

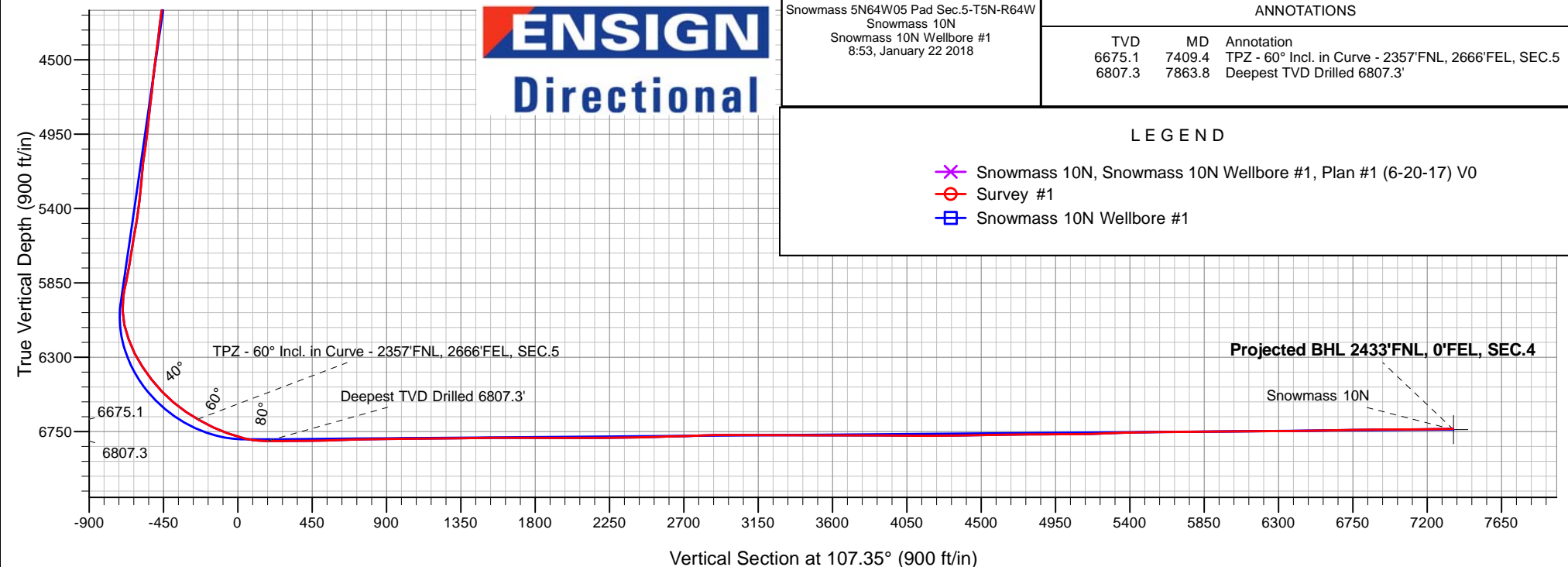
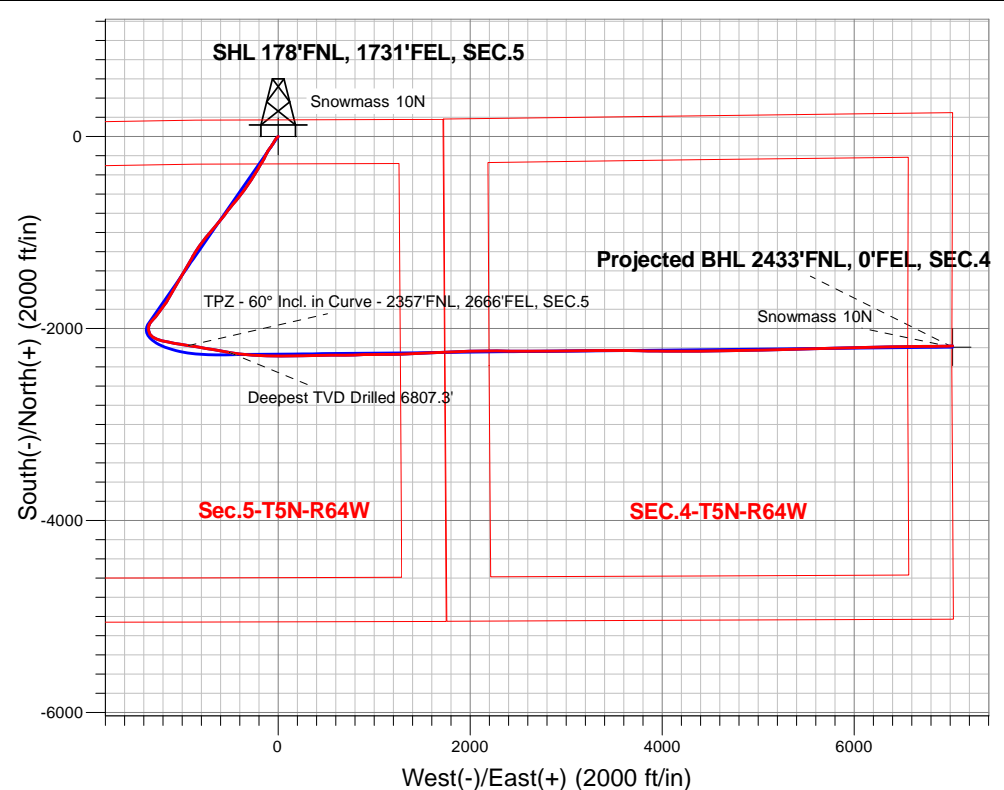
PDC Energy Inc. DJ Basin

