

PETROLEUM DEVELOPMENT CORP Weld County CO

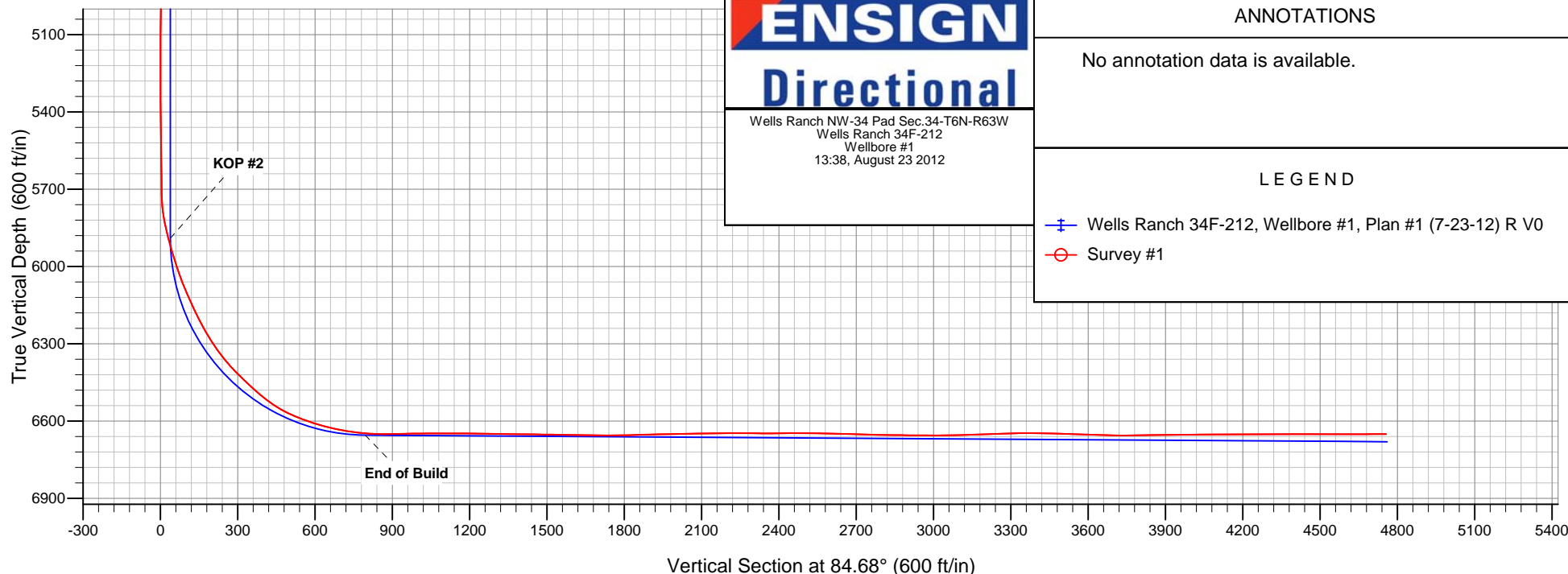
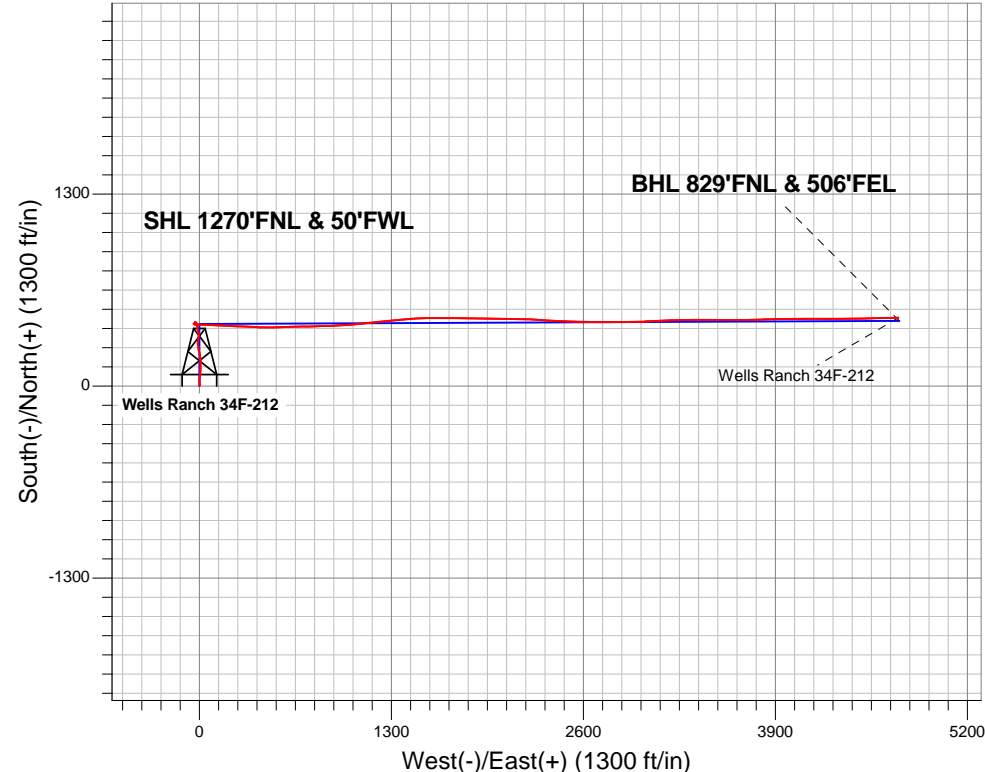
Well Name: Wells Ranch 34F-212

