



PDC Energy, Inc.
Project: Weld Co., CO
Site: Sec.27-T5N-R64W
Well: Chesnut 27G-301
Wellbore: Wellbore #1
Design: Design #1
Lat: 40° 22' 16.752 N
Long: 104° 32' 27.744 W
Pad GL: 4613.00
KB: WELL @ 4628.00usft (Original Well Elev)

PROJECT DETAILS: Weld Co., CO

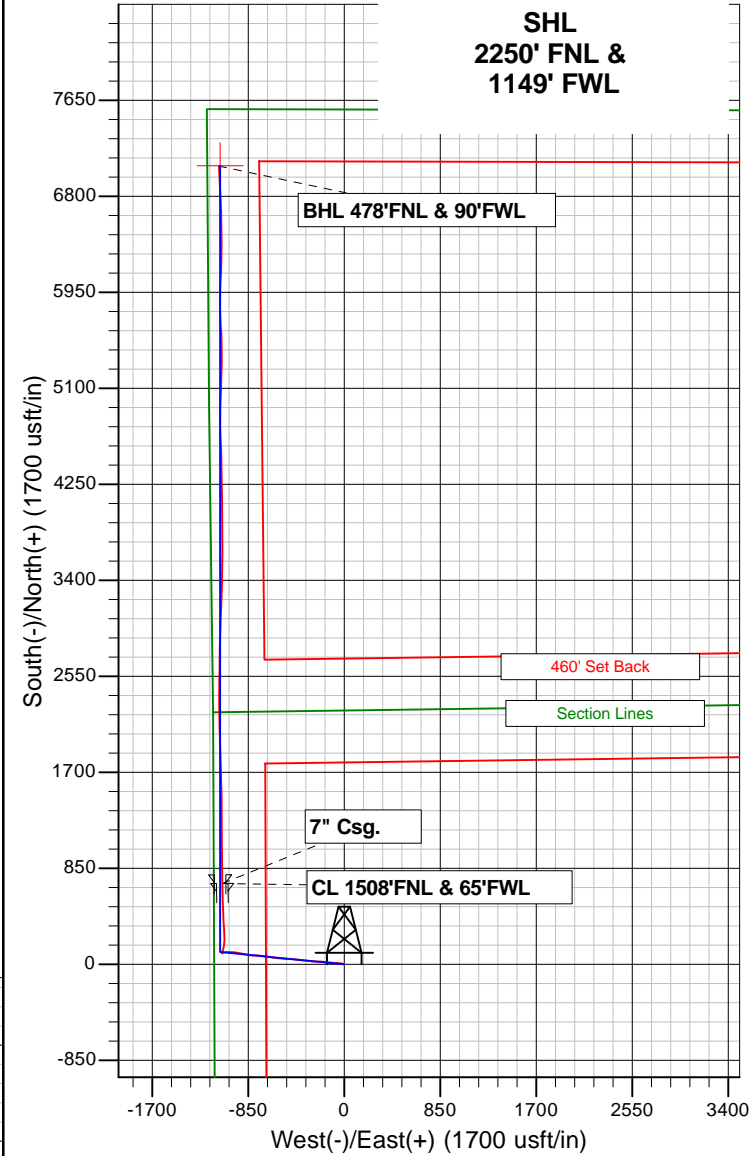
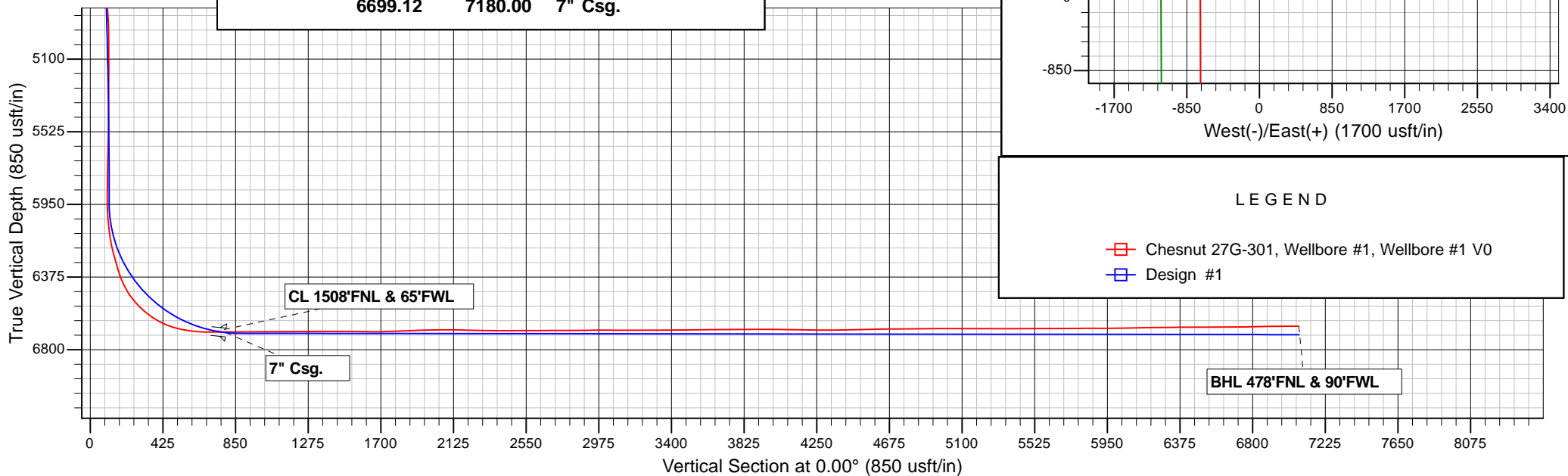
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level

