

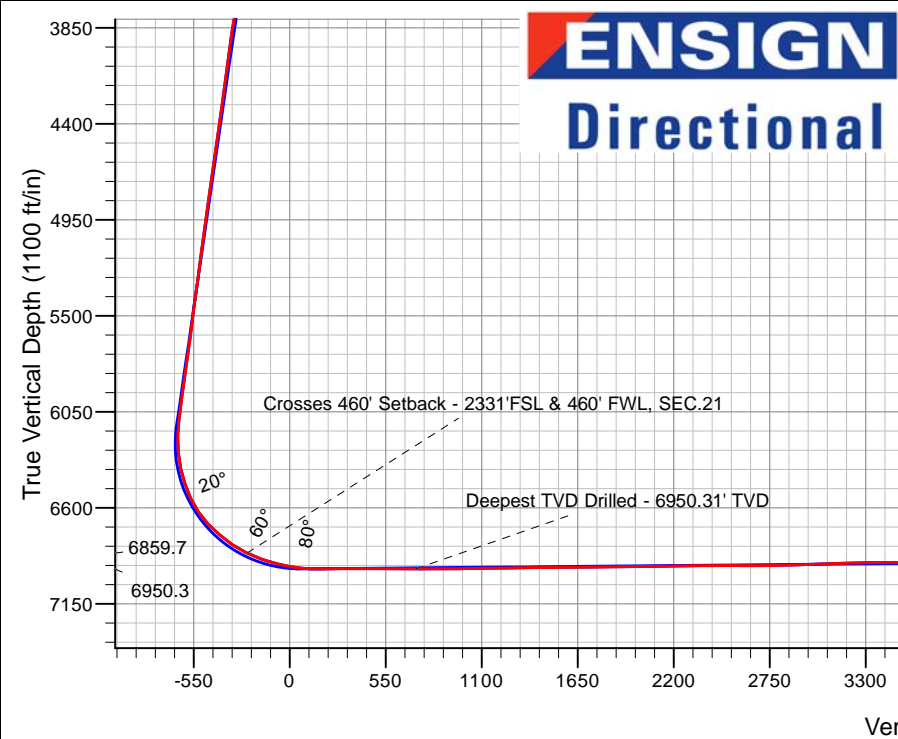
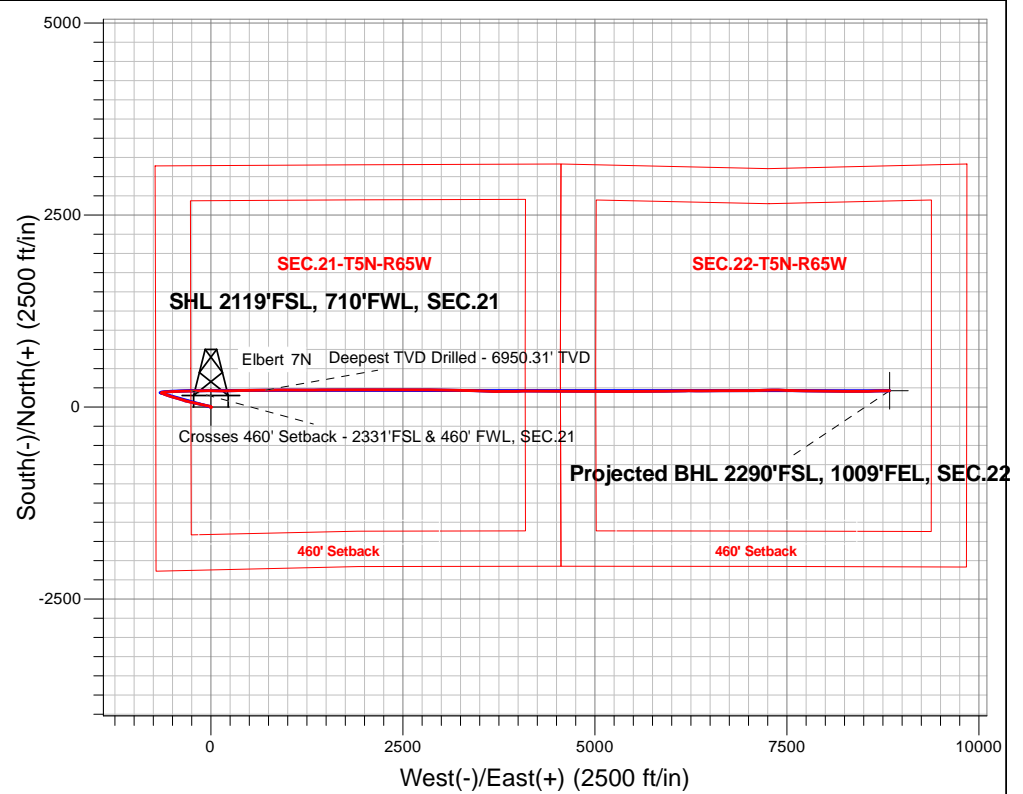
PDC Energy Inc. DJ Basin

