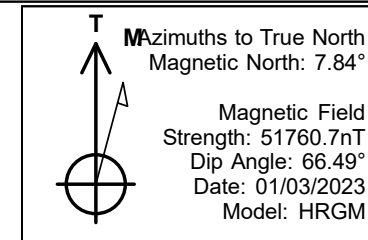


PDC Energy Inc. DJ Basin



Steamboat 2N
 Steamboat 4N66W34 1-16 Pad
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4805.0
 +N/-S +E/-W Northing Easting Longitude Slot
 0.0 0.0 1340495.32 3205789.14 40.265720 -104.762590
 Patterson 272 RKB - 28.5'Well @ 4833.5ft (Patterson 272 RKB - 28.5')

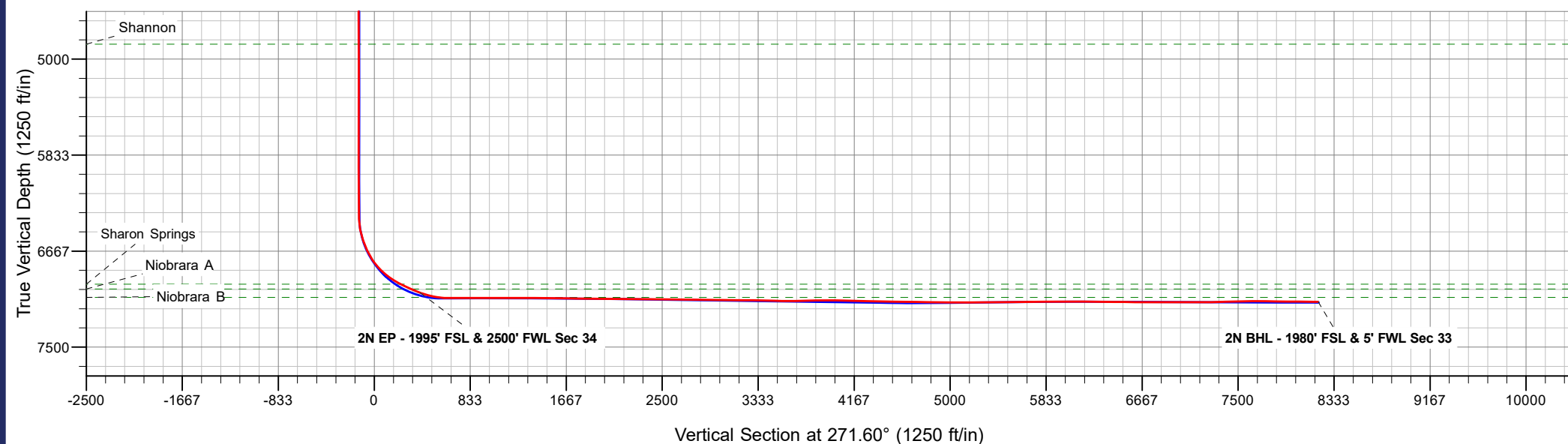
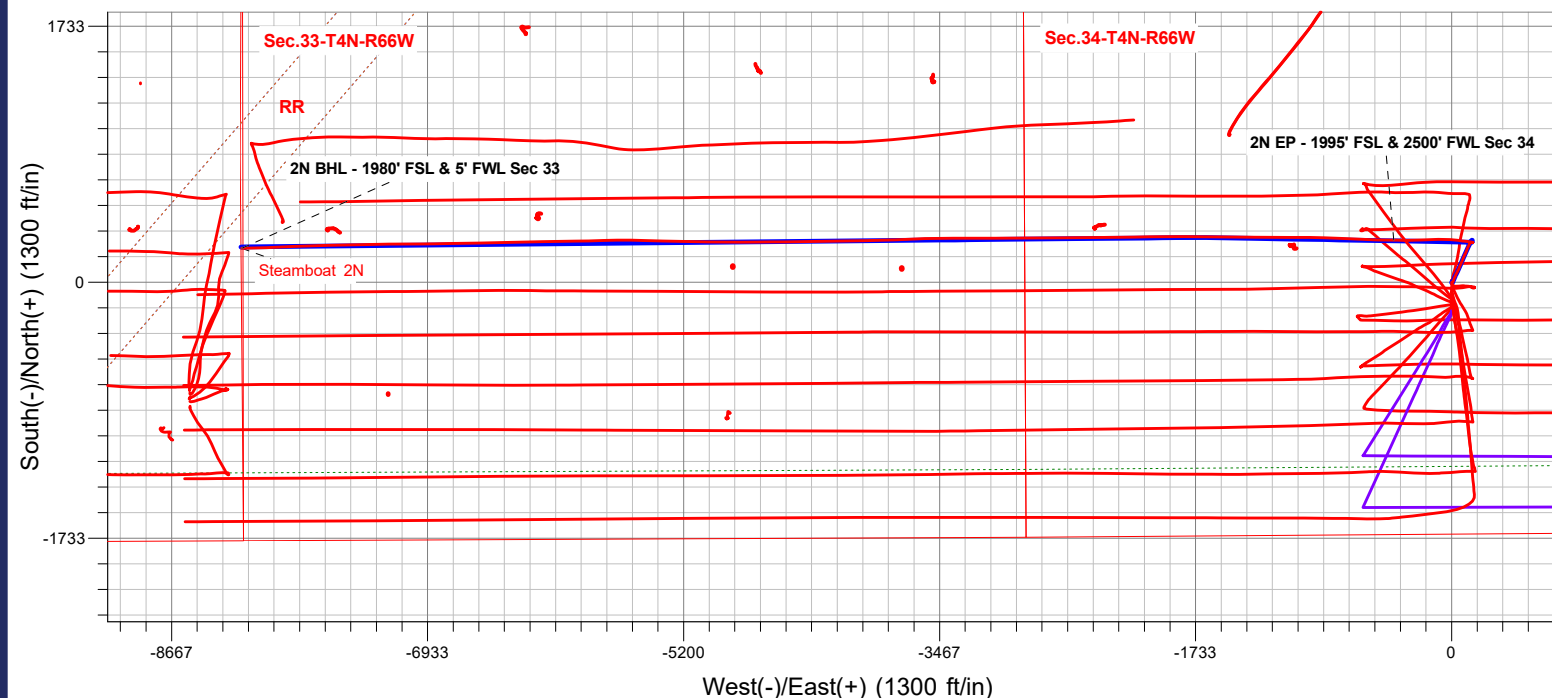
Steamboat 4N66W34 1-16 Pad
 Steamboat 2N
 Steamboat 2N Final Surveys
 12:10, February 23 2023



