

PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Churchill 28J-443**

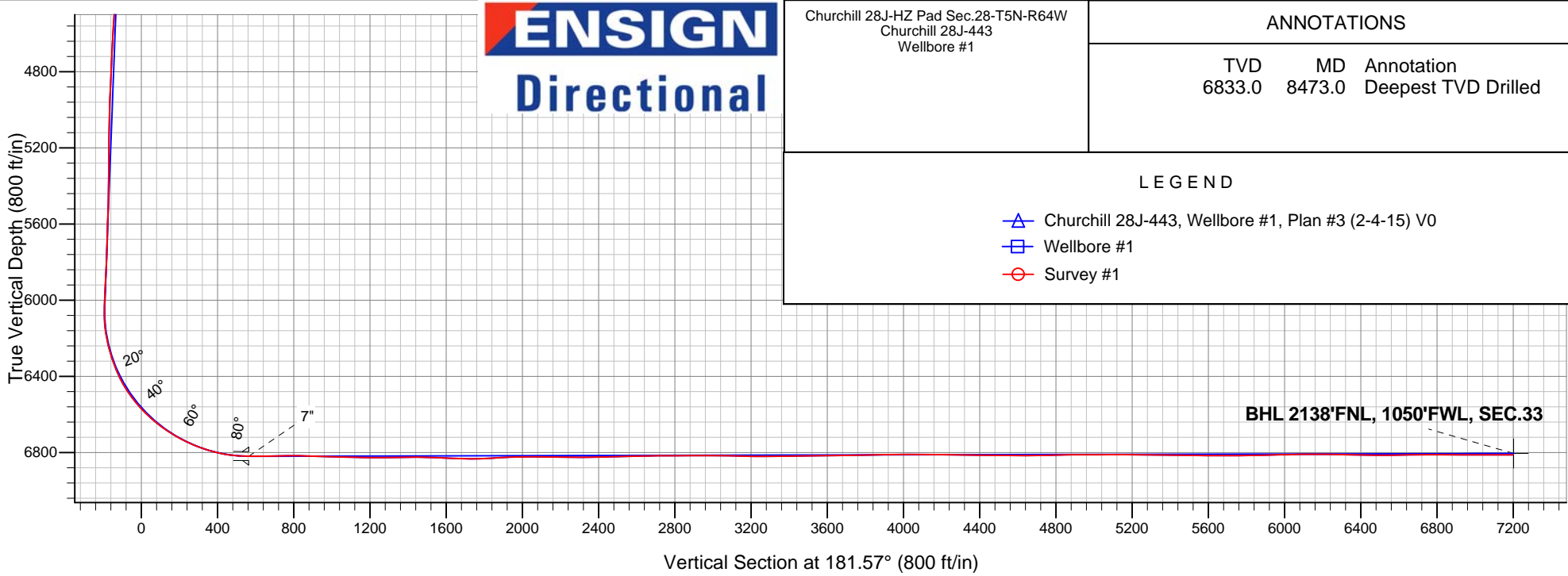
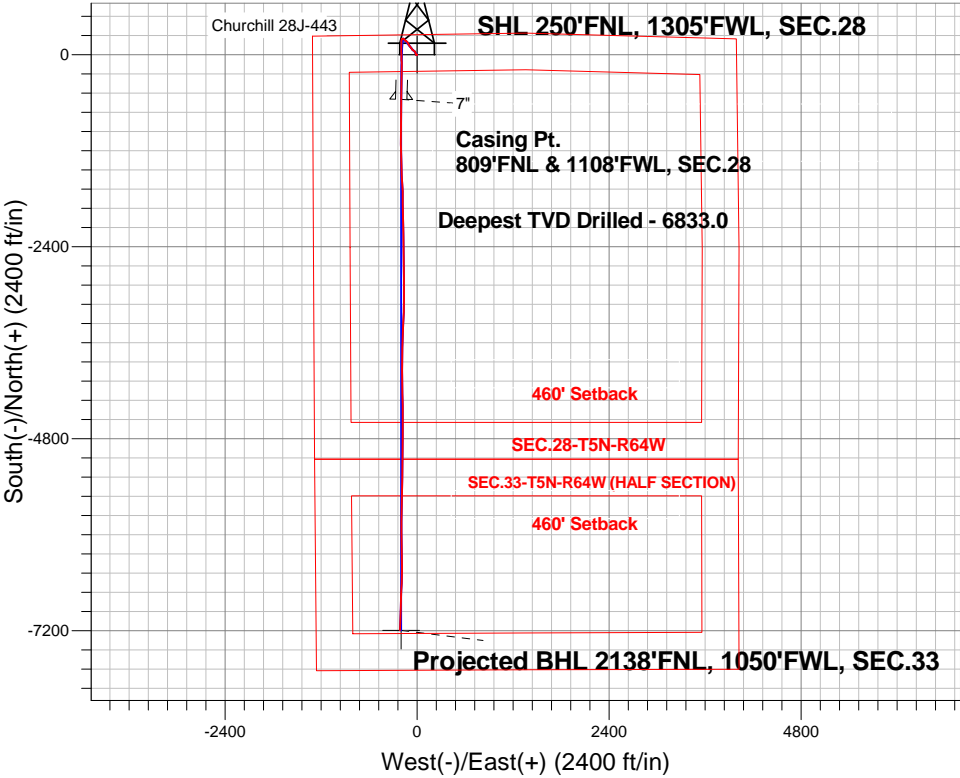
Surface Location: Churchill 28J-HZ Pad Sec.28-T5N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4634.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1381538.03	3261995.43	40.376910	-104.559600	
Ensign Rig# 136 RKB - 13' WELL @ 4647ft (Ensign Rig# 136 RKB - 13')						

