME: <b>D. mcr 2, E Unit 2</b>	CLIENT NAME: <b>PDC ENERGY</b>
Date Completed: <b>7/17/21</b>	Location: <b>W POC</b>	
Drilling Company: <b>Foster S. &amp; Services</b>	Surface Completion: <b>N/A</b>	DTW: <b>13</b> TD: <b>33</b>
Type of Drill: <b>CME 55 HSA</b>	Geologist: <b>M. Dehlgren</b>	Project Manager: <b>B Nelson</b>
Bit Size <b>8"</b>	Logging Method: <b>Hollow Stem Auger Continuous Split Spoon</b>	
Well Const. Material: Diameter: <b>N/A</b> Screen: <b>N/A</b>		Riser: <b>N/A</b>

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared via hydro-wc to 6"
2							Lithology not logged
3		N/A	N/A				
4							
5							
6							
7		SPLIT Spoon	40%	3.2			Fine S. lty Sand, moderately sorted, fine to medium grain, dry, no odor
8							
9							Fine S. lty Sand, well sorted, fine grain, Dry no odor
10							
11			40%				Gray S. lty clay, low plasticity, Dry, Slight odor
12				33.8			Gray S. lty Sand, moderately sorted, fine to medium grain, Dry Slight odor
13							Same as above, moist
14							Black S. lty Sand, poorly sorted, fine to coarse grain, Saturated, HC odor
15				90.8			
16			20%				
17							
18							
19							Same as above
20							
21			70%	100.6			
22							
23							
24							Same as above
25			80%	95.2			

# Borehole Logging Form

BOREHOLE ID: <u>5802</u>	SITE NAME: <u>Dinner 2, E. un. 7 2</u>	CLIENT NAME: <u>PDC ENERGY</u>
Date Completed: <u>7/19/21</u>	Location: <u>F. Strip out</u>	
Drilling Company: <u>S. to Services</u>	Surface Completion: <u>N/A</u>	DTW: <u>13</u> TD: <u>33</u>
Type of Drill: <u>CMF 55 HSA</u>	Geologist: <u>M. Dyllaga</u>	Project Manager: <u>E. Hamlin B. Nelson</u>
Bit Size <u>8"</u>	Logging Method: <u>Continuous Split Spoon</u>	

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26 <u>x</u>		<u>Split</u>	<u>40%</u>	<u>690</u>			<u>Gray Silty Clay low plasticity, saturated</u>
27 <u>x</u>		<u>Spoon</u>					<u>Slight odor</u>
28 <u>3</u>				<u>1203</u>			<u>Tan Silty Sand, Moderately Sorted, fine to medium grain, saturated, no odor</u>
29 <u>4</u>					<u>5802 028-29</u> <u>1340</u>		<u>Same as above</u>
30 <u>5</u>			<u>70%</u>	<u>3.2</u>			
31 <u>6</u>							<u>Tan Silty Clay, medium plasticity</u>
32 <u>7</u>				<u>3.3</u>			<u>DM no odor</u>
33 <u>8</u>							
9	<u>x</u>						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB03 SITE NAME: Dinner 2, E Unit 2 Turbidity CLIENT NAME: PDC ENERGY  
 Date Completed: 7/19/21 Location: N 2nd Street - out  
 Drilling Company: S. to Services Surface Completion: N/A DTW: 13 TD: 28  
 Type of Drill: CME BS HSA Geologist: M. Dahlgren Project Manager: E. Hamlin B. Nelson  
 Bit Size: 8" Logging Method: Continuous Split Screen

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleaned to 6" via hydro-vac Lithology not logged
2							
3							
4							
5							
6							
7		Split Screen	40%	0.5			tan Silty Sand, moderately sorted, fine to medium grain, dry, no odor
8							
9							Same as above
10							
11			70%	5.7			Black Silty Sand, well sorted, fine grain, dry slight odor
12							Gray silt, Silty clay, low plasticity dry slight odor
13				11.0			Black Silty Sand, moderately sorted, fine to medium grain, dry, 1k odor
14							Same as above, saturated
15							
16			20%	39.9			
17							
18							
19							Same as above
20							
21			15%	714.2			
22							
23							
24			80%	963.0	SB03023-25 1600		Same as above
25							

