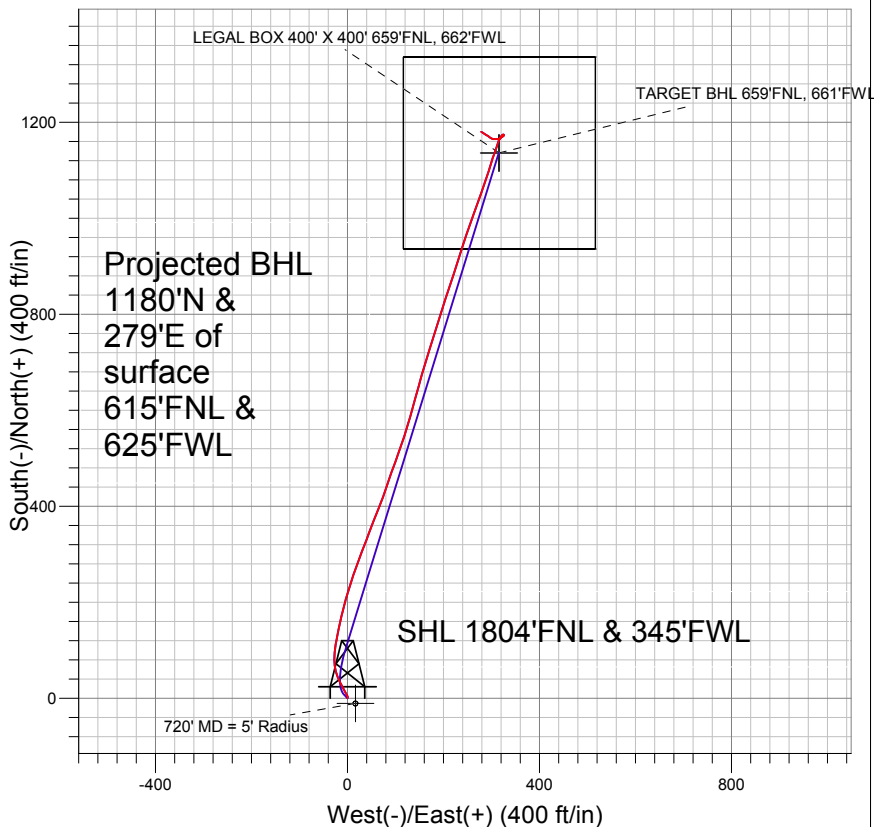
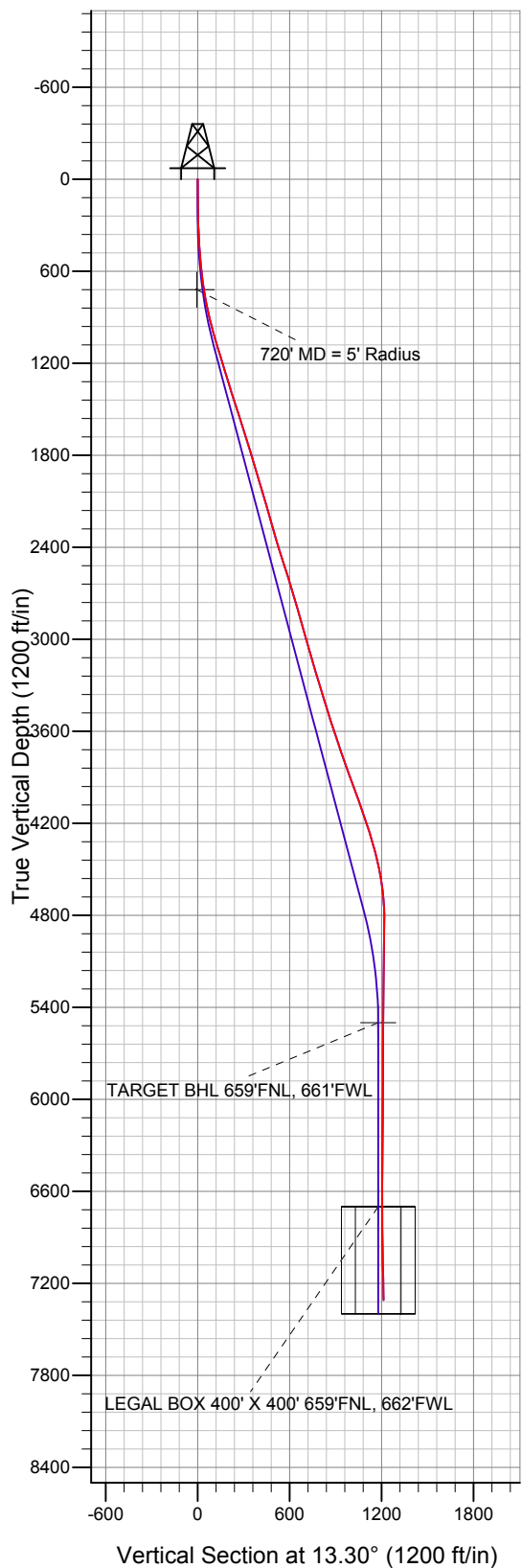