ANNOTATIONS

MD	TVD	Annotation
7310.0	7028.3	2N EP - 1995' FSL & 2500' FWL Sec 34
15118.0	7107.1	2N BHL - 1980' FSL & 5' FWL Sec 33

FINAL SURVEY
Projected Bottom Hole Location
15118' MD / 7107.1' TVD
89.32° INC / 268.11° AZM
1980' FSL / 5' FWL





PDC Energy Inc. DJ Basin

SEC.34-T4N-R66W

Steamboat 4N66W34 1-16 Pad

Steamboat 2N

Steamboat 2N Wellbore #1

Design: Steamboat 2N Final Surveys

Standard Survey Report

23 February, 2023

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Steamboat 2N
Project:	SEC.34-T4N-R66W	TVD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	Database:	US_EDM

Project	SEC.34-T4N-R66W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Steamboat 4N66W34 1-16 Pad				
Site Position:		Northing:	1,340,466.93 usft	Latitude:	40.265632
From:	Lat/Long	Easting:	3,205,789.66 usft	Longitude:	-104.762559
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.48 °

Well	Steamboat 2N					
Well Position	+N/-S	0.0 ft	Northing:	1,340,495.32 usft	Latitude:	40.265720
	+E/-W	0.0 ft	Easting:	3,205,789.14 usft	Longitude:	-104.762590
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,805.0 ft

Wellbore	Steamboat 2N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HRGM	01/03/2023	7.84	66.49	51,760.68405990

Design	Steamboat 2N Final Surveys				
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		271.60

