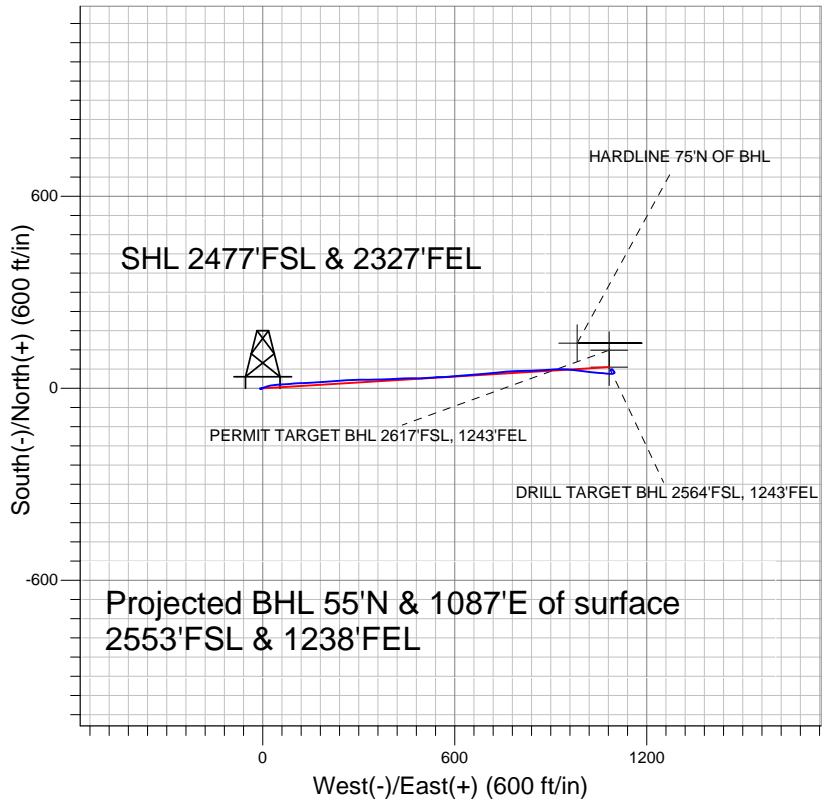


PETROLEUM DEVELOPMENT CORP Weld County CO



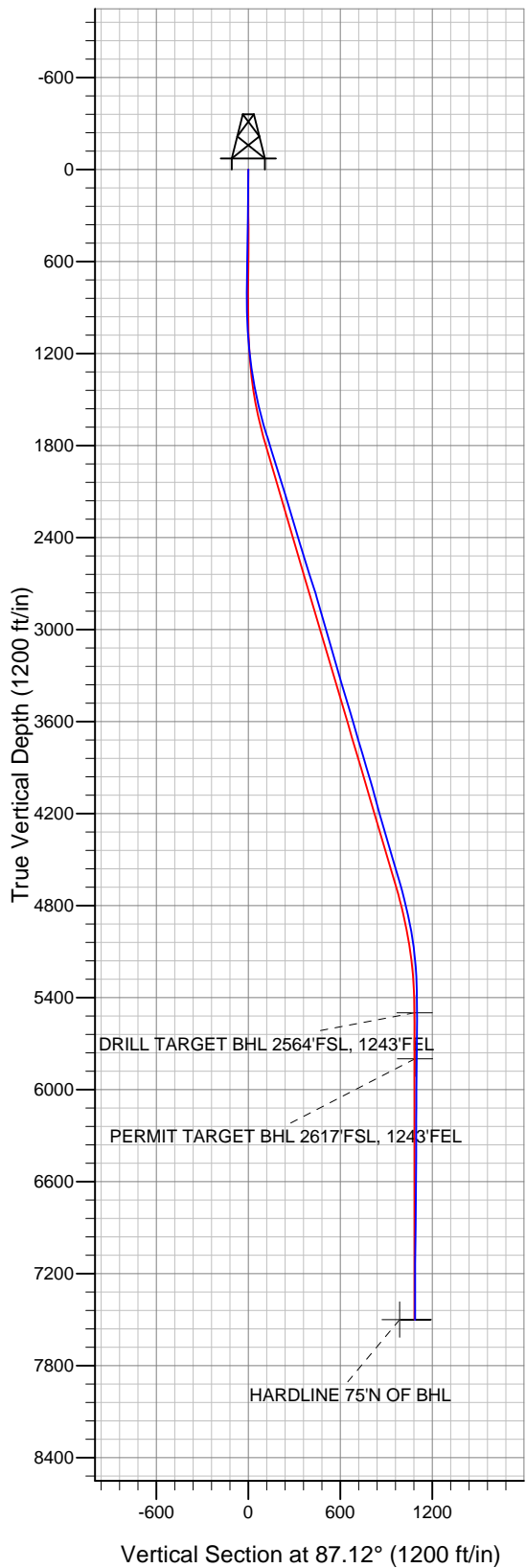
LEGEND

- ✕ Reichert 29SD, Wellbore #1, Plan #1 (5-12-09) V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
7655'MD & 7504'TVD @ 1088' VS
0.3 deg Inc 67.6 deg AZ

Project: SEC.29-T4N-R67W
Site: Reichert Pad Sec.29-T4N-R67W
Well: Reichert 29SD
Plan: Wellbore #1





Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.29-T4N-R67W

Reichert Pad Sec.29-T4N-R67W

Reichert 29SD

Wellbore #1

Design: Wellbore #1

Standard Survey Report

22 September, 2010





Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Reichert 29SD
Project:	SEC.29-T4N-R67W	TVD Reference:	WELL @ 4983.0ft (Original Well Elev)
Site:	Reichert Pad Sec.29-T4N-R67W	MD Reference:	WELL @ 4983.0ft (Original Well Elev)
Well:	Reichert 29SD	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.29-T4N-R67W, 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	Reichert Pad Sec.29-T4N-R67W		
Site Position:		Northing:	1,346,715.95 ft
From:	Lat/Long	Easting:	3,163,605.94 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 17' 1.140 N
		Longitude:	104° 54' 48.852 W
