

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: Churchill 28J-423

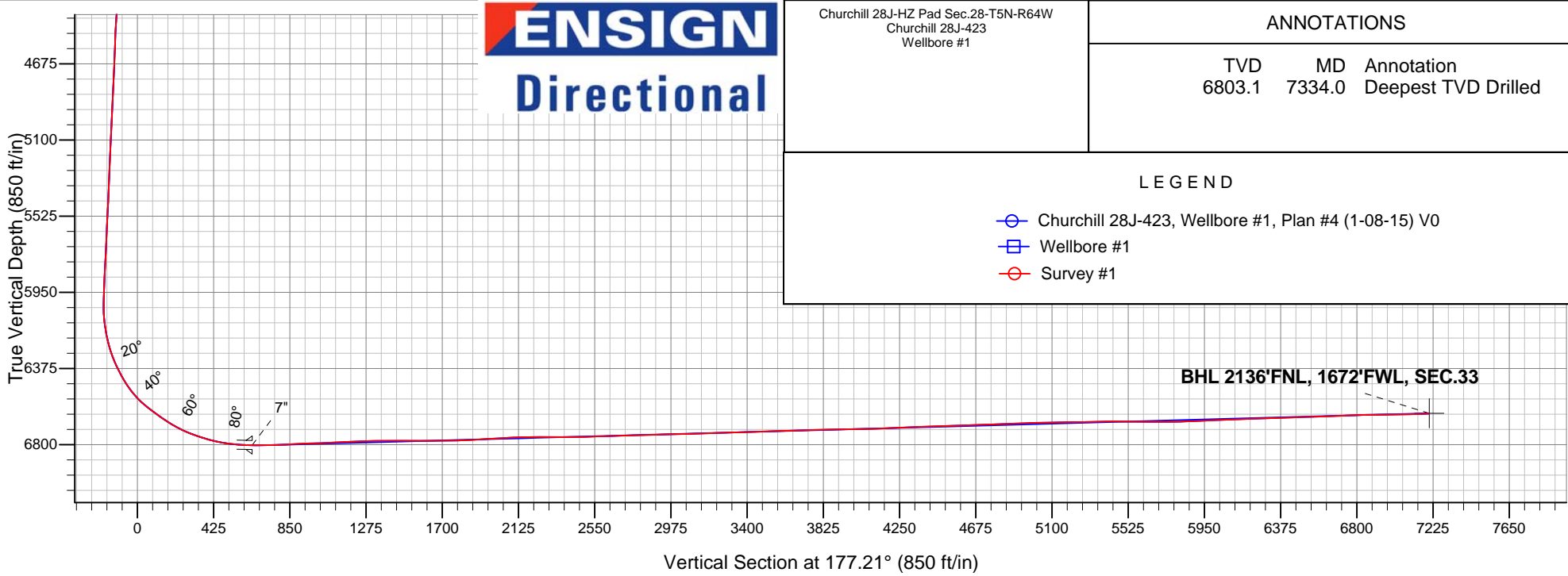
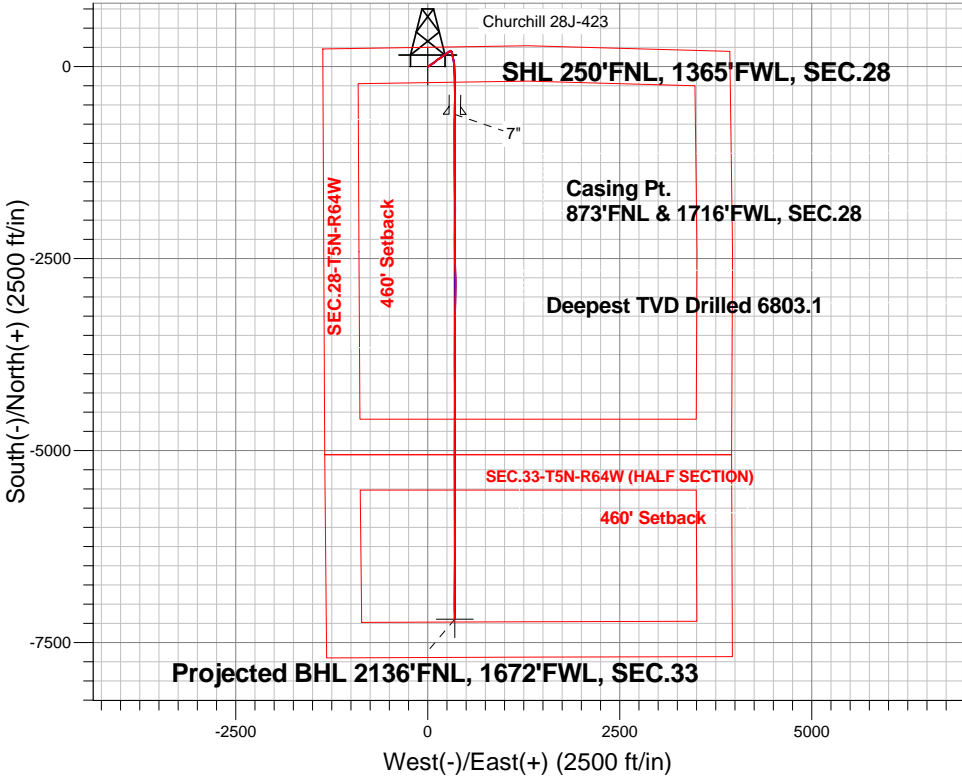
Surface Location: Churchill 28J-HZ Pad Sec.28-T5N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4633.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1381538.64	3262053.94	40.376910	-104.559390	
Ensign Rig# 136 RKB - 12.5' WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')						