Surface Location: Wells Ranch NW-34 Pad Sec.34-T6N-R63W
North American Datum 1983 , US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4805.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1407361.38 3297092.26 40.446700 -104.432520
RKB Ensign 32 - 15' WELL @ 4820.0ft (RKB Ensign 32 - 15')

FINAL SURVEY

Projected Bottom Hole Location
11068' MD 6650' TVD 463' N & 4734' E of SHL

90.30 degree Incl @ 88.90 degree AZM





PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.34-T6N-R63W

Wells Ranch NW-34 Pad Sec.34-T6N-R63W

Wells Ranch 34F-212

Wellbore #1

Survey: Survey #1

Standard Survey Report

23 August, 2012

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wells Ranch 34F-212
Project:	SEC.34-T6N-R63W	TVD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Site:	Wells Ranch NW-34 Pad Sec.34-T6N-R63W	MD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Well:	Wells Ranch 34F-212	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.34-T6N-R63W, 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		Wells Ranch NW-34 Pad Sec.34-T6N-R63W			
Site Position:		Northing:	1,407,390.53ft	Latitude:	40.446780
From:	Lat/Long	Easting:	3,297,091.91 ft	Longitude:	-104.432520
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.69 °

Well	Wells Ranch 34F-212					
Well Position	+N-S	0.0 ft	Northing:	1,407,361.38 ft	Latitude:	40.446700
	+E-W	0.0 ft	Easting:	3,297,092.26 ft	Longitude:	-104.432520
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,805.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/20/2012	8.54	67.10	53,075

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	84.68	

Survey Program	Date	8/23/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
184.0	11,068.0	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	
1.1	0.01	24.50	1.1	0.0	0.0	0.0	0.49	0.49	0.00	
SECTIONLINE 50'W OF SHL										
1.7	0.01	24.50	1.7	0.0	0.0	0.0	0.49	0.49	0.00	
HARDLINE BHL 460'FEL										
5.9	0.03	24.50	5.9	0.0	0.0	0.0	0.49	0.49	0.00	
HARDLINE SHL 460'FWL										
184.0	0.90	24.50	184.0	1.3	0.6	0.7	0.49	0.49	0.00	
273.0	0.80	29.50	273.0	2.5	1.2	1.4	0.14	-0.11	5.62	
366.0	0.90	52.30	366.0	3.5	2.1	2.4	0.38	0.11	24.52	
461.0	1.10	27.70	461.0	4.8	3.1	3.5	0.49	0.21	-25.89	
557.0	2.10	359.60	556.9	7.3	3.5	4.2	1.29	1.04	-29.27	

