

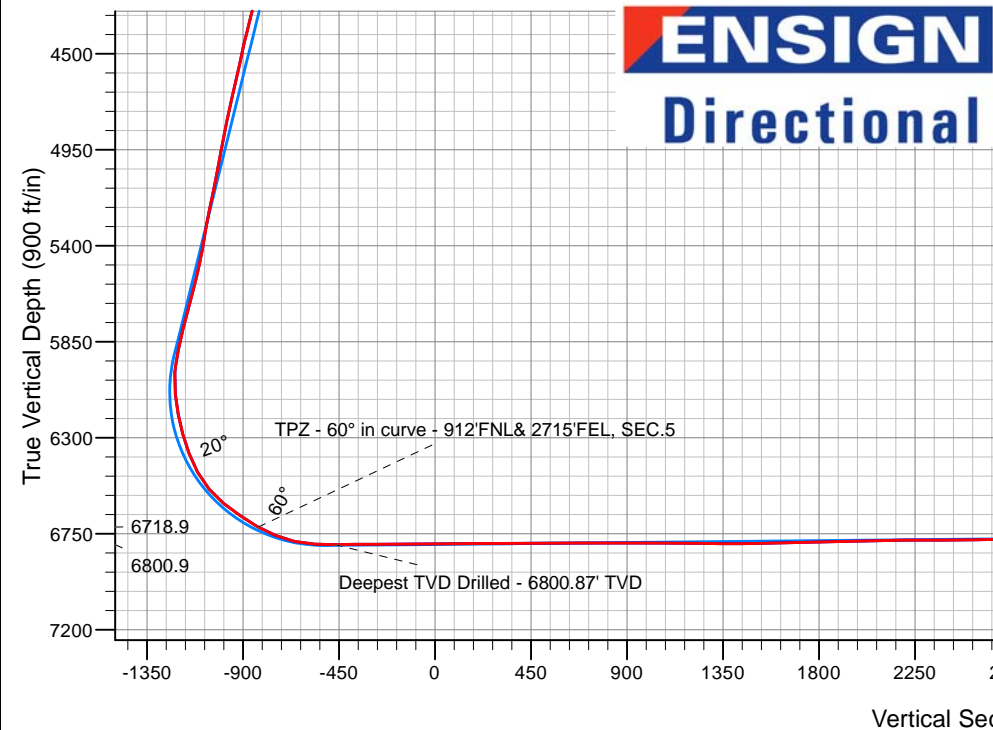
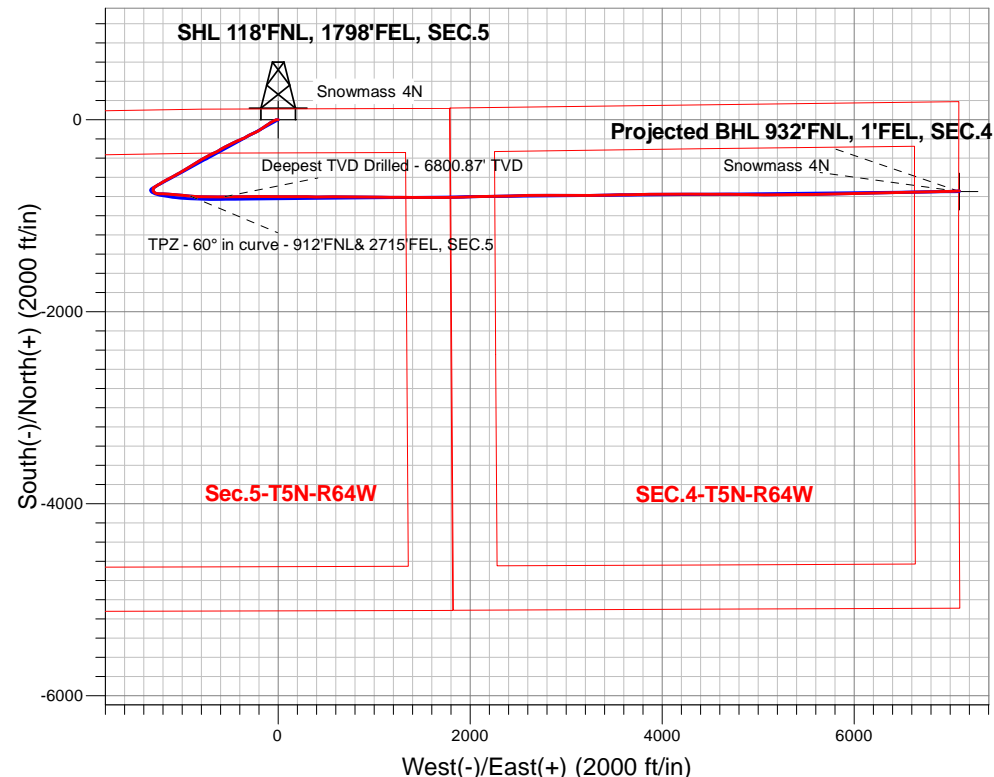
PDC Energy Inc. DJ Basin