FINAL SURVEY

Projected Bottom Hole Location
13886'MD 6628'TVD 7192'S & 351'E of SHL
91.6 degree Incl @ 179.3 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.28-T5N-R64W

Churchill 28J-HZ Pad Sec.28-T5N-R64W

Churchill 28J-423

Wellbore #1

Survey: Survey #1

Standard Survey Report

15 January, 2015

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Churchill 28J-423
Project:	SEC.28-T5N-R64W	TVD Reference:	WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')
Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')
Well:	Churchill 28J-423	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.28-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	Churchill 28J-HZ Pad Sec.28-T5N-R64W				
Site Position:		Northing:	1,381,533.43ft	Latitude:	40.376900
From:	Lat/Long	Easting:	3,261,903.54ft	Longitude:	-104.559930
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.61 °

Well	Churchill 28J-423					
Well Position	+N-S	0.0 ft	Northing:	1,381,538.64 ft	Latitude:	40.376910
	+E-W	0.0 ft	Easting:	3,262,053.94 ft	Longitude:	-104.559390
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,633.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/8/2015	8.27	66.94	52,766

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	177.21	

Survey Program	Date	1/15/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
68.0	13,886.0	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.01	28.30	1.0	0.0	0.0	0.0	1.03	1.03	0.00
SHL 250'FNL, 1365'FWL, SEC.28									
68.0	0.70	28.30	68.0	0.4	0.2	-0.4	1.03	1.03	0.00
156.0	0.50	32.70	156.0	1.2	0.7	-1.1	0.23	-0.23	5.00
250.0	0.40	28.30	250.0	1.8	1.0	-1.7	0.11	-0.11	-4.68
344.0	0.40	80.90	344.0	2.1	1.5	-2.1	0.38	0.00	55.96
438.0	0.60	56.10	438.0	2.5	2.2	-2.4	0.31	0.21	-26.38
531.0	0.50	66.80	531.0	2.9	3.0	-2.7	0.15	-0.11	11.51
625.0	0.60	30.80	625.0	3.5	3.7	-3.3	0.38	0.11	-38.30
718.0	0.20	82.10	718.0	3.9	4.1	-3.7	0.54	-0.43	55.16
812.0	0.20	14.30	812.0	4.1	4.3	-3.9	0.24	0.00	-72.13

