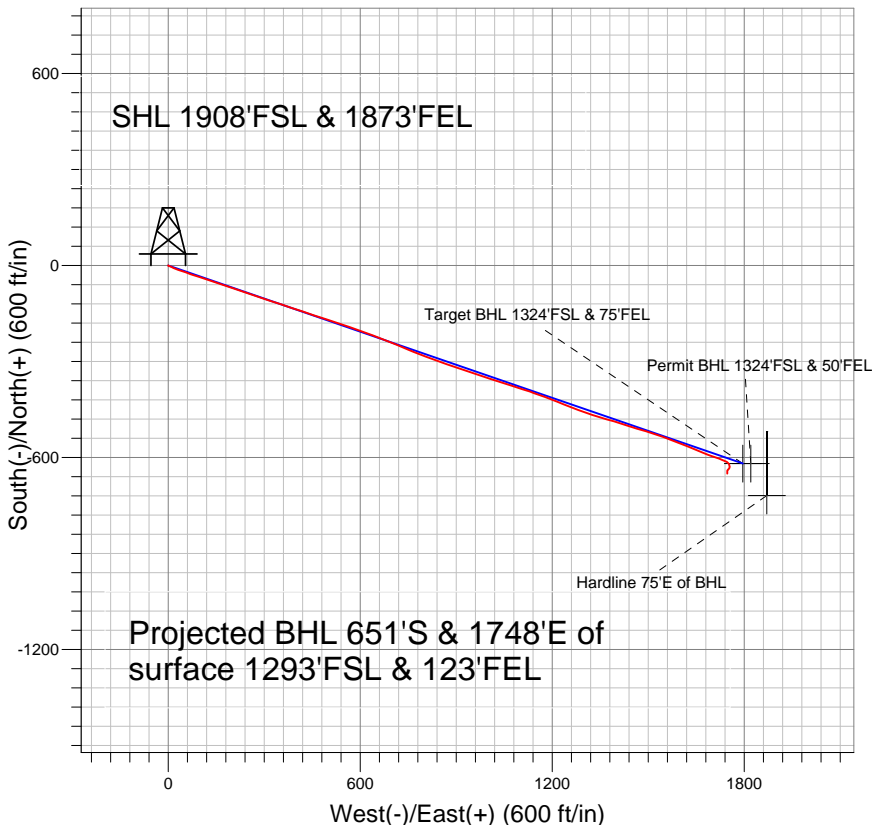
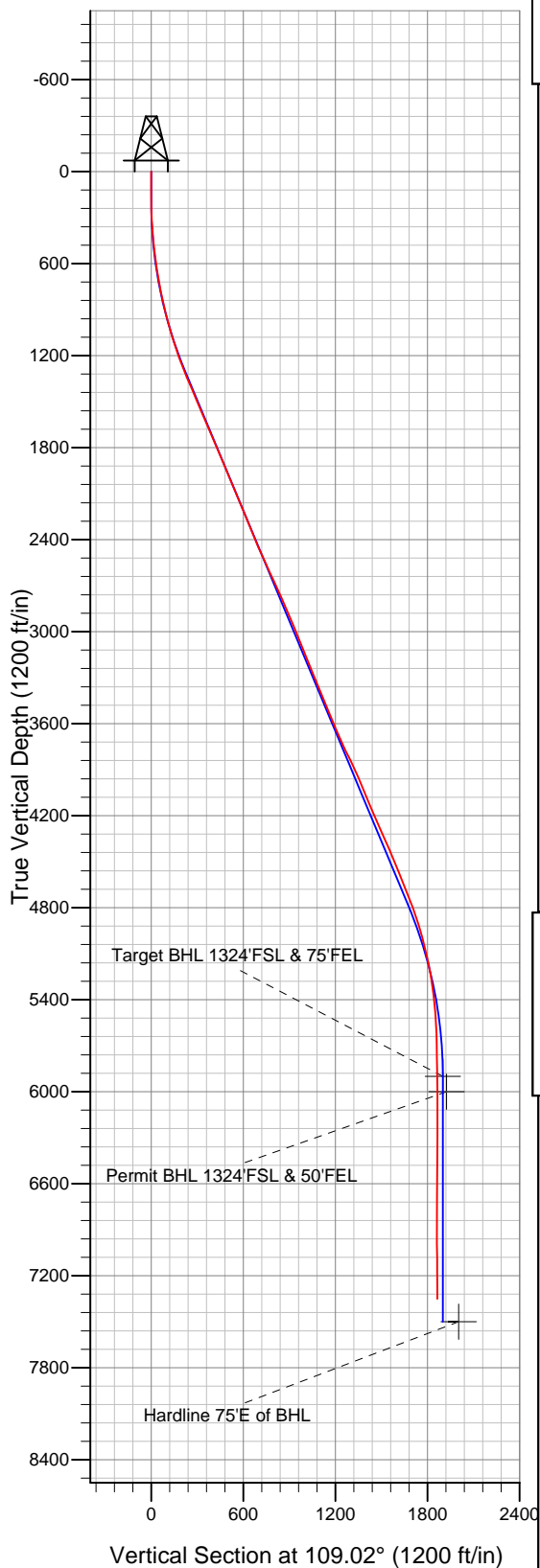