Survey Program	Date	02/23/2023			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
161.5	15,118.0	Survey #1 (Steamboat 2N 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	
161.5	1.76	169.23	161.5	-2.4	0.5	-0.5	1.09	1.09	0.00	
253.5	1.49	136.71	253.4	-4.7	1.5	-1.7	1.03	-0.29	-35.35	
344.5	2.73	56.20	344.4	-4.4	4.2	-4.3	3.17	1.36	-88.47	
461.5	2.73	23.33	461.3	-0.2	7.6	-7.6	1.32	0.00	-28.09	
548.5	2.37	22.45	548.2	3.3	9.1	-9.0	0.42	-0.41	-1.01	
633.5	3.96	24.38	633.0	7.6	11.0	-10.8	1.87	1.87	2.27	
720.5	6.24	20.87	719.7	14.8	13.9	-13.5	2.64	2.62	-4.03	
810.5	7.56	19.99	809.0	24.9	17.7	-17.0	1.47	1.47	-0.98	
873.6	9.01	21.73	871.5	33.4	20.9	-20.0	2.33	2.29	2.75	
Fox Hills Aq Base										

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Steamboat 2N
Project:	SEC.34-T4N-R66W	TVD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	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)
898.5	9.58	22.27	896.1	37.1	22.4	-21.4	2.33	2.30	2.18
988.5	11.87	27.55	984.5	52.3	29.5	-28.1	2.77	2.54	5.87
1,076.5	12.13	25.97	1,070.6	68.6	37.8	-35.8	0.48	0.30	-1.80
1,165.5	12.75	23.68	1,157.5	86.0	45.8	-43.4	0.89	0.70	-2.57
1,254.5	13.37	24.03	1,244.2	104.4	53.9	-51.0	0.70	0.70	0.39
1,342.5	13.89	22.98	1,329.7	123.4	62.2	-58.7	0.65	0.59	-1.19
1,431.5	14.25	22.10	1,416.0	143.4	70.5	-66.5	0.47	0.40	-0.99
1,519.5	13.63	23.33	1,501.4	163.0	78.7	-74.1	0.78	-0.70	1.40
1,606.5	12.84	25.61	1,586.1	181.1	86.9	-81.8	1.09	-0.91	2.62
1,646.5	12.84	25.26	1,625.1	189.1	90.7	-85.4	0.19	0.00	-0.88
1,777.0	12.81	21.91	1,752.4	215.6	102.3	-96.3	0.57	-0.02	-2.57
1,871.0	12.61	20.56	1,844.1	234.9	109.8	-103.2	0.38	-0.21	-1.44
1,966.0	9.55	28.33	1,937.3	251.6	117.2	-110.1	3.58	-3.22	8.18
2,061.0	7.07	39.68	2,031.3	263.0	124.7	-117.3	3.12	-2.61	11.95
2,155.0	4.10	57.59	2,124.8	269.3	131.2	-123.6	3.63	-3.16	19.05
2,250.0	3.66	101.93	2,219.6	270.5	137.0	-129.4	3.11	-0.46	46.67
2,439.0	0.08	300.56	2,408.5	269.3	142.8	-135.3	1.98	-1.89	-85.38
2,534.0	0.33	37.21	2,503.5	269.5	142.9	-135.4	0.37	0.26	101.74
2,629.0	0.08	164.34	2,598.5	269.7	143.1	-135.5	0.40	-0.26	133.82
2,819.0	0.14	200.38	2,788.5	269.3	143.1	-135.5	0.05	0.03	18.97
2,913.0	0.09	98.32	2,882.5	269.2	143.1	-135.5	0.19	-0.05	-108.57
3,008.0	0.16	180.10	2,977.5	269.1	143.2	-135.6	0.18	0.07	86.08
3,103.0	0.17	199.53	3,072.5	268.8	143.1	-135.6	0.06	0.01	20.45
3,198.0	0.05	341.01	3,167.5	268.7	143.1	-135.5	0.22	-0.13	148.93
3,292.0	0.16	355.69	3,261.5	268.9	143.1	-135.5	0.12	0.12	15.62
3,387.0	0.04	208.82	3,356.5	269.0	143.0	-135.5	0.20	-0.13	-154.60
3,482.0	0.21	271.17	3,451.5	269.0	142.8	-135.3	0.20	0.18	65.63
3,577.0	0.11	297.72	3,546.5	269.0	142.6	-135.0	0.13	-0.11	27.95
3,672.0	0.19	269.01	3,641.5	269.1	142.3	-134.8	0.11	0.08	-30.22
3,766.0	0.21	52.60	3,735.5	269.2	142.3	-134.7	0.40	0.02	152.76
3,806.0	0.14	53.69	3,775.5	269.2	142.4	-134.8	0.17	-0.17	2.74
Parkman									
3,861.0	0.05	60.03	3,830.5	269.3	142.5	-134.9	0.17	-0.17	11.52
3,955.0	0.04	114.71	3,924.5	269.3	142.6	-135.0	0.04	-0.01	58.17
4,050.0	0.09	326.73	4,019.5	269.3	142.6	-135.0	0.13	0.05	-155.77
4,145.0	0.23	82.79	4,114.5	269.4	142.7	-135.1	0.30	0.15	122.17
4,239.0	0.44	274.27	4,208.5	269.5	142.5	-134.9	0.71	0.22	-179.28
4,241.0	0.43	274.34	4,210.5	269.5	142.5	-134.9	0.74	-0.74	3.66
Sussex									
4,334.0	0.26	88.57	4,303.5	269.5	142.4	-134.8	0.74	-0.18	187.33
4,429.0	0.18	90.93	4,398.5	269.5	142.8	-135.2	0.08	-0.08	2.48
4,523.0	0.09	115.41	4,492.5	269.5	143.0	-135.4	0.11	-0.10	26.04
4,618.0	0.31	306.71	4,587.5	269.6	142.8	-135.2	0.42	0.23	-177.58