Well Name: **Snowmass 10N**

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 0.01402591.123258598.31 40.434796 -104.571001
Ensign Rig #152 - RKB - 23'WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')

FINAL SURVEY

Projected Bottom Hole Location
15,405'MD 6734'TVD 2183'S & 7025'E of SHL
90.7 degree Incl @ 88.6 degree AZM





PDC Energy Inc. DJ Basin

SEC.5-T5N-R64W

Snowmass 5N64W05 Pad Sec.5-T5N-R64W

Snowmass 10N

Snowmass 10N Wellbore #1

Survey: Survey #1

Standard Survey Report

22 January, 2018

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 10N
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 10N	North Reference:	True
Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N 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 10N					
Well Position	+N/-S	0.0 ft	Northing:	1,402,591.12 usft	Latitude:	40.434796
	+E/-W	0.0 ft	Easting:	3,258,598.31 usft	Longitude:	-104.571001
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,634.0 ft

Wellbore	Snowmass 10N Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/17/2017	7.94	66.89	52,529

Design	Snowmass 10N 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	107.35	

Survey Program	Date	1/22/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
157.0	15,405.0	Survey #1 (Snowmass 10N 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
1.0	0.00	64.60	1.0	0.0	0.0	0.0	0.19	0.19	0.00
SHL 178'FNL, 1731'FEL, SEC.5									
157.0	0.30	64.60	157.0	0.2	0.4	0.3	0.19	0.19	0.00
253.0	1.30	232.10	253.0	-0.4	-0.3	-0.1	1.66	1.04	174.48
349.0	2.60	230.00	348.9	-2.5	-2.8	-1.9	1.36	1.35	-2.19
444.0	4.10	225.70	443.8	-6.2	-6.9	-4.7	1.60	1.58	-4.53
540.0	5.70	219.90	539.4	-12.3	-12.4	-8.2	1.74	1.67	-6.04
636.0	6.60	218.90	634.9	-20.2	-18.9	-12.0	0.94	0.94	-1.04
731.0	8.60	213.40	729.0	-30.4	-26.2	-16.0	2.24	2.11	-5.79
827.0	9.50	215.00	823.8	-42.9	-34.7	-20.4	0.97	0.94	1.67