# Borehole Logging Form

BOREHOLE ID: <u>S803</u>	SITE NAME: <u>Dimer 2 E Unit 2 Tank Battery</u>	CLIENT NAME: <u>PDC ENERGY</u>
Date Completed: <u>7/19/21</u>	Location: <u>N 2nd Street</u>	
Drilling Company: <u>Site Services</u>	Surface Completion: <u>N/A</u>	DTW: <u>13'</u> TD: <u>28</u>
Type of Drill: <u>CME SS HSA</u>	Geologist: <u>M. Dahlgren</u>	Project Manager: <u>C. Hamlin B. Nelson</u>
Bit Size <u>8"</u>	Logging Method: <u>Continuous Split Spoon</u>	

Well Const. Material: Diameter: <u>N/A</u>	Screen: <u>N/A</u>	Riser: <u>N/A</u>
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Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26.7		Split	98%				Sample 95 above
27.2		Spoon	98%	909.1			Gray Silty Clay, low plasticity, saturated HC odor
28.8							
29.4	X						Ten Sand observed at bottom of boring, but could not be advanced due to flowing sands.
30.8							
31.8							
32.7							
33.8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB04      SITE NAME: Dinner 2, Unit 2 Tax Battery      CLIENT NAME: PDC ENERGY  
 Date Completed: 7/20/21      Location: E step-out 2  
 Drilling Company: Site Services      Surface Completion: N/A      DTW: 13'      TD: 33  
 Type of Drill: CME SS HSA      Geologist: M. Dahlgren      Project Manager: C. Hamlin B. Nelson  
 Bit Size: 8"      Logging Method: Continuous Split Spear

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							CLARA to 6' v.g hydro-Vic
2							1. thology not logged
3		N/A					
4							
5							
6							
7		Split Spear	50%	0.3			Tan s. lty sand, moderately sorted, fine to medium grain, dry, no odor
8							
9				0.5			Same as above
10			70%	5.6			Gray s. lty clay, low plasticity, dry, no odor
11							Tan sand w/ gray streaks, poorly to moderately sorted, fine to medium grain, dry, no odor
12				9.5			Tan-orange s. lty sand, poorly sorted, fine to coarse grain, no odor
13							Same as above, saturated
14							
15			20%	5.8			
16							
17							
18							
19							Black s. lty sand, poorly sorted, fine to coarse grain, saturated, HC odor
20							
21			20%	15.4	SB04020-11 1010		
22							
23							
24			40%	247.7			Same as above
25							



# Borehole Logging Form

BOREHOLE ID: SB04 SITE NAME: Dinner 2, Eunt 2 TB CLIENT NAME: PDC ENERGY

Date Completed: 7/20/21 Location: E Step-out 2

Drilling Company: S.H. Services Surface Completion: N/A DTW: 13 TD: 33

Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: C. Hamlin B. Nelson

Bit Size: 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26.1		SPLIT	40%				Same as above
27.2		Spoon		58.9	SB04027-28'		↓ Tan S. 1/2 Sand, well sorted, fine grain, Saturated, no odor
28.3					1020		
29.4							
30.5			60%				↓ lt. tan S. 1/2 Clay, low Plast. C-ty, Saturated, no odor
31.6							
32.7				4.9	SB04031-32'		↓ Tan S. 1/2 Sand, well sorted, fine grain, Saturated, No odor
33.8					1020		
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB05 SITE NAME: Dinner 2, Event 2 TB CLIENT NAME: PDC ENERGY