Well Name: **Snowmass 4N**

Surface Location: Snowmass 5N64W05 Pad Sec.5-T5N-R64W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4634.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.01402649.42 3258530.05 40.434958 -104.571244
 Ensign Rig #152 - RKB - 23'WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')

FINAL SURVEY

Projected Bottom Hole Location
15,107'MD 6729'TVD 740'S & 7096'E of SHL
90.8 degree Incl @ 87.7 degree AZM



Snowmass 5N64W05 Pad Sec.5-T5N-R64W
 Snowmass 4N
 Snowmass 4N Wellbore #1
 10:55, September 20 2017

ANNOTATIONS

TVD	MD	Annotation
6718.9	7077.5	TPZ - 60° in curve - 912'FNL& 2715'FEL, SEC.5
6800.9	7452.0	Deepest TVD Drilled - 6800.87' TVD

LEGEND

- ▲ Snowmass 4N, Snowmass 4N Wellbore #1, Plan #3 (9-14-17) V0
- Survey #1
- Snowmass 4N Wellbore #1

Projected BHL 932'FNL, 1'FEL, SEC.4

Snowmass 4N



PDC Energy Inc. DJ Basin

SEC.5-T5N-R64W

Snowmass 5N64W05 Pad Sec.5-T5N-R64W

Snowmass 4N

Snowmass 4N Wellbore #1

Survey: Survey #1

Standard Survey Report

20 September, 2017

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 4N
Project:	SEC.5-T5N-R64W	TVD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 4N	North Reference:	True
Wellbore:	Snowmass 4N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 4N Wellbore #1	Database:	US_EDM

Project	SEC.5-T5N-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		Snowmass 5N64W05 Pad Sec.5-T5N-R64W			
Site Position:		Northing:	1,402,678.95 usft	Latitude:	40.435040
From:	Lat/Long	Easting:	3,258,495.78 usft	Longitude:	-104.571366
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.60 °

Well	Snowmass 4N					
Well Position	+N/-S	0.0 ft	Northing:	1,402,649.42 usft	Latitude:	40.434958
	+E/-W	0.0 ft	Easting:	3,258,530.06 usft	Longitude:	-104.571244
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,634.0 ft

Wellbore	Snowmass 4N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/19/2017	7.94	66.89	52,529