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Steamboat 2N
Project:	SEC.34-T4N-R66W	TVD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	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)
4,713.0	0.10	253.95	4,682.5	269.7	142.5	-134.9	0.28	-0.22	-55.54
4,807.0	0.28	321.01	4,776.5	269.9	142.3	-134.7	0.27	0.19	71.34
4,901.0	0.27	220.14	4,870.5	269.9	142.0	-134.4	0.45	-0.01	-107.31
Shannon									
4,996.0	0.33	144.74	4,965.5	269.5	142.0	-134.5	0.39	0.06	-79.37
5,091.0	0.16	53.67	5,060.5	269.4	142.3	-134.7	0.39	-0.18	-95.86
5,186.0	0.18	203.17	5,155.5	269.3	142.4	-134.8	0.35	0.02	157.37
5,281.0	0.16	25.15	5,250.5	269.3	142.4	-134.8	0.36	-0.02	-187.39
5,376.0	0.14	174.46	5,345.5	269.3	142.4	-134.8	0.30	-0.02	157.17
5,470.0	0.34	311.02	5,439.5	269.4	142.2	-134.6	0.48	0.21	145.28
5,565.0	0.26	242.21	5,534.5	269.4	141.8	-134.2	0.36	-0.08	-72.43
5,660.0	0.13	161.28	5,629.5	269.2	141.7	-134.1	0.29	-0.14	-85.19
5,755.0	0.11	197.37	5,724.5	269.0	141.7	-134.1	0.08	-0.02	37.99
5,849.0	0.11	326.39	5,818.5	269.0	141.6	-134.0	0.21	0.00	137.26
5,944.0	0.19	348.33	5,913.5	269.3	141.5	-133.9	0.10	0.08	23.09
6,039.0	0.24	169.06	6,008.5	269.2	141.5	-133.9	0.45	0.05	-188.71
6,133.0	0.24	50.15	6,102.5	269.2	141.7	-134.1	0.44	0.00	-126.50
6,228.0	0.21	86.70	6,197.5	269.3	142.0	-134.4	0.15	-0.03	38.47
6,323.0	0.24	246.87	6,292.5	269.2	142.0	-134.4	0.47	0.03	168.60
6,418.0	1.98	284.01	6,387.5	269.5	140.2	-132.7	1.89	1.83	39.09
6,512.0	11.77	281.21	6,480.7	271.8	129.2	-121.6	10.42	10.41	-2.98
6,607.0	18.33	278.13	6,572.4	275.8	104.9	-97.2	6.95	6.91	-3.24
6,702.0	25.32	277.21	6,660.5	280.5	69.9	-62.1	7.37	7.36	-0.97
6,797.0	33.94	276.40	6,743.0	286.0	23.3	-15.3	9.08	9.07	-0.85
6,892.0	43.36	271.30	6,817.1	289.7	-35.8	43.9	10.46	9.92	-5.37
6,986.0	51.91	267.13	6,880.4	288.6	-105.1	113.1	9.66	9.10	-4.44
7,081.0	60.85	269.23	6,933.0	286.1	-184.1	192.0	9.59	9.41	2.21
7,124.4	62.81	269.32	6,953.5	285.7	-222.4	230.3	4.51	4.51	0.21
Sharon Springs									
7,175.0	65.09	269.42	6,975.7	285.2	-267.8	275.7	4.51	4.51	0.20
7,223.2	66.35	269.72	6,995.5	284.8	-311.7	319.5	2.68	2.62	0.62
Niobrara A									
7,270.0	67.58	270.00	7,013.8	284.7	-354.8	362.6	2.68	2.62	0.60
7,310.0	70.09	270.44	7,028.3	284.9	-392.1	399.9	6.37	6.28	1.11
2N EP - 1995' FSL & 2500' FWL Sec 34									
7,365.0	73.55	271.03	7,045.4	285.5	-444.4	452.2	6.37	6.29	1.07
7,459.0	81.03	271.91	7,066.1	287.9	-536.0	543.8	8.01	7.96	0.94
7,468.5	81.99	271.98	7,067.5	288.2	-545.4	553.2	10.09	10.06	0.75
Niobrara B									
7,554.0	90.59	272.61	7,073.0	291.6	-630.5	638.4	10.09	10.06	0.74
7,648.0	89.79	271.99	7,072.7	295.4	-724.4	732.4	1.08	-0.85	-0.66
7,743.0	89.79	272.33	7,073.1	299.0	-819.4	827.4	0.36	0.00	0.36
7,838.0	89.98	271.24	7,073.3	301.9	-914.3	922.4	1.16	0.20	-1.15
7,933.0	90.03	269.81	7,073.2	302.8	-1,009.3	1,017.4	1.51	0.05	-1.51