Well Name: **Elbert 7N**

Surface Location: Elbert 1-12 Pad Sec.21-T5N-R65W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4638.0
 +N/-S+E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1383512.308229754.99 40.383210 -104.675250
 Original Well Elev WELL @ 4661.0ft (Original Well Elev)

FINAL SURVEY

Projected Bottom Hole Location
16,167'MD 6866'TVD 214'N & 8839'E of SHL
90.4 degree Incl @ 88.0 degree AZM



Elbert 1-12 Pad Sec.21-T5N-R65W
 Elbert 7N
 Wellbore #1
 10:04, July 14 2017

ANNOTATIONS

TVD	MD	Annotation
6859.7	7063.3	Crosses 460' Setback - 2331'FSL & 460' FWL, SEC.21
6950.3	8042.0	Deepest TVD Drilled - 6950.31' TVD

LEGEND

- Elbert 7N, Wellbore #1, Plan #5 (7-05-17) V0
- Wellbore #1
- Survey #1

Projected BHL 2290'FSL, 1009'FEL, SEC.22

Vertical Section at 88.62° (1100 ft/in)



PDC Energy Inc. DJ Basin

SEC.21-T5N-R65W

Elbert 1-12 Pad Sec.21-T5N-R65W

Elbert 7N

Wellbore #1

Survey: Survey #1

Standard Survey Report

14 July, 2017



Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elbert 7N
Project:	SEC.21-T5N-R65W	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

Project	SEC.21-T5N-R65W, 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	Elbert 1-12 Pad Sec.21-T5N-R65W				
Site Position:		Northing:	1,383,603.37 usft	Latitude:	40.383460
From:	Lat/Long	Easting:	3,229,751.36 usft	Longitude:	-104.675260
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.53 °

Well	Elbert 7N					
Well Position	+N/-S	0.0 ft	Northing:	1,383,512.30 usft	Latitude:	40.383210
	+E/-W	0.0 ft	Easting:	3,229,755.00 usft	Longitude:	-104.675250
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,638.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/5/2017	8.00	66.84	52,496