Projected Bottom Hole Location
13,537'MD 6662.08'TVD 7069.76'N & 1109.96'W OF SHL
90.10 degree Incl @ 356.60 degree AZM

CASING DETAILS

TVD	MD	Name
6699.12	7180.00	7" Csg.



LEGEND

- Chesnut 27G-301, Wellbore #1, Wellbore #1 V0
- Design #1



PDC Energy, Inc.

**Weld Co., CO
Sec.27-T5N-R64W
Chesnut 27G-301**

Wellbore #1

Survey: Survey #1

Standard Survey Report

01 March, 2015

Archer

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Chesnut 27G-301
Project:	Weld Co., CO	TVD Reference:	WELL @ 4628.00usft (Original Well Elev)
Site:	Sec.27-T5N-R64W	MD Reference:	WELL @ 4628.00usft (Original Well Elev)
Well:	Chesnut 27G-301	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec.27-T5N-R64W			
Site Position:		Northing:	1,379,023.488 usft	Latitude:	40° 22' 11.496 N
From:	Lat/Long	Easting:	3,267,026.653 usft	Longitude:	104° 32' 29.904 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.62 °

Well		Chesnut 27G-301				
Well Position	+N/-S	0.00 usft	Northing:	1,379,557.106 usft	Latitude:	40° 22' 16.752 N
	+E/-W	0.00 usft	Easting:	3,267,188.072 usft	Longitude:	104° 32' 27.744 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,613.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2015/02/13	8.25	66.94	52,755

