

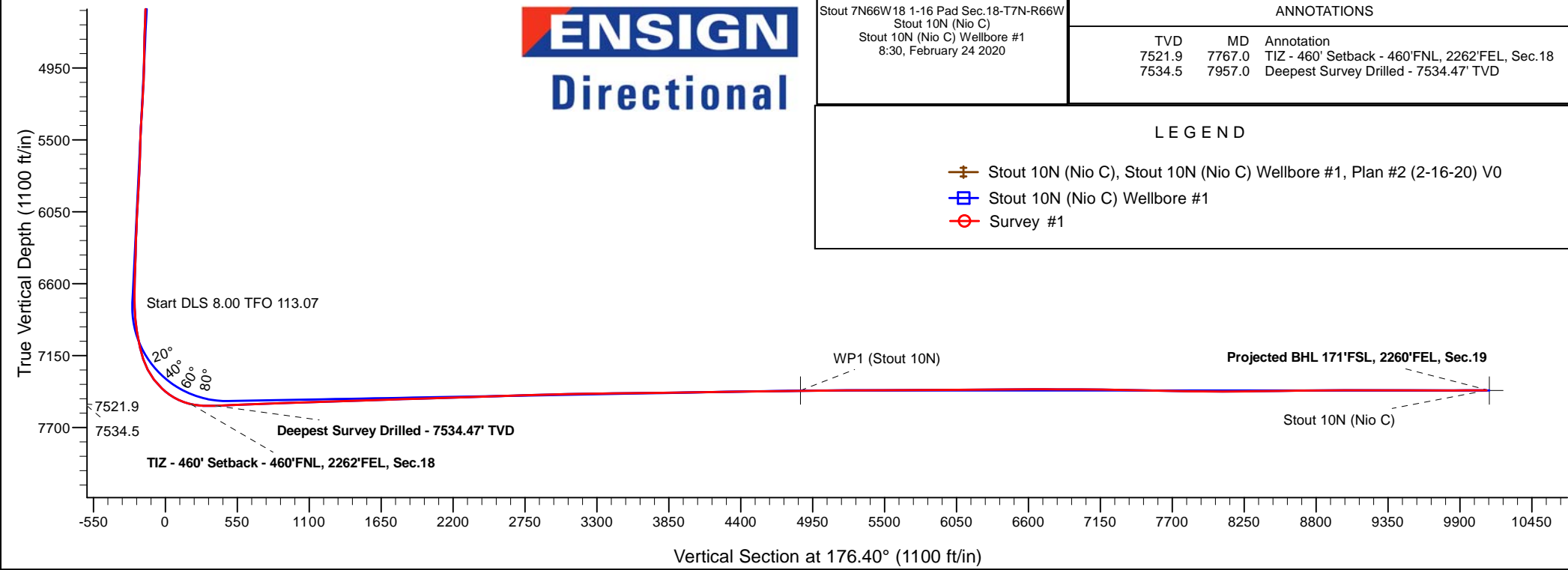
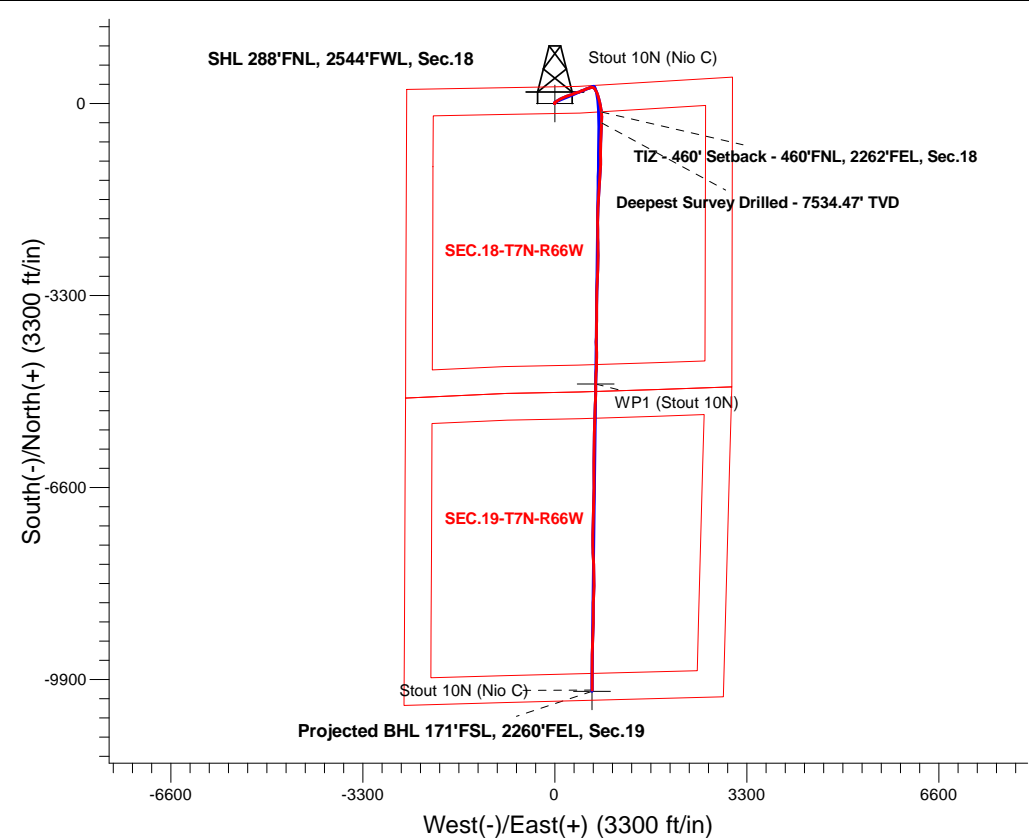
PDC Energy Inc. DJ Basin