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- ▲ Purvis 10XD, Wellbore #1, Plan#1 (7-14-10) V0
- Survey #1

Final Survey Plot

Projected Final Survey -
 7701'MD & 7351'TVD @ 1864' VS
 0.9 deg Inc 169.4 deg AZ

Project: SEC.10-T4N-R67W
 Site: Purvis 10TD Pad Sec. 10-T4N-R67W
 Well: Purvis 10XD
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.10-T4N-R67W

Purvis 10TD Pad Sec. 10-T4N-R67W

Purvis 10XD

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 January, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Purvis 10XD
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4806.0ft (Original Well Elev)
Site:	Purvis 10TD Pad Sec. 10-T4N-R67W	MD Reference:	WELL @ 4806.0ft (Original Well Elev)
Well:	Purvis 10XD	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.10-T4N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Purvis 10TD Pad Sec. 10-T4N-R67W		
Site Position:		Northing:	1,361,747.58 ft
From:	Lat/Long	Easting:	3,174,369.58 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 28.956 N
		Longitude:	104° 52' 28.596 W
		Grid Convergence:	0.40 °

Well	Purvis 10XD		
Well Position	+N/-S	0.0 ft	Northing: 1,361,766.23 ft
	+E/-W	0.0 ft	Easting: 3,174,433.58 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 19' 29.136 N
		Longitude:	104° 52' 27.768 W
		Ground Level:	4,793.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/13/2010	9.07	67.03	53,249

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 (°)
	5,900.0	0.0	0.0	109.02

		Date			
From	To	Survey (Wellbore)	Tool Name	Description	
()	()				

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
150.0	0.40	220.60	150.0	-0.4	-0.3	-0.2	0.27	0.27	0.00
240.0	1.20	106.00	240.0	-0.9	0.4	0.6	1.57	0.89	-127.33
332.0	3.30	106.20	331.9	-1.9	3.8	4.2	2.28	2.28	0.22
424.0	4.40	120.40	423.7	-4.4	9.4	10.3	1.57	1.20	15.43
515.0	6.80	115.70	514.3	-8.5	17.3	19.1	2.68	2.64	-5.16
609.0	9.30	108.90	607.3	-13.4	29.5	32.2	2.84	2.66	-7.23
702.0	10.20	107.50	699.0	-18.3	44.4	48.0	1.00	0.97	-1.51
795.0	10.70	110.70	790.5	-23.8	60.4	64.9	0.82	0.54	3.44
889.0	12.50	107.90	882.5	-30.1	78.2	83.7	2.01	1.91	-2.98
982.0	14.70	107.20	972.9	-36.6	99.1	105.6	2.37	2.37	-0.75
1,076.0	16.80	108.10	1,063.4	-44.4	123.4	131.1	2.25	2.23	0.96

