

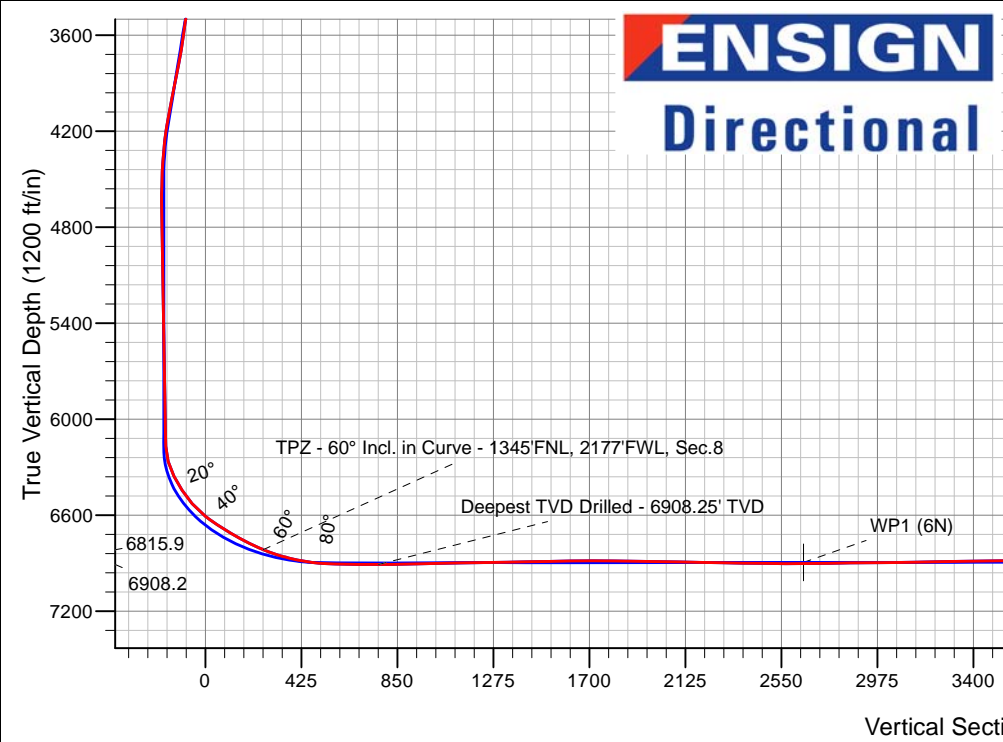
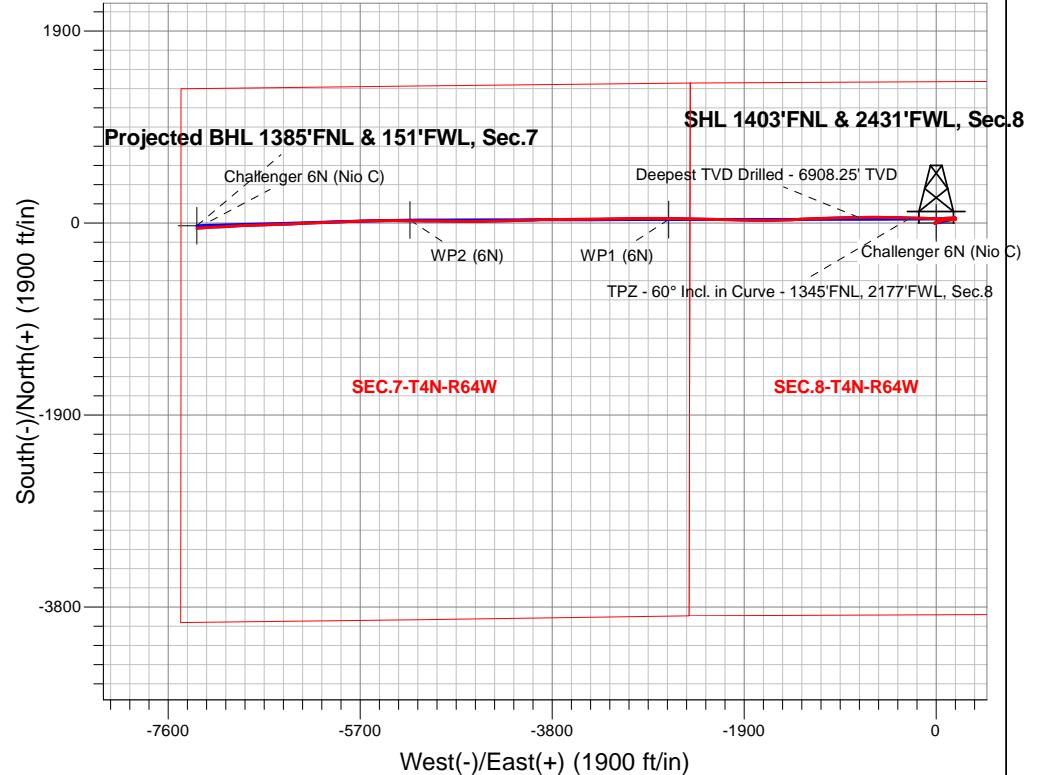
PDC Energy Inc. DJ Basin