Well Name: **Stout 10N (Nio C)**

Surface Location: Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 5080.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1455179.783188144.11 40.580895 -104.822649
Original Well Elev WELL @ 5103.0ft (Original Well Elev)

FINAL SURVEY

Projected Bottom Hole Location
17,713'MD 7417'TVD 10083'S & 642'E of SHL
90.01 degree Incl @ 180.16 degree AZM





PDC Energy Inc. DJ Basin

SEC.18-T7N-R66W

Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W

Stout 10N (Nio C)

Stout 10N (Nio C) Wellbore #1

Survey: Survey #1

Standard Survey Report

24 February, 2020

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stout 10N (Nio C)
Project:	SEC.18-T7N-R66W	TVD Reference:	WELL @ 5103.0ft (Original Well Elev)
Site:	Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W	MD Reference:	WELL @ 5103.0ft (Original Well Elev)
Well:	Stout 10N (Nio C)	North Reference:	True
Wellbore:	Stout 10N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Stout 10N (Nio C) Wellbore #1	Database:	US_EDM

Project	SEC.18-T7N-R66W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W				
Site Position:		Northing:	1,455,176.08 usft	Latitude:	40.580888
From:	Lat/Long	Easting:	3,187,991.19 usft	Longitude:	-104.823200
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well	Stout 10N (Nio C)					
Well Position	+N/-S	0.0 ft	Northing:	1,455,179.78 usft	Latitude:	40.580895
	+E/-W	0.0 ft	Easting:	3,188,144.11 usft	Longitude:	-104.822649
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,080.0 ft

Wellbore	Stout 10N (Nio C) Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/16/2020	7.93	66.92	52,230

Design	Stout 10N (Nio C) Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	176.40	