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Site:	Wells Ranch NW-34 Pad Sec.34-T6N-R63W	MD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Well:	Wells Ranch 34F-212	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)
653.0	3.80	349.40	652.8	12.2	2.9	4.0	1.85	1.77	-10.63
748.0	5.50	355.00	747.5	19.9	1.9	3.8	1.85	1.79	5.89
843.0	7.60	358.70	841.9	30.7	1.4	4.2	2.25	2.21	3.89
866.0	7.90	0.50	864.6	33.8	1.4	4.5	1.68	1.30	7.83
946.0	8.70	3.20	943.8	45.3	1.8	6.0	1.11	1.00	3.38
1,072.0	13.70	8.70	1,067.4	69.6	4.6	11.0	4.05	3.97	4.37
1,199.0	13.20	359.90	1,190.9	99.0	6.8	16.0	1.66	-0.39	-6.93
1,325.0	13.20	0.80	1,313.6	127.7	7.0	18.8	0.16	0.00	0.71
1,446.0	13.10	2.50	1,431.4	155.2	7.8	22.1	0.33	-0.08	1.40
1,569.0	11.30	353.20	1,551.6	181.1	7.0	23.7	2.16	-1.46	-7.56
1,691.0	11.40	352.50	1,671.2	205.0	4.0	23.0	0.14	0.08	-0.57
1,813.0	9.60	346.40	1,791.2	226.8	0.0	21.0	1.73	-1.48	-5.00
1,894.0	10.50	346.00	1,871.0	240.5	-3.4	18.9	1.11	1.11	-0.49
1,996.0	9.90	356.70	1,971.3	258.3	-6.1	17.9	1.95	-0.59	10.49
2,117.0	9.30	349.30	2,090.7	278.3	-8.5	17.3	1.13	-0.50	-6.12
2,239.0	6.80	358.70	2,211.4	295.2	-10.5	16.9	2.31	-2.05	7.70
2,361.0	6.80	5.30	2,332.6	309.6	-10.0	18.7	0.64	0.00	5.41
2,484.0	7.40	15.20	2,454.7	324.5	-7.3	22.8	1.11	0.49	8.05
2,606.0	7.50	9.90	2,575.6	339.9	-3.8	27.7	0.57	0.08	-4.34
2,729.0	9.00	348.80	2,697.4	357.3	-4.3	28.8	2.73	1.22	-17.15
2,851.0	8.60	345.70	2,817.9	375.5	-8.4	26.4	0.51	-0.33	-2.54
2,975.0	7.00	346.90	2,940.8	391.8	-12.4	23.9	1.30	-1.29	0.97
3,102.0	6.40	353.00	3,066.9	406.4	-15.1	22.7	0.73	-0.47	4.80
3,229.0	5.40	346.20	3,193.3	419.2	-17.3	21.6	0.96	-0.79	-5.35
3,356.0	4.30	325.40	3,319.8	429.0	-21.5	18.4	1.62	-0.87	-16.38
3,483.0	3.00	272.00	3,446.6	433.0	-27.5	12.8	2.74	-1.02	-42.05
3,610.0	1.40	173.80	3,573.5	431.6	-30.7	9.5	2.75	-1.26	-77.32
3,737.0	1.10	147.50	3,700.5	429.0	-29.8	10.1	0.50	-0.24	-20.71
3,865.0	0.80	142.10	3,828.5	427.3	-28.6	11.1	0.24	-0.23	-4.22
3,992.0	1.00	153.30	3,955.4	425.6	-27.6	12.0	0.21	0.16	8.82
4,119.0	0.90	143.50	4,082.4	423.8	-26.5	12.9	0.15	-0.08	-7.72
4,246.0	0.50	174.40	4,209.4	422.4	-25.8	13.4	0.42	-0.31	24.33
4,373.0	0.70	260.00	4,336.4	421.7	-26.6	12.7	0.65	0.16	67.40
4,500.0	1.10	257.60	4,463.4	421.3	-28.5	10.7	0.32	0.31	-1.89
4,627.0	1.30	264.30	4,590.4	420.9	-31.1	8.0	0.19	0.16	5.28
4,754.0	1.10	311.00	4,717.3	421.6	-33.5	5.7	0.76	-0.16	36.77
4,881.0	1.50	302.50	4,844.3	423.3	-35.8	3.6	0.35	0.31	-6.69
5,008.0	0.50	230.50	4,971.3	423.8	-37.6	1.8	1.12	-0.79	-56.69
5,135.0	0.60	199.40	5,098.3	422.8	-38.3	1.1	0.24	0.08	-24.49
5,262.0	0.30	160.70	5,225.3	421.9	-38.4	0.9	0.32	-0.24	-30.47
5,388.0	0.40	145.60	5,351.3	421.2	-38.0	1.2	0.11	0.08	-11.98
5,515.0	1.00	134.00	5,478.3	420.1	-37.0	2.1	0.48	0.47	-9.13
5,642.0	1.00	117.30	5,605.3	418.8	-35.2	3.8	0.23	0.00	-13.15
5,705.0	1.10	135.40	5,668.2	418.1	-34.3	4.6	0.55	0.16	28.73
5,737.0	1.40	141.00	5,700.2	417.6	-33.8	5.0	1.01	0.94	17.50
5,769.0	2.40	133.70	5,732.2	416.8	-33.1	5.7	3.21	3.13	-22.81
5,801.0	4.80	101.10	5,764.2	416.1	-31.3	7.4	9.57	7.50	-101.88
5,832.0	8.30	92.30	5,795.0	415.8	-27.8	10.9	11.71	11.29	-28.39
5,864.0	11.60	88.80	5,826.5	415.8	-22.3	16.4	10.48	10.31	-10.94
5,896.0	13.30	88.70	5,857.7	415.9	-15.4	23.2	5.31	5.31	-0.31
5,928.0	14.30	92.70	5,888.8	415.8	-7.7	30.8	4.32	3.13	12.50
5,959.0	15.90	95.00	5,918.7	415.3	0.3	38.8	5.51	5.16	7.42
5,991.0	16.80	92.20	5,949.4	414.7	9.3	47.7	3.74	2.81	-8.75