Date Completed: 7/20/21 Location: S POC

Drilling Company: S.H. Services Surface Completion: N/A DTW: 13' TD: 28

Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: E. Hamlin B. Nelson

Bit Size 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared to 6' via hydro-vac
2							Lithology not logged
3							
4							
5							
6							
7		SPLIT Spoon	80%	3.2			Tan Sand, moderately sorted, fine to medium grain, dry, no odor
8							
9							Same as above
10				0.5			
11			70%		SB05 10-11' 1200		Gray silty clay low plasticity, dry, no odor
12				0.4			Tan Sand, poorly sorted, fine to coarse grain, dry, no odor
13	✓						Same as above, Moist
14							Same as above, saturated, no odor
15							
16			20%	1.8			
17					SB05 16-17' 1210		
18							
19							Same as above
20							
21			20%	0.9			
22					SB05 21-23' 1220		
23							
24			80%	1.7			Same as above
25							



## Borehole Logging Form

BOREHOLE ID: SB05 SITE NAME: Dinner 2, E unit 2 TB CLIENT NAME: PDC ENERGY

Date Completed: 7/26/21 Location: S poc

Drilling Company: Site Services Surface Completion: N/A DTW: 13 TD: 28'

Type of Drill: CME SS HSA Geologist: M. Dahlgren Project Manager: C. Hamlin B. Nelson

Bit Size 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26 +		Split	80%	1.7			Same as above
27 -		Spoon					
28 -					SB05 07-28 1230		
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: 5806 SITE NAME: Dinner 2 E unit 2 Tank Battery CLIENT NAME: PDC ENERGY

Date Completed: 7/20/21 Location: W Step-out 1

Drilling Company: Site Services Surface Completion: N/A DTW: 13 TD: 33

Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: E. Hamlin B. Nelson

Bit Size 8" Logging Method: Continuous SPLT Spool

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared via hydro-vac to 6'
2							Lithology not logged
3							
4							
5							
6							
7		SPLT Spool	40%	1.4			Tan Silty Sand, moderately sorted, fine to medium grain, dry, no color
8							
9							Same as above
10							
11			30%	1.0			
12							
13							
14							Same as above, saturated
15							
16			20%	0.6			
17							
18							
19							Black Silty Sand, poorly sorted, fine to coarse grain, saturated, H.C. color
20							
21			20%	495			
22							
23							
24			40%	904.2	SB06073-24 1440		Same as above
25							

# Borehole Logging Form

BOREHOLE ID: S306 SITE NAME: Dinner 2 CLIENT NAME: PDC ENERGY

Date Completed: 7/20/21 Location: W step-out

Drilling Company: Site Services Drilling Surface Completion: N/A DTW: 13' TD: 53

Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: C. Hamlin

Bit Size 8" Logging Method: Continuous split spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26 T		SPLT	40%				↓ Gray silty clay, low plasticity, saturated Slight odor
27 T		Spoon					
28 8				29.2	S306 @ 27-28 1450		Tan silty sand, well sorted, fine grain Saturated, no odor
29 4				8.2			Same as above
30 8			80%				↓ Tan silty clay, low plasticity, saturated no odor
31 8							
32 T				4.5	S306 @ 31-32 1500		↓
33 8							
9	X						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB07 SITE NAME: Dimer 2, Unit 2 Tank B, Hm CLIENT NAME: PDC ENERGY

Date Completed: 7/21/21 Location: N 1/2 Sec 3

Drilling Company: S-42 SERVICES Surface Completion: N/A DTW: 13' TD: 33

Type of Drill: CME 55 HSA Geologist: A. Dahlgrén Project Manager: E. Hamlin & Nelson

Bit Size 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared to 6" v. g. hydro-vac lithology not logged
2							
3							
4							
5							
6							
7		Split Spoon	40%	0.0			5" Tan Silty Sand, moderately sorted, fine to medium grain, dry, no odor
8							
9				0.0			Same as above
10			60%				
11							Gray Silty Clay, low plasticity, no odor, dry
12				0.0			Tan Silty Sand, moderately sorted, fine to medium grain, dry, no odor
13							Tan-gray Silty Sand, poorly sorted, fine to coarse grain, moist, no odor
14							Same as above, Saturated
15			15%	1.2			
16							
17							
18							
19							Same as above, slight odor
20				20.1			
21			20%				Black Silty Sand, poorly sorted, fine to coarse grain, Saturated slight odor
22				399.4			
23							
24			80%				Same as above
25							Gray Silty Clay low plasticity, Saturated, HC odor