Well Name: **Challenger 6N (Nio C)**

Surface Location: Challenger 4N64W8 Pad Sec.8-T4N-R64W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4775.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1364506.07 3257809.86 40.330280 -104.575260
 WELL @ 4798.0ft

FINAL SURVEY

Projected Bottom Hole Location
14,074'MD 6891'TVD 50'S & 7316'W of SHL
91.07 degree Incl @ 266.48 degree AZM



Challenger 4N64W8 Pad Sec.8-T4N-R64W
 Challenger 6N (Nio C)
 Challenger 6N (Nio C) Wellbore #1
 7:21, March 05 2019

ANNOTATIONS		
TVD	MD	Annotation
6815.9	6993.4	TPZ - 60° Incl. in Curve - 1345'FNL, 2177'FWL, Sec.8
6908.2	7521.0	Deepest TVD Drilled - 6908.25' TVD

LEGEND	
	Challenger 6N (Nio C), Challenger 6N (Nio C) Wellbore #1, Plan #3 (2-25-19) V0
	Challenger 6N (Nio C) Wellbore #1
	Survey #1



PDC Energy Inc. DJ Basin

SEC.8-T4N-R64W

Challenger 4N64W8 Pad Sec.8-T4N-R64W

Challenger 6N (Nio C)

Challenger 6N (Nio C) Wellbore #1

Survey: Survey #1

Standard Survey Report

05 March, 2019



Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (Nio C) Wellbore #1	Database:	US_EDM

Project	SEC.8-T4N-R64W, Weld County, Colorado		
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	Challenger 4N64W8 Pad Sec.8-T4N-R64W				
Site Position:		Northing:	1,364,578.94 usft	Latitude:	40.330480
From:	Lat/Long	Easting:	3,257,809.10 usft	Longitude:	-104.575260
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.60 °

Well	Challenger 6N (Nio C)					
Well Position	+N/-S	0.0 ft	Northing:	1,364,506.07 usft	Latitude:	40.330280
	+E/-W	0.0 ft	Easting:	3,257,809.86 usft	Longitude:	-104.575260
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,775.0 ft

Wellbore	Challenger 6N (Nio C) Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	2/24/2019	8.17	66.82	52,170

Design	Challenger 6N (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		269.80

