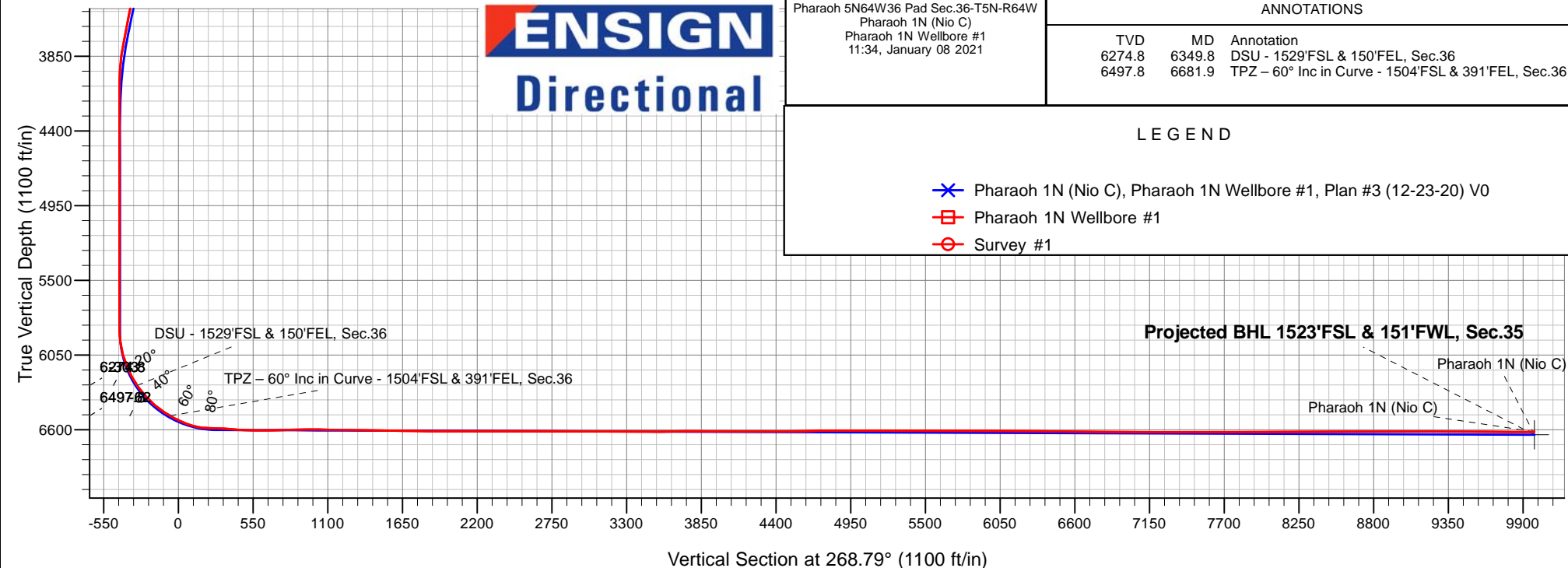
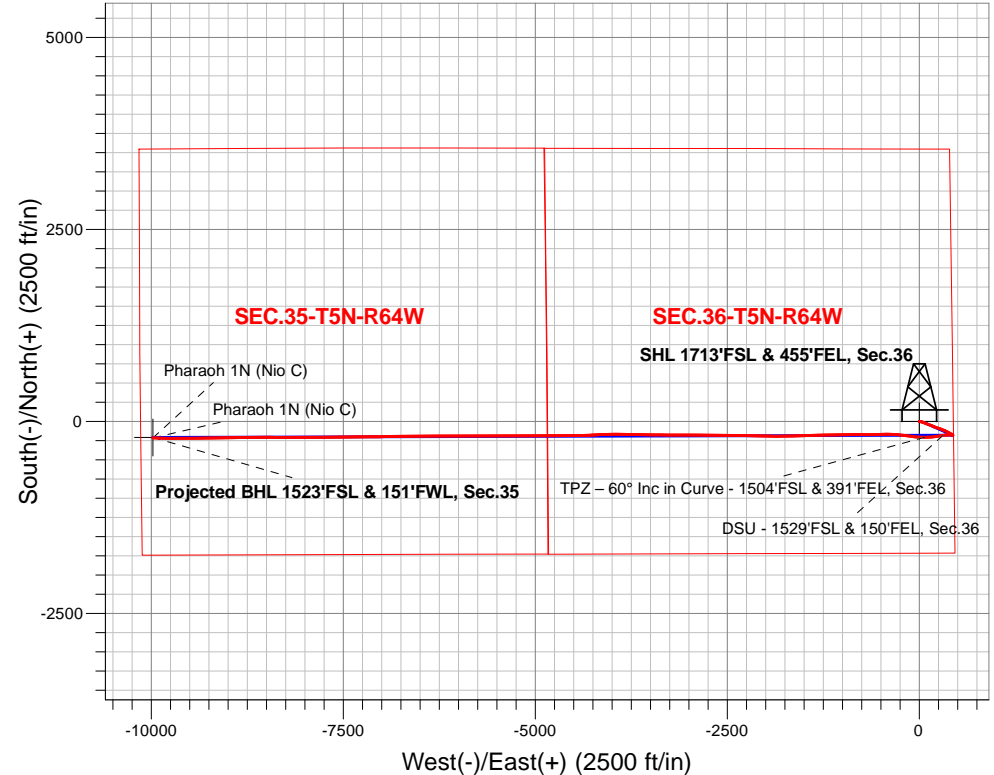