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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 10N	North Reference:	True
Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N 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)
923.0	10.60	211.00	918.4	-56.9	-43.8	-24.9	1.36	1.15	-4.17
1,050.0	10.90	210.30	1,043.1	-77.3	-55.9	-30.3	0.26	0.24	-0.55
1,114.0	11.90	214.30	1,105.9	-88.0	-62.7	-33.6	1.99	1.56	6.25
1,209.0	12.10	213.80	1,198.8	-104.4	-73.7	-39.3	0.24	0.21	-0.53
1,304.0	12.80	215.90	1,291.6	-121.2	-85.4	-45.4	0.88	0.74	2.21
1,400.0	14.30	212.60	1,384.9	-139.8	-98.1	-51.9	1.76	1.56	-3.44
1,496.0	13.50	210.80	1,478.1	-159.4	-110.2	-57.7	0.95	-0.83	-1.88
1,591.0	11.90	208.00	1,570.7	-177.5	-120.5	-62.1	1.80	-1.68	-2.95
1,655.0	11.20	206.80	1,633.4	-188.9	-126.4	-64.3	1.16	-1.09	-1.88
1,780.0	12.00	205.40	1,755.9	-211.5	-137.4	-68.1	0.68	0.64	-1.12
1,875.0	15.70	208.90	1,848.1	-231.7	-147.9	-72.1	3.99	3.89	3.68
1,971.0	18.70	208.50	1,939.8	-256.6	-161.5	-77.7	3.13	3.13	-0.42
2,066.0	21.20	213.10	2,029.1	-284.4	-178.1	-85.3	3.11	2.63	4.84
2,162.0	24.10	212.20	2,117.7	-315.5	-198.1	-95.0	3.04	3.02	-0.94
2,258.0	27.60	209.90	2,204.1	-351.4	-219.6	-104.9	3.79	3.65	-2.40
2,353.0	25.80	208.00	2,288.9	-388.7	-240.3	-113.5	2.10	-1.89	-2.00
2,449.0	27.70	214.00	2,374.7	-425.7	-262.6	-123.7	3.44	1.98	6.25
2,544.0	27.30	212.90	2,459.0	-462.3	-286.8	-135.9	0.68	-0.42	-1.16
2,640.0	26.20	211.50	2,544.7	-498.8	-309.8	-147.0	1.32	-1.15	-1.46
2,736.0	28.70	219.10	2,629.9	-534.8	-335.4	-160.7	4.48	2.60	7.92
2,831.0	28.60	218.20	2,713.3	-570.4	-363.9	-177.3	0.47	-0.11	-0.95
2,927.0	28.00	217.80	2,797.8	-606.2	-391.9	-193.3	0.66	-0.63	-0.42
3,023.0	26.90	217.00	2,883.0	-641.4	-418.8	-208.5	1.21	-1.15	-0.83
3,118.0	30.20	220.80	2,966.4	-676.6	-447.3	-225.2	3.96	3.47	4.00
3,214.0	28.80	219.60	3,050.0	-712.7	-477.8	-243.6	1.58	-1.46	-1.25
3,310.0	27.10	217.10	3,134.8	-748.0	-505.8	-259.8	2.15	-1.77	-2.60
3,405.0	25.50	215.90	3,219.9	-781.8	-530.8	-273.6	1.77	-1.68	-1.26
3,501.0	28.80	218.00	3,305.3	-816.8	-557.2	-288.3	3.58	3.44	2.19
3,597.0	26.70	216.60	3,390.3	-852.3	-584.3	-303.6	2.29	-2.19	-1.46
3,692.0	28.80	222.10	3,474.4	-886.5	-612.4	-320.2	3.48	2.21	5.79
3,788.0	28.50	220.80	3,558.6	-920.9	-642.8	-339.0	0.72	-0.31	-1.35
3,884.0	28.60	220.10	3,643.0	-955.9	-672.6	-357.0	0.36	0.10	-0.73
3,980.0	28.80	220.10	3,727.2	-991.1	-702.3	-374.8	0.21	0.21	0.00
4,075.0	28.80	219.40	3,810.4	-1,026.3	-731.6	-392.3	0.35	0.00	-0.74
4,171.0	28.60	218.70	3,894.6	-1,062.1	-760.6	-409.3	0.41	-0.21	-0.73
4,267.0	27.10	217.50	3,979.5	-1,097.4	-788.3	-425.2	1.67	-1.56	-1.25
4,362.0	30.70	213.80	4,062.7	-1,134.7	-814.9	-439.6	4.23	3.79	-3.89
4,457.0	29.10	213.10	4,145.0	-1,174.2	-841.1	-452.7	1.72	-1.68	-0.74
4,553.0	27.90	212.70	4,229.4	-1,212.7	-865.9	-465.0	1.27	-1.25	-0.42
4,649.0	25.40	209.70	4,315.2	-1,249.5	-888.3	-475.3	2.96	-2.60	-3.13
4,745.0	27.80	211.50	4,401.0	-1,286.5	-910.2	-485.2	2.64	2.50	1.88
4,841.0	30.80	210.80	4,484.7	-1,326.7	-934.5	-496.4	3.15	3.13	-0.73
4,937.0	28.80	209.80	4,568.0	-1,367.9	-958.5	-507.1	2.15	-2.08	-1.04