Design	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	88.62	

Survey Program	Date	7/14/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
142.0	16,167.0	Survey #1 (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	
142.0	0.10	93.30	142.0	0.0	0.1	0.1	0.07	0.07	0.00	
231.0	0.10	73.20	231.0	0.0	0.3	0.3	0.04	0.00	-22.58	
321.0	0.20	108.00	321.0	0.0	0.5	0.5	0.15	0.11	38.67	
411.0	0.40	98.90	411.0	-0.1	1.0	1.0	0.23	0.22	-10.11	
500.0	0.40	96.60	500.0	-0.2	1.6	1.6	0.02	0.00	-2.58	
590.0	0.50	115.40	590.0	-0.4	2.2	2.2	0.20	0.11	20.89	
680.0	0.40	118.90	680.0	-0.7	2.9	2.9	0.12	-0.11	3.89	
770.0	0.40	123.70	770.0	-1.0	3.4	3.4	0.04	0.00	5.33	
860.0	0.40	113.50	860.0	-1.3	4.0	3.9	0.08	0.00	-11.33	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elbert 7N
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Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)	
949.0	0.70	294.30	949.0	-1.2	3.7	3.7	1.24	0.34	-201.35	
1,039.0	1.10	293.30	1,039.0	-0.7	2.5	2.4	0.44	0.44	-1.11	
1,129.0	1.10	294.50	1,129.0	0.0	0.9	0.9	0.03	0.00	1.33	
1,218.0	1.30	301.60	1,217.9	0.9	-0.8	-0.7	0.28	0.22	7.98	
1,307.0	1.40	304.70	1,306.9	2.1	-2.5	-2.5	0.14	0.11	3.48	
1,397.0	1.40	305.40	1,396.9	3.3	-4.3	-4.2	0.02	0.00	0.78	
1,487.0	2.60	291.50	1,486.8	4.7	-7.1	-7.0	1.43	1.33	-15.44	
1,590.0	4.60	295.40	1,589.6	7.3	-13.0	-12.8	1.96	1.94	3.79	
1,667.0	4.70	293.80	1,666.4	9.9	-18.7	-18.4	0.21	0.13	-2.08	
1,756.0	4.70	284.00	1,755.1	12.3	-25.6	-25.3	0.90	0.00	-11.01	
1,846.0	6.00	284.70	1,844.7	14.4	-33.7	-33.3	1.45	1.44	0.78	
1,935.0	7.70	279.40	1,933.0	16.5	-44.1	-43.7	2.04	1.91	-5.96	
2,025.0	8.50	281.20	2,022.1	18.8	-56.6	-56.1	0.93	0.89	2.00	
2,115.0	7.90	278.70	2,111.2	21.0	-69.2	-68.7	0.78	-0.67	-2.78	
2,205.0	9.10	284.70	2,200.2	23.8	-82.2	-81.6	1.66	1.33	6.67	
2,295.0	9.00	282.40	2,289.1	27.1	-95.9	-95.3	0.42	-0.11	-2.56	