Survey Program	Date	2/24/2020			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
154.0	17,713.0	Survey #1 (Stout 10N (Nio C) Wellbore #1	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
154.0	0.40	337.91	154.0	0.5	-0.2	-0.5	0.26	0.26	0.00	
249.0	0.75	336.51	249.0	1.4	-0.6	-1.4	0.37	0.37	-1.47	
344.0	0.57	320.25	344.0	2.3	-1.1	-2.4	0.27	-0.19	-17.12	
440.0	0.88	305.04	440.0	3.1	-2.0	-3.2	0.38	0.32	-15.84	
535.0	1.14	307.68	535.0	4.1	-3.4	-4.3	0.28	0.27	2.78	
630.0	0.48	257.32	630.0	4.6	-4.5	-4.9	0.96	-0.69	-53.01	
725.0	0.62	223.21	725.0	4.1	-5.3	-4.4	0.37	0.15	-35.91	
819.0	0.48	220.58	818.9	3.5	-5.9	-3.8	0.15	-0.15	-2.80	
914.0	0.66	273.75	913.9	3.2	-6.7	-3.6	0.56	0.19	55.97	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stout 10N (Nio C)
Project:	SEC.18-T7N-R66W	TVD Reference:	WELL @ 5103.0ft (Original Well Elev)
Site:	Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W	MD Reference:	WELL @ 5103.0ft (Original Well Elev)
Well:	Stout 10N (Nio C)	North Reference:	True
Wellbore:	Stout 10N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Stout 10N (Nio C) Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,009.0	0.66	23.35	1,008.9	3.7	-7.0	-4.2	1.14	0.00	115.37	
1,104.0	0.88	22.38	1,103.9	4.9	-6.5	-5.3	0.23	0.23	-1.02	
1,199.0	0.55	8.67	1,198.9	6.0	-6.2	-6.4	0.39	-0.35	-14.43	
1,294.0	0.66	342.57	1,293.9	7.0	-6.2	-7.4	0.31	0.12	-27.47	
1,389.0	1.05	332.99	1,388.9	8.3	-6.8	-8.7	0.44	0.41	-10.08	
1,484.0	0.62	7.44	1,483.9	9.6	-7.1	-10.0	0.68	-0.45	36.26	
1,579.0	1.41	37.24	1,578.9	11.0	-6.4	-11.4	0.97	0.83	31.37	
1,634.0	1.54	44.71	1,633.9	12.1	-5.4	-12.4	0.42	0.24	13.58	
1,769.0	3.17	49.22	1,768.7	15.8	-1.3	-15.9	1.21	1.21	3.34	
1,859.0	5.22	61.94	1,858.5	19.4	4.2	-19.1	2.49	2.28	14.13	
1,948.0	5.52	55.50	1,947.1	23.7	11.3	-22.9	0.76	0.34	-7.24	
2,037.0	7.01	50.08	2,035.6	29.6	19.0	-28.4	1.80	1.67	-6.09	
2,127.0	7.34	55.31	2,124.9	36.4	27.9	-34.6	0.81	0.37	5.81	