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Site:	Snowmass 5N64W05 Pad Sec.5-T5N-R64W	MD Reference:	WELL @ 4657.0ft (Ensign Rig #152 - RKB - 23')
Well:	Snowmass 10N	North Reference:	True
Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N 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)
5,032.0	27.50	208.00	4,651.8	-1,407.1	-980.2	-516.1	1.63	-1.37	-1.89
5,128.0	29.40	210.80	4,736.2	-1,446.9	-1,002.7	-525.7	2.42	1.98	2.92
5,223.0	27.30	208.30	4,819.8	-1,486.1	-1,025.0	-535.2	2.54	-2.21	-2.63
5,319.0	28.50	210.60	4,904.6	-1,525.2	-1,047.1	-544.7	1.68	1.25	2.40
5,414.0	27.30	209.90	4,988.6	-1,563.6	-1,069.5	-554.6	1.31	-1.26	-0.74
5,510.0	28.50	213.80	5,073.4	-1,601.7	-1,093.2	-565.9	2.27	1.25	4.06
5,605.0	26.30	209.40	5,157.8	-1,638.9	-1,116.1	-576.7	3.15	-2.32	-4.63
5,701.0	24.20	207.10	5,244.6	-1,675.0	-1,135.5	-584.5	2.41	-2.19	-2.40
5,797.0	27.50	210.80	5,331.0	-1,711.5	-1,155.8	-593.0	3.82	3.44	3.85
5,893.0	22.90	215.90	5,417.9	-1,745.7	-1,178.2	-604.1	5.29	-4.79	5.31
5,989.0	25.50	217.80	5,505.4	-1,777.2	-1,201.8	-617.2	2.83	2.71	1.98
6,085.0	27.30	217.10	5,591.4	-1,811.1	-1,227.7	-631.9	1.90	1.88	-0.73
6,181.0	25.40	214.30	5,677.4	-1,845.6	-1,252.6	-645.4	2.36	-1.98	-2.92
6,277.0	25.20	221.90	5,764.2	-1,877.9	-1,277.9	-659.9	3.39	-0.21	7.92
6,373.0	28.00	221.50	5,850.1	-1,910.0	-1,306.5	-677.6	2.92	2.92	-0.42
6,466.0	25.20	216.80	5,933.2	-1,942.2	-1,332.8	-693.1	3.76	-3.01	-5.05
6,562.0	25.90	190.40	6,020.1	-1,979.3	-1,348.9	-697.4	11.80	0.73	-27.50
6,657.0	25.90	172.70	6,105.7	-2,020.3	-1,350.0	-686.2	8.11	0.00	-18.63
6,753.0	27.50	151.00	6,191.7	-2,060.6	-1,336.5	-661.4	10.24	1.67	-22.60