FINAL SURVEY

Projected Bottom Hole Location
13902'MD 6812'TVD 7196'S & 213'W of SHL
90.7 degree Incl @ 181.5 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.28-T5N-R64W

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

Churchill 28J-443

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 February, 2015

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Churchill 28J-443
Project:	SEC.28-T5N-R64W	TVD Reference:	WELL @ 4647ft (Ensign Rig# 136 RKB - 13')
Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4647ft (Ensign Rig# 136 RKB - 13')
Well:	Churchill 28J-443	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-443					
Well Position	+N-S	0.0 ft	Northing:	1,381,538.03 ft	Latitude:	40.376910
	+E-W	0.0 ft	Easting:	3,261,995.43 ft	Longitude:	-104.559600
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,634.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/4/2015	8.26	66.94	52,758

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	181.57	

Survey Program	Date 2/19/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
70.0	13,902.0	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	0.02	270.20	1.0	0.0	0.0	0.0	1.57	1.57	0.00
SHL 250'FNL, 1305'FWL, SEC.28									
70.0	1.10	270.20	70.0	0.0	-0.7	0.0	1.57	1.57	0.00
158.0	1.00	273.00	158.0	0.0	-2.3	0.0	0.13	-0.11	3.18
251.0	1.00	269.30	251.0	0.1	-3.9	0.0	0.07	0.00	-3.98
345.0	0.90	279.70	345.0	0.2	-5.5	0.0	0.21	-0.11	11.06
439.0	0.50	209.40	438.9	0.0	-6.4	0.2	0.93	-0.43	-74.79
532.0	0.50	131.80	531.9	-0.7	-6.3	0.8	0.67	0.00	-83.44
626.0	0.70	133.10	625.9	-1.3	-5.6	1.5	0.21	0.21	1.38
719.0	0.90	142.60	718.9	-2.3	-4.7	2.4	0.26	0.22	10.22
813.0	0.70	289.90	812.9	-2.7	-4.8	2.8	1.63	-0.21	156.70