2,384.0	8.70	281.00	2,377.1	29.9	-109.4	-108.6	0.41	-0.34	-1.57	
2,474.0	9.70	287.30	2,465.9	33.4	-123.3	-122.4	1.58	1.11	7.00	
2,563.0	9.70	284.70	2,553.6	37.5	-137.7	-136.7	0.49	0.00	-2.92	
2,653.0	9.50	285.00	2,642.4	41.4	-152.2	-151.2	0.23	-0.22	0.33	
2,742.0	9.60	284.20	2,730.1	45.1	-166.5	-165.3	0.19	0.11	-0.90	
2,831.0	9.30	283.40	2,817.9	48.6	-180.7	-179.4	0.37	-0.34	-0.90	
2,921.0	9.10	280.50	2,906.8	51.6	-194.7	-193.4	0.56	-0.22	-3.22	
3,011.0	9.10	279.60	2,995.6	54.1	-208.8	-207.4	0.16	0.00	-1.00	
3,100.0	8.40	279.10	3,083.6	56.3	-222.1	-220.7	0.79	-0.79	-0.56	
3,190.0	7.70	276.10	3,172.7	58.0	-234.6	-233.1	0.91	-0.78	-3.33	
3,280.0	8.50	281.70	3,261.8	59.9	-247.1	-245.6	1.25	0.89	6.22	
3,369.0	7.90	279.80	3,349.9	62.3	-259.6	-258.0	0.74	-0.67	-2.13	
3,459.0	8.70	283.50	3,439.0	65.0	-272.3	-270.6	1.07	0.89	4.11	
3,549.0	8.00	283.80	3,528.0	68.0	-285.0	-283.3	0.78	-0.78	0.33	
3,639.0	7.70	284.90	3,617.2	71.1	-296.9	-295.1	0.37	-0.33	1.22	
3,728.0	7.80	281.50	3,705.3	73.8	-308.6	-306.7	0.53	0.11	-3.82	
3,818.0	8.50	290.80	3,794.4	77.4	-320.8	-318.8	1.66	0.78	10.33	
3,908.0	8.60	290.70	3,883.4	82.1	-333.3	-331.2	0.11	0.11	-0.11	
3,998.0	8.40	289.40	3,972.5	86.7	-345.8	-343.6	0.31	-0.22	-1.44	
4,088.0	7.70	287.80	4,061.6	90.7	-357.7	-355.4	0.82	-0.78	-1.78	
4,178.0	9.10	289.10	4,150.6	94.9	-370.2	-367.8	1.57	1.56	1.44	
4,268.0	8.40	286.40	4,239.6	99.1	-383.2	-380.7	0.90	-0.78	-3.00	
4,358.0	8.20	286.40	4,328.6	102.8	-395.7	-393.1	0.22	-0.22	0.00	
4,448.0	8.00	285.40	4,417.7	106.2	-407.9	-405.2	0.27	-0.22	-1.11	
4,538.0	7.60	285.70	4,506.9	109.5	-419.7	-416.9	0.45	-0.44	0.33	
4,628.0	9.20	283.80	4,595.9	112.8	-432.4	-429.5	1.80	1.78	-2.11	
4,718.0	8.40	281.50	4,684.8	115.9	-445.8	-442.9	0.97	-0.89	-2.56	
4,808.0	8.80	286.30	4,773.8	119.1	-458.9	-455.8	0.91	0.44	5.33	