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Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')
Well:	Churchill 28J-423	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
875.0	0.40	85.50	875.0	4.2	4.5	-4.0	0.61	0.32	113.02
937.0	0.40	194.10	937.0	4.0	4.7	-3.8	1.05	0.00	175.16
1,030.0	0.30	148.50	1,030.0	3.5	4.7	-3.3	0.31	-0.11	-49.03
1,124.0	0.40	143.80	1,124.0	3.0	5.0	-2.8	0.11	0.11	-5.00
1,222.0	0.50	160.30	1,222.0	2.4	5.4	-2.1	0.17	0.10	16.84
1,315.0	0.40	87.40	1,315.0	2.0	5.9	-1.7	0.58	-0.11	-78.39
1,412.0	0.10	50.60	1,412.0	2.1	6.3	-1.8	0.34	-0.31	-37.94
1,505.0	0.70	31.10	1,505.0	2.6	6.6	-2.3	0.65	0.65	-20.97
1,599.0	1.10	23.70	1,598.9	3.9	7.3	-3.6	0.44	0.43	-7.87
1,693.0	2.30	62.40	1,692.9	5.6	9.3	-5.2	1.70	1.28	41.17
1,786.0	3.20	66.60	1,785.8	7.5	13.3	-6.9	0.99	0.97	4.52
1,880.0	4.40	67.30	1,879.6	9.9	19.1	-9.0	1.28	1.28	0.74
1,973.0	3.40	64.70	1,972.4	12.5	24.9	-11.3	1.09	-1.08	-2.80
2,067.0	5.30	48.50	2,066.1	16.6	30.6	-15.1	2.39	2.02	-17.23
2,161.0	4.60	49.80	2,159.8	21.9	36.8	-20.1	0.75	-0.74	1.38
2,254.0	5.50	64.90	2,252.4	26.2	43.7	-24.0	1.72	0.97	16.24
2,348.0	4.70	58.00	2,346.0	30.1	51.0	-27.6	1.07	-0.85	-7.34
2,442.0	4.10	55.90	2,439.7	34.1	57.0	-31.2	0.66	-0.64	-2.23
2,535.0	3.90	51.90	2,532.5	37.9	62.3	-34.8	0.37	-0.22	-4.30
2,612.0	4.30	60.80	2,609.3	40.9	66.9	-37.6	0.97	0.52	11.56
2,702.0	4.30	56.30	2,699.1	44.4	72.6	-40.8	0.37	0.00	-5.00
2,792.0	4.20	52.90	2,788.8	48.3	78.1	-44.4	0.30	-0.11	-3.78
2,883.0	4.50	51.70	2,879.6	52.5	83.5	-48.4	0.34	0.33	-1.32
2,973.0	5.10	51.70	2,969.2	57.2	89.4	-52.7	0.67	0.67	0.00
3,064.0	4.70	50.60	3,059.9	62.0	95.5	-57.3	0.45	-0.44	-1.21
3,154.0	4.50	47.10	3,149.6	66.8	100.9	-61.8	0.38	-0.22	-3.89