6,849.0	27.20	121.20	6,277.3	-2,091.5	-1,306.9	-623.9	14.14	-0.31	-31.04
6,944.0	33.70	109.90	6,359.3	-2,111.8	-1,263.5	-576.4	9.09	6.84	-11.89
7,040.0	37.50	103.90	6,437.3	-2,127.9	-1,210.0	-520.5	5.37	3.96	-6.25
7,135.0	44.20	101.60	6,509.2	-2,141.5	-1,149.4	-458.7	7.23	7.05	-2.42
7,231.0	50.20	99.50	6,574.4	-2,154.3	-1,080.2	-388.8	6.45	6.25	-2.19
7,326.0	56.40	100.40	6,631.1	-2,167.5	-1,005.2	-313.3	6.57	6.53	0.95
7,409.4	60.00	97.58	6,675.0	-2,178.5	-935.2	-243.2	5.18	4.31	-3.39
TPZ - 60° Incl. in Curve - 2357'FNL, 2666'FEL, SEC.5									
7,421.0	60.50	97.20	6,680.8	-2,179.8	-925.3	-233.2	5.18	4.35	-3.24
7,517.0	64.70	100.40	6,725.0	-2,192.9	-841.1	-149.0	5.28	4.38	3.33
7,613.0	71.20	99.00	6,761.0	-2,207.9	-753.4	-60.9	6.90	6.77	-1.46
7,706.0	74.70	99.40	6,788.3	-2,222.1	-665.7	27.2	3.79	3.76	0.43
7,732.3	77.74	99.54	6,794.5	-2,226.3	-640.5	52.4	11.59	11.58	0.54
LPL 2445'FNL, 2807'FWL, SEC.5									
7,801.0	85.70	99.90	6,804.4	-2,237.8	-573.5	119.8	11.59	11.58	0.52
7,863.8	89.04	100.03	6,807.3	-2,248.6	-511.7	182.0	5.32	5.31	0.21
Deepest TVD Drilled 6807.3'									
7,897.0	90.80	100.10	6,807.3	-2,254.4	-479.0	214.9	5.32	5.31	0.21
7,992.0	90.00	97.60	6,806.7	-2,269.0	-385.2	308.9	2.76	-0.84	-2.63
8,120.0	90.80	93.20	6,805.8	-2,281.1	-257.8	434.1	3.49	0.63	-3.44
8,215.0	91.50	90.20	6,803.9	-2,283.9	-162.9	525.5	3.24	0.74	-3.16
8,311.0	91.40	90.60	6,801.5	-2,284.6	-66.9	617.3	0.43	-0.10	0.42
8,407.0	91.40	90.40	6,799.1	-2,285.4	29.1	709.2	0.21	0.00	-0.21
8,502.0	91.20	89.30	6,797.0	-2,285.1	124.0	799.7	1.18	-0.21	-1.16
8,598.0	90.90	89.30	6,795.2	-2,284.0	220.0	891.0	0.31	-0.31	0.00

