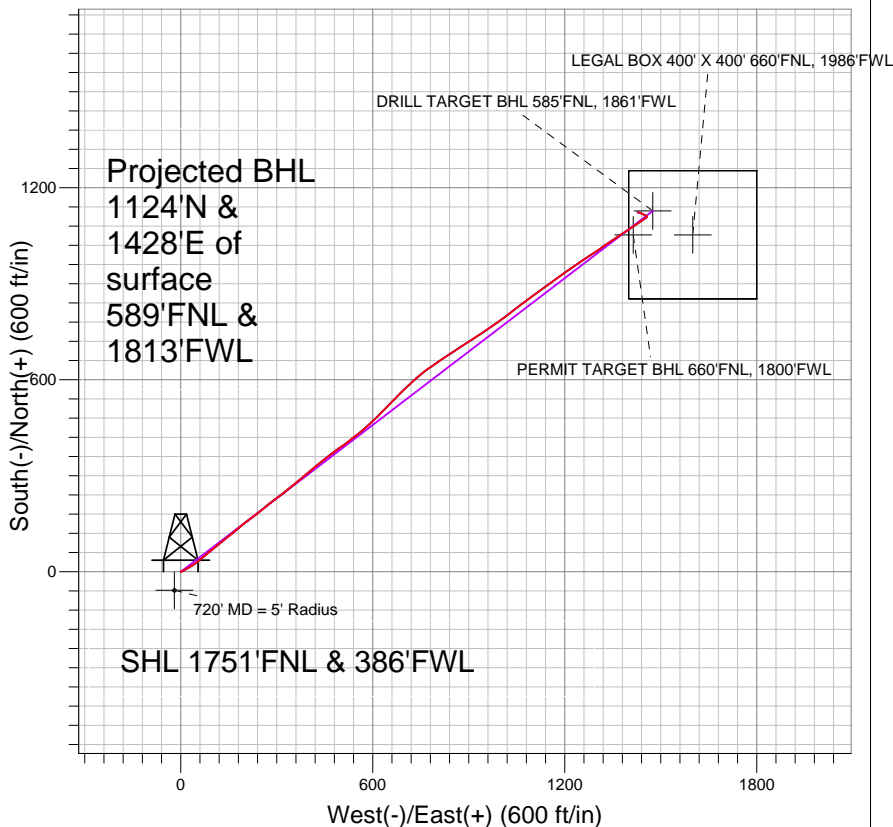
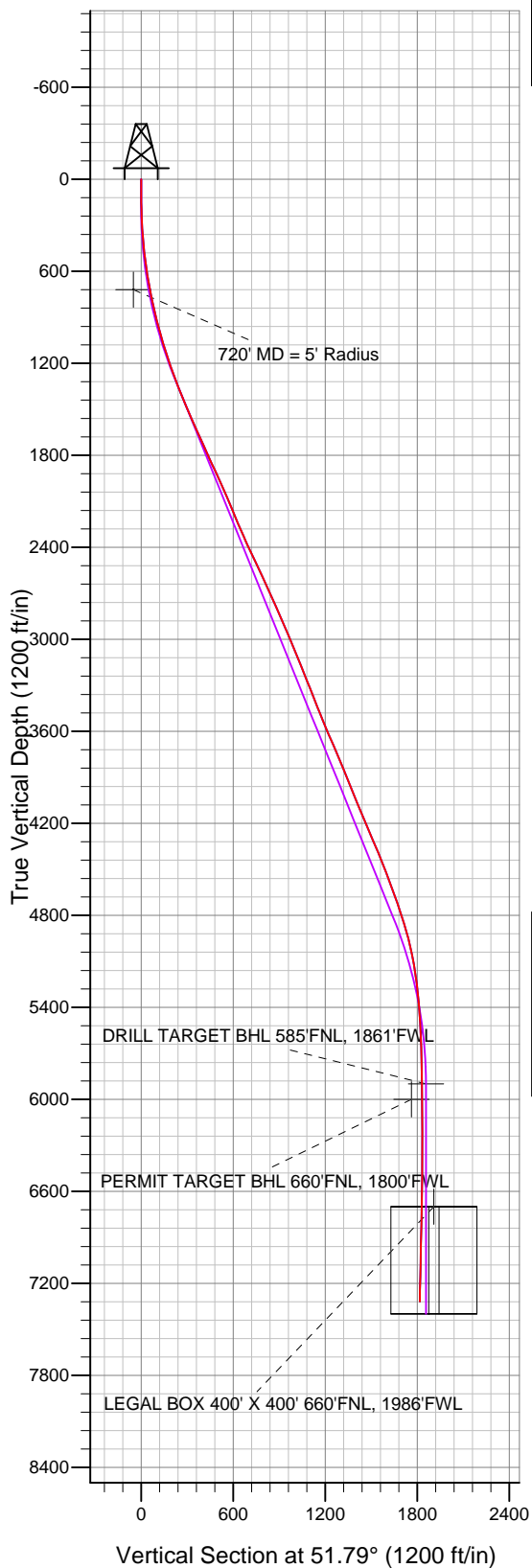