2,217.0	8.05	61.09	2,214.1	42.7	38.1	-40.2	1.17	0.79	6.42	
2,306.0	8.42	57.69	2,302.1	49.2	49.1	-46.0	0.69	0.42	-3.82	
2,396.0	8.27	55.13	2,391.2	56.4	60.0	-52.6	0.45	-0.17	-2.84	
2,485.0	7.69	57.52	2,479.3	63.3	70.3	-58.8	0.75	-0.65	2.69	
2,574.0	7.77	63.93	2,567.5	69.1	80.7	-63.9	0.97	0.09	7.20	
2,664.0	6.79	60.59	2,656.8	74.4	90.8	-68.6	1.19	-1.09	-3.71	
2,754.0	7.54	64.16	2,746.1	79.6	100.7	-73.1	0.97	0.83	3.97	
2,844.0	7.91	66.63	2,835.3	84.6	111.7	-77.5	0.55	0.41	2.74	
2,933.0	9.85	62.52	2,923.2	90.6	124.1	-82.6	2.29	2.18	-4.62	
3,023.0	7.22	66.44	3,012.2	96.4	136.1	-87.7	2.99	-2.92	4.36	
3,112.0	7.88	69.84	3,100.4	100.7	147.0	-91.3	0.90	0.74	3.82	
3,202.0	7.90	70.74	3,189.6	104.9	158.6	-94.7	0.14	0.02	1.00	
3,291.0	6.41	67.27	3,277.9	108.8	169.0	-98.0	1.74	-1.67	-3.90	
3,382.0	7.35	66.98	3,368.2	113.1	179.0	-101.6	1.03	1.03	-0.32	
3,471.0	7.34	66.69	3,456.5	117.6	189.5	-105.4	0.04	-0.01	-0.33	
3,561.0	6.79	61.83	3,545.8	122.3	199.4	-109.6	0.90	-0.61	-5.40	
3,651.0	6.95	75.22	3,635.2	126.2	209.4	-112.8	1.78	0.18	14.88	
3,741.0	7.95	69.76	3,724.4	129.8	220.5	-115.7	1.36	1.11	-6.07	
3,831.0	8.95	71.59	3,813.4	134.1	233.0	-119.2	1.15	1.11	2.03	
3,920.0	9.81	74.63	3,901.3	138.3	246.9	-122.6	1.11	0.97	3.42	
4,009.0	10.15	70.19	3,988.9	143.0	261.6	-126.3	0.94	0.38	-4.99	
4,098.0	9.46	68.87	4,076.6	148.3	275.8	-130.7	0.82	-0.78	-1.48	
4,188.0	9.53	68.16	4,165.4	153.7	289.6	-135.2	0.15	0.08	-0.79	
4,277.0	9.44	67.48	4,253.2	159.3	303.2	-139.9	0.16	-0.10	-0.76	
4,367.0	8.49	65.00	4,342.1	164.9	316.0	-144.7	1.14	-1.06	-2.76	
4,457.0	7.50	65.54	4,431.2	170.2	327.4	-149.3	1.10	-1.10	0.60	
4,546.0	7.85	71.73	4,519.4	174.5	338.4	-152.9	1.01	0.39	6.96	
4,636.0	6.30	69.78	4,608.7	178.1	348.9	-155.8	1.74	-1.72	-2.17	
4,725.0	8.25	71.65	4,697.0	181.8	359.5	-158.9	2.21	2.19	2.10	
4,814.0	6.66	74.85	4,785.2	185.2	370.6	-161.5	1.85	-1.79	3.60	
4,904.0	7.16	80.44	4,874.6	187.5	381.1	-163.1	0.93	0.56	6.21	