# Borehole Logging Form

BOREHOLE ID: <u>SB07</u>		SITE NAME: <u>Dinner 2, E out 2 Tank Bldg</u>		CLIENT NAME: <u>PDC ENERGY</u>	
Date Completed: <u>7/21/21</u>		Location: <u>N Step out 3</u>			
Drilling Company: <u>S-10 Services</u>		Surface Completion: <u>N/A</u>		DTW: <u>13'</u> TD: <u>33</u>	
Type of Drill: <u>CME SS HSA</u>		Geologist: <u>M. Dahlgren</u>		Project Manager: <u>G. Hamlin B. Nelson</u>	
Bit Size <u>8"</u>		Logging Method: <u>Continuous Split Spoon</u>			
Well Const. Material: Diameter: <u>N/A</u>		Screen: <u>N/A</u>		Riser: <u>N/A</u>	

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26.1		Split	80%	1761	SB07-025-26 900		Same as above
27.2		Spoon					↓
28.8				150.0	SB07-027-28 915		Tan Silty Sand, Poorly Sorted, fine to coarse grain, Saturated, no odor
29.4			5%				Same as above
30.8			<del>5%</del>				Material in Sample barrel fell out during removal and consequently, could not be accurately sampled.
31.8				MD	<del>SB07-031-32</del>		
32.7							
33.8							↓
9	X						
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB08 SITE NAME: Dimer 2, E Unit 2, TMR Bldg CLIENT NAME: PDC ENERGY  
 Date Completed: 7/21/21 Location: E Step out 3  
 Drilling Company: Site Services Surface Completion: N/A DTW: 12' TD: 28'  
 Type of Drill: CME 55 HSA Geologist: M. Dahlgren Project Manager: G. Hamlin B. Nelson  
 Bit Size 3" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Cleared to 6' via hydro-vac Lithology not logged
2							
3		N/A	N/A				
4							
5							
6							
7		SPLIT Spoon	80%	1.6			Tan Silty Sand moderately sorted, fine to medium grain, dry, no odor
8							
9							Same as above
10			25%	2.9	SB080 10-11 1040		Gray Silty clay, low plasticity, dry, no odor
11							
12				11.3			Tan Silty Sand, poorly sorted, fine to coarse grain, no odor, no odor
13							Same as above, saturated
14							Same as above
15			10%	19.9			
16					SB080 16-18 1050		
17							
18							
19							Same as above
20			60%	10.0			
21					SB08 21-23 1100		
22							
23							
24			70%	1.0			Same as above
25							



# Borehole Logging Form

BOREHOLE ID: SB08 SITE NAME: Diner 2, Evn 72, Tak Bitter CLIENT NAME: PDC ENERGY

Date Completed: 7/21/21 Location: E Skpout 3

Drilling Company: S. H. Services Surface Completion: N/A DTW: 12' TD: 28'

Type of Drill: CME 55 HSA Geologist: M. Daykin Project Manager: C. Hamlin B. Nelson

Bit Size: 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: N/A Screen: N/A Riser: N/A

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26.1				1.0			Tan s. clay, low plasticity, saturated, no odor
27.2			70%				
28.8				1.7	SB08 027-28' 1110		Tan s. clay, moderately sorted, fine to medium grain, clay, no odor
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							