		Grid Convergence:	0.38 °

Well	Reichert 29SD		
Well Position	+N/-S	0.0 ft	Northing: 1,346,715.94 ft
	+E/-W	0.0 ft	Easting: 3,163,605.94 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 17' 1.140 N
		Longitude:	104° 54' 48.852 W
		Ground Level:	4,970.0ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/10/2010	9.07	66.97	53,160

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	87.12

Survey Program	Date 6/29/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
644.0	7,655.0	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
644.0	1.30	269.00	643.9	-0.1	-7.3	-7.3	0.20	0.20	0.00
738.0	0.70	195.90	737.9	-0.7	-8.5	-8.6	1.37	-0.64	-77.77
831.0	0.80	112.80	830.9	-1.5	-8.1	-8.2	1.07	0.11	-89.36
925.0	0.70	134.70	924.9	-2.2	-7.1	-7.2	0.32	-0.11	23.30
1,018.0	2.20	69.30	1,017.9	-1.9	-5.0	-5.1	2.16	1.61	-70.32
1,112.0	4.80	60.00	1,111.7	0.7	0.1	0.1	2.82	2.77	-9.89
1,205.0	7.00	71.40	1,204.2	4.4	8.8	9.1	2.67	2.37	12.26
1,299.0	8.60	76.60	1,297.3	7.9	21.1	21.5	1.86	1.70	5.53
1,392.0	9.90	84.20	1,389.1	10.3	35.8	36.3	1.92	1.40	8.17
1,486.0	11.80	86.20	1,481.4	11.8	53.5	54.0	2.06	2.02	2.13
1,579.0	14.60	85.50	1,572.0	13.3	74.6	75.2	3.02	3.01	-0.75