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Binder 21-10DU, Wellbore #1, Plan #2 (11-12-10) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7661'MD & 7319'TVD @ 1816' VS
1.3 deg Inc 279.9 deg AZ

Project: SEC.10-T4N-R67W
Site: Binder 12-10DU Pad Sec.10-T4N-R67W
Well: Binder 21-10DU
Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.10-T4N-R67W

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

Binder 21-10DU

Wellbore #1

Survey: Survey #1

Standard Survey Report

14 January, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Binder 21-10DU
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 21-10DU	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 21-10DU		
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' 45.984 N
		Longitude:	104° 53' 6.936 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 (°)
			51.79

Survey Program	Date 1/14/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
152.0	7,661.0	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
152.0	0.50	78.30	152.0	0.1	0.6	0.6	0.33	0.33	0.00
244.0	1.80	69.80	244.0	0.7	2.4	2.3	1.42	1.41	-9.24
337.0	4.30	64.70	336.8	2.7	6.9	7.1	2.70	2.69	-5.48
415.0	6.30	61.30	414.5	6.0	13.3	14.2	2.59	2.56	-4.36
484.0	6.60	59.90	483.1	9.8	20.1	21.8	0.49	0.43	-2.03
578.0	7.90	57.60	576.3	16.0	30.2	33.6	1.42	1.38	-2.45
671.0	9.50	57.20	668.2	23.6	42.0	47.6	1.72	1.72	-0.43
704.6	9.99	54.63	701.4	26.8	46.8	53.3	1.94	1.44	-7.64
720' MD = 5' Radius									
765.0	10.90	50.60	760.8	33.4	55.4	64.2	1.94	1.51	-6.67
858.0	13.40	49.80	851.7	46.0	70.5	83.8	2.69	2.69	-0.86