3,244.0	4.50	41.10	3,239.3	71.8	105.8	-66.6	0.52	0.00	-6.67
3,335.0	5.30	45.90	3,330.0	77.5	111.2	-71.9	0.99	0.88	5.27
3,425.0	5.10	55.60	3,419.6	82.6	117.5	-76.8	1.00	-0.22	10.78
3,516.0	4.80	53.30	3,510.3	87.2	123.9	-81.0	0.40	-0.33	-2.53
3,606.0	4.90	47.50	3,600.0	92.0	129.7	-85.6	0.56	0.11	-6.44
3,696.0	4.70	65.20	3,689.7	96.2	135.9	-89.4	1.65	-0.22	19.67
3,786.0	4.90	64.70	3,779.4	99.3	142.7	-92.3	0.23	0.22	-0.56
3,877.0	4.80	60.70	3,870.0	102.9	149.6	-95.5	0.39	-0.11	-4.40
3,977.0	4.70	59.40	3,969.7	107.0	156.7	-99.2	0.15	-0.10	-1.30
4,057.0	4.00	59.80	4,049.5	110.1	162.0	-102.1	0.88	-0.88	0.50
4,148.0	3.30	50.60	4,140.3	113.3	166.7	-105.1	1.00	-0.77	-10.11
4,238.0	4.20	48.30	4,230.1	117.2	171.2	-108.7	1.01	1.00	-2.56
4,329.0	5.20	51.90	4,320.8	121.9	176.9	-113.2	1.15	1.10	3.96
4,419.0	5.30	54.30	4,410.4	126.9	183.5	-117.8	0.27	0.11	2.67
4,510.0	5.50	56.60	4,501.0	131.7	190.6	-122.3	0.32	0.22	2.53
4,600.0	5.00	60.50	4,590.6	136.0	197.6	-126.2	0.68	-0.56	4.33
4,690.0	3.60	59.80	4,680.4	139.4	203.4	-129.3	1.56	-1.56	-0.78
4,780.0	5.00	52.40	4,770.1	143.2	209.0	-132.8	1.67	1.56	-8.22
4,871.0	5.90	56.10	4,860.7	148.2	216.0	-137.5	1.06	0.99	4.07
4,961.0	5.50	56.60	4,950.2	153.2	223.4	-142.1	0.45	-0.44	0.56
5,052.0	4.90	54.00	5,040.9	157.9	230.2	-146.5	0.71	-0.66	-2.86
5,143.0	4.00	48.00	5,131.6	162.3	235.7	-150.6	1.11	-0.99	-6.59
5,233.0	4.00	51.70	5,221.4	166.3	240.5	-154.4	0.29	0.00	4.11
5,323.0	4.70	62.60	5,311.1	170.0	246.3	-157.8	1.20	0.78	12.11
5,414.0	5.50	55.20	5,401.8	174.2	253.2	-161.6	1.14	0.88	-8.13
5,504.0	4.30	51.50	5,491.4	178.7	259.3	-165.9	1.38	-1.33	-4.11
5,595.0	5.10	50.60	5,582.1	183.4	265.1	-170.3	0.88	0.88	-0.99
5,685.0	4.60	61.20	5,671.8	187.7	271.4	-174.3	1.14	-0.56	11.78