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Reichert 29SD
Project:	SEC.29-T4N-R67W	TVD Reference:	WELL @ 4983.0ft (Original Well Elev)
Site:	Reichert Pad Sec.29-T4N-R67W	MD Reference:	WELL @ 4983.0ft (Original Well Elev)
Well:	Reichert 29SD	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)
1,673.0	15.50	86.30	1,662.8	15.1	99.0	99.6	0.98	0.96	0.85
1,766.0	17.50	87.50	1,751.9	16.5	125.4	126.0	2.18	2.15	1.29
1,860.0	17.30	87.80	1,841.6	17.6	153.4	154.1	0.23	-0.21	0.32
1,953.0	17.50	85.90	1,930.4	19.2	181.2	181.9	0.65	0.22	-2.04
2,047.0	17.60	84.70	2,020.0	21.5	209.4	210.3	0.40	0.11	-1.28
2,140.0	17.10	86.00	2,108.8	23.7	237.1	238.0	0.68	-0.54	1.40
2,234.0	16.30	86.30	2,198.8	25.5	264.0	265.0	0.86	-0.85	0.32
2,328.0	16.20	89.70	2,289.0	26.5	290.3	291.3	1.02	-0.11	3.62
2,421.0	16.60	90.10	2,378.3	26.5	316.6	317.5	0.45	0.43	0.43
2,515.0	17.50	88.00	2,468.1	27.0	344.1	345.0	1.16	0.96	-2.23
2,608.0	17.90	88.50	2,556.7	27.8	372.4	373.3	0.46	0.43	0.54
2,702.0	17.90	87.80	2,646.2	28.8	401.3	402.2	0.23	0.00	-0.74
2,795.0	17.30	86.10	2,734.8	30.3	429.3	430.3	0.85	-0.65	-1.83
2,889.0	15.10	88.50	2,825.1	31.5	455.5	456.5	2.45	-2.34	2.55
2,983.0	16.50	91.80	2,915.5	31.4	481.1	482.1	1.77	1.49	3.51
3,076.0	16.20	87.00	3,004.8	31.7	507.3	508.2	1.49	-0.32	-5.16
3,170.0	16.30	84.10	3,095.0	33.7	533.5	534.5	0.87	0.11	-3.09
3,263.0	15.80	90.80	3,184.4	34.9	559.1	560.2	2.06	-0.54	7.20
3,357.0	16.30	83.10	3,274.8	36.3	585.0	586.1	2.32	0.53	-8.19
3,450.0	16.60	85.50	3,363.9	38.9	611.2	612.4	0.80	0.32	2.58
3,544.0	16.50	86.50	3,454.1	40.8	637.9	639.2	0.32	-0.11	1.06
3,638.0	16.50	85.90	3,544.2	42.6	664.6	665.9	0.18	0.00	-0.64
3,731.0	16.20	83.60	3,633.4	44.9	690.6	692.0	0.77	-0.32	-2.47
3,825.0	16.60	84.80	3,723.6	47.6	717.0	718.5	0.56	0.43	1.28
3,918.0	16.50	84.90	3,812.7	50.0	743.4	745.0	0.11	-0.11	0.11
4,012.0	16.60	85.40	3,902.8	52.3	770.1	771.8	0.19	0.11	0.53
4,105.0	16.80	86.30	3,991.9	54.2	796.8	798.5	0.35	0.22	0.97
4,199.0	15.50	89.90	4,082.2	55.1	822.9	824.6	1.75	-1.38	3.83
4,293.0	14.70	89.70	4,173.0	55.2	847.4	849.1	0.85	-0.85	-0.21
4,386.0	15.90	85.30	4,262.7	56.3	871.9	873.6	1.79	1.29	-4.73
4,480.0	16.30	85.70	4,353.0	58.3	897.9	899.6	0.44	0.43	0.43
4,573.0	16.70	89.00	4,442.2	59.5	924.2	926.1	1.10	0.43	3.55
4,667.0	17.50	93.70	4,532.0	58.9	951.8	953.6	1.70	0.85	5.00
4,760.0	16.60	98.10	4,620.9	56.1	978.9	980.5	1.69	-0.97	4.73
4,854.0	14.40	97.20	4,711.5	52.7	1,003.8	1,005.2	2.35	-2.34	-0.96
4,947.0	13.90	95.20	4,801.7	50.3	1,026.4	1,027.7	0.75	-0.54	-2.15
5,041.0	12.30	95.40	4,893.2	48.3	1,047.6	1,048.8	1.70	-1.70	0.21
5,135.0	9.50	94.10	4,985.5	46.8	1,065.4	1,066.4	2.99	-2.98	-1.38
5,228.0	7.10	95.30	5,077.5	45.7	1,078.7	1,079.7	2.59	-2.58	1.29
5,322.0	5.30	87.60	5,171.0	45.4	1,088.9	1,089.8	2.11	-1.91	-8.19
5,415.0	3.30	70.00	5,263.7	46.5	1,095.7	1,096.6	2.55	-2.15	-18.92
5,509.0	0.80	55.30	5,357.7	47.8	1,098.7	1,099.8	2.70	-2.66	-15.64
5,602.0	0.50	2.50	5,450.7	48.5	1,099.3	1,100.4	0.69	-0.32	-56.77
5,651.5	0.61	1.10	5,500.2	49.0	1,099.3	1,100.4	0.21	0.21	-2.83
DRILL TARGET BHL 2564'FSL, 1243'FEL									
5,696.0	0.70	0.20	5,544.7	49.5	1,099.3	1,100.4	0.21	0.21	-2.02
5,790.0	0.70	324.00	5,638.6	50.6	1,099.0	1,100.1	0.46	0.00	-38.51
5,883.0	0.80	327.40	5,731.6	51.6	1,098.3	1,099.5	0.12	0.11	3.66
5,952.2	0.80	320.47	5,800.9	52.4	1,097.7	1,099.0	0.14	0.00	-10.01
PERMIT TARGET BHL 2617'FSL, 1243'FEL									
5,976.0	0.80	318.10	5,824.6	52.6	1,097.5	1,098.8	0.14	0.01	-9.98
6,070.0	0.80	319.00	5,918.6	53.6	1,096.6	1,098.0	0.01	0.00	0.96
6,163.0	0.60	323.10	6,011.6	54.5	1,095.9	1,097.3	0.22	-0.22	4.41