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Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4647ft (Ensign Rig# 136 RKB - 13')
Well:	Churchill 28J-443	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)
844.0	1.00	280.20	843.9	-2.6	-5.2	2.7	1.07	0.97	-31.29
937.0	1.10	292.10	936.9	-2.1	-6.9	2.3	0.26	0.11	12.80
1,032.0	2.40	326.00	1,031.9	-0.1	-8.8	0.3	1.69	1.37	35.68
1,127.0	4.50	330.30	1,126.7	4.8	-11.8	-4.5	2.23	2.21	4.53
1,222.0	4.00	335.70	1,221.4	11.0	-15.0	-10.6	0.67	-0.53	5.68
1,315.0	3.60	333.10	1,314.2	16.6	-17.6	-16.1	0.47	-0.43	-2.80
1,412.0	3.30	341.20	1,411.0	22.0	-19.9	-21.4	0.59	-0.31	8.35
1,506.0	3.20	341.70	1,504.9	27.0	-21.6	-26.4	0.11	-0.11	0.53
1,600.0	2.80	340.80	1,598.8	31.7	-23.2	-31.0	0.43	-0.43	-0.96
1,693.0	2.10	338.20	1,691.7	35.4	-24.6	-34.7	0.76	-0.75	-2.80
1,787.0	1.80	314.50	1,785.6	38.0	-26.3	-37.3	0.91	-0.32	-25.21
1,880.0	1.40	278.30	1,878.6	39.2	-28.4	-38.4	1.14	-0.43	-38.92
1,974.0	2.10	308.00	1,972.6	40.4	-30.9	-39.6	1.20	0.74	31.60
2,068.0	3.30	319.60	2,066.4	43.6	-34.0	-42.6	1.40	1.28	12.34
2,161.0	2.90	301.80	2,159.3	46.8	-37.8	-45.8	1.12	-0.43	-19.14
2,255.0	2.80	289.20	2,253.2	48.9	-42.0	-47.7	0.67	-0.11	-13.40
2,349.0	3.30	305.00	2,347.1	51.2	-46.3	-49.9	1.04	0.53	16.81
2,442.0	3.10	318.90	2,439.9	54.6	-50.2	-53.2	0.86	-0.22	14.95
2,536.0	2.80	316.60	2,533.8	58.2	-53.4	-56.7	0.34	-0.32	-2.45
2,612.0	2.60	309.00	2,609.7	60.6	-56.1	-59.0	0.54	-0.26	-10.00
2,703.0	2.60	325.00	2,700.6	63.6	-58.8	-62.0	0.80	0.00	17.58
2,793.0	2.50	320.30	2,790.5	66.8	-61.3	-65.1	0.26	-0.11	-5.22
2,884.0	2.10	315.90	2,881.5	69.5	-63.7	-67.7	0.48	-0.44	-4.84
2,974.0	3.50	333.30	2,971.3	73.1	-66.1	-71.3	1.80	1.56	19.33
3,064.0	2.90	326.60	3,061.2	77.5	-68.6	-75.6	0.78	-0.67	-7.44
3,155.0	3.80	322.90	3,152.1	81.8	-71.6	-79.8	1.02	0.99	-4.07