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Well:	Churchill 28J-423	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,775.0	4.50	52.70	5,761.5	191.6	277.4	-177.8	0.76	-0.11	-9.44
5,866.0	4.10	47.60	5,852.3	195.9	282.6	-181.9	0.61	-0.44	-5.60
5,956.0	4.00	37.30	5,942.0	200.6	286.9	-186.4	0.81	-0.11	-11.44
6,001.0	4.00	49.60	5,986.9	202.9	289.0	-188.5	1.90	0.00	27.33
6,046.0	5.80	93.00	6,031.8	203.8	292.5	-189.3	8.86	4.00	96.44
6,092.0	8.20	117.40	6,077.4	202.1	297.7	-187.4	8.20	5.22	53.04
6,137.0	9.50	128.90	6,121.9	198.3	303.5	-183.3	4.87	2.89	25.56
6,182.0	11.60	150.80	6,166.2	192.0	308.6	-176.8	9.97	4.67	48.67
6,228.0	12.80	160.10	6,211.1	183.2	312.6	-167.8	5.00	2.61	20.22
6,273.0	16.10	164.50	6,254.7	172.5	315.9	-156.9	7.72	7.33	9.78
6,318.0	20.50	170.30	6,297.4	158.7	318.9	-143.0	10.57	9.78	12.89
6,363.0	23.00	168.80	6,339.2	142.3	322.0	-126.5	5.69	5.56	-3.33
6,408.0	27.30	169.60	6,379.9	123.5	325.5	-107.5	9.59	9.56	1.78
6,453.0	28.50	166.30	6,419.7	103.0	329.9	-86.8	4.34	2.67	-7.33
6,499.0	33.10	168.10	6,459.2	80.0	335.1	-63.6	10.20	10.00	3.91
6,544.0	37.40	170.90	6,495.9	54.5	339.8	-37.8	10.21	9.56	6.22
6,589.0	41.60	176.10	6,530.7	26.0	343.0	-9.3	11.87	9.33	11.56
6,634.0	47.60	177.70	6,562.7	-5.5	344.7	22.3	13.56	13.33	3.56
6,680.0	51.50	178.60	6,592.5	-40.5	345.8	57.3	8.61	8.48	1.96
6,725.0	53.50	177.20	6,619.9	-76.1	347.1	93.0	5.08	4.44	-3.11
6,770.0	55.00	176.90	6,646.2	-112.6	349.0	129.5	3.38	3.33	-0.67
6,815.0	57.20	177.00	6,671.3	-149.9	351.0	166.8	4.89	4.89	0.22
6,860.0	60.10	178.30	6,694.7	-188.3	352.6	205.3	6.90	6.44	2.89
6,905.0	63.80	179.70	6,715.9	-228.0	353.3	244.9	8.67	8.22	3.11
6,951.0	68.00	179.80	6,734.7	-270.0	353.4	286.9	9.13	9.13	0.22
6,996.0	71.10	179.30	6,750.4	-312.1	353.8	329.0	6.97	6.89	-1.11
7,041.0	73.00	180.20	6,764.3	-354.9	354.0	371.8	4.63	4.22	2.00
7,086.0	75.90	181.40	6,776.3	-398.3	353.3	415.0	6.94	6.44	2.67
7,132.0	78.80	181.40	6,786.4	-443.2	352.2	459.8	6.30	6.30	0.00
7,177.0	81.60	180.40	6,794.1	-487.5	351.6	504.0	6.60	6.22	-2.22
7,223.0	85.30	180.20	6,799.3	-533.2	351.3	549.7	8.06	8.04	-0.43
7,268.0	88.20	180.50	6,801.8	-578.1	351.0	594.5	6.48	6.44	0.67
7,313.0	89.15	180.91	6,802.9	-623.1	350.5	639.4	2.31	2.12	0.91
7"									
7,334.0	89.60	181.10	6,803.1	-644.1	350.1	660.4	2.31	2.12	0.91
Deepest TVD Drilled									
7,424.0	91.70	180.70	6,802.1	-734.1	348.7	750.2	2.38	2.33	-0.44
7,514.0	92.30	180.00	6,799.0	-824.0	348.2	840.0	1.02	0.67	-0.78
7,605.0	92.50	179.70	6,795.1	-914.9	348.4	930.8	0.40	0.22	-0.33
7,695.0	92.60	179.30	6,791.1	-1,004.8	349.2	1,020.6	0.46	0.11	-0.44
7,785.0	92.20	179.70	6,787.4	-1,094.7	350.0	1,110.5	0.63	-0.44	0.44
7,879.0	92.90	180.40	6,783.2	-1,188.6	349.9	1,204.3	1.05	0.74	0.74
7,972.0	91.00	180.40	6,780.0	-1,281.6	349.2	1,297.1	2.04	-2.04	0.00
8,066.0	91.20	179.70	6,778.2	-1,375.6	349.1	1,391.0	0.77	0.21	-0.74
8,160.0	89.30	179.00	6,777.8	-1,469.6	350.2	1,484.9	2.15	-2.02	-0.74
8,253.0	89.30	178.40	6,778.9	-1,562.5	352.3	1,577.8	0.65	0.00	-0.65
8,347.0	90.70	179.30	6,778.9	-1,656.5	354.2	1,671.8	1.77	1.49	0.96
8,441.0	91.40	179.30	6,777.2	-1,750.5	355.4	1,765.7	0.74	0.74	0.00
8,534.0	92.70	180.40	6,773.9	-1,843.4	355.6	1,858.6	1.83	1.40	1.18
8,628.0	93.60	180.70	6,768.7	-1,937.3	354.7	1,952.3	1.01	0.96	0.32
8,721.0	93.30	180.70	6,763.1	-2,030.1	353.6	2,044.9	0.32	-0.32	0.00
8,815.0	92.10	180.90	6,758.7	-2,124.0	352.3	2,138.6	1.29	-1.28	0.21
8,909.0	90.00	180.50	6,757.0	-2,218.0	351.1	2,232.4	2.27	-2.23	-0.43