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Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	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)
8,027.0	89.98	270.52	7,073.2	303.1	-1,103.3	1,111.4	0.76	-0.05	0.76
8,216.0	90.01	270.31	7,073.3	304.5	-1,292.3	1,300.3	0.11	0.02	-0.11
8,311.0	89.47	270.80	7,073.7	305.4	-1,387.3	1,395.3	0.77	-0.57	0.52
8,406.0	89.50	270.40	7,074.5	306.4	-1,482.3	1,490.3	0.42	0.03	-0.42
8,501.0	89.30	270.02	7,075.5	306.7	-1,577.3	1,585.2	0.45	-0.21	-0.40
8,595.0	89.03	270.56	7,076.9	307.2	-1,671.3	1,679.2	0.64	-0.29	0.57
8,689.0	89.31	271.01	7,078.3	308.5	-1,765.3	1,773.2	0.56	0.30	0.48
8,784.0	89.28	269.36	7,079.4	308.8	-1,860.2	1,868.2	1.74	-0.03	-1.74
8,879.0	89.46	269.38	7,080.5	307.7	-1,955.2	1,963.1	0.19	0.19	0.02
8,974.0	89.48	269.30	7,081.4	306.7	-2,050.2	2,058.0	0.09	0.02	-0.08
9,068.0	89.14	269.81	7,082.5	305.9	-2,144.2	2,151.9	0.65	-0.36	0.54
9,163.0	89.63	268.88	7,083.5	304.8	-2,239.2	2,246.9	1.11	0.52	-0.98
9,258.0	89.47	269.61	7,084.3	303.6	-2,334.2	2,341.8	0.79	-0.17	0.77
9,353.0	89.61	269.17	7,085.0	302.6	-2,429.2	2,436.7	0.49	0.15	-0.46
9,447.0	89.86	269.13	7,085.5	301.2	-2,523.2	2,530.6	0.27	0.27	-0.04
9,542.0	89.21	270.07	7,086.2	300.5	-2,618.2	2,625.5	1.20	-0.68	0.99
9,636.0	89.43	269.61	7,087.3	300.3	-2,712.2	2,719.5	0.54	0.23	-0.49
9,731.0	89.05	270.01	7,088.6	299.9	-2,807.1	2,814.4	0.58	-0.40	0.42
9,826.0	89.30	269.66	7,090.0	299.7	-2,902.1	2,909.4	0.45	0.26	-0.37
9,920.0	89.57	269.46	7,090.9	298.9	-2,996.1	3,003.3	0.36	0.29	-0.21
10,015.0	89.43	269.63	7,091.7	298.2	-3,091.1	3,098.3	0.23	-0.15	0.18
10,110.0	89.51	269.56	7,092.6	297.5	-3,186.1	3,193.2	0.11	0.08	-0.07
10,205.0	89.11	270.37	7,093.7	297.5	-3,281.1	3,288.1	0.95	-0.42	0.85
10,299.0	88.95	269.65	7,095.3	297.5	-3,375.1	3,382.1	0.78	-0.17	-0.77
10,394.0	88.66	269.50	7,097.3	296.8	-3,470.1	3,477.0	0.34	-0.31	-0.16
10,489.0	89.48	268.21	7,098.9	294.9	-3,565.0	3,571.9	1.61	0.86	-1.36
10,584.0	90.40	267.92	7,099.0	291.7	-3,660.0	3,666.7	1.02	0.97	-0.31
10,678.0	91.54	267.95	7,097.4	288.3	-3,753.9	3,760.5	1.21	1.21	0.03
10,775.0	91.55	267.90	7,094.8	284.8	-3,850.8	3,857.3	0.05	0.01	-0.05
10,870.0	89.58	268.36	7,093.8	281.7	-3,945.7	3,952.1	2.13	-2.07	0.48
10,965.0	88.55	269.08	7,095.4	279.5	-4,040.7	4,046.9	1.32	-1.08	0.76
11,059.0	88.63	269.28	7,097.7	278.2	-4,134.7	4,140.8	0.23	0.09	0.21
11,154.0	88.73	269.41	7,099.9	277.1	-4,229.6	4,235.7	0.17	0.11	0.14
11,249.0	88.76	269.39	7,101.9	276.1	-4,324.6	4,330.6	0.04	0.03	-0.02
11,344.0	88.92	269.30	7,103.9	275.0	-4,419.6	4,425.5	0.19	0.17	-0.09
11,439.0	89.14	269.42	7,105.5	274.0	-4,514.6	4,520.5	0.26	0.23	0.13
11,534.0	89.21	269.61	7,106.8	273.2	-4,609.6	4,615.4	0.21	0.07	0.20
11,628.0	89.22	269.76	7,108.1	272.7	-4,703.5	4,709.3	0.16	0.01	0.16
11,723.0	89.12	269.72	7,109.5	272.2	-4,798.5	4,804.3	0.11	-0.11	-0.04
11,818.0	89.12	270.16	7,111.0	272.1	-4,893.5	4,899.2	0.46	0.00	0.46
11,913.0	89.43	270.45	7,112.2	272.6	-4,988.5	4,994.2	0.45	0.33	0.31
12,008.0	89.88	270.94	7,112.7	273.8	-5,083.5	5,089.2	0.70	0.47	0.52
12,102.0	90.18	271.01	7,112.7	275.4	-5,177.5	5,183.2	0.33	0.32	0.07
12,197.0	90.27	271.12	7,112.3	277.1	-5,272.5	5,278.2	0.15	0.09	0.12