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- + Binder 11-10DU, Wellbore #1, Plan #2 (10-4-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7490'MD & 7310'TVD @ 1212' VS
2.8 deg Inc 301.0 deg AZ

Project: SEC.10-T4N-R67W
Site: Binder 12-10DU Pad Sec.10-T4N-R67W
Well: Binder 11-10DU
Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.10-T4N-R67W

Binder 12-10DU Pad Sec.10-T4N-R67W

Binder 11-10DU

Wellbore #1

Survey: Survey #1

Standard Survey Report

04 January, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Binder 11-10DU
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4773.0ft (Original Well Elev)
Site:	Binder 12-10DU Pad Sec.10-T4N-R67W	MD Reference:	WELL @ 4773.0ft (Original Well Elev)
Well:	Binder 11-10DU	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	Binder 12-10DU Pad Sec.10-T4N-R67W		
Site Position:		Northing:	1,363,416.91 ft
From:	Lat/Long	Easting:	3,171,363.42 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 45.660 N
		Longitude:	104° 53' 7.260 W
		Grid Convergence:	0.40 °

Well	Binder 11-10DU		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 19' 45.516 N
		Longitude:	104° 53' 7.404 W
		Ground Level:	4,760.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	11/15/2010	9.00
			Dip Angle (°)
			66.99
			Field Strength (nT)
			53,143

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)
	0.0	0.0	0.0
			Direction (°)
			13.30

Survey Program	Date 1/4/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
154.0	7,490.0	Survey #1 (Wellbore #1)	MWD
			Description
			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
154.0	0.80	35.60	154.0	0.9	0.6	1.0	0.52	0.52	0.00
244.0	1.20	355.10	244.0	2.3	0.9	2.5	0.87	0.44	-45.00
336.0	3.00	334.90	335.9	5.5	-0.2	5.3	2.09	1.96	-21.96
427.0	5.20	332.30	426.7	11.3	-3.1	10.3	2.43	2.42	-2.86
519.0	5.90	330.90	518.2	19.1	-7.4	16.9	0.77	0.76	-1.52
612.0	9.10	328.70	610.4	29.6	-13.5	25.7	3.45	3.44	-2.37
706.0	10.20	339.30	703.1	43.7	-20.3	37.9	2.22	1.17	11.28
710.5	10.28	339.87	707.6	44.5	-20.6	38.5	2.91	1.86	12.57
720' MD = 5' Radius									
799.0	12.10	349.30	794.4	61.0	-25.0	53.6	2.91	2.05	10.66
893.0	13.20	359.50	886.1	81.4	-27.0	73.0	2.64	1.17	10.85