PDC Energy Inc. DJ Basin

Well Name: **Pharaoh 1N (Nio C)**
Pharaoh 5N64W36 Pad Sec.36-T5N-R64W
North American Datum 1983, US State Plane 1983Colorado Northern Zone
Ground Elevation: 4593.0
+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.01373182.10 3281507.32 40.353385 -104.489912
Ensign 142 RKB - 28' WELL @ 4621.0ft (Ensign 142 RKB - 28')

FINAL SURVEY

Projected Bottom Hole Location
16,751'MD 6616'TVD 217'S & 9980'W of SHL
90.17 degree Incl @ 271.87 degree AZM





PDC Energy Inc. DJ Basin

SEC.36-T5N-R64W

Pharaoh 5N64W36 Pad Sec.36-T5N-R64W

Pharaoh 1N (Nio C)

Pharaoh 1N Wellbore #1

Survey: Survey #1

Standard Survey Report

08 January, 2021

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N Wellbore #1	Database:	US_EDM

Project	SEC.36-T5N-R64W		
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	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W				
Site Position:		Northing:	1,373,122.36 usft	Latitude:	40.353221
From:	Lat/Long	Easting:	3,281,507.17 usft	Longitude:	-104.489915
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.65 °

Well	Pharaoh 1N (Nio C)					
Well Position	+N/-S	0.0 ft	Northing:	1,373,182.10 usft	Latitude:	40.353385
	+E/-W	0.0 ft	Easting:	3,281,507.32 usft	Longitude:	-104.489912
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,593.0 ft

Wellbore	Pharaoh 1N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/23/2020	7.78	66.78	51,972