BOREHOLE ID: 5809		SITE NAME: Dinner 2 E Unit 2		CLIENT NAME: PDC ENERGY			
Date Completed: 9/2/2021		Location:					
Drilling Company: Site Services, Inc		Surface Completion: NA		DTW: ~10 TD: 33			
Type of Drill: CME 55 Hollow stem		Geologist: B. Nelson		Project Manager: B. Nelson			
Bit Size: 2 3/8" - 8"		Logging Method: Continuous Split Spoon					
Well Const. Material: Diameter: NA		Screen: NA		Riser: NA			
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							Hydrovac
2							
3							
4							
5							
6							
7			100%	0.0			Med br, sand, well sorted, fine gr
8				0.0			dry, No odor
9			↑				fin, shaly, clay, high plastic, moist
10		▽		37.7			fin, sand, med sort, med-fine grain
11			70%		SB09@10-11 1007		moist, No odor
12				59.1			Bl, sand, poorly sorted, lg-fine gr
13			↓				sub-sorted, Hc odor
14			↑				
15				8.9			
16			50%				
17			↓	11.2	SB09@16-17 1014		
18							
19			↑				Gray, clay sand, poorly sorted, lg-fine gr
20				1264			sub-sorted, Hc odor
21			75%				
22			↓		SB09@21-23 1026		
23				1758			
24							
25			30%	667			Gr, sand, fine-lg grain, poorly sorted, sub-sorted, Hc odor

# Borehole Logging Form

BOREHOLE ID: SB09 SITE NAME: Dinner 2 E Unit 2 CLIENT NAME: PDC ENERGY

Date Completed: 4/2/2021 Location: Dinner 2 E Unit 2

Drilling Company: Site Services, Inc. Surface Completion: NA DTW: -10 TD: 33

Type of Drill: CME 55 HDA Geologist: B. Nelson Project Manager: B. Nelson

Bit Size: 8" Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: NA Screen: NA Riser: NA

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26			↑				Dk br, clay, high plast, saturated No odor
27			30% ↓	2011	SB09@27-28 1054		Dk br, silty sand, well sorted saturated, No odor
28							↓
29			↑	169			Dk gr, sand, poorly sorted, fine gr saturated odor
30							Md br, silty clay w/ some gravel high plast, no odor
31			60% ↓	22.5			↓
32				8.4	SB09@32-33 1105		Md br, silty sand, well sorted, fine gr saturated, No odor
33			↓				
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB10** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/2/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **NA** DTW: **~12** TD: **33**

Type of Drill: **CME (55) HSA** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8"** Logging Method: **Continuous Split Spoon**

Well Const. Material: Diameter: **NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		↑					
2							
3		Hydro Jac					
4		↓					
5							
6							light brown, sand, moderately sorted, fine-medium grain, unsaturated, no odor.
7		HSA	90%	0.5			
8							
9				1.0			Tan, sandy clay, high plasticity, fine grain, dry, no HC odor.
10					SB10 @ 10-11 1232		
11		HSA	70%	1.1			light gray, clayey sand, well sorted, fine grain, moist, no odor.
12							
13							
14							black, sand, poorly sorted, lg-fine grain, saturated, slight HC odor.
15							
16		HSA	20%	4.4	SB10 @ 16-18 1246		
17							
18							
19							light brown, sand, poorly sorted, lg-fine grain, saturated, no odor.
20							
21				1.0	SB10 @ 21-23 1257		
22			30%				
23							
24							same as above, moderately sorted, medium-fine grain.
25							

# Borehole Logging Form

BOREHOLE ID: **SB10** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/2/21** Location: **40.309352 -104.747574**

Drilling Company: **Site Services, Inc.** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" (HSA)** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26				1.4	SB10 @ 26-28		
27		HSA	30%		1315		↓ brown, Sand, very well sorted, fine grain saturated, no HC odor.
28							↓
29							↓ Same as above, Flowing Sands,
30							
31		HSA	0%				
32							
33							↓ TD=33'
34	x						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB11** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/3/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **None** DTW: **~10** TD: **33**

Type of Drill: **CME (55)** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" (HSA)** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		↑					
2							
3		Hydro val					
4		↓					
5							
6							
7		HSA	100%	0.4			tan, Sand, well sorted, sm - medium grain, dry, no HC odor.
8							
9							
10				0.5	SB11 @ 10-11		
11		HSA			910		
12							light gray, Silty Sand, very well sorted, saturated, no HC odor.
13							
14							No recovery, Flowing sand.
15							
16		RSA	0%				
17							
18							
19							Black, Silty Sand, well sorted, fine-sm grain, saturated, HC odor.
20							
21		HSA	10%		SB11 @ 21-23		
22				176.5	926		
23							
24				361.9			
25							Same as above, moderately sorted, strong odor.