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Binder 11-10DU
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4773.0ft (Original Well Elev)
Site:	Binder 12-10DU Pad Sec.10-T4N-R67W	MD Reference:	WELL @ 4773.0ft (Original Well Elev)
Well:	Binder 11-10DU	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)
986.0	14.90	8.10	976.3	103.9	-25.4	95.2	2.89	1.83	9.25
1,080.0	17.00	11.10	1,066.7	129.3	-21.0	121.0	2.40	2.23	3.19
1,173.0	17.20	12.50	1,155.6	156.1	-15.4	148.3	0.49	0.22	1.51
1,267.0	17.00	14.40	1,245.4	183.0	-9.0	176.0	0.63	-0.21	2.02
1,361.0	17.10	14.60	1,335.3	209.6	-2.1	203.5	0.12	0.11	0.21
1,454.0	18.10	18.10	1,423.9	236.6	5.8	231.6	1.57	1.08	3.76
1,548.0	17.80	19.50	1,513.4	264.0	15.2	260.4	0.56	-0.32	1.49
1,641.0	17.90	20.50	1,601.9	290.8	24.9	288.7	0.35	0.11	1.08
1,735.0	17.80	21.00	1,691.4	317.8	35.1	317.3	0.19	-0.11	0.53
1,829.0	16.80	19.50	1,781.1	344.0	44.8	345.1	1.16	-1.06	-1.60
1,922.0	17.20	22.40	1,870.1	369.4	54.5	372.0	1.01	0.43	3.12
2,016.0	16.90	21.60	1,959.9	394.9	64.9	399.2	0.41	-0.32	-0.85
2,110.0	16.40	20.10	2,050.0	420.1	74.5	425.9	0.70	-0.53	-1.60
2,203.0	16.00	18.70	2,139.3	444.5	83.1	451.7	0.60	-0.43	-1.51
2,297.0	15.80	19.20	2,229.7	468.9	91.4	477.4	0.26	-0.21	0.53
2,390.0	16.20	20.30	2,319.1	493.0	100.1	502.8	0.54	0.43	1.18
2,484.0	17.50	19.30	2,409.1	518.7	109.3	529.9	1.42	1.38	-1.06
2,577.0	18.10	18.10	2,497.6	545.6	118.4	558.2	0.76	0.65	-1.29
2,671.0	17.60	16.60	2,587.1	573.1	127.0	586.9	0.72	-0.53	-1.60
2,765.0	16.40	15.60	2,677.0	599.5	134.7	614.4	1.31	-1.28	-1.06
2,858.0	16.90	15.20	2,766.1	625.2	141.7	641.0	0.55	0.54	-0.43
2,951.0	16.40	15.20	2,855.2	650.9	148.7	667.7	0.54	-0.54	0.00
3,045.0	15.20	16.70	2,945.6	675.5	155.7	693.2	1.35	-1.28	1.60
3,138.0	15.50	17.30	3,035.3	699.1	162.9	717.8	0.36	0.32	0.65
3,232.0	16.50	16.50	3,125.7	723.8	170.5	743.6	1.09	1.06	-0.85
3,325.0	17.00	16.60	3,214.7	749.5	178.1	770.4	0.54	0.54	0.11
3,419.0	16.80	17.30	3,304.7	775.7	186.1	797.7	0.30	-0.21	0.74
3,512.0	17.40	18.00	3,393.5	801.7	194.4	824.9	0.68	0.65	0.75
3,606.0	17.10	18.70	3,483.3	828.2	203.1	852.7	0.39	-0.32	0.74
3,699.0	18.40	18.60	3,571.9	855.1	212.2	880.9	1.40	1.40	-0.11
3,793.0	19.00	17.80	3,660.9	883.7	221.6	911.0	0.69	0.64	-0.85
3,886.0	19.60	17.20	3,748.7	913.0	230.9	941.6	0.68	0.65	-0.65
3,980.0	19.70	18.20	3,837.2	943.1	240.5	973.1	0.37	0.11	1.06
4,073.0	19.20	18.90	3,924.9	972.5	250.3	1,004.0	0.59	-0.54	0.75
4,167.0	19.50	19.90	4,013.6	1,001.8	260.7	1,034.9	0.48	0.32	1.06
4,261.0	20.20	20.20	4,102.0	1,031.8	271.6	1,066.6	0.75	0.74	0.32
4,355.0	19.00	19.00	4,190.6	1,061.5	282.2	1,098.0	1.35	-1.28	-1.28
4,448.0	17.80	17.90	4,278.8	1,089.4	291.5	1,127.2	1.34	-1.29	-1.18
4,542.0	15.20	17.30	4,368.9	1,114.8	299.6	1,153.8	2.77	-2.77	-0.64
4,635.0	12.10	18.90	4,459.3	1,135.7	306.4	1,175.7	3.36	-3.33	1.72
4,729.0	9.50	19.90	4,551.6	1,152.3	312.2	1,193.2	2.77	-2.77	1.06
4,822.0	7.00	22.60	4,643.7	1,164.7	317.0	1,206.4	2.72	-2.69	2.90
4,916.0	4.50	46.90	4,737.2	1,172.6	321.9	1,215.2	3.66	-2.66	25.85
5,010.0	1.50	121.80	4,831.1	1,174.4	325.6	1,217.8	4.63	-3.19	79.68
5,103.0	1.00	204.70	4,924.1	1,173.0	326.3	1,216.7	1.82	-0.54	89.14
5,197.0	0.90	215.10	5,018.0	1,171.7	325.5	1,215.2	0.21	-0.11	11.06
5,290.0	0.80	232.90	5,111.0	1,170.7	324.6	1,214.0	0.30	-0.11	19.14
5,383.0	0.80	245.20	5,204.0	1,170.0	323.5	1,213.1	0.18	0.00	13.23
5,477.0	0.80	234.80	5,298.0	1,169.4	322.4	1,212.2	0.15	0.00	-11.06
5,570.0	0.60	253.20	5,391.0	1,168.9	321.4	1,211.5	0.32	-0.22	19.78
5,664.0	0.40	228.80	5,485.0	1,168.5	320.7	1,210.9	0.31	-0.21	-25.96
5,679.2	0.39	223.68	5,500.2	1,168.4	320.6	1,210.9	0.24	-0.06	-33.71
TARGET BHL 659'FNL, 661'FWL									