Design	Pharaoh 1N 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	268.79	

Survey Program	Date	01/08/2021			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
162.0	16,751.0	Survey #1 (Pharaoh 1N 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	
162.0	0.09	81.28	162.0	0.0	0.1	-0.1	0.06	0.06	0.00	
254.0	0.18	166.00	254.0	-0.1	0.2	-0.2	0.21	0.10	92.09	
375.0	0.35	125.93	375.0	-0.5	0.6	-0.6	0.20	0.14	-33.12	
465.0	0.26	90.24	465.0	-0.7	1.0	-1.0	0.23	-0.10	-39.66	
554.0	0.18	155.28	554.0	-0.8	1.3	-1.2	0.28	-0.09	73.08	
643.0	0.09	15.71	643.0	-0.9	1.3	-1.3	0.29	-0.10	-156.82	
733.0	0.26	244.93	733.0	-0.9	1.2	-1.2	0.36	0.19	-145.31	
822.0	0.35	249.50	822.0	-1.1	0.7	-0.7	0.10	0.10	5.13	
912.0	0.53	245.40	912.0	-1.3	0.1	-0.1	0.20	0.20	-4.56	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N 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)
1,002.0	0.44	256.88	1,002.0	-1.6	-0.6	0.6	0.15	-0.10	12.76
1,091.0	0.26	165.65	1,091.0	-1.9	-0.9	0.9	0.58	-0.20	-102.51
1,181.0	0.35	165.30	1,181.0	-2.3	-0.8	0.8	0.10	0.10	-0.39
1,270.0	0.26	219.44	1,270.0	-2.7	-0.8	0.9	0.32	-0.10	60.83
1,359.0	0.09	115.91	1,359.0	-2.9	-0.9	1.0	0.33	-0.19	-116.33
1,449.0	0.97	66.86	1,449.0	-2.7	-0.1	0.2	1.02	0.98	-54.50
1,538.0	2.90	89.50	1,537.9	-2.3	2.8	-2.8	2.29	2.17	25.44
1,626.0	3.69	97.10	1,625.8	-2.7	7.8	-7.8	1.02	0.90	8.64
1,791.0	5.14	103.62	1,790.3	-5.1	20.3	-20.2	0.93	0.88	3.95
1,881.0	8.36	108.66	1,879.7	-8.1	30.4	-30.2	3.63	3.58	5.60
1,970.0	9.01	106.51	1,967.6	-12.2	43.2	-43.0	0.82	0.73	-2.42
2,060.0	13.10	112.17	2,055.9	-18.0	59.4	-59.0	4.70	4.54	6.29
2,149.0	14.13	112.93	2,142.4	-26.1	78.8	-78.2	1.17	1.16	0.85
2,239.0	12.64	110.22	2,230.0	-33.7	98.1	-97.4	1.80	-1.66	-3.01
2,329.0	12.98	111.52	2,317.8	-40.8	116.8	-115.9	0.50	0.38	1.44
2,418.0	12.41	112.84	2,404.6	-48.2	134.9	-133.9	0.72	-0.64	1.48