Design	Snowmass 4N 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	96.02	

Survey Program	Date	9/20/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
158.0	15,107.0	Survey #1 (Snowmass 4N 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	
158.0	0.40	308.40	158.0	0.3	-0.4	-0.5	0.25	0.25	0.00	
253.0	0.50	307.70	253.0	0.8	-1.0	-1.1	0.11	0.11	-0.74	
349.0	0.50	307.00	349.0	1.3	-1.7	-1.8	0.01	0.00	-0.73	
444.0	2.30	271.80	444.0	1.6	-3.9	-4.1	2.01	1.89	-37.05	
540.0	4.80	267.60	539.8	1.5	-9.9	-10.0	2.62	2.60	-4.38	
634.0	6.60	256.00	633.3	0.0	-19.0	-18.9	2.26	1.91	-12.34	
729.0	9.80	247.20	727.3	-4.4	-31.8	-31.2	3.61	3.37	-9.26	
825.0	11.40	240.90	821.7	-12.2	-47.6	-46.1	2.06	1.67	-6.56	
920.0	11.30	239.10	914.8	-21.5	-63.8	-61.2	0.39	-0.11	-1.89	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 4N
Project:	SEC.5-T5N-R64W	TVD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 4N	North Reference:	True
Wellbore:	Snowmass 4N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 4N 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)
1,016.0	13.30	238.40	1,008.6	-32.2	-81.3	-77.5	2.09	2.08	-0.73
1,112.0	14.40	237.00	1,101.8	-44.4	-100.7	-95.5	1.20	1.15	-1.46
1,207.0	14.30	235.80	1,193.9	-57.5	-120.3	-113.6	0.33	-0.11	-1.26
1,302.0	13.80	235.40	1,286.0	-70.5	-139.3	-131.2	0.54	-0.53	-0.42
1,397.0	13.80	238.20	1,378.3	-82.9	-158.3	-148.7	0.70	0.00	2.95
1,493.0	12.40	234.40	1,471.8	-94.9	-176.4	-165.5	1.71	-1.46	-3.96
1,588.0	11.60	236.80	1,564.7	-106.1	-192.7	-180.5	0.99	-0.84	2.53
1,779.0	9.10	244.00	1,752.6	-123.2	-222.3	-208.2	1.47	-1.31	3.77
1,875.0	11.70	243.70	1,847.0	-130.9	-237.9	-222.9	2.71	2.71	-0.31
1,970.0	13.10	246.30	1,939.8	-139.5	-256.4	-240.4	1.59	1.47	2.74
2,066.0	15.20	247.20	2,032.9	-148.7	-278.0	-260.8	2.20	2.19	0.94
2,162.0	17.90	241.90	2,124.9	-160.6	-302.6	-284.1	3.22	2.81	-5.52
2,257.0	16.70	240.30	2,215.6	-174.2	-327.3	-307.2	1.36	-1.26	-1.68
2,353.0	18.40	240.30	2,307.1	-188.5	-352.5	-330.7	1.77	1.77	0.00