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Well:	Binder 11-10DU	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)
5,758.0	0.40	196.10	5,579.0	1,168.0	320.3	1,210.4	0.24	0.01	-35.00
5,851.0	0.20	204.40	5,672.0	1,167.5	320.2	1,209.9	0.22	-0.22	8.92
5,945.0	0.40	243.80	5,766.0	1,167.2	319.8	1,209.5	0.29	0.21	41.91
6,039.0	0.40	238.60	5,860.0	1,166.9	319.2	1,209.1	0.04	0.00	-5.53
6,133.0	0.50	238.50	5,954.0	1,166.5	318.6	1,208.5	0.11	0.11	-0.11
6,226.0	0.60	245.30	6,047.0	1,166.1	317.8	1,208.0	0.13	0.11	7.31
6,320.0	0.90	244.90	6,141.0	1,165.6	316.7	1,207.2	0.32	0.32	-0.43
6,414.0	0.80	256.70	6,235.0	1,165.1	315.4	1,206.4	0.21	-0.11	12.55
6,507.0	1.10	267.20	6,328.0	1,164.9	313.9	1,205.9	0.37	0.32	11.29
6,601.0	1.40	264.80	6,421.9	1,164.8	311.8	1,205.3	0.32	0.32	-2.55
6,694.0	1.50	269.30	6,514.9	1,164.7	309.5	1,204.6	0.16	0.11	4.84
6,788.0	2.00	271.20	6,608.9	1,164.7	306.6	1,204.0	0.54	0.53	2.02
6,878.6	2.19	279.31	6,699.4	1,165.0	303.3	1,203.5	0.39	0.21	8.95
LEGAL BOX 400' X 400' 659'FNL, 662'FWL									
6,881.0	2.20	279.50	6,701.8	1,165.0	303.2	1,203.5	0.39	0.24	8.11
6,975.0	2.00	306.30	6,795.7	1,166.3	300.1	1,204.1	1.06	-0.21	28.51
7,068.0	2.60	305.00	6,888.7	1,168.5	297.1	1,205.5	0.65	0.65	-1.40
7,162.0	3.10	302.60	6,982.5	1,171.1	293.2	1,207.1	0.55	0.53	-2.55
7,256.0	3.00	302.60	7,076.4	1,173.8	289.0	1,208.7	0.11	-0.11	0.00
7,349.0	2.90	302.00	7,169.3	1,176.3	284.9	1,210.3	0.11	-0.11	-0.65
7,444.0	2.80	301.00	7,264.2	1,178.8	280.9	1,211.8	0.12	-0.11	-1.05
7,490.0	2.80	301.00	7,310.1	1,179.9	279.0	1,212.5	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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