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Purvis 10XD
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4806.0ft (Original Well Elev)
Site:	Purvis 10TD Pad Sec. 10-T4N-R67W	MD Reference:	WELL @ 4806.0ft (Original Well Elev)
Well:	Purvis 10XD	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)
1,169.0	19.20	109.90	1,151.8	-53.8	150.5	159.8	2.65	2.58	1.94
1,263.0	20.80	108.40	1,240.2	-64.3	180.9	192.0	1.79	1.70	-1.60
1,357.0	22.30	107.80	1,327.6	-75.0	213.7	226.5	1.61	1.60	-0.64
1,450.0	23.10	109.20	1,413.4	-86.4	247.8	262.4	1.04	0.86	1.51
1,544.0	23.10	109.00	1,499.8	-98.5	282.6	299.3	0.08	0.00	-0.21
1,637.0	22.50	108.00	1,585.6	-109.9	316.8	335.3	0.77	-0.65	-1.08
1,731.0	23.30	108.80	1,672.2	-121.5	351.5	371.9	0.91	0.85	0.85
1,824.0	23.30	108.10	1,757.6	-133.1	386.4	408.7	0.30	0.00	-0.75
1,918.0	22.50	108.10	1,844.2	-144.5	421.2	445.2	0.85	-0.85	0.00
2,011.0	23.60	108.50	1,929.7	-155.9	455.7	481.7	1.19	1.18	0.43
2,105.0	23.50	108.10	2,015.9	-167.7	491.4	519.2	0.20	-0.11	-0.43
2,198.0	21.70	108.20	2,101.8	-178.8	525.3	554.9	1.94	-1.94	0.11
2,292.0	21.80	108.00	2,189.1	-189.7	558.5	589.8	0.13	0.11	-0.21
2,385.0	22.50	109.40	2,275.2	-200.9	591.7	624.8	0.94	0.75	1.51
2,479.0	22.40	110.60	2,362.1	-213.2	625.4	660.7	0.50	-0.11	1.28
2,572.0	23.80	112.30	2,447.6	-226.5	659.3	697.2	1.67	1.51	1.83
2,666.0	24.30	112.30	2,533.5	-241.1	694.8	735.4	0.53	0.53	0.00
2,760.0	25.10	112.30	2,618.9	-256.0	731.1	774.6	0.85	0.85	0.00
2,853.0	24.20	111.00	2,703.4	-270.3	767.2	813.4	1.13	-0.97	-1.40
2,947.0	24.00	111.80	2,789.2	-284.3	802.9	851.7	0.41	-0.21	0.85
3,040.0	23.50	110.20	2,874.3	-297.7	837.9	889.2	0.88	-0.54	-1.72
3,134.0	22.90	108.50	2,960.7	-310.0	872.8	926.2	0.96	-0.64	-1.81
3,226.0	21.70	106.80	3,045.8	-320.6	906.1	961.1	1.48	-1.30	-1.85
3,320.0	22.10	110.40	3,133.1	-331.8	939.3	996.1	1.49	0.43	3.83
3,413.0	22.10	108.10	3,219.2	-343.3	972.3	1,031.1	0.93	0.00	-2.47
3,507.0	22.20	108.40	3,306.3	-354.4	1,006.0	1,066.5	0.16	0.11	0.32
3,600.0	22.55	108.20	3,392.3	-365.5	1,039.6	1,101.9	0.39	0.38	-0.22
3,694.0	22.90	106.90	3,479.0	-376.5	1,074.2	1,138.2	0.65	0.37	-1.38
3,787.0	21.50	107.70	3,565.1	-386.9	1,107.7	1,173.4	1.54	-1.51	0.86
3,881.0	23.90	109.60	3,651.8	-398.5	1,142.1	1,209.6	2.67	2.55	2.02
3,974.0	24.40	110.20	3,736.7	-411.5	1,177.9	1,247.7	0.60	0.54	0.65
4,068.0	25.80	110.90	3,821.8	-425.5	1,215.2	1,287.5	1.52	1.49	0.74
4,162.0	25.60	111.70	3,906.5	-440.3	1,253.2	1,328.3	0.43	-0.21	0.85
4,255.0	23.00	111.70	3,991.3	-454.5	1,288.7	1,366.5	2.80	-2.80	0.00
4,349.0	21.50	107.50	4,078.3	-466.4	1,322.2	1,402.1	2.32	-1.60	-4.47
4,443.0	23.60	105.40	4,165.1	-476.6	1,356.8	1,438.1	2.39	2.23	-2.23
4,537.0	24.00	107.40	4,251.1	-487.3	1,393.2	1,475.9	0.96	0.43	2.13
4,630.0	23.70	108.10	4,336.1	-498.8	1,429.0	1,513.5	0.44	-0.32	0.75
4,724.0	23.50	107.80	4,422.3	-510.4	1,464.8	1,551.2	0.25	-0.21	-0.32
4,817.0	22.80	105.90	4,507.8	-521.0	1,499.8	1,587.7	1.10	-0.75	-2.04
4,911.0	22.00	108.10	4,594.7	-531.4	1,534.0	1,623.5	1.23	-0.85	2.34
5,004.0	21.20	111.10	4,681.2	-542.9	1,566.3	1,657.7	1.47	-0.86	3.23
5,098.0	21.00	112.20	4,768.9	-555.4	1,597.7	1,691.5	0.47	-0.21	1.17
5,192.0	19.60	112.90	4,857.0	-567.9	1,627.9	1,724.1	1.51	-1.49	0.74
5,285.0	15.80	112.00	4,945.6	-578.7	1,654.0	1,752.3	4.10	-4.09	-0.97
5,378.0	14.20	111.40	5,035.4	-587.6	1,676.3	1,776.3	1.73	-1.72	-0.65
5,471.0	12.70	109.30	5,125.9	-595.2	1,696.6	1,797.9	1.70	-1.61	-2.26
5,565.0	10.20	109.70	5,218.0	-601.4	1,714.2	1,816.6	2.66	-2.66	0.43
5,659.0	8.40	111.20	5,310.8	-606.7	1,728.4	1,831.8	1.93	-1.91	1.60
5,752.0	6.00	110.60	5,403.0	-610.8	1,739.3	1,843.4	2.58	-2.58	-0.65
5,846.0	3.90	126.00	5,496.7	-614.4	1,746.5	1,851.4	2.62	-2.23	16.38
5,939.0	2.80	142.00	5,589.5	-618.1	1,750.5	1,856.3	1.54	-1.18	17.20
6,033.0	2.10	150.60	5,683.4	-621.4	1,752.7	1,859.5	0.84	-0.74	9.15