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Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)	
4,899.0	8.40	284.00	4,863.8	122.7	-472.0	-468.9	0.58	-0.44	-2.53	
4,989.0	7.70	283.80	4,952.9	125.7	-484.2	-481.0	0.78	-0.78	-0.22	
5,079.0	8.50	289.40	5,042.0	129.3	-496.4	-493.1	1.25	0.89	6.22	
5,169.0	7.80	290.30	5,131.1	133.7	-508.4	-505.0	0.79	-0.78	1.00	
5,259.0	8.60	289.40	5,220.2	138.0	-520.4	-516.9	0.90	0.89	-1.00	
5,349.0	7.80	287.80	5,309.3	142.1	-532.6	-529.0	0.92	-0.89	-1.78	
5,439.0	8.40	287.50	5,398.4	146.0	-544.7	-541.0	0.67	0.67	-0.33	
5,528.0	7.30	285.00	5,486.5	149.4	-556.3	-552.6	1.29	-1.24	-2.81	
5,617.0	8.10	294.00	5,574.7	153.4	-567.5	-563.7	1.62	0.90	10.11	
5,707.0	8.00	288.50	5,663.9	158.0	-579.3	-575.3	0.86	-0.11	-6.11	
5,797.0	9.10	293.50	5,752.9	162.8	-591.7	-587.6	1.47	1.22	5.56	
5,887.0	9.10	293.50	5,841.7	168.5	-604.8	-600.5	0.00	0.00	0.00	
5,977.0	8.40	290.80	5,930.7	173.6	-617.5	-613.1	0.90	-0.78	-3.00	
6,067.0	7.40	289.10	6,019.8	177.9	-629.1	-624.6	1.14	-1.11	-1.89	
6,157.0	6.90	289.10	6,109.1	181.5	-639.7	-635.1	0.56	-0.56	0.00	
6,247.0	2.40	332.10	6,198.8	185.0	-645.7	-641.0	6.00	-5.00	47.78	
6,337.0	6.30	66.70	6,288.6	188.6	-642.0	-637.3	7.69	4.33	105.11	
6,426.0	12.60	79.00	6,376.4	192.4	-628.0	-623.1	7.39	7.08	13.82	
6,515.0	18.00	85.00	6,462.2	195.4	-604.7	-599.8	6.32	6.07	6.74	
6,605.0	24.20	87.60	6,546.1	197.4	-572.4	-567.5	6.97	6.89	2.89	
6,695.0	34.20	84.80	6,624.6	200.5	-528.7	-523.7	11.21	11.11	-3.11	
6,784.0	44.70	89.70	6,693.2	202.9	-472.3	-467.3	12.30	11.80	5.51	
6,874.0	49.20	87.80	6,754.7	204.4	-406.6	-401.5	5.23	5.00	-2.11	
6,964.0	54.50	86.60	6,810.2	207.9	-335.9	-330.8	5.98	5.89	-1.33	
7,054.0	64.70	88.20	6,855.7	211.4	-258.5	-253.3	11.44	11.33	1.78	
7,063.3	65.28	88.35	6,859.7	211.6	-250.0	-244.9	6.39	6.22	1.61	
Crosses 460' Setback - 2331'FSL & 460' FWL, SEC.21										
7,144.0	70.30	89.60	6,890.2	212.9	-175.4	-170.2	6.39	6.22	1.55	
7,234.0	75.30	90.10	6,916.8	213.1	-89.4	-84.2	5.58	5.56	0.56	
7,324.0	79.50	90.40	6,936.4	212.8	-1.6	3.5	4.68	4.67	0.33	
7,414.0	85.80	90.60	6,947.9	212.0	87.6	92.7	7.00	7.00	0.22	
7,504.0	92.10	89.20	6,949.5	212.1	177.5	182.6	7.17	7.00	-1.56	
7,594.0	90.00	89.00	6,947.9	213.6	267.5	272.6	2.34	-2.33	-0.22	
7,684.0	89.60	89.20	6,948.2	215.0	357.5	362.6	0.50	-0.44	0.22	
7,773.0	89.90	89.00	6,948.6	216.4	446.5	451.6	0.41	0.34	-0.22	
7,863.0	89.50	88.90	6,949.1	218.0	536.5	541.6	0.46	-0.44	-0.11	
7,952.0	89.30	88.70	6,950.0	219.9	625.5	630.6	0.32	-0.22	-0.22	
8,042.0	90.30	90.10	6,950.3	220.8	715.4	720.6	1.91	1.11	1.56	
Deepest TVD Drilled - 6950.31' TVD										
8,131.0	90.10	89.70	6,950.0	221.0	804.4	809.5	0.50	-0.22	-0.45	
8,221.0	91.00	90.60	6,949.1	220.7	894.4	899.5	1.41	1.00	1.00	
8,310.0	90.90	90.10	6,947.7	220.2	983.4	988.5	0.57	-0.11	-0.56	
8,401.0	90.90	89.70	6,946.2	220.4	1,074.4	1,079.4	0.44	0.00	-0.44	