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Wellbore:	Stout 10N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Stout 10N (Nio C) Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,994.0	7.92	81.61	4,963.8	189.3	392.8	-164.2	0.86	0.84	1.30
5,083.0	9.02	68.63	5,051.8	192.7	405.4	-166.9	2.47	1.24	-14.58
5,172.0	10.05	67.57	5,139.6	198.2	419.1	-171.5	1.17	1.16	-1.19
5,262.0	9.30	65.24	5,228.3	204.3	432.9	-176.7	0.94	-0.83	-2.59
5,351.0	10.20	65.47	5,316.0	210.6	446.6	-182.1	1.01	1.01	0.26
5,441.0	7.86	62.16	5,404.9	216.7	459.3	-187.5	2.66	-2.60	-3.68
5,530.0	7.18	73.16	5,493.1	221.2	470.0	-191.2	1.79	-0.76	12.36
5,620.0	6.48	73.23	5,582.5	224.3	480.3	-193.7	0.78	-0.78	0.08
5,709.0	7.88	73.95	5,670.8	227.4	490.9	-196.1	1.58	1.57	0.81
5,798.0	7.83	64.93	5,759.0	231.7	502.3	-199.7	1.38	-0.06	-10.13
5,888.0	9.10	63.46	5,848.0	237.5	514.2	-204.7	1.43	1.41	-1.63
5,977.0	9.41	67.67	5,935.8	243.4	527.2	-209.8	0.84	0.35	4.73
6,067.0	11.75	72.40	6,024.3	248.9	542.8	-214.3	2.77	2.60	5.26
6,157.0	9.91	71.90	6,112.7	254.1	558.9	-218.5	2.05	-2.04	-0.56
6,247.0	9.30	70.86	6,201.4	258.9	573.1	-222.4	0.70	-0.68	-1.16
6,336.0	8.18	69.83	6,289.4	263.4	585.8	-226.1	1.27	-1.26	-1.16
6,425.0	8.14	78.07	6,377.5	266.9	598.0	-228.8	1.31	-0.04	9.26
6,514.0	7.03	73.92	6,465.7	269.7	609.3	-230.9	1.39	-1.25	-4.66
6,604.0	7.08	75.35	6,555.0	272.7	620.0	-233.2	0.20	0.06	1.59
6,694.0	6.31	69.35	6,644.4	275.8	630.0	-235.7	1.15	-0.86	-6.67
6,784.0	5.37	88.20	6,734.0	277.7	638.8	-237.0	2.36	-1.04	20.94
6,881.0	9.34	110.14	6,830.2	275.1	650.8	-233.7	4.94	4.09	22.62
6,971.0	12.16	124.62	6,918.6	267.2	665.4	-224.9	4.32	3.13	16.09
7,060.0	13.98	134.92	7,005.3	254.3	680.8	-211.0	3.31	2.04	11.57
7,150.0	14.57	145.42	7,092.5	237.3	694.9	-193.2	2.95	0.66	11.67
7,239.0	20.26	154.01	7,177.4	214.2	708.0	-169.3	7.00	6.39	9.65
7,328.0	28.15	157.66	7,258.5	180.9	722.8	-135.1	9.02	8.87	4.10
7,418.0	37.96	162.43	7,333.9	134.7	739.2	-88.0	11.27	10.90	5.30
7,508.0	46.72	166.26	7,400.4	76.4	755.4	-28.8	10.14	9.73	4.26
7,598.0	56.90	167.63	7,455.9	7.6	771.3	40.9	11.37	11.31	1.52
7,688.0	67.59	169.92	7,497.8	-70.4	786.7	119.7	12.09	11.88	2.54
7,767.0	76.83	173.33	7,521.9	-144.8	797.6	194.6	12.39	11.69	4.32
TIZ - 460' Setback - 460'FNL, 2262'FEL, Sec.18									
7,777.0	78.00	173.74	7,524.1	-154.5	798.7	204.3	12.39	11.73	4.10
7,867.0	88.96	178.52	7,534.3	-243.5	804.7	293.6	13.27	12.18	5.31
7,957.0	90.83	182.57	7,534.5	-333.5	803.8	383.3	4.96	2.08	4.50
Deepest Survey Drilled - 7534.47' TVD									
8,047.0	93.33	184.78	7,531.2	-423.2	798.1	472.5	3.71	2.78	2.46
8,136.0	93.02	183.47	7,526.3	-511.9	791.7	560.6	1.51	-0.35	-1.47
8,234.0	91.85	180.83	7,522.1	-609.7	788.0	658.0	2.94	-1.19	-2.69
8,323.0	91.76	180.49	7,519.3	-698.7	787.0	746.7	0.39	-0.10	-0.38
8,413.0	91.94	180.18	7,516.4	-788.6	786.4	836.5	0.40	0.20	-0.34
8,502.0	91.94	180.40	7,513.4	-877.6	786.0	925.2	0.25	0.00	0.25