3,245.0	3.20	315.30	3,241.9	86.0	-75.2	-83.9	0.84	-0.67	-8.44
3,336.0	2.40	316.20	3,332.8	89.2	-78.3	-87.0	0.88	-0.88	0.99
3,426.0	3.30	322.20	3,422.7	92.6	-81.2	-90.3	1.05	1.00	6.67
3,516.0	2.60	319.90	3,512.5	96.2	-84.1	-93.8	0.79	-0.78	-2.56
3,606.0	3.70	322.60	3,602.4	100.1	-87.2	-97.6	1.23	1.22	3.00
3,697.0	3.50	321.70	3,693.2	104.6	-90.7	-102.0	0.23	-0.22	-0.99
3,787.0	3.30	323.60	3,783.1	108.8	-93.9	-106.2	0.26	-0.22	2.11
3,877.0	2.80	323.80	3,872.9	112.7	-96.8	-110.0	0.56	-0.56	0.22
3,968.0	2.60	329.20	3,963.8	116.2	-99.1	-113.5	0.36	-0.22	5.93
4,058.0	4.50	327.10	4,053.7	120.9	-102.1	-118.1	2.12	2.11	-2.33
4,148.0	3.50	332.20	4,143.4	126.3	-105.3	-123.4	1.18	-1.11	5.67
4,239.0	3.50	335.70	4,234.3	131.3	-107.7	-128.3	0.23	0.00	3.85
4,330.0	3.40	340.50	4,325.1	136.4	-109.8	-133.3	0.34	-0.11	5.27
4,420.0	3.10	343.10	4,415.0	141.3	-111.4	-138.1	0.37	-0.33	2.89
4,510.0	4.30	324.30	4,504.8	146.3	-114.1	-143.1	1.88	1.33	-20.89
4,601.0	4.20	325.90	4,595.5	151.8	-117.9	-148.6	0.17	-0.11	1.76
4,691.0	4.00	321.20	4,685.3	157.0	-121.7	-153.6	0.43	-0.22	-5.22
4,781.0	4.00	308.50	4,775.1	161.4	-126.2	-157.9	0.98	0.00	-14.11
4,872.0	4.00	307.60	4,865.9	165.3	-131.2	-161.7	0.07	0.00	-0.99
4,962.0	3.90	306.70	4,955.6	169.1	-136.1	-165.3	0.13	-0.11	-1.00
5,053.0	2.10	305.50	5,046.5	171.9	-139.9	-168.0	1.98	-1.98	-1.32
5,143.0	2.00	299.20	5,136.5	173.6	-142.7	-169.6	0.27	-0.11	-7.00
5,233.0	1.80	291.60	5,226.4	174.9	-145.3	-170.9	0.36	-0.22	-8.44
5,324.0	1.60	276.70	5,317.4	175.6	-147.9	-171.5	0.53	-0.22	-16.37
5,414.0	1.00	308.00	5,407.3	176.2	-149.8	-172.0	1.01	-0.67	34.78
5,505.0	2.60	316.80	5,498.3	178.2	-151.8	-174.0	1.78	1.76	9.67
5,596.0	1.90	318.90	5,589.2	180.8	-154.2	-176.5	0.77	-0.77	2.31
5,686.0	2.50	319.60	5,679.2	183.5	-156.5	-179.1	0.67	0.67	0.78