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Design:	Wellbore #1	Database:	Landmark

Survey									
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6,127.0	1.40	169.00	5,777.4	-624.0	1,753.8	1,861.4	0.95	-0.74	19.57
6,221.0	1.30	173.50	5,871.4	-626.2	1,754.1	1,862.4	0.15	-0.11	4.79
6,249.6	1.30	174.08	5,899.9	-626.9	1,754.2	1,862.7	0.05	0.00	2.04
Target BHL 1324'FSL & 75'FEL									
6,314.0	1.30	175.40	5,964.3	-628.3	1,754.3	1,863.3	0.05	0.00	2.04
6,349.5	1.22	178.28	5,999.8	-629.1	1,754.4	1,863.6	0.28	-0.22	8.12
Permit BHL 1324'FSL & 50'FEL									
6,408.0	1.10	183.90	6,058.3	-630.3	1,754.4	1,864.0	0.28	-0.21	9.60
6,501.0	0.80	195.60	6,151.3	-631.8	1,754.1	1,864.3	0.38	-0.32	12.58
6,595.0	0.90	181.80	6,245.3	-633.2	1,753.9	1,864.5	0.24	0.11	-14.68
6,689.0	0.70	220.60	6,339.3	-634.3	1,753.5	1,864.5	0.60	-0.21	41.28
6,782.0	0.80	231.50	6,432.3	-635.2	1,752.6	1,864.0	0.19	0.11	11.72
6,875.0	1.10	224.90	6,525.3	-636.2	1,751.5	1,863.2	0.34	0.32	-7.10
6,969.0	1.10	223.50	6,619.2	-637.5	1,750.3	1,862.5	0.03	0.00	-1.49
7,062.0	1.30	215.70	6,712.2	-639.0	1,749.0	1,861.8	0.28	0.22	-8.39
7,156.0	1.10	205.30	6,806.2	-640.7	1,748.0	1,861.4	0.31	-0.21	-11.06
7,249.0	0.90	193.40	6,899.2	-642.2	1,747.5	1,861.4	0.31	-0.22	-12.80
7,343.0	1.20	180.50	6,993.2	-643.9	1,747.3	1,861.7	0.40	0.32	-13.72
7,437.0	1.10	190.10	7,087.1	-645.8	1,747.1	1,862.2	0.23	-0.11	10.21
7,530.0	1.30	173.30	7,180.1	-647.7	1,747.1	1,862.8	0.43	0.22	-18.06
7,624.0	0.90	169.40	7,274.1	-649.5	1,747.3	1,863.6	0.43	-0.43	-4.15
7,701.0	0.90	169.40	7,351.1	-650.7	1,747.6	1,864.2	0.00	0.00	0.00
Hardline 75'E of BHL									

Checked By: _____ Approved By: _____ Date: _____