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Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,591.0	92.02	179.74	7,510.3	-966.5	785.9	1,014.0	0.75	0.09	-0.74
8,681.0	91.96	182.51	7,507.2	-1,056.4	784.1	1,103.6	3.08	-0.07	3.08
8,771.0	91.83	183.69	7,504.2	-1,146.2	779.3	1,192.9	1.32	-0.14	1.31
8,860.0	91.91	182.42	7,501.3	-1,235.1	774.5	1,281.3	1.43	0.09	-1.43
8,949.0	91.91	185.67	7,498.3	-1,323.8	768.2	1,369.4	3.65	0.00	3.65
9,039.0	91.88	182.70	7,495.4	-1,413.5	761.7	1,458.5	3.30	-0.03	-3.30
9,128.0	91.81	183.74	7,492.5	-1,502.3	756.7	1,546.9	1.17	-0.08	1.17
9,218.0	91.79	183.75	7,489.7	-1,592.1	750.8	1,636.1	0.02	-0.02	0.01
9,307.0	91.67	183.36	7,487.0	-1,680.8	745.3	1,724.3	0.46	-0.13	-0.44
9,397.0	92.01	183.03	7,484.1	-1,770.7	740.3	1,813.7	0.53	0.38	-0.37
9,487.0	91.83	180.79	7,481.1	-1,860.6	737.3	1,903.2	2.50	-0.20	-2.49
9,577.0	91.67	180.92	7,478.3	-1,950.5	735.9	1,992.9	0.23	-0.18	0.14
9,666.0	91.62	180.62	7,475.8	-2,039.5	734.7	2,081.6	0.34	-0.06	-0.34
9,755.0	91.81	179.96	7,473.1	-2,128.4	734.3	2,170.3	0.77	0.21	-0.74
9,845.0	91.88	178.72	7,470.2	-2,218.4	735.3	2,260.2	1.38	0.08	-1.38
9,934.0	91.93	179.46	7,467.3	-2,307.3	736.7	2,349.0	0.83	0.06	0.83
10,024.0	91.84	178.82	7,464.3	-2,397.2	738.1	2,438.9	0.72	-0.10	-0.71
10,114.0	91.82	179.00	7,461.4	-2,487.2	739.8	2,528.7	0.20	-0.02	0.20
10,203.0	91.80	179.30	7,458.6	-2,576.1	741.1	2,617.6	0.34	-0.02	0.34
10,293.0	91.95	180.54	7,455.7	-2,666.1	741.2	2,707.4	1.39	0.17	1.38
10,383.0	91.79	181.86	7,452.7	-2,756.0	739.4	2,797.0	1.48	-0.18	1.47
10,473.0	91.64	181.01	7,450.0	-2,845.9	737.1	2,886.6	0.96	-0.17	-0.94
10,562.0	91.30	182.80	7,447.8	-2,934.8	734.1	2,975.2	2.05	-0.38	2.01
10,652.0	91.54	183.41	7,445.5	-3,024.7	729.3	3,064.5	0.73	0.27	0.68
10,742.0	91.23	182.06	7,443.3	-3,114.6	725.0	3,154.0	1.54	-0.34	-1.50
10,831.0	90.62	182.14	7,441.9	-3,203.5	721.7	3,242.5	0.69	-0.69	0.09
10,921.0	90.80	182.72	7,440.8	-3,293.4	717.9	3,332.0	0.67	0.20	0.64
11,010.0	90.72	179.35	7,439.6	-3,382.4	716.3	3,420.7	3.79	-0.09	-3.79
11,100.0	90.61	179.48	7,438.6	-3,472.4	717.2	3,510.5	0.19	-0.12	0.14
11,189.0	90.77	180.64	7,437.5	-3,561.3	717.1	3,599.4	1.32	0.18	1.30
11,279.0	90.64	180.63	7,436.4	-3,651.3	716.1	3,689.1	0.14	-0.14	-0.01
11,369.0	91.01	180.96	7,435.1	-3,741.3	714.9	3,778.8	0.55	0.41	0.37
11,459.0	90.66	180.04	7,433.8	-3,831.3	714.1	3,868.6	1.09	-0.39	-1.02
11,549.0	90.80	181.06	7,432.6	-3,921.3	713.2	3,958.3	1.14	0.16	1.13
11,639.0	90.73	181.02	7,431.4	-4,011.3	711.6	4,048.0	0.09	-0.08	-0.04
11,728.0	90.74	179.46	7,430.3	-4,100.3	711.2	4,136.8	1.75	0.01	-1.75
11,818.0	90.85	178.61	7,429.0	-4,190.2	712.7	4,226.7	0.95	0.12	-0.94
11,907.0	90.92	178.72	7,427.7	-4,279.2	714.8	4,315.6	0.15	0.08	0.12
11,997.0	90.78	180.28	7,426.3	-4,369.2	715.6	4,405.5	1.74	-0.16	1.73
12,087.0	90.75	181.47	7,425.1	-4,459.2	714.2	4,495.2	1.32	-0.03	1.32
12,177.0	90.76	181.43	7,423.9	-4,549.1	711.9	4,584.9	0.05	0.01	-0.04
12,266.0	90.79	183.65	7,422.7	-4,638.0	708.0	4,673.3	2.49	0.03	2.49
12,356.0	90.75	182.52	7,421.5	-4,727.9	703.2	4,762.7	1.26	-0.04	-1.26
12,446.0	90.66	179.59	7,420.4	-4,817.8	701.5	4,852.4	3.26	-0.10	-3.26