# Borehole Logging Form

BOREHOLE ID: **SB11** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/3/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc.** Surface Completion: **None** DTW: **~17** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: Diameter: **NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26				1793	SB11 @ 26.28		
27		HSA	40%		955		light gray, clayey sand, well sorted, saturated, HC odor.
28							
29							
30							light gray, silty sand, very well sorted, saturated, HC odor
31		HSA	50%				
32				159.8			Same as above, flowing sands.
33							TD = 33'
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB 12** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/3/21** Location: **40.308352 -104.147574**

Drilling Company: **Site Services, Inc** Surface Completion: **none** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3							
4							
5							
6							
7		HSA	100%	2.1			brown, Sand, moderately sorted fm-fine grain, no moisture, no HC odor.
8				1.0			
9							Same as above, moist.
10							
11		HSA	50%	0.8	SB12 @ 10-11 1141		
12							light grey, Sand, moderately sorted, fm-medium grain, saturated, no HC odor.
13							
14							
15							
16		HSA	20%				
17				0.9	SB12 @ 16-18 1147		
18							
19							grey-black, Sand, well sorted, fine-sm grain, saturated, no HC odor.
20							
21		HSA	10%				
22				6.2	SB12 @ 21-21 1154		
23							
24		HSA	500%	1804	SB12 @ 23-25 1211		grey, clay, very stiff - low plasticity, saturated, HC odor.
25							



# Borehole Logging Form

BOREHOLE ID: **SB12** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **7/3/01** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc.** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26							
27		HSA		19.1	SB12@26-28 1212		black, clayey sand, poor sorting, sm-ly grain, gravel, saturated, HC odor.
28							
29							
30							
31		HSA	30%	19.2	SB12@31-33 1239		brown, sand, poor sorting, sm-ly grain, some gravel, saturated, no odor.
32							
33							
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB13** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/7/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **None** DTW: **~13** TD: **33**

Type of Drill: **CME SS** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: Diameter: **NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3							
4							
5							
6							
7		HSA	100%	2.1			light brown, Sand, moderately sorted, Fine-med grain, dry, no odor.
8							
9							
10							
11		HSA	50%	0.7	SB13@10-11 950		tan, Sand, poor sorting, fine-large grain moist, no odor.
12							
13							
14							
15				0.8			light tan, Sand, moderately sorted, sm-med saturated, no HC odor.
16		HSA	50%	0.5	SB13@16-18 955		
17							
18							
19							
20							
21		HSA	5%				
22							
23				1.3	SB13@21-23 1007		black, Sand, moderately sorted, sm-med saturated, no HC odor
24		HSA					
25							



# Borehole Logging Form

BOREHOLE ID: SB14 SITE NAME: Dinner 2 E Unit 2 CLIENT NAME: PDC ENERGY

Date Completed: 9/7/21 Location: 40.308352 -104.747574

Drilling Company: Site Services, Inc Surface Completion: None DTW: ~12 TD: 33

Type of Drill: CME 55 Geologist: Sam Anderson Project Manager: B. Nelson

Bit Size: 8" HSA Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: NA Screen: NA Riser: NA

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1		↑					
2							
3		Hydro vac					
4							
5							
6		↓					
7		HSA	100%	1.3			light brown, sand, well sorted, sm-fine grain, dry, no HC odor.
8			↓				
9			↑				
10							
11		HSA	80%	0.6	SB14E10-11 1154		tan, silty clay, fine grain, low plasticity moist, no odor.
12			↓				
13			↓				tan, sand, fine grain, well sorted, subarked no HC odor.
14			↑				
15							↓ Same as above, flowing sands.
16		HSA	81%				
17			↓				
18			↑				
19				1.7			brown, sand, moderately sorted, sm-med grain, saturated, no HC odor.
20			↓				
21		HSA	30%	24.7	SB14E21-22 1207		black-gray, sandy clay, moderately sorted, sm-med grain, saturated, some HC odor.
22			↓				
23			↑				
24							
25							