2,449.0	19.00	249.30	2,398.1	-201.6	-380.2	-357.0	3.07	0.63	9.38
2,544.0	18.30	247.90	2,488.1	-212.7	-408.5	-384.0	0.87	-0.74	-1.47
2,640.0	19.90	245.20	2,578.8	-225.2	-437.3	-411.3	1.90	1.67	-2.81
2,735.0	19.40	244.20	2,668.3	-238.8	-466.2	-438.6	0.63	-0.53	-1.05
2,830.0	19.50	244.50	2,757.8	-252.5	-494.7	-465.5	0.15	0.11	0.32
2,926.0	18.50	242.80	2,848.6	-266.4	-522.7	-491.9	1.19	-1.04	-1.77
3,022.0	17.50	241.00	2,939.9	-280.3	-548.9	-516.5	1.19	-1.04	-1.88
3,118.0	18.60	241.00	3,031.2	-294.8	-574.9	-540.9	1.15	1.15	0.00
3,214.0	17.60	239.60	3,122.4	-309.5	-600.8	-565.1	1.14	-1.04	-1.46
3,310.0	16.40	237.50	3,214.2	-324.2	-624.8	-587.4	1.40	-1.25	-2.19
3,405.0	16.10	244.70	3,305.5	-337.0	-648.0	-609.1	2.14	-0.32	7.58
3,501.0	14.80	244.00	3,398.0	-348.1	-671.1	-630.9	1.37	-1.35	-0.73
3,596.0	16.40	245.90	3,489.5	-358.9	-694.2	-652.8	1.77	1.68	2.00
3,692.0	17.70	242.30	3,581.3	-371.2	-719.5	-676.6	1.74	1.35	-3.75
3,788.0	17.90	242.10	3,672.7	-384.9	-745.5	-701.0	0.22	0.21	-0.21
3,884.0	17.80	242.30	3,764.0	-398.6	-771.5	-725.5	0.12	-0.10	0.21
3,979.0	17.60	241.70	3,854.5	-412.1	-797.0	-749.4	0.28	-0.21	-0.63
4,075.0	17.90	238.20	3,946.0	-426.8	-822.3	-773.0	1.15	0.31	-3.65
4,171.0	16.50	235.40	4,037.7	-442.3	-846.1	-795.0	1.69	-1.46	-2.92
4,266.0	17.20	239.30	4,128.6	-457.2	-869.3	-816.5	1.40	0.74	4.11
4,362.0	16.60	237.90	4,220.5	-471.7	-893.1	-838.7	0.76	-0.63	-1.46
4,457.0	17.50	238.40	4,311.3	-486.4	-916.7	-860.7	0.96	0.95	0.53
4,553.0	17.10	238.70	4,402.9	-501.3	-941.1	-883.4	0.43	-0.42	0.31
4,649.0	16.00	236.10	4,495.0	-516.0	-964.1	-904.7	1.38	-1.15	-2.71
4,745.0	15.80	237.70	4,587.3	-530.4	-986.2	-925.1	0.50	-0.21	1.67
4,841.0	15.60	242.60	4,679.7	-543.3	-1,008.7	-946.2	1.40	-0.21	5.10
4,937.0	14.40	242.30	4,772.4	-554.8	-1,030.7	-966.9	1.25	-1.25	-0.31
5,032.0	13.50	240.00	4,864.6	-565.8	-1,050.8	-985.7	1.11	-0.95	-2.42
5,127.0	13.50	240.90	4,957.0	-576.7	-1,070.1	-1,003.7	0.22	0.00	0.95
5,223.0	12.60	238.20	5,050.5	-587.7	-1,088.7	-1,021.1	1.13	-0.94	-2.81