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9,002.0	89.10	179.10	6,757.7	-2,310.9	351.4	2,325.3	1.79	-0.97	-1.51
9,096.0	91.50	179.00	6,757.2	-2,404.9	353.0	2,419.3	2.56	2.55	-0.11
9,189.0	90.80	178.40	6,755.4	-2,497.9	355.1	2,512.2	0.99	-0.75	-0.65
9,283.0	91.90	178.40	6,753.1	-2,591.8	357.7	2,606.2	1.17	1.17	0.00
9,377.0	91.90	179.10	6,750.0	-2,685.7	359.8	2,700.1	0.74	0.00	0.74
9,470.0	91.80	179.50	6,747.0	-2,778.7	360.9	2,793.0	0.44	-0.11	0.43
9,564.0	91.40	180.40	6,744.4	-2,872.6	361.0	2,886.8	1.05	-0.43	0.96
9,657.0	91.30	181.10	6,742.2	-2,965.6	359.8	2,979.6	0.76	-0.11	0.75
9,751.0	91.50	180.50	6,739.9	-3,059.6	358.5	3,073.4	0.67	0.21	-0.64
9,845.0	92.20	180.70	6,736.9	-3,153.5	357.5	3,167.2	0.77	0.74	0.21
9,938.0	91.50	180.70	6,733.9	-3,246.5	356.3	3,260.0	0.75	-0.75	0.00
10,032.0	92.00	181.60	6,731.0	-3,340.4	354.5	3,353.7	1.09	0.53	0.96
10,125.0	92.00	181.10	6,727.8	-3,433.3	352.3	3,446.4	0.54	0.00	-0.54
10,219.0	91.50	180.40	6,724.9	-3,527.3	351.0	3,540.2	0.91	-0.53	-0.74
10,326.0	91.70	180.00	6,721.9	-3,634.2	350.7	3,647.0	0.42	0.19	-0.37
10,417.0	91.50	179.70	6,719.4	-3,725.2	350.9	3,737.9	0.40	-0.22	-0.33
10,507.0	91.40	179.00	6,717.1	-3,815.2	351.9	3,827.8	0.79	-0.11	-0.78
10,598.0	91.10	180.00	6,715.1	-3,906.1	352.7	3,918.7	1.15	-0.33	1.10
10,688.0	91.20	179.50	6,713.3	-3,996.1	353.1	4,008.6	0.57	0.11	-0.56
10,778.0	91.20	179.80	6,711.4	-4,086.1	353.7	4,098.5	0.33	0.00	0.33
10,869.0	92.20	180.00	6,708.7	-4,177.0	353.8	4,189.3	1.12	1.10	0.22
10,959.0	92.70	180.20	6,704.9	-4,267.0	353.7	4,279.1	0.60	0.56	0.22
11,050.0	92.30	179.80	6,700.9	-4,357.9	353.7	4,369.9	0.62	-0.44	-0.44
11,140.0	92.40	180.00	6,697.2	-4,447.8	353.8	4,459.8	0.25	0.11	0.22
11,230.0	92.10	181.10	6,693.7	-4,537.7	353.0	4,549.5	1.27	-0.33	1.22
11,321.0	91.20	179.80	6,691.0	-4,628.7	352.2	4,640.3	1.74	-0.99	-1.43
11,411.0	91.70	180.70	6,688.8	-4,718.6	351.8	4,730.2	1.14	0.56	1.00
11,501.0	92.70	180.50	6,685.3	-4,808.6	350.9	4,820.0	1.13	1.11	-0.22
11,591.0	92.20	180.20	6,681.5	-4,898.5	350.4	4,909.7	0.65	-0.56	-0.33
11,682.0	91.20	179.70	6,678.8	-4,989.4	350.4	5,000.6	1.23	-1.10	-0.55
11,772.0	91.20	179.50	6,676.9	-5,079.4	351.1	5,090.5	0.22	0.00	-0.22
11,862.0	90.70	179.80	6,675.4	-5,169.4	351.6	5,180.4	0.65	-0.56	0.33