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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)
5,777.0	2.50	338.90	5,770.1	186.8	-158.5	-182.4	0.92	0.00	21.21
5,866.0	4.10	317.60	5,858.9	191.0	-161.3	-186.5	2.24	1.80	-23.93
5,957.0	3.40	316.40	5,949.7	195.3	-165.4	-190.7	0.77	-0.77	-1.32
6,002.0	3.40	314.50	5,994.7	197.3	-167.3	-192.6	0.25	0.00	-4.22
6,047.0	5.90	286.90	6,039.5	198.9	-170.4	-194.1	7.31	5.56	-61.33
6,092.0	8.40	263.70	6,084.2	199.2	-175.9	-194.3	8.38	5.56	-51.56
6,138.0	9.40	239.80	6,129.6	196.9	-182.5	-191.8	8.26	2.17	-51.96
6,183.0	10.60	215.30	6,174.0	191.7	-188.1	-186.4	9.74	2.67	-54.44
6,228.0	12.70	196.90	6,218.0	183.6	-191.9	-178.2	9.43	4.67	-40.89
6,273.0	15.30	188.40	6,261.7	173.0	-194.2	-167.6	7.35	5.78	-18.89
6,319.0	18.20	180.90	6,305.8	159.8	-195.2	-154.3	7.85	6.30	-16.30
6,364.0	21.40	179.10	6,348.1	144.5	-195.2	-139.1	7.24	7.11	-4.00
6,409.0	24.20	180.70	6,389.6	127.1	-195.2	-121.7	6.37	6.22	3.56
6,454.0	28.10	181.80	6,430.0	107.3	-195.6	-101.9	8.73	8.67	2.44
6,499.0	32.60	181.40	6,468.8	84.5	-196.2	-79.1	10.01	10.00	-0.89
6,545.0	36.80	178.90	6,506.6	58.4	-196.3	-53.0	9.64	9.13	-5.43
6,590.0	40.20	178.40	6,541.8	30.4	-195.6	-25.0	7.59	7.56	-1.11
6,635.0	43.90	178.80	6,575.2	0.2	-194.9	5.1	8.24	8.22	0.89
6,680.0	46.80	178.40	6,606.8	-31.8	-194.1	37.1	6.48	6.44	-0.89
6,726.0	49.70	178.10	6,637.5	-66.1	-193.1	71.3	6.32	6.30	-0.65
6,771.0	53.50	177.70	6,665.4	-101.3	-191.8	106.5	8.47	8.44	-0.89
6,816.0	56.70	178.60	6,691.2	-138.2	-190.6	143.4	7.30	7.11	2.00
6,861.0	60.30	180.70	6,714.7	-176.5	-190.4	181.7	8.93	8.00	4.67
6,906.0	63.70	181.40	6,735.8	-216.3	-191.1	221.4	7.68	7.56	1.56
6,951.0	66.00	181.10	6,754.9	-257.0	-192.0	262.2	5.15	5.11	-0.67
6,997.0	69.20	180.90	6,772.4	-299.5	-192.7	304.7	6.97	6.96	-0.43
7,042.0	73.20	180.30	6,786.9	-342.1	-193.2	347.3	8.98	8.89	-1.33
7,087.0	76.20	180.70	6,798.8	-385.5	-193.5	390.6	6.72	6.67	0.89
7,133.0	79.50	181.10	6,808.5	-430.4	-194.2	435.6	7.22	7.17	0.87
7,178.0	83.80	180.90	6,815.0	-474.9	-195.0	480.1	9.57	9.56	-0.44
7,221.0	87.80	181.40	6,818.2	-517.8	-195.9	523.0	9.37	9.30	1.16
7,262.0	89.13	181.40	6,819.3	-558.8	-196.9	564.0	3.24	3.24	0.00
7"									
7,289.0	90.00	181.40	6,819.5	-585.8	-197.5	591.0	3.24	3.24	0.00
7,379.0	91.20	181.20	6,818.5	-675.7	-199.6	681.0	1.35	1.33	-0.22
7,470.0	90.60	181.60	6,817.1	-766.7	-201.8	772.0	0.79	-0.66	0.44
7,560.0	88.20	180.30	6,818.0	-856.7	-203.3	861.9	3.03	-2.67	-1.44
7,651.0	88.20	180.00	6,820.9	-947.6	-203.5	952.9	0.33	0.00	-0.33
7,741.0	88.20	179.60	6,823.7	-1,037.6	-203.2	1,042.8	0.44	0.00	-0.44
7,817.0	89.00	178.40	6,825.6	-1,113.5	-201.9	1,118.7	1.90	1.05	-1.58
7,911.0	90.00	179.10	6,826.4	-1,207.5	-199.8	1,212.6	1.30	1.06	0.74
8,005.0	90.60	178.10	6,825.9	-1,301.5	-197.5	1,306.4	1.24	0.64	-1.06
8,098.0	90.40	177.40	6,825.1	-1,394.4	-193.9	1,399.2	0.78	-0.22	-0.75
8,192.0	89.10	177.50	6,825.5	-1,488.3	-189.7	1,493.0	1.39	-1.38	0.11
8,285.0	87.40	177.50	6,828.4	-1,581.2	-185.7	1,585.7	1.83	-1.83	0.00
8,379.0	87.50	177.70	6,832.5	-1,675.0	-181.7	1,679.4	0.24	0.11	0.21
8,473.0	92.00	179.80	6,833.0	-1,769.0	-179.7	1,773.2	5.28	4.79	2.23
Deepest TVD Drilled									
8,566.0	94.20	179.60	6,827.9	-1,861.8	-179.2	1,866.0	2.38	2.37	-0.22
8,660.0	91.00	178.90	6,823.7	-1,955.7	-178.0	1,959.8	3.48	-3.40	-0.74
8,753.0	89.60	178.20	6,823.2	-2,048.7	-175.6	2,052.7	1.68	-1.51	-0.75
8,847.0	89.20	178.10	6,824.2	-2,142.6	-172.6	2,146.5	0.44	-0.43	-0.11
8,941.0	90.10	179.10	6,824.7	-2,236.6	-170.3	2,240.4	1.43	0.96	1.06