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 4N
Project:	SEC.5-T5N-R64W	TVD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 4N	North Reference:	True
Wellbore:	Snowmass 4N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 4N 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)
5,318.0	14.30	245.20	5,142.9	-598.1	-1,108.2	-1,039.4	2.47	1.79	7.37
5,414.0	13.00	242.80	5,236.2	-608.0	-1,128.6	-1,058.6	1.48	-1.35	-2.50
5,540.0	11.60	241.00	5,359.3	-620.6	-1,152.3	-1,080.9	1.15	-1.11	-1.43
5,636.0	14.10	241.00	5,452.9	-631.0	-1,170.9	-1,098.3	2.60	2.60	0.00
5,731.0	16.60	241.40	5,544.5	-643.1	-1,193.0	-1,119.0	2.63	2.63	0.42
5,827.0	17.30	237.50	5,636.4	-657.3	-1,217.0	-1,141.4	1.39	0.73	-4.06
5,923.0	18.10	240.10	5,727.8	-672.4	-1,242.0	-1,164.7	1.17	0.83	2.71
6,019.0	16.70	238.60	5,819.4	-687.0	-1,266.7	-1,187.7	1.53	-1.46	-1.56
6,115.0	15.50	233.50	5,911.7	-701.9	-1,288.8	-1,208.1	1.93	-1.25	-5.31
6,209.0	14.30	197.60	6,002.7	-720.4	-1,302.4	-1,219.7	9.75	-1.28	-38.19
6,305.0	11.10	158.40	6,096.5	-740.4	-1,302.6	-1,217.8	9.36	-3.33	-40.83
6,401.0	13.20	129.60	6,190.4	-756.0	-1,290.8	-1,204.4	6.60	2.19	-30.00
6,496.0	15.60	106.60	6,282.5	-766.5	-1,270.1	-1,182.8	6.48	2.53	-24.21
6,592.0	20.30	90.90	6,373.9	-770.5	-1,241.1	-1,153.5	6.99	4.90	-16.35
6,688.0	28.80	90.20	6,461.1	-770.8	-1,201.2	-1,113.8	8.86	8.85	-0.73
6,783.0	39.90	94.60	6,539.4	-773.4	-1,147.8	-1,060.4	11.97	11.68	4.63
6,879.0	50.60	95.00	6,606.9	-779.1	-1,080.0	-992.4	11.15	11.15	0.42
6,975.0	56.00	95.00	6,664.3	-785.8	-1,003.3	-915.4	5.63	5.63	0.00
7,070.0	59.30	96.00	6,715.1	-793.5	-923.5	-835.2	3.59	3.47	1.05
7,077.5	60.00	95.82	6,718.9	-794.2	-917.0	-828.7	9.58	9.36	-2.36
TPZ - 60° in curve - 912'FNL& 2715'FEL, SEC.5									
7,166.0	68.30	93.90	6,757.4	-800.9	-837.7	-749.2	9.58	9.38	-2.17
7,261.0	76.80	89.00	6,785.9	-803.1	-747.2	-658.9	10.21	8.95	-5.16
7,356.0	87.20	90.40	6,799.1	-802.6	-653.3	-565.6	11.04	10.95	1.47
7,452.0	90.70	89.20	6,800.9	-802.2	-557.3	-470.2	3.85	3.65	-1.25
Deepest TVD Drilled - 6800.87' TVD									
7,548.0	90.30	90.40	6,800.0	-801.9	-461.3	-374.7	1.32	-0.42	1.25
7,643.0	90.20	90.00	6,799.6	-802.2	-366.3	-280.2	0.43	-0.11	-0.42
7,738.0	90.70	89.90	6,798.9	-802.2	-271.3	-185.8	0.54	0.53	-0.11
7,834.0	90.20	88.40	6,798.1	-800.7	-175.4	-90.5	1.65	-0.52	-1.56
7,929.0	89.90	90.70	6,798.0	-800.0	-80.4	3.9	2.44	-0.32	2.42
8,025.0	90.80	90.70	6,797.4	-801.2	15.6	99.5	0.94	0.94	0.00
8,120.0	90.70	90.20	6,796.2	-801.9	110.6	194.1	0.54	-0.11	-0.53
8,216.0	90.30	89.20	6,795.4	-801.4	206.6	289.5	1.12	-0.42	-1.04
8,312.0	90.10	90.70	6,795.0	-801.3	302.6	384.9	1.58	-0.21	1.56
8,408.0	91.00	90.70	6,794.1	-802.5	398.6	480.5	0.94	0.94	0.00
8,503.0	90.50	89.70	6,792.9	-802.8	493.6	575.0	1.18	-0.53	-1.05
8,599.0	90.10	89.30	6,792.4	-802.0	589.6	670.4	0.59	-0.42	-0.42
8,695.0	89.30	90.70	6,792.9	-802.0	685.6	765.9	1.68	-0.83	1.46
8,791.0	89.70	90.90	6,793.7	-803.3	781.6	861.5	0.47	0.42	0.21
8,887.0	89.60	90.40	6,794.3	-804.4	877.5	957.0	0.53	-0.10	-0.52
8,982.0	89.30	89.30	6,795.2	-804.2	972.5	1,051.5	1.20	-0.32	-1.16
9,078.0	90.30	91.40	6,795.5	-804.7	1,068.5	1,147.0	2.42	1.04	2.19