11,953.0	91.20	179.10	6,673.9	-5,260.4	352.5	5,271.3	0.95	0.55	-0.77
12,044.0	91.50	179.70	6,671.7	-5,351.4	353.4	5,362.2	0.74	0.33	0.66
12,134.0	89.80	180.40	6,670.7	-5,441.4	353.4	5,452.1	2.04	-1.89	0.78
12,224.0	89.30	179.10	6,671.4	-5,531.3	353.8	5,542.0	1.55	-0.56	-1.44
12,315.0	89.50	180.90	6,672.4	-5,622.3	353.8	5,632.9	1.99	0.22	1.98
12,405.0	90.00	181.10	6,672.8	-5,712.3	352.2	5,722.7	0.60	0.56	0.22
12,495.0	91.50	180.50	6,671.6	-5,802.3	350.9	5,812.5	1.80	1.67	-0.67
12,586.0	93.00	179.80	6,668.0	-5,893.2	350.7	5,903.3	1.82	1.65	-0.77
12,676.0	92.10	180.20	6,664.0	-5,983.1	350.7	5,993.1	1.09	-1.00	0.44
12,767.0	92.20	179.70	6,660.6	-6,074.1	350.8	6,084.0	0.56	0.11	-0.55
12,857.0	92.50	178.80	6,656.9	-6,164.0	351.9	6,173.8	1.05	0.33	-1.00
12,947.0	91.50	179.50	6,653.8	-6,253.9	353.3	6,263.7	1.36	-1.11	0.78
13,036.0	91.80	180.00	6,651.2	-6,342.9	353.7	6,352.6	0.65	0.34	0.56
13,128.0	91.80	179.70	6,648.3	-6,434.8	353.9	6,444.4	0.33	0.00	-0.33
13,219.0	92.20	180.70	6,645.1	-6,525.8	353.6	6,535.3	1.18	0.44	1.10
13,310.0	92.40	180.00	6,641.5	-6,616.7	353.0	6,626.1	0.80	0.22	-0.77
13,400.0	91.80	181.10	6,638.2	-6,706.6	352.2	6,715.8	1.39	-0.67	1.22
13,490.0	92.20	180.70	6,635.0	-6,796.6	350.8	6,805.6	0.63	0.44	-0.44
13,580.0	90.30	180.20	6,633.1	-6,886.5	350.1	6,895.4	2.18	-2.11	-0.56
13,671.0	90.70	180.20	6,632.3	-6,977.5	349.7	6,986.3	0.44	0.44	0.00
13,761.0	91.00	179.50	6,631.0	-7,067.5	350.0	7,076.2	0.85	0.33	-0.78
13,827.0	91.60	179.30	6,629.5	-7,133.5	350.7	7,142.1	0.96	0.91	-0.30

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Churchill 28J-423
Project:	SEC.28-T5N-R64W	TVD Reference:	WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')
Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4645.5ft (Ensign Rig# 136 RKB - 12.5')
Well:	Churchill 28J-423	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,886.0	91.60	179.30	6,627.8	-7,192.5	351.4	7,201.1	0.00	0.00	0.00
BHL 2139'FNL, 1672'FWL, SEC.33									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,313.0	6,802.9	7"	7	7-1/2

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,334.0	6,803.1	-644.1	350.1	Deepest TVD Drilled

Checked By: _____	Approved By: _____	Date: _____
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