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Steamboat 2N
Project:	SEC.34-T4N-R66W	TVD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	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)	
12,292.0	90.92	271.67	7,111.3	279.5	-5,367.4	5,373.2	0.90	0.68	0.58	
12,387.0	91.10	271.83	7,109.7	282.4	-5,462.4	5,468.1	0.25	0.19	0.17	
12,482.0	91.53	271.88	7,107.5	285.4	-5,557.3	5,563.1	0.46	0.45	0.05	
12,577.0	90.15	268.17	7,106.1	285.5	-5,652.3	5,658.0	4.17	-1.45	-3.91	
12,672.0	90.25	268.39	7,105.8	282.6	-5,747.2	5,752.9	0.25	0.11	0.23	
12,767.0	90.18	269.01	7,105.4	280.5	-5,842.2	5,847.8	0.66	-0.07	0.65	
12,861.0	90.06	269.06	7,105.2	278.9	-5,936.2	5,941.7	0.14	-0.13	0.05	
12,956.0	89.68	268.71	7,105.4	277.0	-6,031.2	6,036.6	0.54	-0.40	-0.37	
13,051.0	89.70	268.64	7,105.9	274.8	-6,126.1	6,131.4	0.08	0.02	-0.07	
13,146.0	89.57	268.85	7,106.5	272.8	-6,221.1	6,226.3	0.26	-0.14	0.22	
13,242.0	89.59	268.81	7,107.2	270.8	-6,317.1	6,322.2	0.05	0.02	-0.04	
13,336.0	89.63	268.99	7,107.9	269.0	-6,411.1	6,416.1	0.20	0.04	0.19	
13,431.0	89.55	268.53	7,108.6	266.9	-6,506.1	6,511.0	0.49	-0.08	-0.48	
13,525.0	89.98	269.12	7,108.9	265.0	-6,600.0	6,604.9	0.78	0.46	0.63	
13,620.0	89.93	269.08	7,109.0	263.5	-6,695.0	6,699.8	0.07	-0.05	-0.04	
13,715.0	89.92	269.21	7,109.1	262.1	-6,790.0	6,794.7	0.14	-0.01	0.14	
13,810.0	89.92	269.35	7,109.3	260.9	-6,885.0	6,889.6	0.15	0.00	0.15	
13,905.0	89.90	269.08	7,109.4	259.6	-6,980.0	6,984.5	0.28	-0.02	-0.28	
13,999.0	89.89	269.69	7,109.6	258.6	-7,074.0	7,078.5	0.65	-0.01	0.65	
14,094.0	90.16	269.05	7,109.6	257.6	-7,169.0	7,173.4	0.73	0.28	-0.67	
14,189.0	90.76	269.31	7,108.8	256.2	-7,264.0	7,268.3	0.69	0.63	0.27	
14,283.0	91.42	269.14	7,107.0	254.9	-7,357.9	7,362.2	0.73	0.70	-0.18	
14,378.0	91.65	268.94	7,104.5	253.3	-7,452.9	7,457.1	0.32	0.24	-0.21	
14,473.0	91.15	268.55	7,102.1	251.3	-7,547.8	7,551.9	0.67	-0.53	-0.41	
14,568.0	89.83	268.15	7,101.3	248.5	-7,642.8	7,646.8	1.45	-1.39	-0.42	
14,663.0	89.70	267.95	7,101.7	245.3	-7,737.7	7,741.6	0.25	-0.14	-0.21	
14,758.0	89.20	267.76	7,102.6	241.7	-7,832.7	7,836.4	0.56	-0.53	-0.20	
14,853.0	89.35	267.68	7,103.8	237.9	-7,927.6	7,931.1	0.18	0.16	-0.08	
14,948.0	89.25	268.23	7,105.0	234.6	-8,022.5	8,025.9	0.59	-0.11	0.58	
15,088.0	89.32	268.11	7,106.7	230.1	-8,162.4	8,165.7	0.10	0.05	-0.09	
15,118.0	89.32	268.11	7,107.1	229.1	-8,192.4	8,195.6	0.00	0.00	0.00	
2N BHL - 1980' FSL & 5' FWL Sec 33										

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Steamboat 2N
Project:	SEC.34-T4N-R66W	TVD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Site:	Steamboat 4N66W34 1-16 Pad	MD Reference:	Well @ 4833.5ft (Patterson 272 RKB - 28.5')
Well:	Steamboat 2N	North Reference:	True
Wellbore:	Steamboat 2N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Steamboat 2N Final Surveys	Database:	US_EDM

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
873.6	871.5	Fox Hills Aq Base			
3,806.0	3,775.5	Parkman			
4,241.0	4,210.5	Sussex			
4,901.0	4,870.5	Shannon			
7,124.4	6,953.5	Sharon Springs			
7,223.2	6,995.5	Niobrara A			
7,468.5	7,067.5	Niobrara B			

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
7,310.0	7,028.3	284.9	-392.1	2N EP - 1995' FSL & 2500' FWL Sec 34	
15,118.0	7,107.1	229.1	-8,192.4	2N BHL - 1980' FSL & 5' FWL Sec 33	

Checked By: _____ Approved By: _____ Date: _____