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6,023.0	17.80	92.40	5,980.0	414.3	18.8	57.1	3.13	3.13	0.63
6,055.0	18.30	89.70	6,010.4	414.1	28.7	67.0	3.05	1.56	-8.44
6,087.0	20.10	88.80	6,040.6	414.3	39.2	77.5	5.70	5.63	-2.81
6,119.0	22.10	89.90	6,070.5	414.4	50.8	88.9	6.37	6.25	3.44
6,150.0	23.50	91.10	6,099.1	414.3	62.8	100.9	4.76	4.52	3.87
6,182.0	24.50	93.30	6,128.3	413.8	75.8	113.8	4.19	3.13	6.88
6,214.0	25.30	95.90	6,157.3	412.7	89.2	127.1	4.24	2.50	8.13
6,246.0	25.90	95.00	6,186.2	411.4	103.0	140.7	2.23	1.88	-2.81
6,277.0	27.40	92.30	6,213.9	410.5	116.8	154.4	6.22	4.84	-8.71
6,309.0	29.90	91.10	6,242.0	410.1	132.2	169.6	8.02	7.81	-3.75
6,341.0	31.80	90.90	6,269.4	409.8	148.6	185.9	5.95	5.94	-0.63
6,373.0	33.30	92.30	6,296.4	409.3	165.8	203.0	5.25	4.69	4.38
6,404.0	35.30	93.40	6,322.0	408.4	183.2	220.3	6.75	6.45	3.55
6,436.0	37.70	92.50	6,347.7	407.4	202.2	239.1	7.68	7.50	-2.81
6,468.0	40.90	92.70	6,372.5	406.5	222.5	259.2	10.01	10.00	0.63
6,499.0	43.40	92.50	6,395.5	405.6	243.3	279.8	8.08	8.06	-0.65
6,531.0	45.10	91.80	6,418.4	404.8	265.6	301.9	5.53	5.31	-2.19
6,563.0	47.00	92.50	6,440.6	403.9	288.6	324.8	6.14	5.94	2.19
6,595.0	47.10	93.40	6,462.4	402.7	312.0	348.0	2.08	0.31	2.81
6,626.0	49.10	93.40	6,483.1	401.3	335.0	370.8	6.45	6.45	0.00
6,658.0	51.10	93.80	6,503.6	399.8	359.5	395.0	6.32	6.25	1.25
6,690.0	54.10	93.10	6,523.1	398.2	384.9	420.1	9.53	9.38	-2.19
6,722.0	56.80	91.50	6,541.2	397.2	411.2	446.3	9.39	8.44	-5.00
6,753.0	61.40	89.50	6,557.1	397.0	437.8	472.7	15.84	14.84	-6.45
6,785.0	65.40	88.50	6,571.5	397.5	466.4	501.2	12.81	12.50	-3.13
6,817.0	67.80	88.70	6,584.2	398.2	495.8	530.5	7.52	7.50	0.63
6,848.0	69.20	89.20	6,595.5	398.7	524.6	559.3	4.76	4.52	1.61
6,880.0	71.60	89.00	6,606.3	399.2	554.7	589.4	7.52	7.50	-0.63
6,912.0	74.00	89.50	6,615.7	399.6	585.3	619.8	7.65	7.50	1.56
6,943.0	76.20	89.40	6,623.7	399.9	615.3	649.7	7.10	7.10	-0.32
6,975.0	78.90	88.50	6,630.6	400.5	646.5	680.8	8.87	8.44	-2.81
7,007.0	80.70	88.00	6,636.3	401.4	678.0	712.3	5.83	5.63	-1.56
7,039.0	81.60	88.50	6,641.2	402.4	709.6	743.8	3.21	2.81	1.56
7,070.0	83.30	88.10	6,645.3	403.3	740.3	774.5	5.63	5.48	-1.29
7,102.0	85.40	87.40	6,648.4	404.5	772.1	806.3	6.91	6.56	-2.19
7,145.0	89.90	88.00	6,650.2	406.3	815.0	849.2	10.56	10.47	1.40
7,177.0	90.60	89.10	6,650.0	407.1	847.0	881.1	4.07	2.19	3.44
7,209.0	91.10	88.80	6,649.5	407.7	879.0	913.0	1.82	1.56	-0.94
7,241.0	90.70	88.00	6,649.0	408.6	911.0	944.9	2.79	-1.25	-2.50
7,272.0	90.70	87.50	6,648.7	409.8	942.0	975.9	1.61	0.00	-1.61
7,304.0	90.90	86.40	6,648.2	411.5	973.9	1,007.9	3.49	0.63	-3.44
7,336.0	90.60	86.40	6,647.8	413.5	1,005.9	1,039.9	0.94	-0.94	0.00
7,367.0	90.00	84.40	6,647.6	416.0	1,036.8	1,070.9	6.74	-1.94	-6.45
7,399.0	89.60	84.40	6,647.8	419.1	1,068.6	1,102.9	1.25	-1.25	0.00
7,432.0	89.80	83.90	6,647.9	422.5	1,101.4	1,135.8	1.63	0.61	-1.52
7,463.0	90.40	84.10	6,647.9	425.7	1,132.3	1,166.8	2.04	1.94	0.65
7,495.0	89.60	84.10	6,647.9	429.0	1,164.1	1,198.8	2.50	-2.50	0.00
7,527.0	88.80	84.30	6,648.3	432.2	1,195.9	1,230.8	2.58	-2.50	0.63
7,558.0	88.80	84.40	6,649.0	435.3	1,226.8	1,261.8	0.32	0.00	0.32
7,590.0	89.20	84.60	6,649.5	438.3	1,258.6	1,293.8	1.40	1.25	0.63
7,622.0	89.30	84.40	6,649.9	441.4	1,290.5	1,325.8	0.70	0.31	-0.63
7,654.0	89.30	83.60	6,650.3	444.7	1,322.3	1,357.8	2.50	0.00	-2.50
7,685.0	89.30	84.80	6,650.7	447.9	1,353.1	1,388.8	3.87	0.00	3.87