2,508.0	11.77	108.85	2,492.6	-54.9	152.5	-151.3	1.17	-0.71	-4.43
2,598.0	12.68	113.22	2,580.5	-61.8	170.3	-168.9	1.44	1.01	4.86
2,688.0	13.27	112.36	2,668.2	-69.6	188.9	-187.4	0.69	0.66	-0.96
2,778.0	11.57	109.34	2,756.1	-76.6	207.0	-205.3	2.02	-1.89	-3.36
2,867.0	11.92	108.84	2,843.3	-82.5	224.1	-222.3	0.41	0.39	-0.56
2,956.0	12.27	107.94	2,930.3	-88.4	241.8	-239.9	0.45	0.39	-1.01
3,047.0	11.75	109.37	3,019.3	-94.4	259.7	-257.7	0.66	-0.57	1.57
3,137.0	12.94	111.00	3,107.2	-101.1	277.8	-275.6	1.38	1.32	1.81
3,227.0	11.75	108.80	3,195.1	-107.6	295.9	-293.5	1.42	-1.32	-2.44
3,317.0	12.14	111.56	3,283.2	-114.1	313.3	-310.9	0.77	0.43	3.07
3,406.0	12.75	115.47	3,370.1	-121.7	330.9	-328.3	1.17	0.69	4.39
3,495.0	12.89	116.66	3,456.9	-130.4	348.6	-345.8	0.34	0.16	1.34
3,585.0	12.64	117.44	3,544.7	-139.4	366.4	-363.3	0.34	-0.28	0.87
3,674.0	12.28	118.81	3,631.6	-148.5	383.3	-380.1	0.52	-0.40	1.54
3,763.0	12.49	118.06	3,718.5	-157.6	400.1	-396.7	0.30	0.24	-0.84
3,853.0	11.21	117.54	3,806.6	-166.2	416.4	-412.8	1.43	-1.42	-0.58
3,943.0	7.32	130.94	3,895.4	-174.0	428.5	-424.8	4.91	-4.32	14.89
4,032.0	3.89	137.56	3,984.0	-179.9	434.8	-431.0	3.92	-3.85	7.44
4,122.0	0.11	330.23	4,073.9	-182.1	436.9	-432.9	4.44	-4.20	-185.92
4,211.0	0.06	69.76	4,162.9	-182.0	436.9	-432.9	0.15	-0.06	111.83
4,301.0	0.05	13.29	4,252.9	-182.0	436.9	-433.0	0.06	-0.01	-62.74
4,391.0	0.08	290.25	4,342.9	-181.9	436.9	-432.9	0.10	0.03	-92.27
4,480.0	0.16	40.63	4,431.9	-181.8	436.9	-433.0	0.23	0.09	124.02
4,570.0	0.01	299.20	4,521.9	-181.7	437.0	-433.0	0.18	-0.17	-112.70
4,660.0	0.10	346.31	4,611.9	-181.6	436.9	-433.0	0.10	0.10	52.34
4,749.0	0.10	280.79	4,700.9	-181.5	436.8	-432.9	0.12	0.00	-73.62
4,839.0	0.14	224.50	4,790.9	-181.6	436.7	-432.8	0.13	0.04	-62.54
4,929.0	0.09	211.50	4,880.9	-181.7	436.6	-432.7	0.06	-0.06	-14.44