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	0.00	

Survey Program	Date	2015/03/01			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
78.00	13,537.00	Survey #1 (Wellbore #1)	MWD	MWD v3:standard declination	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First Archer Survey										
78.00	0.50	79.70	78.00	0.06	0.33	0.06	0.64	0.64	0.00	
172.00	0.40	100.30	172.00	0.08	1.06	0.08	0.20	-0.11	21.91	
265.00	0.50	89.60	264.99	0.02	1.79	0.02	0.14	0.11	-11.51	
359.00	0.40	126.10	358.99	-0.17	2.46	-0.17	0.32	-0.11	38.83	
452.00	0.70	300.80	451.99	-0.07	2.24	-0.07	1.18	0.32	187.85	
546.00	1.40	311.30	545.97	0.98	0.88	0.98	0.77	0.74	11.17	
639.00	3.20	288.40	638.90	2.55	-2.44	2.55	2.14	1.94	-24.62	
733.00	5.10	284.90	732.64	4.45	-8.96	4.45	2.04	2.02	-3.72	
826.00	6.90	283.90	825.13	6.86	-18.38	6.86	1.94	1.94	-1.08	
888.00	8.20	276.90	886.59	8.28	-26.39	8.28	2.56	2.10	-11.29	
1,007.00	10.40	275.70	1,004.02	10.37	-45.50	10.37	1.86	1.85	-1.01	