Survey Program	Date	3/5/2019			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
155.0	14,074.0	Survey #1 (Challenger 6N (Nio C) Wellbor	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	
1.0	0.00	216.50	1.0	0.0	0.0	0.0	0.00	0.00	0.00	
SHL 1403'FNL & 2431'FWL, Sec.8										
155.0	0.20	216.50	155.0	-0.2	-0.2	0.2	0.13	0.13	0.00	
250.0	0.20	228.50	250.0	-0.5	-0.4	0.4	0.04	0.00	12.63	
345.0	0.20	240.20	345.0	-0.7	-0.7	0.7	0.04	0.00	12.32	
441.0	0.20	251.60	441.0	-0.8	-1.0	1.0	0.04	0.00	11.88	
536.0	0.20	208.80	536.0	-1.0	-1.2	1.2	0.15	0.00	-45.05	
631.0	0.20	214.80	631.0	-1.3	-1.4	1.4	0.02	0.00	6.32	
726.0	0.30	212.90	726.0	-1.6	-1.6	1.6	0.11	0.11	-2.00	
821.0	0.40	234.20	821.0	-2.0	-2.0	2.0	0.17	0.11	22.42	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (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)
916.0	0.40	264.10	916.0	-2.2	-2.6	2.6	0.22	0.00	31.47
1,011.0	0.50	263.10	1,011.0	-2.3	-3.3	3.4	0.11	0.11	-1.05
1,106.0	0.70	269.00	1,106.0	-2.4	-4.3	4.3	0.22	0.21	6.21
1,202.0	0.70	268.60	1,202.0	-2.4	-5.5	5.5	0.01	0.00	-0.42
1,297.0	0.70	278.00	1,297.0	-2.3	-6.7	6.7	0.12	0.00	9.89
1,392.0	0.30	271.10	1,392.0	-2.3	-7.5	7.5	0.43	-0.42	-7.26
1,487.0	0.20	274.30	1,487.0	-2.2	-7.9	7.9	0.11	-0.11	3.37
1,581.0	0.40	270.60	1,581.0	-2.2	-8.4	8.4	0.21	0.21	-3.94
1,636.0	0.50	303.60	1,636.0	-2.1	-8.8	8.8	0.50	0.18	60.00
1,771.0	0.66	336.03	1,771.0	-1.1	-9.6	9.6	0.27	0.12	24.02
1,866.0	0.45	317.61	1,866.0	-0.3	-10.1	10.1	0.29	-0.22	-19.39
1,961.0	0.46	307.82	1,960.9	0.2	-10.6	10.6	0.08	0.01	-10.31
2,055.0	0.47	320.97	2,054.9	0.8	-11.2	11.2	0.11	0.01	13.99
2,149.0	0.55	284.32	2,148.9	1.2	-11.8	11.8	0.35	0.09	-38.99
2,244.0	0.65	257.38	2,243.9	1.2	-12.8	12.8	0.31	0.11	-28.36
2,339.0	0.64	258.35	2,338.9	0.9	-13.8	13.8	0.02	-0.01	1.02
2,434.0	0.76	268.62	2,433.9	0.8	-15.0	15.0	0.18	0.13	10.81
2,528.0	1.37	103.89	2,527.9	0.5	-14.5	14.5	2.25	0.65	-175.25
2,624.0	2.10	94.46	2,623.9	0.1	-11.7	11.7	0.81	0.76	-9.82
2,719.0	3.72	70.71	2,718.7	1.0	-7.0	7.0	2.09	1.71	-25.00
2,814.0	5.46	64.77	2,813.4	3.9	0.0	0.0	1.90	1.83	-6.25
2,935.0	8.77	75.96	2,933.5	8.6	14.1	-14.2	2.95	2.74	9.25
3,030.0	8.33	73.12	3,027.4	12.4	27.8	-27.8	0.64	-0.46	-2.99
3,126.0	8.01	71.60	3,122.5	16.5	40.8	-40.8	0.40	-0.33	-1.58
3,222.0	7.72	70.61	3,217.6	20.8	53.2	-53.3	0.33	-0.30	-1.03
3,318.0	7.40	69.00	3,312.7	25.1	65.0	-65.1	0.40	-0.33	-1.68
3,413.0	6.97	80.66	3,407.0	28.3	76.4	-76.5	1.60	-0.45	12.27
3,508.0	6.27	80.25	3,501.4	30.1	87.2	-87.3	0.74	-0.74	-0.43
3,604.0	5.37	80.48	3,596.9	31.7	96.8	-96.9	0.94	-0.94	0.24
3,700.0	6.73	87.41	3,692.3	32.7	106.9	-107.0	1.61	1.42	7.22
3,795.0	7.93	88.84	3,786.5	33.1	119.0	-119.1	1.28	1.26	1.51
3,891.0	8.12	90.32	3,881.6	33.2	132.4	-132.5	0.29	0.20	1.54
3,987.0	7.91	88.12	3,976.7	33.4	145.8	-145.9	0.39	-0.22	-2.29
4,083.0	7.52	87.72	4,071.8	33.8	158.7	-158.8	0.41	-0.41	-0.42
4,177.0	6.94	88.71	4,165.1	34.2	170.5	-170.6	0.63	-0.62	1.05
4,273.0	4.57	89.04	4,260.6	34.4	180.1	-180.2	2.47	-2.47	0.34
4,368.0	3.31	87.05	4,355.3	34.6	186.6	-186.7	1.33	-1.33	-2.09
4,463.0	2.07	57.51	4,450.2	35.7	190.8	-190.9	1.92	-1.31	-31.09
4,559.0	2.23	21.22	4,546.2	38.3	193.0	-193.1	1.40	0.17	-37.80
4,654.0	0.50	337.45	4,641.1	40.4	193.5	-193.6	2.00	-1.82	-46.07
4,750.0	0.89	275.79	4,737.1	40.9	192.6	-192.7	0.82	0.41	-64.23
4,845.0	0.98	297.82	4,832.1	41.4	191.1	-191.3	0.39	0.09	23.19
4,940.0	0.90	313.95	4,927.1	42.3	189.9	-190.0	0.29	-0.08	16.98