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N 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)
5,018.0	0.03	134.14	4,969.9	-181.8	436.6	-432.6	0.10	-0.07	-86.92
5,108.0	0.06	292.70	5,059.9	-181.8	436.5	-432.6	0.10	0.03	176.18
5,197.0	0.14	90.62	5,148.9	-181.8	436.6	-432.7	0.22	0.09	177.44
5,287.0	0.13	149.17	5,238.9	-181.9	436.8	-432.8	0.15	-0.01	65.06
5,377.0	0.07	5.41	5,328.9	-181.9	436.8	-432.9	0.21	-0.07	-159.73
5,467.0	0.04	33.88	5,418.9	-181.8	436.8	-432.9	0.04	-0.03	31.63
5,557.0	0.13	55.22	5,508.9	-181.8	436.9	-433.0	0.10	0.10	23.71
5,646.0	0.18	53.66	5,597.9	-181.6	437.1	-433.2	0.06	0.06	-1.75
5,735.0	0.19	26.64	5,686.9	-181.4	437.3	-433.4	0.10	0.01	-30.36
5,825.0	0.11	351.04	5,776.9	-181.2	437.4	-433.5	0.13	-0.09	-39.56
5,915.0	0.28	47.40	5,866.9	-180.9	437.5	-433.6	0.26	0.19	62.62
6,005.0	9.17	283.74	5,956.5	-179.1	430.7	-426.8	10.36	9.88	-137.40
6,095.0	14.21	273.94	6,044.6	-176.6	412.7	-408.9	6.00	5.60	-10.89
6,185.0	22.57	267.51	6,130.0	-176.6	384.4	-380.6	9.54	9.29	-7.14
6,274.0	28.42	264.56	6,210.3	-179.4	346.2	-342.3	6.72	6.57	-3.31
6,349.8	34.63	261.37	6,274.8	-184.3	306.9	-302.9	8.48	8.19	-4.21
DSU - 1529'FSL & 150'FEL, Sec.36									
6,364.0	35.80	260.88	6,286.4	-185.6	298.8	-294.8	8.48	8.25	-3.43
6,454.0	43.09	261.83	6,355.9	-194.1	242.3	-238.2	8.13	8.10	1.06
6,544.0	48.58	262.67	6,418.6	-202.8	178.4	-174.0	6.14	6.10	0.93
6,634.0	57.23	267.45	6,472.8	-208.8	106.9	-102.5	10.50	9.61	5.31
6,681.9	59.98	269.99	6,497.8	-209.7	66.1	-61.6	7.31	5.75	5.29
TPZ - 60° Inc in Curve - 1504'FSL & 391'FEL, Sec.36									
6,723.0	62.38	272.05	6,517.6	-209.1	30.1	-25.7	7.31	5.83	5.02
6,813.0	68.74	277.03	6,554.8	-202.5	-51.5	55.8	8.68	7.07	5.53
6,902.0	78.74	277.13	6,579.7	-192.0	-136.2	140.2	11.24	11.24	0.11
6,992.0	89.61	277.39	6,588.8	-180.7	-224.9	228.7	12.08	12.08	0.29
7,082.0	86.60	274.28	6,591.8	-171.5	-314.4	317.9	4.81	-3.34	-3.46
7,171.0	85.43	268.90	6,598.0	-169.1	-403.1	406.5	6.17	-1.31	-6.04
7,261.0	87.45	268.01	6,603.6	-171.5	-492.9	496.4	2.45	2.24	-0.99
7,350.0	90.13	268.86	6,605.5	-173.9	-581.8	585.3	3.16	3.01	0.96
7,440.0	91.32	271.29	6,604.3	-173.8	-671.8	675.3	3.01	1.32	2.70
7,530.0	91.30	270.17	6,602.3	-172.7	-761.8	765.2	1.24	-0.02	-1.24
7,619.0	90.37	268.18	6,601.0	-173.9	-850.7	854.2	2.47	-1.04	-2.24
7,709.0	91.29	271.68	6,599.7	-174.1	-940.7	944.2	4.02	1.02	3.89
7,799.0	88.86	267.74	6,599.6	-174.5	-1,030.7	1,034.1	5.14	-2.70	-4.38
7,888.0	89.12	267.56	6,601.1	-178.2	-1,119.6	1,123.1	0.36	0.29	-0.20
7,977.0	89.50	268.79	6,602.2	-181.0	-1,208.5	1,212.1	1.45	0.43	1.38
8,067.0	89.20	269.78	6,603.2	-182.1	-1,298.5	1,302.1	1.15	-0.33	1.10
8,157.0	89.33	268.15	6,604.4	-183.7	-1,388.5	1,392.1	1.82	0.14	-1.81
8,246.0	88.72	268.71	6,605.9	-186.2	-1,477.5	1,481.0	0.93	-0.69	0.63
8,336.0	89.17	267.57	6,607.6	-189.1	-1,567.4	1,571.0	1.36	0.50	-1.27
8,426.0	88.86	268.84	6,609.1	-191.9	-1,657.3	1,661.0	1.45	-0.34	1.41