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7,717.0	89.40	84.70	6,651.1	450.8	1,385.0	1,420.8	0.44	0.31	-0.31
7,749.0	89.30	85.40	6,651.4	453.6	1,416.9	1,452.8	2.21	-0.31	2.19
7,781.0	89.30	87.00	6,651.8	455.7	1,448.8	1,484.8	5.00	0.00	5.00
7,813.0	89.30	87.70	6,652.2	457.2	1,480.8	1,516.8	2.19	0.00	2.19
7,845.0	89.00	87.30	6,652.7	458.6	1,512.7	1,548.7	1.56	-0.94	-1.25
7,876.0	88.80	88.00	6,653.3	459.8	1,543.7	1,579.7	2.35	-0.65	2.26
7,908.0	88.50	89.00	6,654.0	460.7	1,575.7	1,611.6	3.26	-0.94	3.13
7,940.0	89.00	90.00	6,654.7	461.0	1,607.7	1,643.5	3.49	1.56	3.13
7,972.0	89.20	90.50	6,655.2	460.8	1,639.7	1,675.3	1.68	0.63	1.56
8,004.0	89.30	89.80	6,655.7	460.7	1,671.7	1,707.2	2.21	0.31	-2.19
8,035.0	90.20	91.00	6,655.8	460.5	1,702.7	1,738.0	4.84	2.90	3.87
8,067.0	91.50	91.20	6,655.3	459.9	1,734.6	1,769.8	4.11	4.06	0.63
8,099.0	91.50	91.00	6,654.5	459.3	1,766.6	1,801.6	0.62	0.00	-0.63
8,131.0	91.40	90.90	6,653.7	458.8	1,798.6	1,833.4	0.44	-0.31	-0.31
8,162.0	91.20	91.20	6,653.0	458.2	1,829.6	1,864.2	1.16	-0.65	0.97
8,195.0	91.10	91.20	6,652.3	457.5	1,862.6	1,897.0	0.30	-0.30	0.00
8,227.0	91.00	90.30	6,651.7	457.1	1,894.6	1,928.8	2.83	-0.31	-2.81
8,259.0	91.00	90.50	6,651.2	456.9	1,926.6	1,960.6	0.62	0.00	0.63
8,291.0	91.40	90.50	6,650.5	456.6	1,958.6	1,992.5	1.25	1.25	0.00
8,322.0	91.40	90.50	6,649.7	456.3	1,989.5	2,023.3	0.00	0.00	0.00
8,354.0	91.20	91.20	6,649.0	455.8	2,021.5	2,055.1	2.27	-0.63	2.19
8,386.0	91.10	90.50	6,648.4	455.4	2,053.5	2,086.9	2.21	-0.31	-2.19
8,418.0	91.50	90.20	6,647.6	455.2	2,085.5	2,118.7	1.56	1.25	-0.94
8,449.0	90.70	90.90	6,647.1	454.9	2,116.5	2,149.6	3.43	-2.58	2.26
8,481.0	90.10	91.90	6,646.8	454.1	2,148.5	2,181.3	3.64	-1.88	3.13
8,513.0	90.20	92.10	6,646.7	453.0	2,180.5	2,213.1	0.70	0.31	0.63
8,545.0	90.10	91.70	6,646.7	451.9	2,212.5	2,244.8	1.29	-0.31	-1.25