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Chesnut 27G-301
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Site:	Sec.27-T5N-R64W	MD Reference:	WELL @ 4628.00usft (Original Well Elev)
Well:	Chesnut 27G-301	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,100.00	12.20	273.90	1,095.22	11.87	-63.66	11.87	1.97	1.94	-1.94	
1,194.00	14.20	271.40	1,186.73	12.83	-85.10	12.83	2.21	2.13	-2.66	
1,287.00	15.10	277.20	1,276.71	14.63	-108.52	14.63	1.85	0.97	6.24	
1,381.00	15.50	276.30	1,367.38	17.54	-133.15	17.54	0.49	0.43	-0.96	
1,474.00	14.80	275.30	1,457.15	20.00	-157.33	20.00	0.80	-0.75	-1.08	
1,568.00	14.30	274.90	1,548.13	22.10	-180.85	22.10	0.54	-0.53	-0.43	
1,661.00	14.40	273.90	1,638.23	23.87	-203.83	23.87	0.29	0.11	-1.08	
1,755.00	13.30	267.50	1,729.50	24.19	-226.30	24.19	2.00	-1.17	-6.81	
1,848.00	13.10	270.20	1,820.04	23.76	-247.53	23.76	0.70	-0.22	2.90	
1,942.00	13.30	276.90	1,911.57	25.10	-268.91	25.10	1.64	0.21	7.13	
2,032.00	13.80	278.90	1,999.06	28.00	-289.80	28.00	0.76	0.56	2.22	
2,122.00	12.90	272.00	2,086.63	30.02	-310.44	30.02	2.03	-1.00	-7.67	
2,212.00	12.80	274.20	2,174.38	31.10	-330.43	31.10	0.55	-0.11	2.44	
2,302.00	13.20	280.30	2,262.08	33.66	-350.48	33.66	1.59	0.44	6.78	
2,392.00	14.00	279.20	2,349.55	37.24	-371.34	37.24	0.93	0.89	-1.22	
2,482.00	13.60	274.20	2,436.96	39.76	-392.64	39.76	1.40	-0.44	-5.56	
2,572.00	14.70	275.80	2,524.23	41.69	-414.55	41.69	1.30	1.22	1.78	
2,662.00	15.10	275.50	2,611.20	43.96	-437.58	43.96	0.45	0.44	-0.33	
2,751.00	15.10	273.50	2,697.13	45.78	-460.69	45.78	0.59	0.00	-2.25	
2,841.00	14.30	271.70	2,784.18	46.83	-483.50	46.83	1.02	-0.89	-2.00	
2,931.00	14.70	276.10	2,871.32	48.37	-505.97	48.37	1.30	0.44	4.89	
3,021.00	14.40	273.80	2,958.43	50.33	-528.49	50.33	0.72	-0.33	-2.56	
3,111.00	13.10	275.90	3,045.85	52.12	-549.80	52.12	1.55	-1.44	2.33	
3,201.00	11.90	271.00	3,133.72	53.33	-569.23	53.33	1.78	-1.33	-5.44	
3,291.00	11.90	271.80	3,221.78	53.78	-587.78	53.78	0.18	0.00	0.89	
3,381.00	11.40	278.60	3,309.93	55.40	-605.85	55.40	1.62	-0.56	7.56	
3,471.00	11.60	280.20	3,398.13	58.33	-623.55	58.33	0.42	0.22	1.78	
3,561.00	13.00	281.20	3,486.06	61.90	-642.39	61.90	1.57	1.56	1.11	
3,651.00	14.00	281.90	3,573.57	66.11	-662.97	66.11	1.13	1.11	0.78	
3,741.00	14.50	281.50	3,660.80	70.61	-684.66	70.61	0.57	0.56	-0.44	
3,830.00	13.60	274.80	3,747.14	73.70	-706.01	73.70	2.09	-1.01	-7.53	
3,920.00	12.90	271.60	3,834.75	74.87	-726.60	74.87	1.13	-0.78	-3.56	
4,010.00	12.80	271.50	3,922.50	75.41	-746.61	75.41	0.11	-0.11	-0.11	
4,100.00	12.50	276.10	4,010.31	76.71	-766.26	76.71	1.17	-0.33	5.11	
4,190.00	11.20	270.80	4,098.40	77.86	-784.68	77.86	1.88	-1.44	-5.89	
4,280.00	11.50	273.70	4,186.64	78.56	-802.38	78.56	0.72	0.33	3.22	
4,370.00	11.40	272.60	4,274.85	79.55	-820.21	79.55	0.27	-0.11	-1.22	
4,460.00	12.30	278.40	4,362.93	81.35	-838.58	81.35	1.66	1.00	6.44	
4,550.00	12.10	279.80	4,450.90	84.36	-857.36	84.36	0.40	-0.22	1.56	
4,640.00	12.60	282.50	4,538.81	88.09	-876.24	88.09	0.85	0.56	3.00	
4,730.00	12.30	279.30	4,626.70	91.76	-895.29	91.76	0.84	-0.33	-3.56	
4,820.00	12.70	283.10	4,714.57	95.55	-914.38	95.55	1.02	0.44	4.22	
4,910.00	13.20	286.20	4,802.28	100.66	-933.89	100.66	0.95	0.56	3.44	
5,000.00	14.50	281.10	4,889.66	105.70	-954.81	105.70	1.98	1.44	-5.67	
5,090.00	13.10	273.10	4,977.07	108.42	-976.06	108.42	2.63	-1.56	-8.89	
5,180.00	11.50	268.70	5,065.01	108.77	-995.21	108.77	2.06	-1.78	-4.89	
5,270.00	10.20	266.90	5,153.39	108.13	-1,012.14	108.13	1.49	-1.44	-2.00	
5,360.00	9.60	269.30	5,242.05	107.61	-1,027.60	107.61	0.81	-0.67	2.67	
5,450.00	9.70	271.00	5,330.78	107.65	-1,042.68	107.65	0.34	0.11	1.89	
5,540.00	7.50	265.20	5,419.77	107.29	-1,056.12	107.29	2.62	-2.44	-6.44	
5,630.00	5.40	258.70	5,509.19	105.97	-1,066.13	105.97	2.47	-2.33	-7.22	
5,720.00	4.20	249.80	5,598.88	104.00	-1,073.37	104.00	1.57	-1.33	-9.89	
5,810.00	1.80	245.20	5,688.75	102.27	-1,077.75	102.27	2.68	-2.67	-5.11	
5,900.00	1.20	234.60	5,778.71	101.13	-1,079.80	101.13	0.73	-0.67	-11.78	