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Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N Wellbore #1	Database:	US_EDM

Survey									
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8,695.0	90.70	89.30	6,793.8	-2,282.8	317.0	983.2	0.21	-0.21	0.00
8,790.0	90.30	89.30	6,793.0	-2,281.6	412.0	1,073.5	0.42	-0.42	0.00
8,886.0	90.00	89.70	6,792.8	-2,280.8	508.0	1,164.9	0.52	-0.31	0.42
8,982.0	91.00	88.80	6,791.9	-2,279.5	604.0	1,256.2	1.40	1.04	-0.94
9,077.0	91.00	88.80	6,790.3	-2,277.5	698.9	1,346.2	0.00	0.00	0.00
9,173.0	90.60	88.80	6,788.9	-2,275.5	794.9	1,437.2	0.42	-0.42	0.00
9,269.0	90.50	88.80	6,788.0	-2,273.5	890.9	1,528.2	0.10	-0.10	0.00
9,364.0	90.00	89.50	6,787.6	-2,272.1	985.9	1,618.5	0.91	-0.53	0.74
9,461.0	89.80	89.70	6,787.8	-2,271.4	1,082.9	1,710.9	0.29	-0.21	0.21
9,557.0	89.30	89.70	6,788.5	-2,270.9	1,178.9	1,802.3	0.52	-0.52	0.00
9,653.0	90.70	87.40	6,788.5	-2,268.5	1,274.8	1,893.2	2.80	1.46	-2.40
9,748.0	90.00	87.20	6,787.9	-2,264.0	1,369.7	1,982.5	0.77	-0.74	-0.21
9,845.0	89.60	87.20	6,788.3	-2,259.3	1,466.6	2,073.5	0.41	-0.41	0.00
9,940.0	89.30	87.10	6,789.2	-2,254.6	1,561.5	2,162.7	0.33	-0.32	-0.11
10,036.0	91.40	87.90	6,788.6	-2,250.4	1,657.4	2,253.0	2.34	2.19	0.83
10,132.0	91.50	87.80	6,786.2	-2,246.8	1,753.3	2,343.4	0.15	0.10	-0.10
10,228.0	90.70	87.10	6,784.3	-2,242.5	1,849.2	2,433.7	1.11	-0.83	-0.73
10,323.0	91.80	88.80	6,782.2	-2,239.1	1,944.1	2,523.3	2.13	1.16	1.79
10,418.0	91.20	88.50	6,779.8	-2,236.9	2,039.0	2,613.2	0.71	-0.63	-0.32
10,514.0	91.30	88.10	6,777.7	-2,234.0	2,135.0	2,703.9	0.43	0.10	-0.42
10,610.0	92.60	90.90	6,774.4	-2,233.2	2,230.9	2,795.3	3.21	1.35	2.92
10,705.0	90.10	90.90	6,772.2	-2,234.7	2,325.8	2,886.3	2.63	-2.63	0.00
10,800.0	90.00	90.60	6,772.1	-2,235.9	2,420.8	2,977.4	0.33	-0.11	-0.32
10,896.0	90.10	90.40	6,772.0	-2,236.8	2,516.8	3,069.3	0.23	0.10	-0.21
10,992.0	90.00	89.90	6,771.9	-2,237.0	2,612.8	3,161.0	0.53	-0.10	-0.52
11,087.0	89.70	89.90	6,772.2	-2,236.8	2,707.8	3,251.6	0.32	-0.32	0.00
11,183.0	89.90	89.50	6,772.5	-2,236.3	2,803.8	3,343.1	0.47	0.21	-0.42
11,278.0	90.00	89.50	6,772.6	-2,235.5	2,898.8	3,433.5	0.11	0.11	0.00
11,374.0	90.00	89.30	6,772.6	-2,234.5	2,994.8	3,524.8	0.21	0.00	-0.21
11,470.0	90.00	88.60	6,772.6	-2,232.7	3,090.8	3,615.9	0.73	0.00	-0.73
11,565.0	89.30	88.50	6,773.2	-2,230.3	3,185.8	3,705.9	0.74	-0.74	-0.11
11,660.0	90.00	90.60	6,773.7	-2,229.6	3,280.8	3,796.3	2.33	0.74	2.21
11,756.0	89.80	90.20	6,773.9	-2,230.3	3,376.8	3,888.1	0.47	-0.21	-0.42
11,851.0	89.60	89.90	6,774.4	-2,230.4	3,471.8	3,978.8	0.38	-0.21	-0.32
11,946.0	89.20	90.00	6,775.4	-2,230.3	3,566.7	4,069.5	0.43	-0.42	0.11
12,042.0	89.90	90.60	6,776.2	-2,230.8	3,662.7	4,161.3	0.96	0.73	0.63
12,138.0	90.90	91.10	6,775.5	-2,232.2	3,758.7	4,253.3	1.16	1.04	0.52
12,234.0	90.90	90.70	6,774.0	-2,233.7	3,854.7	4,345.4	0.42	0.00	-0.42
12,330.0	90.20	90.60	6,773.1	-2,234.8	3,950.7	4,437.3	0.74	-0.73	-0.10
12,425.0	91.60	90.70	6,771.6	-2,235.9	4,045.7	4,528.3	1.48	1.47	0.11
12,521.0	91.00	90.40	6,769.4	-2,236.8	4,141.6	4,620.2	0.70	-0.63	-0.31
12,617.0	90.60	90.20	6,768.0	-2,237.3	4,237.6	4,712.0	0.47	-0.42	-0.21
12,713.0	90.10	89.90	6,767.5	-2,237.4	4,333.6	4,803.6	0.61	-0.52	-0.31