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stout 10N (Nio C)
Project:	SEC.18-T7N-R66W	TVD Reference:	WELL @ 5103.0ft (Original Well Elev)
Site:	Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W	MD Reference:	WELL @ 5103.0ft (Original Well Elev)
Well:	Stout 10N (Nio C)	North Reference:	True
Wellbore:	Stout 10N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Stout 10N (Nio C) Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,535.0	90.78	180.43	7,419.3	-4,906.8	701.5	4,941.2	0.95	0.13	0.94
12,625.0	90.70	180.83	7,418.1	-4,996.8	700.5	5,031.0	0.45	-0.09	0.44
12,714.0	90.44	182.14	7,417.3	-5,085.8	698.2	5,119.6	1.50	-0.29	1.47
12,804.0	90.36	182.73	7,416.6	-5,175.7	694.4	5,209.1	0.66	-0.09	0.66
12,893.0	90.32	181.89	7,416.1	-5,264.6	690.8	5,297.6	0.94	-0.04	-0.94
12,982.0	90.34	182.46	7,415.6	-5,353.6	687.4	5,386.2	0.64	0.02	0.64
13,072.0	90.02	181.66	7,415.3	-5,443.5	684.2	5,475.7	0.96	-0.36	-0.89
13,162.0	90.30	181.12	7,415.1	-5,533.5	682.0	5,565.4	0.68	0.31	-0.60
13,251.0	90.33	181.79	7,414.6	-5,622.5	679.7	5,654.0	0.75	0.03	0.75
13,341.0	90.19	181.74	7,414.2	-5,712.4	677.0	5,743.7	0.17	-0.16	-0.06
13,431.0	90.32	180.83	7,413.8	-5,802.4	674.9	5,833.3	1.02	0.14	-1.01
13,521.0	90.47	180.46	7,413.1	-5,892.4	673.9	5,923.1	0.44	0.17	-0.41
13,610.0	90.34	180.42	7,412.5	-5,981.4	673.2	6,011.8	0.15	-0.15	-0.04
13,700.0	90.55	180.46	7,411.8	-6,071.4	672.5	6,101.6	0.24	0.23	0.04
13,790.0	90.33	180.94	7,411.1	-6,161.4	671.4	6,191.4	0.59	-0.24	0.53
13,879.0	90.31	180.56	7,410.6	-6,250.3	670.3	6,280.1	0.43	-0.02	-0.43
13,969.0	90.22	180.30	7,410.2	-6,340.3	669.6	6,369.9	0.31	-0.10	-0.29
14,059.0	90.34	179.48	7,409.8	-6,430.3	669.8	6,459.7	0.92	0.13	-0.91
14,150.0	90.68	179.30	7,409.0	-6,521.3	670.7	6,550.6	0.42	0.37	-0.20
14,239.0	90.19	180.49	7,408.3	-6,610.3	670.9	6,639.4	1.45	-0.55	1.34
14,329.0	89.71	181.01	7,408.4	-6,700.3	669.7	6,729.2	0.79	-0.53	0.58
14,418.0	90.09	181.12	7,408.5	-6,789.3	668.1	6,817.9	0.44	0.43	0.12
14,508.0	89.76	181.29	7,408.6	-6,879.3	666.2	6,907.5	0.41	-0.37	0.19
14,597.0	89.78	180.76	7,409.0	-6,968.3	664.6	6,996.3	0.60	0.02	-0.60
14,686.0	89.23	182.20	7,409.8	-7,057.2	662.3	7,084.9	1.73	-0.62	1.62
14,776.0	89.08	182.63	7,411.1	-7,147.1	658.5	7,174.4	0.51	-0.17	0.48
14,866.0	88.85	182.43	7,412.7	-7,237.0	654.5	7,263.9	0.34	-0.26	-0.22
14,955.0	88.77	181.71	7,414.6	-7,326.0	651.3	7,352.4	0.81	-0.09	-0.81
15,044.0	89.10	180.56	7,416.2	-7,414.9	649.6	7,441.1	1.34	0.37	-1.29
15,133.0	89.02	179.22	7,417.7	-7,503.9	649.7	7,529.9	1.51	-0.09	-1.51
15,223.0	88.94	178.57	7,419.3	-7,593.9	651.5	7,619.8	0.73	-0.09	-0.72
15,312.0	88.73	178.74	7,421.1	-7,682.8	653.6	7,708.7	0.30	-0.24	0.19
15,401.0	89.31	177.67	7,422.6	-7,771.8	656.3	7,797.7	1.37	0.65	-1.20
15,491.0	88.87	176.69	7,424.0	-7,861.7	660.8	7,887.6	1.19	-0.49	-1.09
15,581.0	89.20	177.19	7,425.5	-7,951.5	665.6	7,977.6	0.67	0.37	0.56
15,671.0	90.55	177.39	7,425.7	-8,041.4	669.8	8,067.6	1.52	1.50	0.22
15,760.0	90.43	179.84	7,425.0	-8,130.4	672.0	8,156.5	2.76	-0.13	2.75
15,850.0	90.61	181.08	7,424.2	-8,220.4	671.3	8,246.3	1.39	0.20	1.38
15,940.0	90.61	181.36	7,423.2	-8,310.3	669.3	8,336.0	0.31	0.00	0.31
16,029.0	90.49	181.74	7,422.4	-8,399.3	666.9	8,424.6	0.45	-0.13	0.43
16,118.0	90.66	182.37	7,421.5	-8,488.2	663.7	8,513.2	0.73	0.19	0.71
16,208.0	90.66	181.45	7,420.4	-8,578.2	660.7	8,602.8	1.02	0.00	-1.02
16,298.0	91.01	180.77	7,419.1	-8,668.2	659.0	8,692.4	0.85	0.39	-0.76