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (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)	
5,036.0	0.87	330.78	5,023.1	43.4	189.0	-189.1	0.27	-0.03	17.53	
5,131.0	1.10	343.00	5,118.1	44.9	188.3	-188.5	0.33	0.24	12.86	
5,227.0	1.40	351.40	5,214.1	47.0	187.9	-188.1	0.37	0.31	8.75	
5,323.0	0.98	323.17	5,310.0	48.8	187.2	-187.4	0.74	-0.44	-29.41	
5,418.0	0.91	302.75	5,405.0	49.8	186.1	-186.3	0.36	-0.07	-21.49	
5,514.0	1.26	313.84	5,501.0	51.0	184.7	-184.9	0.42	0.36	11.55	
5,610.0	0.96	307.31	5,597.0	52.2	183.3	-183.5	0.34	-0.31	-6.80	
5,705.0	1.26	306.16	5,692.0	53.3	181.8	-182.0	0.32	0.32	-1.21	
5,800.0	1.15	283.16	5,787.0	54.1	180.1	-180.2	0.52	-0.12	-24.21	
5,896.0	0.61	264.82	5,882.9	54.3	178.6	-178.8	0.63	-0.56	-19.10	
5,991.0	0.74	230.05	5,977.9	53.9	177.6	-177.8	0.44	0.14	-36.60	
6,087.0	0.91	211.96	6,073.9	52.8	176.8	-176.9	0.32	0.18	-18.84	
6,182.0	1.21	233.88	6,168.9	51.6	175.5	-175.7	0.53	0.32	23.07	
6,278.0	12.03	266.86	6,264.1	50.4	164.7	-164.9	11.49	11.27	34.35	
6,374.0	18.95	268.15	6,356.6	49.4	139.1	-139.3	7.22	7.21	1.34	
6,469.0	25.07	266.93	6,444.6	47.8	103.6	-103.7	6.46	6.44	-1.28	
6,564.0	31.86	265.98	6,528.1	45.0	58.4	-58.5	7.16	7.15	-1.00	
6,664.0	41.31	270.14	6,608.3	43.2	-1.1	0.9	9.77	9.45	4.16	
6,759.0	49.20	272.12	6,675.1	44.6	-68.5	68.3	8.44	8.31	2.08	
6,854.0	51.04	271.98	6,736.1	47.2	-141.3	141.2	1.94	1.94	-0.15	
6,949.0	56.13	272.14	6,792.4	50.0	-217.7	217.5	5.36	5.36	0.17	
6,993.4	59.99	271.43	6,815.9	51.1	-255.4	255.2	8.81	8.70	-1.60	
TPZ - 60° Incl. in Curve - 1345'FNL, 2177'FWL, Sec.8										
7,045.0	64.49	270.67	6,839.9	52.0	-301.0	300.8	8.81	8.71	-1.47	
7,140.0	72.05	271.62	6,875.1	53.7	-389.2	389.0	8.01	7.96	1.00	
7,235.0	80.95	271.09	6,897.2	55.9	-481.4	481.2	9.38	9.37	-0.56	
7,286.0	85.20	270.31	6,903.4	56.5	-532.0	531.8	8.47	8.33	-1.54	
LPL 1360'FNL & 1900'FWL, Sec.8										
7,331.0	88.95	269.62	6,905.7	56.5	-577.0	576.8	8.47	8.33	-1.52	
7,426.0	89.15	270.05	6,907.3	56.2	-672.0	671.8	0.50	0.21	0.45	
7,521.0	89.66	270.16	6,908.2	56.4	-767.0	766.8	0.55	0.54	0.12	
Deepest TVD Drilled - 6908.25' TVD										
7,616.0	91.54	268.41	6,907.3	55.2	-861.9	861.7	2.70	1.98	-1.84	