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Well:	Chesnut 27G-301	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,989.00	1.00	214.10	5,867.70	99.95	-1,081.00	99.95	0.49	-0.22	-23.03
6,034.00	0.70	218.80	5,912.69	99.41	-1,081.39	99.41	0.68	-0.67	10.44
6,079.00	1.50	353.20	5,957.69	99.78	-1,081.63	99.78	4.56	1.78	298.67
6,124.00	3.60	16.20	6,002.64	101.72	-1,081.31	101.72	5.10	4.67	51.11
6,169.00	5.40	20.40	6,047.50	105.06	-1,080.17	105.06	4.06	4.00	9.33
6,214.00	6.40	13.10	6,092.26	109.49	-1,078.87	109.49	2.77	2.22	-16.22
6,259.00	7.90	11.50	6,136.91	114.96	-1,077.68	114.96	3.36	3.33	-3.56
6,304.00	11.80	6.10	6,181.24	122.57	-1,076.58	122.57	8.90	8.67	-12.00
6,349.00	14.70	13.10	6,225.04	132.71	-1,074.79	132.71	7.35	6.44	15.56
6,394.00	16.20	16.70	6,268.42	144.29	-1,071.70	144.29	3.95	3.33	8.00
6,439.00	16.90	13.10	6,311.55	156.67	-1,068.41	156.67	2.76	1.56	-8.00
6,484.00	18.60	11.20	6,354.41	170.08	-1,065.53	170.08	3.99	3.78	-4.22
6,529.00	23.10	8.00	6,396.45	185.87	-1,062.91	185.87	10.31	10.00	-7.11
6,574.00	28.30	4.60	6,436.99	205.26	-1,060.82	205.26	12.01	11.56	-7.56
6,619.00	33.80	3.40	6,475.53	228.41	-1,059.22	228.41	12.30	12.22	-2.67
6,664.00	39.40	357.60	6,511.65	255.20	-1,059.08	255.20	14.61	12.44	-12.89
6,709.00	44.30	352.80	6,545.17	285.08	-1,061.65	285.08	13.00	10.89	-10.67
6,754.00	50.30	354.00	6,575.67	317.92	-1,065.43	317.92	13.48	13.33	2.67
6,799.00	55.00	356.50	6,602.97	353.56	-1,068.37	353.56	11.34	10.44	5.56
6,844.00	60.00	358.40	6,627.14	391.46	-1,070.04	391.46	11.67	11.11	4.22
6,889.00	65.00	357.50	6,647.91	431.34	-1,071.47	431.34	11.25	11.11	-2.00
6,934.00	71.90	357.60	6,664.43	473.13	-1,073.26	473.13	15.33	15.33	0.22
6,979.00	77.20	357.90	6,676.42	516.45	-1,074.96	516.45	11.80	11.78	0.67
7,024.00	80.30	358.00	6,685.19	560.55	-1,076.54	560.55	6.89	6.89	0.22
7,069.00	83.60	359.20	6,691.50	605.09	-1,077.63	605.09	7.79	7.33	2.67
7,114.00	87.50	359.00	6,694.99	649.94	-1,078.33	649.94	8.68	8.67	-0.44
7,136.00	89.20	359.10	6,695.62	671.93	-1,078.70	671.93	7.74	7.73	0.45
7,190.00	90.10	359.40	6,695.95	725.92	-1,079.40	725.92	1.76	1.67	0.56
7,235.00	90.00	359.10	6,695.91	770.92	-1,079.99	770.92	0.70	-0.22	-0.67
7,325.00	90.40	358.80	6,695.60	860.90	-1,081.64	860.90	0.56	0.44	-0.33
7,415.00	90.30	359.20	6,695.05	950.89	-1,083.21	950.89	0.46	-0.11	0.44
7,505.00	90.90	359.30	6,694.10	1,040.87	-1,084.39	1,040.87	0.68	0.67	0.11
7,595.00	90.60	0.10	6,692.93	1,130.86	-1,084.86	1,130.86	0.95	-0.33	0.89
7,685.00	90.40	0.20	6,692.14	1,220.86	-1,084.62	1,220.86	0.25	-0.22	0.11
7,775.00	89.80	358.90	6,691.98	1,310.85	-1,085.33	1,310.85	1.59	-0.67	-1.44
7,865.00	89.70	359.50	6,692.38	1,400.84	-1,086.59	1,400.84	0.68	-0.11	0.67
7,955.00	89.50	359.30	6,693.00	1,490.84	-1,087.53	1,490.84	0.31	-0.22	-0.22
8,049.00	89.30	358.40	6,693.99	1,584.81	-1,089.42	1,584.81	0.98	-0.21	-0.96
8,142.00	90.80	359.00	6,693.91	1,677.78	-1,091.53	1,677.78	1.74	1.61	0.65
8,235.00	92.20	358.20	6,691.47	1,770.72	-1,093.80	1,770.72	1.73	1.51	-0.86
8,329.00	92.00	357.80	6,688.03	1,864.60	-1,097.08	1,864.60	0.48	-0.21	-0.43
8,422.00	91.60	358.40	6,685.11	1,957.50	-1,100.16	1,957.50	0.78	-0.43	0.65
8,516.00	90.90	358.80	6,683.06	2,051.45	-1,102.45	2,051.45	0.86	-0.74	0.43
8,610.00	88.60	358.50	6,683.47	2,145.42	-1,104.67	2,145.42	2.47	-2.45	-0.32
8,703.00	88.70	358.40	6,685.66	2,238.36	-1,107.18	2,238.36	0.15	0.11	-0.11
8,797.00	89.10	359.80	6,687.46	2,332.33	-1,108.66	2,332.33	1.55	0.43	1.49
8,890.00	90.00	0.60	6,688.19	2,425.32	-1,108.34	2,425.32	1.29	0.97	0.86
8,984.00	90.50	2.40	6,687.78	2,519.29	-1,105.87	2,519.29	1.99	0.53	1.91
9,077.00	90.30	0.80	6,687.13	2,612.24	-1,103.28	2,612.24	1.73	-0.22	-1.72
9,171.00	90.20	0.00	6,686.72	2,706.24	-1,102.62	2,706.24	0.86	-0.11	-0.85
9,264.00	90.30	0.40	6,686.32	2,799.24	-1,102.30	2,799.24	0.44	0.11	0.43
9,358.00	90.50	1.90	6,685.66	2,893.21	-1,100.41	2,893.21	1.61	0.21	1.60
9,451.00	90.00	2.40	6,685.26	2,986.15	-1,096.92	2,986.15	0.76	-0.54	0.54
9,544.00	89.80	2.40	6,685.42	3,079.07	-1,093.03	3,079.07	0.22	-0.22	0.00