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N 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)
8,516.0	89.01	268.55	6,610.8	-194.0	-1,747.3	1,751.0	0.36	0.17	-0.32
8,606.0	89.83	269.75	6,611.7	-195.3	-1,837.3	1,841.0	1.61	0.91	1.33
8,696.0	90.06	271.19	6,611.8	-194.6	-1,927.3	1,930.9	1.62	0.26	1.60
8,785.0	90.03	271.13	6,611.7	-192.8	-2,016.3	2,019.9	0.08	-0.03	-0.07
8,875.0	90.03	271.02	6,611.7	-191.1	-2,106.2	2,109.8	0.12	0.00	-0.12
8,964.0	89.96	272.35	6,611.7	-188.5	-2,195.2	2,198.7	1.50	-0.08	1.49
9,054.0	90.63	271.74	6,611.2	-185.2	-2,285.1	2,288.5	1.01	0.74	-0.68
9,144.0	89.86	269.84	6,610.8	-184.0	-2,375.1	2,378.5	2.28	-0.86	-2.11
9,234.0	89.75	270.30	6,611.1	-183.9	-2,465.1	2,468.4	0.53	-0.12	0.51
9,323.0	89.88	271.27	6,611.4	-182.7	-2,554.1	2,557.4	1.10	0.15	1.09
9,413.0	89.88	270.14	6,611.6	-181.6	-2,644.1	2,647.3	1.26	0.00	-1.26
9,503.0	90.51	272.51	6,611.3	-179.5	-2,734.1	2,737.2	2.72	0.70	2.63
9,592.0	89.71	269.11	6,611.1	-178.2	-2,823.1	2,826.2	3.92	-0.90	-3.82
9,682.0	89.01	268.74	6,612.1	-179.9	-2,913.0	2,916.2	0.88	-0.78	-0.41
9,772.0	89.13	268.99	6,613.6	-181.7	-3,003.0	3,006.2	0.31	0.13	0.28
9,861.0	89.63	270.62	6,614.5	-182.0	-3,092.0	3,095.1	1.92	0.56	1.83
9,951.0	89.86	269.94	6,614.9	-181.6	-3,182.0	3,185.1	0.80	0.26	-0.76
10,041.0	90.49	272.30	6,614.7	-179.8	-3,272.0	3,275.0	2.71	0.70	2.62
10,130.0	90.21	272.12	6,614.1	-176.4	-3,360.9	3,363.9	0.37	-0.31	-0.20
10,219.0	89.51	269.70	6,614.3	-175.0	-3,449.9	3,452.8	2.83	-0.79	-2.72
10,309.0	89.28	269.23	6,615.3	-175.8	-3,539.9	3,542.8	0.58	-0.26	-0.52
10,399.0	93.14	274.65	6,613.4	-172.8	-3,629.7	3,632.6	7.39	4.29	6.02
10,489.0	89.90	269.43	6,611.0	-169.6	-3,719.6	3,722.4	6.82	-3.60	-5.80
10,578.0	89.62	269.46	6,611.4	-170.4	-3,808.6	3,811.4	0.32	-0.31	0.03
10,668.0	89.69	268.64	6,611.9	-171.9	-3,898.6	3,901.3	0.91	0.08	-0.91
10,757.0	89.82	269.70	6,612.3	-173.2	-3,987.6	3,990.3	1.20	0.15	1.19
10,847.0	90.48	272.63	6,612.1	-171.4	-4,077.6	4,080.3	3.34	0.73	3.26
10,937.0	88.85	266.00	6,612.6	-172.4	-4,167.5	4,170.2	7.59	-1.81	-7.37
11,027.0	89.08	265.32	6,614.2	-179.3	-4,257.2	4,260.0	0.80	0.26	-0.76
11,117.0	90.39	267.45	6,614.6	-184.9	-4,347.0	4,350.0	2.78	1.46	2.37
11,206.0	91.02	270.24	6,613.5	-186.7	-4,436.0	4,438.9	3.21	0.71	3.13
11,296.0	91.23	270.39	6,611.8	-186.2	-4,526.0	4,528.9	0.29	0.23	0.17
11,386.0	91.11	270.17	6,609.9	-185.8	-4,616.0	4,618.8	0.28	-0.13	-0.24
11,476.0	90.72	269.44	6,608.5	-186.1	-4,705.9	4,708.8	0.92	-0.43	-0.81
11,566.0	90.93	269.26	6,607.2	-187.1	-4,795.9	4,798.8	0.31	0.23	-0.20
11,655.0	89.53	269.27	6,606.8	-188.3	-4,884.9	4,887.8	1.57	-1.57	0.01
11,745.0	90.11	270.46	6,607.1	-188.5	-4,974.9	4,977.8	1.47	0.64	1.32
11,834.0	89.49	269.88	6,607.4	-188.2	-5,063.9	5,066.8	0.95	-0.70	-0.65
11,924.0	89.54	268.77	6,608.2	-189.3	-5,153.9	5,156.7	1.23	0.06	-1.23
12,013.0	90.10	270.46	6,608.5	-189.9	-5,242.9	5,245.7	2.00	0.63	1.90
12,102.0	89.94	269.88	6,608.4	-189.6	-5,331.9	5,334.7	0.68	-0.18	-0.65
12,191.0	89.53	270.16	6,608.9	-189.6	-5,420.9	5,423.7	0.56	-0.46	0.31
12,282.0	90.03	269.48	6,609.2	-189.9	-5,511.9	5,514.7	0.93	0.55	-0.75
12,370.0	90.06	270.11	6,609.1	-190.2	-5,599.9	5,602.7	0.72	0.03	0.72