7,710.0	91.81	268.08	6,904.5	52.3	-955.9	955.7	0.45	0.29	-0.35	
7,805.0	92.21	267.65	6,901.2	48.8	-1,050.7	1,050.6	0.62	0.42	-0.45	
7,900.0	90.78	268.06	6,898.7	45.2	-1,145.6	1,145.5	1.57	-1.51	0.43	
8,090.0	91.62	267.31	6,894.7	37.6	-1,335.4	1,335.3	0.59	0.44	-0.39	
8,185.0	92.07	267.82	6,891.7	33.5	-1,430.3	1,430.2	0.72	0.47	0.54	
8,280.0	91.33	268.10	6,888.8	30.2	-1,525.2	1,525.1	0.83	-0.78	0.29	
8,375.0	90.85	269.31	6,887.0	28.0	-1,620.1	1,620.0	1.37	-0.51	1.27	
8,469.0	90.01	269.54	6,886.3	27.1	-1,714.1	1,714.0	0.93	-0.89	0.24	
8,565.0	89.27	271.02	6,886.9	27.5	-1,810.1	1,810.0	1.72	-0.77	1.54	
8,659.0	88.99	270.96	6,888.4	29.2	-1,904.1	1,904.0	0.30	-0.30	-0.06	
8,754.0	88.76	272.03	6,890.2	31.6	-1,999.1	1,998.9	1.15	-0.24	1.13	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (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)	
8,849.0	88.47	271.60	6,892.5	34.6	-2,094.0	2,093.8	0.55	-0.31	-0.45	
8,944.0	88.48	271.52	6,895.0	37.2	-2,188.9	2,188.8	0.08	0.01	-0.08	
9,039.0	88.61	271.05	6,897.5	39.4	-2,283.9	2,283.7	0.51	0.14	-0.49	
9,135.0	88.73	270.86	6,899.7	41.0	-2,379.8	2,379.7	0.23	0.13	-0.20	
9,229.0	88.55	270.52	6,901.9	42.1	-2,473.8	2,473.6	0.41	-0.19	-0.36	
9,324.0	89.85	270.93	6,903.2	43.3	-2,568.8	2,568.6	1.43	1.37	0.43	
9,403.2	90.63	270.64	6,902.9	44.4	-2,647.9	2,647.7	1.06	0.99	-0.37	
WP1 (6N)										
9,419.0	90.79	270.58	6,902.7	44.5	-2,663.8	2,663.6	1.06	0.99	-0.37	
9,514.0	90.94	270.37	6,901.3	45.3	-2,758.7	2,758.6	0.27	0.16	-0.22	
9,610.0	91.08	270.08	6,899.6	45.7	-2,854.7	2,854.5	0.34	0.15	-0.30	
9,705.0	90.81	269.43	6,898.0	45.3	-2,949.7	2,949.5	0.74	-0.28	-0.68	
9,800.0	91.20	269.11	6,896.4	44.1	-3,044.7	3,044.5	0.53	0.41	-0.34	
9,895.0	91.33	268.91	6,894.3	42.5	-3,139.6	3,139.5	0.25	0.14	-0.21	
9,991.0	91.66	268.85	6,891.8	40.6	-3,235.6	3,235.4	0.35	0.34	-0.06	
10,086.0	91.78	269.05	6,888.9	38.8	-3,330.5	3,330.4	0.25	0.13	0.21	
10,181.0	91.13	268.93	6,886.5	37.2	-3,425.5	3,425.3	0.70	-0.68	-0.13	
10,276.0	90.31	269.87	6,885.3	36.2	-3,520.5	3,520.3	1.31	-0.86	0.99	
10,371.0	90.46	270.15	6,884.7	36.2	-3,615.5	3,615.3	0.33	0.16	0.29	
10,467.0	90.85	269.59	6,883.6	36.0	-3,711.5	3,711.3	0.71	0.41	-0.58	