# Borehole Logging Form

BOREHOLE ID: SB14 SITE NAME: Dinner 2 E Unit 2 CLIENT NAME: PDC ENERGY

Date Completed: 9/7/21 Location: 40.308352 -104.747574

Drilling Company: Site Services, Inc. Surface Completion: none DTW: ~12 TD: 33

Type of Drill: CME 55 Geologist: Sam Anderson Project Manager: B. Nelson

Bit Size: 8" HSA Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: NA Screen: NA Riser: NA

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26							
27		HSA	50%	1401	SB14 @ 26-28 1219		black, Sands, moderately sorted, sm-med grain, Saturated, no HC odor.
28							
29							
30							
31		HSA	10%	80.3	SB14 @ 31-33 1231		
32							
33							
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB15** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/7/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA Screen: NA Riser: NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3							
4							
5							
6							
7		HSA	100	3.2			light brown, Sand, moderately sorted, sm-med grain, dry, no HC odor
8							
9							
10				1.3	SB15 @10-11		
11		HSA	40		1345		
12							tan, Sand, very well sorted, fine-sm grain, saturated, NO HC odor.
13							
14							Same as above, flowing sands.
15							
16			5%	0.3	SB15 @16-18		
17					1352		
18							
19							Same as above, no recovery due to flowing sands.
20			0%				
21							
22							
23				1.5			tan, Sand, moderate sorting sm-med grain, saturated, NO odor.
24							
25							

# Borehole Logging Form

BOREHOLE ID: <b>SB15</b>	SITE NAME: <b>Dinner 2 E Unit 2</b>	CLIENT NAME: <b>PDC ENERGY</b>
Date Completed: <b>9/7/21</b>	Location: <b>40.308352 -104.747574</b>	
Drilling Company: <b>Site Services, Inc.</b>	Surface Completion: <b>none</b>	DTW: <b>112</b> TD: <b>33</b>
Type of Drill: <b>CME 55</b>	Geologist: <b>Sam Anderson</b>	Project Manager: <b>B. Nelson</b>
Bit Size: <b>6" HSA</b>	Logging Method: <b>Continuous Split Spoon</b>	

Well Const. Material: Diameter: NA Screen: NA Riser: NA							
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26		HSA	30%	0.3	SB15 @ 26-28 1402		↓ tan, sandy clay, low plasticity, <sup>sm-fine</sup> grain, saturated, no HC odor.
27							
28		HSA	0%	0.1			↓ tan, sand-silt, fine grain, saturated, no HC odor
29							
30							
31							↓ Flowing Sands, no recovery
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: SB16 SITE NAME: Dinner 2 E Unit 2 CLIENT NAME: PDC ENERGY

Date Completed: 9/8/21 Location: 40.308352 -104.747574

Drilling Company: Site Services, Inc Surface Completion: None DTW: ~12 TD: 33

Type of Drill: CME 55 Geologist: Sam Anderson Project Manager: B. Nelson

Bit Size: 8" HSA Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: NA Screen: NA Riser: NA

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3		Hydro Vac					
4							
5							
6							
7		HSA	100%	0.9			Brown, Clayey Sand, well sorted fine-sm grain, dry, no HC odor.
8							
9							
10				0.7	SB16@10-11' 920		
11		HSA	50				
12							Same as above, Saturated.
13							
14							tan, sand, moderate sorting sm-med grain, Saturated, NO HC odor.
15							
16		HSA	40%	0.2	SB16@16-18 929		
17							
18							
19							
20							
21		HSA	10%	0.6	SB16@21-23 935		
22							
23							
24							
25				0.4			light tan clay, moderate plasticity, silty-med grain, Saturated, no HC odor.