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 4N
Project:	SEC.5-T5N-R64W	TVD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 4N	North Reference:	True
Wellbore:	Snowmass 4N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 4N 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)
9,174.0	89.70	90.90	6,795.5	-806.7	1,164.5	1,242.7	0.81	-0.63	-0.52
9,269.0	89.50	90.40	6,796.2	-807.8	1,259.5	1,337.2	0.57	-0.21	-0.53
9,365.0	90.60	90.40	6,796.1	-808.4	1,355.5	1,432.8	1.15	1.15	0.00
9,461.0	90.20	89.90	6,795.4	-808.7	1,451.5	1,528.3	0.67	-0.42	-0.52
9,557.0	91.80	90.90	6,793.8	-809.3	1,547.5	1,623.8	1.97	1.67	1.04
9,653.0	91.80	89.90	6,790.8	-810.0	1,643.4	1,719.3	1.04	0.00	-1.04
9,749.0	91.20	88.80	6,788.2	-808.9	1,739.4	1,814.6	1.30	-0.63	-1.15
9,845.0	91.10	89.20	6,786.3	-807.3	1,835.3	1,909.9	0.43	-0.10	0.42
9,941.0	91.30	88.10	6,784.3	-805.0	1,931.3	2,005.0	1.16	0.21	-1.15
10,037.0	91.80	88.10	6,781.7	-801.8	2,027.2	2,100.1	0.52	0.52	0.00
10,133.0	90.00	89.30	6,780.2	-799.6	2,123.2	2,195.3	2.25	-1.88	1.25
10,229.0	90.20	88.60	6,780.0	-797.9	2,219.1	2,290.6	0.76	0.21	-0.73
10,324.0	90.00	88.30	6,779.9	-795.3	2,314.1	2,384.7	0.38	-0.21	-0.32
10,419.0	91.10	88.80	6,779.0	-792.9	2,409.1	2,478.9	1.27	1.16	0.53
10,515.0	91.00	88.30	6,777.2	-790.5	2,505.0	2,574.1	0.53	-0.10	-0.52
10,611.0	91.30	87.60	6,775.3	-787.0	2,600.9	2,669.1	0.79	0.31	-0.73
10,706.0	90.50	90.60	6,773.8	-785.5	2,695.9	2,763.4	3.27	-0.84	3.16
10,801.0	91.50	90.40	6,772.1	-786.4	2,790.9	2,858.0	1.07	1.05	-0.21
10,896.0	90.00	89.90	6,770.9	-786.6	2,885.9	2,952.4	1.66	-1.58	-0.53
10,992.0	88.90	90.40	6,771.8	-786.9	2,981.9	3,047.9	1.26	-1.15	0.52
11,088.0	89.40	90.00	6,773.2	-787.2	3,077.9	3,143.4	0.67	0.52	-0.42
11,184.0	89.60	89.70	6,774.1	-787.0	3,173.9	3,238.9	0.38	0.21	-0.31
11,279.0	89.40	89.50	6,774.9	-786.3	3,268.9	3,333.3	0.30	-0.21	-0.21
11,375.0	89.50	89.20	6,775.8	-785.2	3,364.8	3,428.6	0.33	0.10	-0.31
11,470.0	89.70	88.60	6,776.5	-783.4	3,459.8	3,522.9	0.67	0.21	-0.63
11,566.0	91.10	89.30	6,775.8	-781.6	3,555.8	3,618.1	1.63	1.46	0.73
11,661.0	90.70	89.70	6,774.3	-780.8	3,650.8	3,712.5	0.60	-0.42	0.42
11,757.0	90.00	89.30	6,773.7	-780.0	3,746.8	3,807.9	0.84	-0.73	-0.42
11,852.0	90.20	88.50	6,773.6	-778.1	3,841.8	3,902.2	0.87	0.21	-0.84
11,947.0	91.20	88.80	6,772.4	-775.9	3,936.7	3,996.4	1.10	1.05	0.32
12,043.0	91.10	87.90	6,770.5	-773.1	4,032.7	4,091.5	0.94	-0.10	-0.94
12,138.0	92.20	91.10	6,767.7	-772.3	4,127.6	4,185.8	3.56	1.16	3.37
12,234.0	91.40	90.60	6,764.7	-773.7	4,223.5	4,281.4	0.98	-0.83	-0.52
12,330.0	90.70	90.20	6,763.0	-774.4	4,319.5	4,376.9	0.84	-0.73	-0.42
12,426.0	90.70	89.90	6,761.8	-774.5	4,415.5	4,472.4	0.31	0.00	-0.31
12,522.0	90.20	90.20	6,761.0	-774.6	4,511.5	4,567.9	0.61	-0.52	0.31
12,618.0	89.50	90.40	6,761.3	-775.1	4,607.5	4,663.4	0.76	-0.73	0.21
12,713.0	90.10	90.40	6,761.6	-775.7	4,702.5	4,757.9	0.63	0.63	0.00
12,809.0	89.90	90.40	6,761.6	-776.4	4,798.5	4,853.5	0.21	-0.21	0.00
12,904.0	91.60	90.70	6,760.4	-777.3	4,893.5	4,948.0	1.82	1.79	0.32
13,000.0	91.70	90.60	6,757.6	-778.4	4,989.4	5,043.6	0.15	0.10	-0.10
13,096.0	91.20	90.60	6,755.2	-779.4	5,085.4	5,139.1	0.52	-0.52	0.00
13,191.0	91.70	90.20	6,752.8	-780.1	5,180.4	5,233.6	0.67	0.53	-0.42
13,287.0	92.00	90.00	6,749.7	-780.2	5,276.3	5,329.0	0.38	0.31	-0.21