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N 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)
12,461.0	89.66	269.90	6,609.4	-190.2	-5,690.9	5,693.6	0.50	-0.44	-0.23
12,550.0	90.00	270.15	6,609.6	-190.1	-5,779.9	5,782.6	0.47	0.38	0.28
12,639.0	89.85	269.48	6,609.7	-190.4	-5,868.9	5,871.6	0.77	-0.17	-0.75
12,729.0	89.94	270.59	6,609.9	-190.4	-5,958.9	5,961.6	1.24	0.10	1.23
12,819.0	90.05	270.53	6,609.9	-189.5	-6,048.9	6,051.5	0.14	0.12	-0.07
12,908.0	89.75	269.21	6,610.1	-189.7	-6,137.9	6,140.5	1.52	-0.34	-1.48
12,998.0	89.64	269.94	6,610.5	-190.3	-6,227.9	6,230.5	0.82	-0.12	0.81
13,087.0	88.99	268.68	6,611.6	-191.4	-6,316.9	6,319.5	1.59	-0.73	-1.42
13,177.0	89.33	268.27	6,612.9	-193.8	-6,406.8	6,409.5	0.59	0.38	-0.46
13,266.0	89.42	269.51	6,613.9	-195.5	-6,495.8	6,498.5	1.40	0.10	1.39
13,356.0	89.52	270.41	6,614.7	-195.6	-6,585.8	6,588.5	1.01	0.11	1.00
13,446.0	89.25	269.36	6,615.7	-195.8	-6,675.8	6,678.4	1.20	-0.30	-1.17
13,536.0	89.51	269.20	6,616.7	-196.9	-6,765.8	6,768.4	0.34	0.29	-0.18
13,625.0	90.03	269.21	6,617.0	-198.1	-6,854.8	6,857.4	0.58	0.58	0.01
13,715.0	89.92	269.50	6,617.1	-199.2	-6,944.8	6,947.4	0.34	-0.12	0.32
13,804.0	89.70	269.28	6,617.4	-200.1	-7,033.8	7,036.4	0.35	-0.25	-0.25
13,894.0	89.76	269.59	6,617.8	-201.0	-7,123.7	7,126.4	0.35	0.07	0.34
13,984.0	89.63	268.64	6,618.3	-202.4	-7,213.7	7,216.4	1.07	-0.14	-1.06
14,074.0	90.20	269.66	6,618.4	-203.7	-7,303.7	7,306.4	1.30	0.63	1.13
14,163.0	90.15	269.38	6,618.1	-204.5	-7,392.7	7,395.4	0.32	-0.06	-0.31
14,253.0	90.14	270.06	6,617.9	-204.9	-7,482.7	7,485.4	0.76	-0.01	0.76
14,342.0	90.11	268.63	6,617.7	-205.9	-7,571.7	7,574.4	1.61	-0.03	-1.61
14,432.0	89.61	268.35	6,617.9	-208.3	-7,661.7	7,664.4	0.64	-0.56	-0.31
14,521.0	89.82	269.58	6,618.4	-209.9	-7,750.7	7,753.4	1.40	0.24	1.38
14,612.0	90.22	270.28	6,618.3	-210.0	-7,841.7	7,844.3	0.89	0.44	0.77
14,701.0	90.51	270.70	6,617.8	-209.2	-7,930.7	7,933.3	0.57	0.33	0.47
14,791.0	90.20	269.92	6,617.2	-208.8	-8,020.7	8,023.3	0.93	-0.34	-0.87
14,881.0	90.34	269.39	6,616.8	-209.3	-8,110.6	8,113.3	0.61	0.16	-0.59
14,971.0	90.27	268.92	6,616.3	-210.6	-8,200.6	8,203.3	0.53	-0.08	-0.52
15,061.0	90.42	270.77	6,615.8	-210.9	-8,290.6	8,293.2	2.06	0.17	2.06
15,150.0	90.11	270.16	6,615.4	-210.2	-8,379.6	8,382.2	0.77	-0.35	-0.69
15,240.0	90.36	270.54	6,615.0	-209.6	-8,469.6	8,472.2	0.51	0.28	0.42
15,330.0	90.20	269.90	6,614.6	-209.3	-8,559.6	8,562.1	0.73	-0.18	-0.71
15,420.0	90.00	269.36	6,614.4	-209.8	-8,649.6	8,652.1	0.64	-0.22	-0.60
15,510.0	90.37	270.06	6,614.1	-210.3	-8,739.6	8,742.1	0.88	0.41	0.78
15,600.0	90.15	269.01	6,613.7	-211.0	-8,829.6	8,832.1	1.19	-0.24	-1.17
15,690.0	90.02	268.45	6,613.6	-213.0	-8,919.6	8,922.1	0.64	-0.14	-0.62
15,780.0	89.64	268.63	6,613.8	-215.3	-9,009.6	9,012.1	0.47	-0.42	0.20
15,870.0	90.08	269.11	6,614.0	-217.1	-9,099.5	9,102.1	0.72	0.49	0.53
15,960.0	90.00	269.96	6,614.0	-217.8	-9,189.5	9,192.1	0.95	-0.09	0.94
16,049.0	89.81	269.88	6,614.1	-217.9	-9,278.5	9,281.1	0.23	-0.21	-0.09
16,138.0	89.75	268.80	6,614.5	-219.0	-9,367.5	9,370.1	1.22	-0.07	-1.21
16,227.0	89.48	268.23	6,615.1	-221.3	-9,456.5	9,459.1	0.71	-0.30	-0.64