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Stout 10N (Nio C)
Project:	SEC.18-T7N-R66W	TVD Reference:	WELL @ 5103.0ft (Original Well Elev)
Site:	Stout 7N66W18 1-16 Pad Sec.18-T7N-R66W	MD Reference:	WELL @ 5103.0ft (Original Well Elev)
Well:	Stout 10N (Nio C)	North Reference:	True
Wellbore:	Stout 10N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Stout 10N (Nio C) Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
16,387.0	90.76	179.70	7,417.7	-8,757.1	658.6	8,781.2	1.23	-0.28	-1.20	
16,476.0	90.70	179.50	7,416.6	-8,846.1	659.3	8,870.1	0.23	-0.07	-0.22	
16,566.0	90.26	181.52	7,415.9	-8,936.1	658.5	8,959.8	2.30	-0.49	2.24	
16,656.0	89.92	181.83	7,415.7	-9,026.1	655.8	9,049.5	0.51	-0.38	0.34	
16,745.0	89.92	181.90	7,415.8	-9,115.0	652.9	9,138.1	0.08	0.00	0.08	
16,835.0	89.76	182.31	7,416.1	-9,205.0	649.6	9,227.6	0.49	-0.18	0.46	
16,924.0	89.90	182.23	7,416.3	-9,293.9	646.1	9,316.1	0.18	0.16	-0.09	
17,014.0	89.75	182.35	7,416.6	-9,383.8	642.5	9,405.7	0.21	-0.17	0.13	
17,103.0	90.02	180.88	7,416.8	-9,472.8	640.0	9,494.3	1.68	0.30	-1.65	
17,193.0	89.98	179.69	7,416.8	-9,562.8	639.5	9,584.1	1.32	-0.04	-1.32	
17,282.0	89.84	179.75	7,416.9	-9,651.8	640.0	9,672.9	0.17	-0.16	0.07	
17,372.0	89.75	179.65	7,417.3	-9,741.8	640.4	9,762.8	0.15	-0.10	-0.11	
17,461.0	90.17	179.81	7,417.3	-9,830.8	640.9	9,851.6	0.50	0.47	0.18	
17,551.0	90.08	179.82	7,417.1	-9,920.8	641.2	9,941.5	0.10	-0.10	0.01	
17,640.0	90.10	179.64	7,417.0	-10,009.8	641.6	10,030.3	0.20	0.02	-0.20	
17,687.0	90.01	180.16	7,416.9	-10,056.8	641.7	10,077.2	1.12	-0.19	1.11	
17,713.0	90.01	180.16	7,416.9	-10,082.8	641.6	10,103.2	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL 288'FNL, 2544'FWL - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,455,179.80	3,188,144.11	40.580895	-104.822649	
Projected BHL 171'FSL, - survey misses target center by 22.1ft at 17713.0ft MD (7416.9 TVD, -10082.8 N, 641.6 E) - Point	0.00	0.00	7,418.0	-10,104.1	636.0	1,445,081.10	3,188,857.25	40.553161	-104.820360	
WP1 (Stout 10N) - survey misses target center by 2.6ft at 12450.0ft MD (7420.4 TVD, -4821.8 N, 701.5 E) - Point	0.00	0.00	7,418.0	-4,821.8	700.5	1,450,363.61	3,188,881.40	40.567660	-104.820128	

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,767.0	7,521.9	-144.8	797.6	TIZ - 460' Setback - 460'FNL, 2262'FEL, Sec.18	
7,957.0	7,534.5	-333.5	803.8	Deepest Survey Drilled - 7534.47' TVD	

Checked By: _____	Approved By: _____	Date: _____
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