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Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)
8,490.0	90.70	90.10	6,945.0	220.5	1,163.4	1,168.4	0.50	-0.22	0.45
8,580.0	90.70	89.70	6,943.9	220.7	1,253.4	1,258.4	0.44	0.00	-0.44
8,669.0	90.70	89.00	6,942.8	221.7	1,342.4	1,347.3	0.79	0.00	-0.79
8,759.0	90.60	88.70	6,941.8	223.5	1,432.4	1,437.3	0.35	-0.11	-0.33
8,849.0	90.60	88.30	6,940.8	225.8	1,522.3	1,527.3	0.44	0.00	-0.44
8,939.0	90.20	90.30	6,940.2	226.9	1,612.3	1,617.3	2.27	-0.44	2.22
9,029.0	90.30	90.10	6,939.8	226.6	1,702.3	1,707.3	0.25	0.11	-0.22
9,143.0	90.40	89.60	6,939.1	226.9	1,816.3	1,821.3	0.45	0.09	-0.44
9,232.0	91.40	90.80	6,937.7	226.6	1,905.3	1,910.2	1.75	1.12	1.35
9,322.0	91.20	90.40	6,935.7	225.7	1,995.3	2,000.1	0.50	-0.22	-0.44
9,412.0	90.70	90.30	6,934.2	225.1	2,085.2	2,090.1	0.57	-0.56	-0.11
9,502.0	90.10	89.40	6,933.6	225.4	2,175.2	2,180.1	1.20	-0.67	-1.00
9,592.0	90.80	90.80	6,932.9	225.2	2,265.2	2,270.0	1.74	0.78	1.56
9,682.0	90.70	90.30	6,931.7	224.3	2,355.2	2,360.0	0.57	-0.11	-0.56
9,772.0	90.40	90.10	6,930.8	224.0	2,445.2	2,449.9	0.40	-0.33	-0.22
9,863.0	90.10	90.10	6,930.4	223.9	2,536.2	2,540.9	0.33	-0.33	0.00
9,953.0	90.20	89.60	6,930.2	224.1	2,626.2	2,630.9	0.57	0.11	-0.56
10,043.0	90.20	89.20	6,929.9	225.0	2,716.2	2,720.9	0.44	0.00	-0.44
10,132.0	90.80	89.70	6,929.1	225.9	2,805.2	2,809.8	0.88	0.67	0.56
10,222.0	91.00	89.60	6,927.7	226.4	2,895.2	2,899.8	0.25	0.22	-0.11
10,312.0	92.30	91.10	6,925.1	225.9	2,985.1	2,989.7	2.20	1.44	1.67
10,402.0	92.90	90.80	6,921.0	224.4	3,075.0	3,079.6	0.75	0.67	-0.33
10,492.0	92.20	91.70	6,917.0	222.4	3,164.9	3,169.4	1.27	-0.78	1.00
10,582.0	90.80	92.60	6,914.6	219.1	3,254.8	3,259.2	1.85	-1.56	1.00
10,672.0	91.10	92.40	6,913.1	215.1	3,344.7	3,349.0	0.40	0.33	-0.22
10,762.0	89.70	92.20	6,912.5	211.5	3,434.7	3,438.8	1.57	-1.56	-0.22
10,852.0	89.40	92.40	6,913.2	207.9	3,524.6	3,528.6	0.40	-0.33	0.22
10,942.0	89.90	91.10	6,913.8	205.2	3,614.5	3,618.4	1.55	0.56	-1.44
11,032.0	90.50	89.90	6,913.5	204.4	3,704.5	3,708.4	1.49	0.67	-1.33
11,122.0	90.30	89.40	6,912.8	204.9	3,794.5	3,798.4	0.60	-0.22	-0.56
11,212.0	90.50	89.40	6,912.2	205.9	3,884.5	3,888.4	0.22	0.22	0.00
11,302.0	90.80	89.00	6,911.2	207.1	3,974.5	3,978.3	0.56	0.33	-0.44
11,393.0	91.20	88.30	6,909.6	209.3	4,065.5	4,069.3	0.89	0.44	-0.77
11,482.0	91.10	90.30	6,907.8	210.4	4,154.4	4,158.3	2.25	-0.11	2.25
11,572.0	90.60	90.30	6,906.5	209.9	4,244.4	4,248.3	0.56	-0.56	0.00
11,662.0	91.10	90.10	6,905.1	209.6	4,334.4	4,338.2	0.60	0.56	-0.22
11,752.0	89.50	91.10	6,904.7	208.6	4,424.4	4,428.2	2.10	-1.78	1.11
11,842.0	89.70	91.10	6,905.3	206.9	4,514.4	4,518.1	0.22	0.22	0.00
11,932.0	89.80	90.60	6,905.7	205.6	4,604.4	4,608.0	0.57	0.11	-0.56
12,022.0	89.90	90.30	6,905.9	204.9	4,694.4	4,697.9	0.35	0.11	-0.33
12,112.0	89.70	89.90	6,906.2	204.7	4,784.4	4,787.9	0.50	-0.22	-0.44
12,201.0	90.30	90.10	6,906.2	204.7	4,873.4	4,876.9	0.71	0.67	0.22
12,291.0	91.00	89.70	6,905.2	204.9	4,963.4	4,966.9	0.90	0.78	-0.44
12,381.0	90.00	89.90	6,904.4	205.2	5,053.4	5,056.8	1.13	-1.11	0.22