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
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9,034.0	90.00	179.10	6,824.6	-2,329.6	-168.8	2,333.3	0.11	-0.11	0.00
9,128.0	91.50	178.90	6,823.4	-2,423.5	-167.2	2,427.2	1.61	1.60	-0.21
9,222.0	91.50	179.30	6,821.0	-2,517.5	-165.7	2,521.1	0.43	0.00	0.43
9,315.0	91.40	179.50	6,818.6	-2,610.5	-164.7	2,614.0	0.24	-0.11	0.22
9,409.0	90.20	180.00	6,817.3	-2,704.4	-164.3	2,707.9	1.38	-1.28	0.53
9,502.0	90.30	180.00	6,816.9	-2,797.4	-164.3	2,800.9	0.11	0.11	0.00
9,596.0	90.50	179.10	6,816.2	-2,891.4	-163.6	2,894.8	0.98	0.21	-0.96
9,689.0	89.60	179.30	6,816.1	-2,984.4	-162.3	2,987.8	0.99	-0.97	0.22
9,783.0	88.90	180.90	6,817.4	-3,078.4	-162.4	3,081.7	1.86	-0.74	1.70
9,877.0	88.70	181.10	6,819.3	-3,172.4	-164.1	3,175.7	0.30	-0.21	0.21
9,970.0	90.30	182.30	6,820.2	-3,265.3	-166.8	3,268.7	2.15	1.72	1.29
10,064.0	90.60	182.80	6,819.4	-3,359.2	-171.0	3,362.7	0.62	0.32	0.53
10,158.0	90.90	182.60	6,818.2	-3,453.1	-175.5	3,456.6	0.38	0.32	-0.21
10,251.0	90.80	182.10	6,816.8	-3,546.0	-179.3	3,549.6	0.55	-0.11	-0.54
10,373.0	90.70	182.10	6,815.2	-3,667.9	-183.7	3,671.6	0.08	-0.08	0.00
10,463.0	91.10	181.20	6,813.8	-3,757.9	-186.3	3,761.6	1.09	0.44	-1.00
10,554.0	90.90	179.80	6,812.2	-3,848.9	-187.1	3,852.6	1.55	-0.22	-1.54
10,644.0	90.70	179.30	6,811.0	-3,938.9	-186.4	3,942.5	0.60	-0.22	-0.56
10,734.0	90.60	178.80	6,809.9	-4,028.8	-184.9	4,032.4	0.57	-0.11	-0.56
10,825.0	89.10	179.10	6,810.2	-4,119.8	-183.3	4,123.3	1.68	-1.65	0.33
10,915.0	89.40	178.60	6,811.4	-4,209.8	-181.4	4,213.2	0.65	0.33	-0.56
11,005.0	88.80	179.50	6,812.8	-4,299.8	-180.0	4,303.1	1.20	-0.67	1.00
11,096.0	89.20	179.60	6,814.4	-4,390.8	-179.2	4,394.0	0.45	0.44	0.11
11,186.0	89.60	180.30	6,815.3	-4,480.8	-179.2	4,484.0	0.90	0.44	0.78
11,277.0	90.10	180.30	6,815.5	-4,571.7	-179.6	4,575.0	0.55	0.55	0.00
11,367.0	90.10	180.00	6,815.4	-4,661.7	-179.9	4,664.9	0.33	0.00	-0.33
11,457.0	90.80	180.00	6,814.7	-4,751.7	-179.9	4,754.9	0.78	0.78	0.00
11,547.0	91.60	180.90	6,812.8	-4,841.7	-180.6	4,844.9	1.34	0.89	1.00
11,638.0	89.90	180.70	6,811.6	-4,932.7	-181.9	4,935.8	1.88	-1.87	-0.22
11,728.0	90.00	180.00	6,811.7	-5,022.7	-182.4	5,025.8	0.79	0.11	-0.78