10,563.0	89.71	269.56	6,883.1	35.3	-3,807.5	3,807.3	1.19	-1.19	-0.03	
10,658.0	89.51	268.88	6,883.7	34.0	-3,902.5	3,902.3	0.75	-0.21	-0.72	
10,753.0	90.44	268.37	6,883.8	31.7	-3,997.4	3,997.3	1.12	0.98	-0.54	
10,848.0	89.14	268.46	6,884.1	29.1	-4,092.4	4,092.3	1.37	-1.37	0.09	
10,944.0	89.10	267.74	6,885.6	25.9	-4,188.3	4,188.2	0.75	-0.04	-0.75	
11,039.0	89.43	267.58	6,886.8	22.0	-4,283.2	4,283.1	0.39	0.35	-0.17	
11,135.0	90.00	268.52	6,887.3	18.7	-4,379.2	4,379.1	1.15	0.59	0.98	
11,231.0	89.31	269.70	6,887.9	17.2	-4,475.2	4,475.1	1.42	-0.72	1.23	
11,326.0	90.28	269.53	6,888.2	16.6	-4,570.2	4,570.1	1.04	1.02	-0.18	
11,421.0	89.85	270.79	6,888.1	16.9	-4,665.2	4,665.1	1.40	-0.45	1.33	
11,516.0	90.62	271.24	6,887.7	18.5	-4,760.1	4,760.0	0.94	0.81	0.47	
11,612.0	90.99	270.49	6,886.4	20.0	-4,856.1	4,856.0	0.87	0.39	-0.78	
11,707.0	90.03	270.63	6,885.5	20.9	-4,951.1	4,951.0	1.02	-1.01	0.15	
11,803.0	88.72	270.14	6,886.6	21.6	-5,047.1	5,047.0	1.46	-1.36	-0.51	
11,898.0	89.10	270.75	6,888.4	22.3	-5,142.1	5,142.0	0.76	0.40	0.64	
11,964.5	89.47	270.61	6,889.2	23.1	-5,208.5	5,208.4	0.60	0.56	-0.21	
WP2 (6N)										
11,994.0	89.64	270.55	6,889.4	23.4	-5,238.1	5,237.9	0.60	0.56	-0.21	
12,089.0	90.32	270.39	6,889.5	24.2	-5,333.1	5,332.9	0.74	0.72	-0.17	
12,184.0	91.37	269.75	6,888.1	24.3	-5,428.0	5,427.9	1.29	1.11	-0.67	
12,280.0	90.57	269.18	6,886.4	23.4	-5,524.0	5,523.9	1.02	-0.83	-0.59	
12,375.0	90.29	268.86	6,885.7	21.8	-5,619.0	5,618.9	0.45	-0.29	-0.34	
12,470.0	91.28	268.04	6,884.4	19.2	-5,714.0	5,713.9	1.35	1.04	-0.86	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (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)	
12,565.0	89.88	268.15	6,883.5	16.0	-5,808.9	5,808.8	1.48	-1.47	0.12	
12,660.0	90.06	267.45	6,883.5	12.4	-5,903.8	5,903.8	0.76	0.19	-0.74	
12,755.0	90.73	267.13	6,882.9	7.9	-5,998.7	5,998.7	0.78	0.71	-0.34	
12,850.0	89.01	268.02	6,883.1	3.9	-6,093.6	6,093.6	2.04	-1.81	0.94	
12,946.0	88.61	267.65	6,885.1	0.3	-6,189.5	6,189.5	0.57	-0.42	-0.39	
13,041.0	88.79	267.21	6,887.2	-4.0	-6,284.4	6,284.4	0.50	0.19	-0.46	
13,137.0	88.94	266.31	6,889.1	-9.4	-6,380.3	6,380.2	0.95	0.16	-0.94	
13,232.0	88.24	269.26	6,891.5	-13.1	-6,475.1	6,475.1	3.19	-0.74	3.11	