8,576.0	89.10	92.40	6,646.9	450.8	2,243.4	2,275.6	3.94	-3.23	2.26
8,608.0	89.30	92.40	6,647.3	449.5	2,275.4	2,307.3	0.63	0.63	0.00
8,640.0	89.70	93.70	6,647.6	447.7	2,307.4	2,338.9	4.25	1.25	4.06
8,672.0	90.30	93.70	6,647.6	445.7	2,339.3	2,370.5	1.88	1.88	0.00
8,704.0	90.70	93.80	6,647.3	443.6	2,371.2	2,402.1	1.29	1.25	0.31
8,736.0	90.20	93.30	6,647.1	441.6	2,403.2	2,433.8	2.21	-1.56	-1.56
8,768.0	90.30	93.70	6,646.9	439.7	2,435.1	2,465.4	1.29	0.31	1.25
8,799.0	90.20	93.10	6,646.8	437.8	2,466.0	2,496.0	1.96	-0.32	-1.94
8,831.0	89.50	92.30	6,646.9	436.3	2,498.0	2,527.7	3.32	-2.19	-2.50
8,863.0	88.70	91.60	6,647.4	435.2	2,530.0	2,559.4	3.32	-2.50	-2.19
8,894.0	88.60	90.30	6,648.1	434.7	2,561.0	2,590.2	4.20	-0.32	-4.19
8,926.0	88.70	90.30	6,648.9	434.5	2,593.0	2,622.1	0.31	0.31	0.00
8,957.0	88.50	90.90	6,649.6	434.2	2,624.0	2,652.9	2.04	-0.65	1.94
8,989.0	88.50	90.10	6,650.5	433.9	2,655.9	2,684.7	2.50	0.00	-2.50
9,020.0	88.30	90.50	6,651.3	433.8	2,686.9	2,715.6	1.44	-0.65	1.29
9,052.0	88.10	90.00	6,652.3	433.6	2,718.9	2,747.4	1.68	-0.63	-1.56
9,083.0	89.00	90.30	6,653.1	433.6	2,749.9	2,778.3	3.06	2.90	0.97
9,115.0	89.00	90.70	6,653.7	433.3	2,781.9	2,810.1	1.25	0.00	1.25
9,147.0	88.80	90.50	6,654.3	432.9	2,813.9	2,841.9	0.88	-0.63	-0.63
9,179.0	89.40	90.00	6,654.8	432.8	2,845.9	2,873.8	2.44	1.88	-1.56
9,210.0	89.50	89.40	6,655.1	433.0	2,876.9	2,904.6	1.96	0.32	-1.94
9,242.0	90.10	88.70	6,655.2	433.5	2,908.9	2,936.5	2.88	1.88	-2.19
9,274.0	89.70	89.30	6,655.3	434.1	2,940.9	2,968.4	2.25	-1.25	1.88
9,306.0	89.80	88.70	6,655.4	434.6	2,972.9	3,000.4	1.90	0.31	-1.88
9,337.0	90.30	87.20	6,655.4	435.7	3,003.8	3,031.3	5.10	1.61	-4.84
9,369.0	91.20	86.30	6,655.0	437.5	3,035.8	3,063.3	3.98	2.81	-2.81
9,401.0	90.70	87.00	6,654.4	439.4	3,067.7	3,095.3	2.69	-1.56	2.19