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Pharaoh 1N (Nio C)
Project:	SEC.36-T5N-R64W	TVD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Site:	Pharaoh 5N64W36 Pad Sec.36-T5N-R64W	MD Reference:	WELL @ 4621.0ft (Ensign 142 RKB - 28')
Well:	Pharaoh 1N (Nio C)	North Reference:	True
Wellbore:	Pharaoh 1N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Pharaoh 1N 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)
16,317.0	89.67	268.93	6,615.7	-223.5	-9,546.5	9,549.1	0.81	0.21	0.78
16,407.0	89.92	269.28	6,616.1	-224.9	-9,636.5	9,639.1	0.48	0.28	0.39
16,496.0	89.74	271.44	6,616.3	-224.4	-9,725.4	9,728.0	2.44	-0.20	2.43
16,585.0	89.66	270.55	6,616.8	-222.8	-9,814.4	9,816.9	1.00	-0.09	-1.00
16,675.0	90.50	273.35	6,616.7	-219.7	-9,904.4	9,906.8	3.25	0.93	3.11
16,729.0	90.17	271.87	6,616.4	-217.3	-9,958.3	9,960.7	2.81	-0.61	-2.74
16,751.0	90.17	271.87	6,616.3	-216.6	-9,980.3	9,982.6	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
- hit/miss target									
- Shape									
SHL 1713'FSL & 455'FE	0.00	0.00	1.0	0.0	0.0	1,373,182.11	3,281,507.32	40.353385	-104.489912
- survey hits target center									
- Point									
BHL 1530'FSL & 150'FW	0.00	0.00	6,638.0	-210.0	-9,981.7	1,372,858.43	3,271,529.13	40.352803	-104.525725
- survey misses target center by 22.7ft at 16751.0ft MD (6616.3 TVD, -216.6 N, -9980.3 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,349.8	6,274.8	-184.3	306.9	DSU - 1529'FSL & 150'FEL, Sec.36
6,681.9	6,497.8	-209.7	66.1	TPZ - 60° Inc in Curve - 1504'FSL & 391'FEL, Sec.36

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------