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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)
6,257.0	0.60	315.60	6,105.6	55.2	1,095.3	1,096.7	0.08	0.00	-7.98
6,350.0	0.50	330.20	6,198.6	55.9	1,094.7	1,096.2	0.18	-0.11	15.70
6,444.0	0.40	330.20	6,292.6	56.6	1,094.4	1,095.8	0.11	-0.11	0.00
6,538.0	0.50	331.70	6,386.6	57.2	1,094.0	1,095.5	0.11	0.11	1.60
6,631.0	0.60	319.30	6,479.6	57.9	1,093.5	1,095.0	0.17	0.11	-13.33
6,725.0	0.60	324.40	6,573.6	58.7	1,092.9	1,094.5	0.06	0.00	5.43
6,819.0	0.50	330.40	6,667.6	59.5	1,092.4	1,094.0	0.12	-0.11	6.38
6,913.0	0.60	273.10	6,761.6	59.8	1,091.7	1,093.4	0.57	0.11	-60.96
7,006.0	0.80	243.30	6,854.6	59.6	1,090.7	1,092.3	0.44	0.22	-32.04
7,100.0	1.00	232.50	6,948.6	58.8	1,089.4	1,091.0	0.28	0.21	-11.49
7,193.0	1.10	222.50	7,041.5	57.6	1,088.2	1,089.7	0.22	0.11	-10.75
7,287.0	0.70	218.00	7,135.5	56.5	1,087.2	1,088.7	0.43	-0.43	-4.79
7,381.0	0.40	202.80	7,229.5	55.8	1,086.7	1,088.2	0.35	-0.32	-16.17
7,475.0	0.30	161.50	7,323.5	55.2	1,086.7	1,088.1	0.28	-0.11	-43.94
7,568.0	0.20	170.90	7,416.5	54.8	1,086.8	1,088.2	0.12	-0.11	10.11
7,651.1	0.28	69.34	7,499.7	54.8	1,087.0	1,088.4	0.46	0.10	-122.17
HARDLINE 75'N OF BHL									
7,655.0	0.30	67.60	7,503.5	54.8	1,087.0	1,088.4	0.46	0.39	-45.03

Checked By: _____ Approved By: _____ Date: _____