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Well:	Chesnut 27G-301	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,638.00	89.60	1.00	6,685.91	3,173.02	-1,090.24	3,173.02	1.50	-0.21	-1.49
9,731.00	90.70	1.70	6,685.67	3,265.99	-1,088.05	3,265.99	1.40	1.18	0.75
9,825.00	91.30	1.80	6,684.03	3,359.93	-1,085.18	3,359.93	0.65	0.64	0.11
9,915.00	90.30	0.70	6,682.77	3,449.90	-1,083.21	3,449.90	1.65	-1.11	-1.22
10,005.00	89.40	0.90	6,683.01	3,539.89	-1,081.96	3,539.89	1.02	-1.00	0.22
10,095.00	90.60	1.30	6,683.01	3,629.87	-1,080.23	3,629.87	1.41	1.33	0.44
10,185.00	91.30	0.90	6,681.51	3,719.84	-1,078.50	3,719.84	0.90	0.78	-0.44
10,275.00	89.80	0.00	6,680.65	3,809.83	-1,077.80	3,809.83	1.94	-1.67	-1.00
10,365.00	90.10	359.10	6,680.73	3,899.83	-1,078.50	3,899.83	1.05	0.33	-1.00
10,455.00	89.50	358.70	6,681.04	3,989.81	-1,080.23	3,989.81	0.80	-0.67	-0.44
10,545.00	89.50	358.10	6,681.83	4,079.77	-1,082.74	4,079.77	0.67	0.00	-0.67
10,635.00	89.10	358.60	6,682.93	4,169.73	-1,085.33	4,169.73	0.71	-0.44	0.56
10,725.00	88.90	0.30	6,684.50	4,259.71	-1,086.20	4,259.71	1.90	-0.22	1.89
10,814.00	90.80	359.70	6,684.73	4,348.70	-1,086.20	4,348.70	2.24	2.13	-0.67
10,904.00	91.30	358.90	6,683.08	4,438.68	-1,087.30	4,438.68	1.05	0.56	-0.89
10,994.00	91.00	358.50	6,681.28	4,528.64	-1,089.34	4,528.64	0.56	-0.33	-0.44
11,084.00	91.10	357.70	6,679.63	4,618.57	-1,092.32	4,618.57	0.90	0.11	-0.89
11,174.00	91.50	358.10	6,677.58	4,708.49	-1,095.62	4,708.49	0.63	0.44	0.44
11,264.00	90.10	359.00	6,676.33	4,798.45	-1,097.90	4,798.45	1.85	-1.56	1.00
11,354.00	90.20	0.50	6,676.09	4,888.44	-1,098.29	4,888.44	1.67	0.11	1.67
11,444.00	89.60	359.90	6,676.25	4,978.44	-1,097.98	4,978.44	0.94	-0.67	-0.67
11,489.00	90.30	2.50	6,676.29	5,023.43	-1,097.03	5,023.43	5.98	1.56	5.78
11,534.00	89.90	4.00	6,676.21	5,068.35	-1,094.48	5,068.35	3.45	-0.89	3.33
11,579.00	90.30	4.90	6,676.13	5,113.22	-1,090.99	5,113.22	2.19	0.89	2.00
11,624.00	89.80	2.20	6,676.09	5,158.13	-1,088.20	5,158.13	6.10	-1.11	-6.00
11,669.00	89.50	1.30	6,676.37	5,203.10	-1,086.83	5,203.10	2.11	-0.67	-2.00