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 4N
Project:	SEC.5-T5N-R64W	TVD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 4N	North Reference:	True
Wellbore:	Snowmass 4N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 4N 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)	
13,383.0	92.50	89.30	6,745.9	-779.6	5,372.3	5,424.4	0.90	0.52	-0.73	
13,478.0	90.00	89.90	6,743.8	-779.0	5,467.2	5,518.8	2.71	-2.63	0.63	
13,574.0	90.70	89.50	6,743.2	-778.5	5,563.2	5,614.2	0.84	0.73	-0.42	
13,669.0	91.20	89.20	6,741.7	-777.4	5,658.2	5,708.5	0.61	0.53	-0.32	
13,765.0	89.40	88.80	6,741.2	-775.7	5,754.2	5,803.8	1.92	-1.88	-0.42	
13,861.0	89.80	88.60	6,741.8	-773.6	5,850.1	5,899.0	0.47	0.42	-0.21	
13,957.0	90.30	88.10	6,741.8	-770.8	5,946.1	5,994.1	0.74	0.52	-0.52	
14,052.0	91.00	88.40	6,740.7	-767.9	6,041.1	6,088.3	0.80	0.74	0.32	
14,148.0	91.20	87.70	6,738.8	-764.6	6,137.0	6,183.3	0.76	0.21	-0.73	
14,244.0	90.50	88.60	6,737.4	-761.5	6,232.9	6,278.4	1.19	-0.73	0.94	
14,339.0	91.10	88.30	6,736.1	-759.0	6,327.9	6,372.6	0.71	0.63	-0.32	
14,434.0	89.70	89.50	6,735.4	-757.1	6,422.9	6,466.8	1.94	-1.47	1.26	
14,530.0	90.60	88.80	6,735.2	-755.7	6,518.8	6,562.1	1.19	0.94	-0.73	
14,625.0	90.70	88.60	6,734.1	-753.5	6,613.8	6,656.4	0.24	0.11	-0.21	
14,720.0	90.70	88.30	6,732.9	-751.0	6,708.8	6,750.5	0.32	0.00	-0.32	
14,816.0	90.30	89.20	6,732.1	-748.9	6,804.7	6,845.8	1.03	-0.42	0.94	
14,912.0	90.20	88.60	6,731.7	-747.0	6,900.7	6,941.0	0.63	-0.10	-0.63	
15,007.0	90.90	88.10	6,730.8	-744.3	6,995.7	7,035.2	0.91	0.74	-0.53	
15,050.0	90.80	87.70	6,730.1	-742.7	7,038.6	7,077.7	0.96	-0.23	-0.93	
15,107.0	90.80	87.70	6,729.3	-740.4	7,095.6	7,134.1	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 118'FNL, 1798'FEL	0.00	0.00	1.0	0.0	0.0	1,402,649.43	3,258,530.06	40.434958	-104.571244	
- survey hits target center										
- Point										
BHL 940'FNL, 0'FEL, SE	0.00	0.00	6,730.0	-748.0	7,096.1	1,401,975.81	3,265,633.28	40.432902	-104.545754	
- survey misses target center by 7.6ft at 15107.0ft MD (6729.3 TVD, -740.4 N, 7095.6 E)										
- Point										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
7,077.5	6,718.9	-794.2	-917.0	TPZ - 60° in curve - 912'FNL& 2715'FEL, SEC.5	
7,452.0	6,800.9	-802.2	-557.3	Deepest TVD Drilled - 6800.87' TVD	

Checked By: _____ Approved By: _____ Date: _____