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 10N
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 10N	North Reference:	True
Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N 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)
12,808.0	90.00	89.90	6,767.4	-2,237.2	4,428.6	4,894.2	0.11	-0.11	0.00
12,904.0	90.70	89.30	6,766.8	-2,236.5	4,524.6	4,985.7	0.96	0.73	-0.63
12,999.0	90.20	88.80	6,766.0	-2,235.0	4,619.6	5,075.9	0.74	-0.53	-0.53
13,095.0	91.90	88.80	6,764.3	-2,233.0	4,715.6	5,166.9	1.77	1.77	0.00
13,191.0	91.60	88.60	6,761.4	-2,230.8	4,811.5	5,257.8	0.38	-0.31	-0.21
13,286.0	91.60	88.50	6,758.7	-2,228.4	4,906.4	5,347.7	0.11	0.00	-0.11
13,382.0	91.50	87.80	6,756.1	-2,225.3	5,002.3	5,438.3	0.74	-0.10	-0.73
13,477.0	91.20	89.00	6,753.9	-2,222.6	5,097.3	5,528.1	1.30	-0.32	1.26
13,573.0	90.80	88.10	6,752.2	-2,220.2	5,193.2	5,619.0	1.03	-0.42	-0.94
13,669.0	90.40	88.50	6,751.2	-2,217.4	5,289.2	5,709.7	0.59	-0.42	0.42
13,765.0	90.00	89.70	6,750.8	-2,215.8	5,385.2	5,800.9	1.32	-0.42	1.25
13,861.0	90.10	89.00	6,750.8	-2,214.8	5,481.2	5,892.2	0.74	0.10	-0.73
13,956.0	90.70	88.80	6,750.1	-2,212.9	5,576.1	5,982.3	0.67	0.63	-0.21
14,052.0	90.70	88.10	6,748.9	-2,210.3	5,672.1	6,073.1	0.73	0.00	-0.73
14,148.0	90.50	88.50	6,747.9	-2,207.5	5,768.1	6,163.9	0.47	-0.21	0.42
14,243.0	90.40	87.40	6,747.2	-2,204.1	5,863.0	6,253.5	1.16	-0.11	-1.16
14,339.0	90.00	88.50	6,746.8	-2,200.7	5,958.9	6,344.0	1.22	-0.42	1.15
14,434.0	90.70	88.30	6,746.3	-2,198.0	6,053.9	6,433.9	0.77	0.74	-0.21
14,529.0	91.30	89.00	6,744.6	-2,195.8	6,148.8	6,523.9	0.97	0.63	0.74
14,623.0	91.00	89.50	6,742.7	-2,194.5	6,242.8	6,613.2	0.62	-0.32	0.53
14,720.0	90.90	89.00	6,741.1	-2,193.3	6,339.8	6,705.4	0.53	-0.10	-0.52
14,815.0	90.80	88.50	6,739.7	-2,191.2	6,434.8	6,795.4	0.54	-0.11	-0.53
14,911.0	90.50	88.60	6,738.6	-2,188.8	6,530.7	6,886.3	0.33	-0.31	0.10
15,007.0	90.50	89.90	6,737.8	-2,187.5	6,626.7	6,977.5	1.35	0.00	1.35
15,102.0	90.20	90.00	6,737.2	-2,187.4	6,721.7	7,068.2	0.33	-0.32	0.11
15,198.0	90.40	89.30	6,736.7	-2,186.8	6,817.7	7,159.6	0.76	0.21	-0.73
15,294.0	90.90	88.80	6,735.6	-2,185.2	6,913.7	7,250.8	0.74	0.52	-0.52
15,348.0	90.70	88.60	6,734.8	-2,184.0	6,967.7	7,301.9	0.52	-0.37	-0.37
15,405.0	90.70	88.60	6,734.1	-2,182.6	7,024.6	7,355.9	0.00	0.00	0.00
BHL 2445'FNL, 0'FEL, SEC.4									

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 178'FNL, 1731'FEL	0.00	0.00	1.0	0.0	0.0	1,402,591.13	3,258,598.31	40.434796	-104.571001
- survey hits target center									
- Point									
BHL 2445'FNL, 0'FEL, S	0.00	0.00	6,738.0	-2,194.3	7,025.0	1,400,470.57	3,265,645.59	40.428770	-104.545768
- survey misses target center by 12.3ft at 15405.0ft MD (6734.1 TVD, -2182.6 N, 7024.6 E)									
- Point									

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Snowmass 10N
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 10N	North Reference:	True
Wellbore:	Snowmass 10N Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Snowmass 10N Wellbore #1	Database:	US_EDM

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,409.4	6,675.0	-2,178.5	-935.2	TPZ - 60° Incl. in Curve - 2357'FNL, 2666'FEL, SEC.5
7,863.8	6,807.3	-2,248.6	-511.7	Deepest TVD Drilled 6807.3'

Checked By: _____	Approved By: _____	Date: _____
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