13,424.0	89.65	268.34	6,895.0	-17.1	-6,667.1	6,667.1	0.88	0.73	-0.48	
13,519.0	90.03	267.43	6,895.3	-20.6	-6,762.0	6,762.0	1.04	0.40	-0.96	
13,614.0	90.10	267.04	6,895.2	-25.2	-6,856.9	6,856.9	0.42	0.07	-0.41	
13,710.0	90.15	266.33	6,894.9	-30.8	-6,952.7	6,952.8	0.74	0.05	-0.74	
13,806.0	89.99	267.48	6,894.8	-35.9	-7,048.6	7,048.7	1.21	-0.17	1.20	
13,900.0	90.72	267.23	6,894.2	-40.3	-7,142.5	7,142.6	0.82	0.78	-0.27	
13,996.0	90.96	266.47	6,892.8	-45.5	-7,238.3	7,238.4	0.83	0.25	-0.79	
14,016.0	91.07	266.48	6,892.5	-46.8	-7,258.3	7,258.4	0.55	0.55	0.05	
14,073.3	91.07	266.48	6,891.4	-50.3	-7,315.4	7,315.6	0.00	0.00	0.00	
Projected BHL 1385'FNL & 151'FWL, Sec.7										
14,074.0	91.07	266.48	6,891.4	-50.3	-7,316.2	7,316.3	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 1403'FNL & 2431'F' - hit/miss target center - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,364,506.09	3,257,809.86	40.330280	-104.575260	
Projected BHL 1385'FNL - survey misses target center by 24.6ft at 14073.3ft MD (6891.4 TVD, -50.3 N, -7315.4 E) - Point	0.00	0.00	6,889.0	-25.8	-7,316.9	1,364,403.95	3,250,493.98	40.330206	-104.601504	
WP2 (6N) - survey misses target center by 8.4ft at 11964.5ft MD (6889.2 TVD, 23.1 N, -5208.5 E) - Point	0.00	0.00	6,892.1	31.0	-5,208.4	1,364,482.77	3,252,601.65	40.330364	-104.593941	
WP1 (6N) - survey misses target center by 12.2ft at 9403.2ft MD (6902.9 TVD, 44.4 N, -2648.0 E) - Point	0.00	0.00	6,895.9	34.4	-2,648.0	1,364,512.87	3,255,161.77	40.330374	-104.584758	

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
6,993.4	6,815.9	51.1	-255.4	TPZ - 60° Incl. in Curve - 1345'FNL, 2177'FWL, Sec.8	
7,521.0	6,908.2	56.4	-767.0	Deepest TVD Drilled - 6908.25' TVD	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Challenger 6N (Nio C)
Project:	SEC.8-T4N-R64W	TVD Reference:	WELL @ 4798.0ft
Site:	Challenger 4N64W8 Pad Sec.8-T4N-R64W	MD Reference:	WELL @ 4798.0ft
Well:	Challenger 6N (Nio C)	North Reference:	True
Wellbore:	Challenger 6N (Nio C) Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Challenger 6N (Nio C) Wellbore #1	Database:	US_EDM

Checked By: _____ Approved By: _____ Date: _____