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elbert 7N
Project:	SEC.21-T5N-R65W	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	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)	
12,471.0	90.50	90.40	6,904.0	204.9	5,143.4	5,146.8	0.79	0.56	0.56	
12,561.0	90.60	90.60	6,903.2	204.2	5,233.3	5,236.8	0.25	0.11	0.22	
12,651.0	91.00	90.30	6,901.9	203.5	5,323.3	5,326.7	0.56	0.44	-0.33	
12,740.0	91.20	89.90	6,900.2	203.3	5,412.3	5,415.6	0.50	0.22	-0.45	
12,830.0	89.90	89.90	6,899.3	203.5	5,502.3	5,505.6	1.44	-1.44	0.00	
12,920.0	90.40	89.60	6,899.1	203.8	5,592.3	5,595.6	0.65	0.56	-0.33	
13,009.0	90.70	89.60	6,898.3	204.5	5,681.3	5,684.6	0.34	0.34	0.00	
13,099.0	90.70	88.90	6,897.2	205.6	5,771.3	5,774.6	0.78	0.00	-0.78	
13,189.0	90.90	88.30	6,895.9	207.8	5,861.3	5,864.6	0.70	0.22	-0.67	
13,279.0	90.00	89.60	6,895.2	209.5	5,951.2	5,954.6	1.76	-1.00	1.44	
13,368.0	90.60	89.60	6,894.7	210.1	6,040.2	6,043.5	0.67	0.67	0.00	
13,459.0	90.80	88.70	6,893.6	211.5	6,131.2	6,134.5	1.01	0.22	-0.99	
13,548.0	90.60	90.30	6,892.5	212.2	6,220.2	6,223.5	1.81	-0.22	1.80	
13,638.0	91.10	90.10	6,891.2	211.9	6,310.2	6,313.5	0.60	0.56	-0.22	
13,729.0	91.70	89.70	6,889.0	212.1	6,401.2	6,404.4	0.79	0.66	-0.44	
13,818.0	90.20	89.70	6,887.5	212.6	6,490.1	6,493.4	1.69	-1.69	0.00	
13,909.0	90.60	89.90	6,886.9	212.9	6,581.1	6,584.4	0.49	0.44	0.22	
13,999.0	91.00	89.60	6,885.6	213.3	6,671.1	6,674.3	0.56	0.44	-0.33	
14,089.0	90.20	89.90	6,884.7	213.7	6,761.1	6,764.3	0.95	-0.89	0.33	
14,179.0	90.30	89.70	6,884.3	214.0	6,851.1	6,854.3	0.25	0.11	-0.22	
14,269.0	90.40	89.60	6,883.7	214.5	6,941.1	6,944.3	0.16	0.11	-0.11	
14,359.0	90.30	88.90	6,883.2	215.7	7,031.1	7,034.3	0.79	-0.11	-0.78	
14,449.0	90.20	88.50	6,882.8	217.7	7,121.1	7,124.3	0.46	-0.11	-0.44	
14,539.0	91.10	89.60	6,881.8	219.2	7,211.1	7,214.3	1.58	1.00	1.22	
14,628.0	91.70	89.70	6,879.6	219.8	7,300.0	7,303.2	0.68	0.67	0.11	
14,718.0	90.60	89.70	6,877.8	220.2	7,390.0	7,393.2	1.22	-1.22	0.00	
14,808.0	89.80	92.20	6,877.5	218.8	7,480.0	7,483.1	2.92	-0.89	2.78	
14,897.0	90.50	91.70	6,877.2	215.7	7,568.9	7,571.9	0.97	0.79	-0.56	
14,988.0	91.10	91.50	6,876.0	213.2	7,659.9	7,662.8	0.70	0.66	-0.22	
15,078.0	89.70	91.50	6,875.3	210.8	7,749.9	7,752.7	1.56	-1.56	0.00	
15,167.0	90.60	90.60	6,875.1	209.2	7,838.8	7,841.6	1.43	1.01	-1.01	
15,256.0	91.20	90.10	6,873.7	208.7	7,927.8	7,930.6	0.88	0.67	-0.56	
15,346.0	89.60	90.60	6,873.1	208.1	8,017.8	8,020.5	1.86	-1.78	0.56	
15,436.0	90.20	90.70	6,873.2	207.1	8,107.8	8,110.5	0.68	0.67	0.11	
15,525.0	90.90	90.40	6,872.4	206.2	8,196.8	8,199.4	0.86	0.79	-0.34	
15,615.0	91.80	90.10	6,870.3	205.8	8,286.8	8,289.3	1.05	1.00	-0.33	
15,705.0	89.10	90.20	6,869.5	205.6	8,376.8	8,379.3	3.00	-3.00	0.11	
15,795.0	89.90	89.70	6,870.3	205.7	8,466.8	8,469.3	1.05	0.89	-0.56	
15,884.0	90.50	89.50	6,870.0	206.3	8,555.8	8,558.2	0.71	0.67	-0.22	
15,974.0	91.20	88.70	6,868.7	207.7	8,645.7	8,648.2	1.18	0.78	-0.89	
16,064.0	90.60	88.30	6,867.3	210.1	8,735.7	8,738.2	0.80	-0.67	-0.44	
16,110.0	90.40	88.00	6,866.9	211.6	8,781.7	8,784.2	0.78	-0.43	-0.65	
16,167.0	90.40	88.00	6,866.5	213.5	8,838.6	8,841.2	0.00	0.00	0.00	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Elbert 7N
Project:	SEC.21-T5N-R65W	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Elbert 1-12 Pad Sec.21-T5N-R65W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Well:	Elbert 7N	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	US_EDM

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)
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Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 2119'FSL, 710'FWL - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,383,512.32	3,229,755.00	40.383210	-104.675250
BHL 2290'FSL, 1008'FEI - survey misses target center by 3.8ft at 16167.0ft MD (6866.5 TVD, 213.5 N, 8838.6 E) - Point	0.00	0.00	6,870.0	213.3	8,840.0	1,383,807.78	3,238,592.25	40.383791	-104.643519

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
7,063.3	6,859.7	211.6	-250.0	Crosses 460' Setback - 2331'FSL & 460' FWL, SEC.21
8,042.0	6,950.3	220.8	715.4	Deepest TVD Drilled - 6950.31' TVD

Checked By: _____ Approved By: _____ Date: _____