11,714.00	89.60	0.90	6,676.72	5,248.09	-1,085.97	5,248.09	0.92	0.22	-0.89
11,759.00	89.90	0.70	6,676.92	5,293.09	-1,085.34	5,293.09	0.80	0.67	-0.44
11,804.00	90.50	1.30	6,676.76	5,338.08	-1,084.55	5,338.08	1.89	1.33	1.33
11,849.00	90.20	0.10	6,676.48	5,383.08	-1,084.00	5,383.08	2.75	-0.67	-2.67
11,894.00	89.90	358.70	6,676.45	5,428.07	-1,084.47	5,428.07	3.18	-0.67	-3.11
11,939.00	90.20	358.90	6,676.41	5,473.06	-1,085.42	5,473.06	0.80	0.67	0.44
11,984.00	90.60	358.80	6,676.09	5,518.05	-1,086.32	5,518.05	0.92	0.89	-0.22
12,029.00	90.00	357.90	6,675.86	5,563.03	-1,087.62	5,563.03	2.40	-1.33	-2.00
12,074.00	90.30	356.60	6,675.74	5,607.98	-1,089.77	5,607.98	2.96	0.67	-2.89
12,119.00	90.20	356.10	6,675.54	5,652.89	-1,092.64	5,652.89	1.13	-0.22	-1.11
12,163.00	90.60	357.10	6,675.23	5,696.81	-1,095.25	5,696.81	2.45	0.91	2.27
12,208.00	90.60	356.90	6,674.76	5,741.75	-1,097.60	5,741.75	0.44	0.00	-0.44
12,253.00	90.20	357.70	6,674.45	5,786.69	-1,099.72	5,786.69	1.99	-0.89	1.78
12,298.00	90.60	358.50	6,674.14	5,831.67	-1,101.22	5,831.67	1.99	0.89	1.78
12,344.00	90.40	0.60	6,673.73	5,877.66	-1,101.58	5,877.66	4.59	-0.43	4.57
12,389.00	89.90	2.50	6,673.62	5,922.64	-1,100.36	5,922.64	4.37	-1.11	4.22
12,434.00	90.30	2.70	6,673.54	5,967.60	-1,098.32	5,967.60	0.99	0.89	0.44
12,479.00	90.50	2.50	6,673.22	6,012.55	-1,096.28	6,012.55	0.63	0.44	-0.44
12,524.00	90.80	2.90	6,672.71	6,057.50	-1,094.16	6,057.50	1.11	0.67	0.89
12,569.00	91.10	2.20	6,671.97	6,102.44	-1,092.16	6,102.44	1.69	0.67	-1.56
12,614.00	91.20	1.60	6,671.06	6,147.41	-1,090.66	6,147.41	1.35	0.22	-1.33
12,658.00	91.30	1.40	6,670.10	6,191.39	-1,089.51	6,191.39	0.51	0.23	-0.45
12,703.00	91.30	1.40	6,669.08	6,236.36	-1,088.41	6,236.36	0.00	0.00	0.00
12,748.00	90.20	0.80	6,668.49	6,281.35	-1,087.55	6,281.35	2.78	-2.44	-1.33
12,793.00	90.10	0.70	6,668.38	6,326.34	-1,086.96	6,326.34	0.31	-0.22	-0.22
12,838.00	90.20	0.30	6,668.26	6,371.34	-1,086.57	6,371.34	0.92	0.22	-0.89
12,883.00	90.20	0.10	6,668.10	6,416.34	-1,086.41	6,416.34	0.44	0.00	-0.44
12,928.00	90.40	359.30	6,667.87	6,461.34	-1,086.65	6,461.34	1.83	0.44	-1.78