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wells Ranch 34F-212
Project:	SEC.34-T6N-R63W	TVD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Site:	Wells Ranch NW-34 Pad Sec.34-T6N-R63W	MD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Well:	Wells Ranch 34F-212	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)
9,433.0	91.50	87.30	6,653.8	441.0	3,099.7	3,127.2	2.67	2.50	0.94
9,464.0	92.20	87.30	6,652.8	442.5	3,130.6	3,158.2	2.26	2.26	0.00
9,496.0	92.20	88.00	6,651.6	443.8	3,162.6	3,190.1	2.19	0.00	2.19
9,528.0	92.00	87.50	6,650.4	445.0	3,194.5	3,222.0	1.68	-0.63	-1.56
9,559.0	91.90	88.40	6,649.4	446.1	3,225.5	3,253.0	2.92	-0.32	2.90
9,591.0	92.20	88.40	6,648.2	447.0	3,257.5	3,284.9	0.94	0.94	0.00
9,623.0	91.40	88.70	6,647.2	447.8	3,289.4	3,316.8	2.67	-2.50	0.94
9,655.0	90.10	90.30	6,646.8	448.1	3,321.4	3,348.7	6.44	-4.06	5.00
9,686.0	89.30	90.20	6,646.9	448.0	3,352.4	3,379.5	2.60	-2.58	-0.32
9,718.0	89.60	90.30	6,647.3	447.8	3,384.4	3,411.4	0.99	0.94	0.31
9,750.0	89.40	89.80	6,647.5	447.8	3,416.4	3,443.2	1.68	-0.63	-1.56
9,782.0	88.10	90.30	6,648.2	447.8	3,448.4	3,475.1	4.35	-4.06	1.56
9,813.0	88.10	90.30	6,649.3	447.6	3,479.4	3,505.9	0.00	0.00	0.00
9,845.0	88.20	89.80	6,650.3	447.6	3,511.4	3,537.8	1.59	0.31	-1.56
9,877.0	88.10	90.00	6,651.3	447.6	3,543.4	3,569.6	0.70	-0.31	0.63
9,909.0	87.80	90.10	6,652.5	447.6	3,575.4	3,601.5	0.99	-0.94	0.31
9,941.0	88.30	89.60	6,653.6	447.7	3,607.3	3,633.3	2.21	1.56	-1.56
9,973.0	88.90	90.00	6,654.3	447.8	3,639.3	3,665.2	2.25	1.88	1.25
10,004.0	88.70	89.40	6,655.0	448.0	3,670.3	3,696.0	2.04	-0.65	-1.94
10,036.0	89.30	89.40	6,655.5	448.3	3,702.3	3,727.9	1.88	1.88	0.00
10,068.0	90.40	89.40	6,655.6	448.6	3,734.3	3,759.8	3.44	3.44	0.00
10,099.0	91.00	88.90	6,655.3	449.1	3,765.3	3,790.7	2.52	1.94	-1.61
10,131.0	91.00	88.80	6,654.7	449.7	3,797.3	3,822.6	0.31	0.00	-0.31
10,163.0	91.10	88.40	6,654.1	450.5	3,829.3	3,854.6	1.29	0.31	-1.25
10,195.0	90.90	87.30	6,653.5	451.7	3,861.2	3,886.5	3.49	-0.63	-3.44
10,227.0	90.90	88.00	6,653.0	453.0	3,893.2	3,918.4	2.19	0.00	2.19
10,258.0	90.50	87.90	6,652.7	454.1	3,924.2	3,949.4	1.33	-1.29	-0.32