11,819.0	90.00	179.30	6,811.7	-5,113.7	-181.8	5,116.8	0.77	0.00	-0.77
11,908.0	90.00	180.50	6,811.7	-5,202.7	-181.7	5,205.7	1.35	0.00	1.35
11,999.0	89.30	181.20	6,812.2	-5,293.7	-183.0	5,296.7	1.09	-0.77	0.77
12,089.0	89.40	181.80	6,813.2	-5,383.6	-185.4	5,386.7	0.68	0.11	0.67
12,180.0	88.70	181.60	6,814.8	-5,474.6	-188.1	5,477.7	0.80	-0.77	-0.22
12,270.0	89.60	181.40	6,816.1	-5,564.5	-190.5	5,567.7	1.02	1.00	-0.22
12,361.0	89.90	181.10	6,816.5	-5,655.5	-192.4	5,658.7	0.47	0.33	-0.33
12,451.0	90.70	180.50	6,816.0	-5,745.5	-193.7	5,748.7	1.11	0.89	-0.67
12,541.0	90.90	180.20	6,814.8	-5,835.5	-194.2	5,838.6	0.40	0.22	-0.33
12,631.0	91.50	180.30	6,812.9	-5,925.5	-194.6	5,928.6	0.68	0.67	0.11
12,722.0	90.50	179.30	6,811.3	-6,016.5	-194.3	6,019.5	1.55	-1.10	-1.10
12,811.0	91.10	179.10	6,810.0	-6,105.4	-193.1	6,108.4	0.71	0.67	-0.22
12,902.0	89.70	178.20	6,809.4	-6,196.4	-190.9	6,199.3	1.83	-1.54	-0.99
12,992.0	88.80	179.80	6,810.6	-6,286.4	-189.4	6,289.2	2.04	-1.00	1.78
13,083.0	88.50	178.90	6,812.7	-6,377.4	-188.3	6,380.1	1.04	-0.33	-0.99
13,173.0	89.50	180.70	6,814.3	-6,467.3	-188.0	6,470.1	2.29	1.11	2.00
13,264.0	91.30	182.50	6,813.7	-6,558.3	-190.6	6,561.1	2.80	1.98	1.98
13,354.0	90.80	182.60	6,812.0	-6,648.2	-194.6	6,651.0	0.57	-0.56	0.11
13,444.0	90.10	181.60	6,811.3	-6,738.1	-197.9	6,741.0	1.36	-0.78	-1.11
13,535.0	89.30	181.90	6,811.8	-6,829.1	-200.6	6,832.0	0.94	-0.88	0.33
13,625.0	90.00	182.30	6,812.3	-6,919.0	-203.9	6,922.0	0.90	0.78	0.44
13,902.0	90.00	181.50	6,812.3	-7,195.9	-213.1	7,199.0	0.29	0.00	-0.29
BHL 2141'FNL, 1065'FWL, SEC.33									

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Churchill 28J-443
Project:	SEC.28-T5N-R64W	TVD Reference:	WELL @ 4647ft (Ensign Rig# 136 RKB - 13')
Site:	Churchill 28J-HZ Pad Sec.28-T5N-R64W	MD Reference:	WELL @ 4647ft (Ensign Rig# 136 RKB - 13')
Well:	Churchill 28J-443	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (")	Hole Diameter (")
7,262.0	6,819.3	7"		7	7-1/2

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
8,473.0	6,833.0	-1,769.0	-179.7	Deepest TVD Drilled	

Checked By: _____	Approved By: _____	Date: _____
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