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Chesnut 27G-301
Project:	Weld Co., CO	TVD Reference:	WELL @ 4628.00usft (Original Well Elev)
Site:	Sec.27-T5N-R64W	MD Reference:	WELL @ 4628.00usft (Original Well Elev)
Well:	Chesnut 27G-301	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,973.00	90.40	359.20	6,667.55	6,506.33	-1,087.23	6,506.33	0.22	0.00	-0.22
13,018.00	90.20	358.80	6,667.32	6,551.33	-1,088.02	6,551.33	0.99	-0.44	-0.89
13,063.00	90.00	358.80	6,667.24	6,596.32	-1,088.96	6,596.32	0.44	-0.44	0.00
13,108.00	90.10	358.60	6,667.20	6,641.30	-1,089.98	6,641.30	0.50	0.22	-0.44
13,153.00	90.50	358.40	6,666.96	6,686.29	-1,091.16	6,686.29	0.99	0.89	-0.44
13,198.00	90.90	358.00	6,666.41	6,731.26	-1,092.57	6,731.26	1.26	0.89	-0.89
13,243.00	91.10	357.90	6,665.63	6,776.23	-1,094.18	6,776.23	0.50	0.44	-0.22
13,288.00	91.30	357.30	6,664.68	6,821.18	-1,096.07	6,821.18	1.41	0.44	-1.33
13,333.00	91.80	356.70	6,663.47	6,866.10	-1,098.42	6,866.10	1.74	1.11	-1.33
13,378.00	90.30	356.90	6,662.64	6,911.02	-1,100.93	6,911.02	3.36	-3.33	0.44
13,423.00	90.30	356.90	6,662.41	6,955.95	-1,103.37	6,955.95	0.00	0.00	0.00
13,468.00	90.20	356.70	6,662.21	7,000.88	-1,105.88	7,000.88	0.50	-0.22	-0.44
Last Archer Survey									
13,480.00	90.10	356.60	6,662.18	7,012.86	-1,106.58	7,012.86	1.18	-0.83	-0.83
PTB - Chestnut 27G-301 tgt									
13,537.00	90.10	356.60	6,662.08	7,069.76	-1,109.96	7,069.76	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
78.00	78.00	0.06	0.33	First Archer Survey
13,480.00	6,662.18	7,012.86	-1,106.58	Last Archer Survey
13,537.00	6,662.08	7,069.76	-1,109.96	PTB

Checked By: _____ Approved By: _____ Date: _____