# Borehole Logging Form

BOREHOLE ID: **SB16** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **7/8/01** Location: **40.308353 -104.747574**

Drilling Company: **Site Services, Inc.** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26				0.5	SB16 @ 26-28 748		
27		HSA	31%				
28			↓	0.4			↓ brown, sand, very well sorted, fine-sm grain, saturated, no odor.
29			↑				↓
30			0%				↓
31		HSA	↓				Flowing Sands
32							
33							
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB17** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/8/21** Location: **40.308352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA Screen: NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

Hydro frac

HSA

100%

0.6

tan, sand, well sorted, fine-sm grain, dry, no HC odor.

HSA

20%

0.4

SB17@10-11  
1138

tan, sand, poorly sorted, fine-large grain, saturated, no HC odor.

0.1

tan, sand, well sorted, sm-fine grain, saturated, no HC odor

HSA

0%

Flowing Sands encountered

HSA

30%

0.2

SB17@22-23  
1158

tan-brown, sand, very poor sorting sm-lg grain, saturated, no odor

53.6

Same as above, HC odor.

# Borehole Logging Form

BOREHOLE ID: **SB17** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/8/21** Location: **40.308352 -104.797574**

Drilling Company: **Site Services, Inc.** Surface Completion: **None** DTW: **~12** TD: **73**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA** Screen: **NA** Riser: **NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26		HSA	↑	27.6	SB17@26-28 1214		↓
27			20%				gray-tan, clay, low plasticity, silty-small grains, saturated, HC odor.
28			↓	22.7			↓
29			↑				tan, sand, well sorted, fine grain, saturated, HC odor.
30			0%				↓
31							flowing sands encountered
32							↓
33			↓				↓
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

# Borehole Logging Form

BOREHOLE ID: **SB 18** SITE NAME: **Dinner 2 E Unit 2** CLIENT NAME: **PDC ENERGY**

Date Completed: **9/8/21** Location: **40.305352 -104.747574**

Drilling Company: **Site Services, Inc** Surface Completion: **None** DTW: **~12** TD: **33**

Type of Drill: **CME 55** Geologist: **Sam Anderson** Project Manager: **B. Nelson**

Bit Size: **8" HSA** Logging Method: **Continuous Split Spoon**

Well Const. Material: **Diameter: NA Screen: NA Riser: NA**

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1							
2							
3							
4							
5							
6							
7		HSA	100%	0.5			gray-tan, clayey sand, moderately sorted, sm-med grain, moist, no odor.
8							
9							
10				0.4	SB18@10-11 1314		tan-brown, sand, moderately sorted sm-med. grain, moist, no odor.
11		HSA	90%				
12				0.1			Saturated at 12 ft
13							
14				0.3			
15							tan, sand, poorly sorted, sm-lg grain, saturated, no HC odor.
16		HSA	5%		SB18@16-18 1325		
17				0.1			
18				0.1			Same as above, gravel, <sup>very</sup> poor sorting.
19							
20							
21		HSA	50%	0.3	SB18@21-23 1339		
22							
23							
24				0.1			brown-tan, silty clay, moderate plasticity, sm-fine grain, saturated, no HC odor.
25							

# Borehole Logging Form

BOREHOLE ID: SB18 SITE NAME: Dinner 2 E Unit 2 CLIENT NAME: PDC ENERGY

Date Completed: 9/8/21 Location: 40.308352 -104.747574

Drilling Company: Site Services, Inc. Surface Completion: DTW: ~12 TD: 33

Type of Drill: CME 55 Geologist: Sam Anderson Project Manager: B. Nelson

Bit Size: 8" HSA Logging Method: Continuous Split Spoon

Well Const. Material: Diameter: NA Screen: NA Riser: NA

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
26				1.1	SB18@26-28 1348		↓ tan, Sand, well sorted, sm grain, situated, no HC odor
27		HSA	40%				↓
28					0.6		↓ flowing sands
29							↓
30							↓
31		HSA	0%				↓
32							↓
33							↓
34	X						
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							