10,289.0	90.20	88.70	6,652.5	455.1	3,955.2	3,980.3	2.76	-0.97	2.58
10,321.0	90.20	89.50	6,652.4	455.6	3,987.2	4,012.2	2.50	0.00	2.50
10,353.0	90.60	90.30	6,652.1	455.6	4,019.2	4,044.1	2.80	1.25	2.50
10,385.0	90.50	90.30	6,651.8	455.5	4,051.2	4,075.9	0.31	-0.31	0.00
10,417.0	90.40	90.30	6,651.6	455.3	4,083.2	4,107.8	0.31	-0.31	0.00
10,449.0	90.20	89.80	6,651.4	455.3	4,115.2	4,139.7	1.68	-0.63	-1.56
10,480.0	90.10	90.20	6,651.3	455.3	4,146.2	4,170.5	1.33	-0.32	1.29
10,512.0	90.00	90.00	6,651.3	455.2	4,178.2	4,202.4	0.70	-0.31	-0.63
10,544.0	90.10	89.80	6,651.3	455.3	4,210.2	4,234.2	0.70	0.31	-0.63
10,576.0	90.00	89.80	6,651.3	455.4	4,242.2	4,266.1	0.31	-0.31	0.00
10,608.0	90.10	90.20	6,651.2	455.4	4,274.2	4,298.0	1.29	0.31	1.25
10,639.0	90.30	90.00	6,651.1	455.3	4,305.2	4,328.8	0.91	0.65	-0.65
10,671.0	90.40	89.60	6,650.9	455.4	4,337.2	4,360.7	1.29	0.31	-1.25
10,703.0	90.40	89.80	6,650.7	455.6	4,369.2	4,392.6	0.62	0.00	0.63
10,735.0	90.20	89.10	6,650.5	455.9	4,401.2	4,424.5	2.28	-0.63	-2.19
10,767.0	90.10	89.10	6,650.4	456.4	4,433.2	4,456.4	0.31	-0.31	0.00
10,798.0	90.00	89.10	6,650.4	456.9	4,464.2	4,487.3	0.32	-0.32	0.00
10,830.0	89.90	88.60	6,650.4	457.5	4,496.2	4,519.2	1.59	-0.31	-1.56
10,862.0	89.50	88.40	6,650.6	458.4	4,528.1	4,551.1	1.40	-1.25	-0.63
10,895.0	89.90	88.70	6,650.8	459.2	4,561.1	4,584.1	1.52	1.21	0.91
10,926.0	90.10	88.90	6,650.8	459.9	4,592.1	4,615.0	0.91	0.65	0.65
10,958.0	90.10	88.80	6,650.7	460.5	4,624.1	4,646.9	0.31	0.00	-0.31
10,990.0	90.20	89.10	6,650.6	461.1	4,656.1	4,678.8	0.99	0.31	0.94
11,021.0	90.30	88.90	6,650.5	461.6	4,687.1	4,709.7	0.72	0.32	-0.65
11,068.0	90.30	88.90	6,650.3	462.5	4,734.1	4,756.6	0.00	0.00	0.00
BHL 850'FNL & 500'FEL									

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Wells Ranch 34F-212
Project:	SEC.34-T6N-R63W	TVD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Site:	Wells Ranch NW-34 Pad Sec.34-T6N-R63W	MD Reference:	WELL @ 4820.0ft (RKB Ensign 32 - 15')
Well:	Wells Ranch 34F-212	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)

Checked By: _____	Approved By: _____	Date: _____
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