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Binder 21-10DU
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 21-10DU	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)
952.0	15.30	48.70	942.7	61.2	88.1	107.1	2.04	2.02	-1.17
1,045.0	16.80	51.50	1,032.1	77.6	107.8	132.8	1.81	1.61	3.01
1,139.0	17.50	52.70	1,121.9	94.7	129.7	160.5	0.83	0.74	1.28
1,232.0	19.30	50.40	1,210.2	112.9	152.7	189.8	2.09	1.94	-2.47
1,326.0	19.20	48.70	1,298.9	133.0	176.3	220.8	0.61	-0.11	-1.81
1,419.0	21.80	52.90	1,386.0	153.6	201.5	253.3	3.21	2.80	4.52
1,513.0	23.40	52.30	1,472.8	175.5	230.2	289.5	1.72	1.70	-0.64
1,607.0	23.70	51.00	1,559.0	198.8	259.7	327.0	0.64	0.32	-1.38
1,700.0	24.60	52.10	1,643.8	222.5	289.5	365.1	1.08	0.97	1.18
1,794.0	24.50	51.90	1,729.3	246.5	320.3	404.1	0.14	-0.11	-0.21
1,887.0	23.70	51.40	1,814.2	270.1	350.0	442.1	0.89	-0.86	-0.54
1,981.0	25.40	51.00	1,899.7	294.5	380.5	481.1	1.82	1.81	-0.43
2,074.0	24.40	50.00	1,984.1	319.4	410.7	520.3	1.17	-1.08	-1.08
2,168.0	23.00	49.30	2,070.1	343.9	439.5	558.0	1.52	-1.49	-0.74
2,261.0	22.40	54.80	2,156.0	366.0	467.7	593.9	2.37	-0.65	5.91
2,355.0	23.20	54.50	2,242.6	387.0	497.4	630.3	0.86	0.85	-0.32
2,449.0	23.30	51.50	2,329.0	409.4	527.1	667.4	1.26	0.11	-3.19
2,542.0	25.40	50.20	2,413.7	433.6	556.8	705.7	2.33	2.26	-1.40
2,635.0	25.70	48.70	2,497.6	459.7	587.3	745.8	0.77	0.32	-1.61
2,729.0	25.70	45.70	2,582.3	487.3	617.2	786.4	1.38	0.00	-3.19
2,822.0	23.40	43.50	2,666.9	514.8	644.3	824.7	2.66	-2.47	-2.37
2,916.0	23.80	44.20	2,753.0	542.0	670.4	862.0	0.52	0.43	0.74
3,010.0	24.50	45.80	2,838.8	569.1	697.6	900.2	1.02	0.74	1.70
3,103.0	23.90	48.10	2,923.6	595.2	725.4	938.1	1.20	-0.65	2.47
3,197.0	22.40	50.70	3,010.1	619.2	753.5	975.1	1.93	-1.60	2.77
3,290.0	22.40	56.10	3,096.1	640.3	781.9	1,010.5	2.21	0.00	5.81
3,383.0	22.00	55.20	3,182.2	660.2	810.9	1,045.5	0.56	-0.43	-0.97
3,477.0	22.30	56.10	3,269.2	680.2	840.2	1,080.9	0.48	0.32	0.96
3,570.0	21.10	56.90	3,355.6	699.2	868.8	1,115.1	1.33	-1.29	0.86
3,664.0	21.50	58.30	3,443.2	717.4	897.7	1,149.1	0.69	0.43	1.49
3,757.0	22.50	56.30	3,529.4	736.3	927.0	1,183.8	1.34	1.08	-2.15
3,851.0	23.00	55.80	3,616.1	756.6	957.1	1,220.0	0.57	0.53	-0.53
3,944.0	22.90	54.00	3,701.8	777.4	986.8	1,256.2	0.76	-0.11	-1.94
4,038.0	24.00	53.20	3,788.0	799.6	1,016.9	1,293.6	1.22	1.17	-0.85
4,132.0	22.80	51.90	3,874.3	822.3	1,046.5	1,331.0	1.39	-1.28	-1.38
4,226.0	21.50	54.40	3,961.3	843.6	1,074.9	1,366.4	1.71	-1.38	2.66
4,319.0	20.80	53.00	4,048.1	863.4	1,101.9	1,399.9	0.93	-0.75	-1.51
4,413.0	23.60	54.80	4,135.1	884.3	1,130.6	1,435.4	3.07	2.98	1.91
4,506.0	23.20	54.20	4,220.4	905.8	1,160.7	1,472.3	0.50	-0.43	-0.65
4,600.0	23.10	53.90	4,306.9	927.5	1,190.6	1,509.2	0.16	-0.11	-0.32
4,693.0	22.90	54.00	4,392.5	948.9	1,220.0	1,545.5	0.22	-0.22	0.11
4,787.0	21.40	56.70	4,479.5	969.0	1,249.1	1,580.9	1.93	-1.60	2.87
4,881.0	20.10	57.60	4,567.5	987.1	1,277.1	1,614.0	1.42	-1.38	0.96
4,974.0	20.00	55.00	4,654.8	1,004.8	1,303.6	1,645.8	0.96	-0.11	-2.80
5,068.0	19.60	55.50	4,743.3	1,022.9	1,329.8	1,677.6	0.46	-0.43	0.53
5,161.0	17.50	56.50	4,831.4	1,039.5	1,354.3	1,707.1	2.28	-2.26	1.08
5,255.0	14.80	56.00	4,921.7	1,054.0	1,376.0	1,733.2	2.88	-2.87	-0.53
5,349.0	12.70	56.90	5,013.0	1,066.4	1,394.7	1,755.4	2.25	-2.23	0.96
5,442.0	10.90	55.90	5,104.0	1,076.9	1,410.5	1,774.4	1.95	-1.94	-1.08
5,536.0	8.40	56.90	5,196.7	1,085.6	1,423.6	1,790.1	2.67	-2.66	1.06
5,629.0	6.30	56.40	5,288.9	1,092.1	1,433.6	1,802.0	2.26	-2.26	-0.54
5,723.0	4.40	55.50	5,382.5	1,097.0	1,440.8	1,810.7	2.02	-2.02	-0.96
5,817.0	3.40	56.50	5,476.3	1,100.6	1,446.1	1,817.1	1.07	-1.06	1.06
5,910.0	2.50	52.70	5,569.2	1,103.4	1,450.0	1,821.9	0.99	-0.97	-4.09

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Survey									
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6,004.0	1.90	54.00	5,663.1	1,105.5	1,452.9	1,825.5	0.64	-0.64	1.38
6,098.0	1.30	44.60	5,757.1	1,107.2	1,454.9	1,828.1	0.69	-0.64	-10.00
6,191.0	0.80	50.00	5,850.1	1,108.4	1,456.2	1,829.8	0.55	-0.54	5.81
6,241.3	0.64	49.33	5,900.3	1,108.8	1,456.7	1,830.4	0.32	-0.32	-1.33
DRILL TARGET BHL 585'FNL, 1861'FWL									
6,285.0	0.50	48.40	5,944.0	1,109.1	1,457.0	1,830.8	0.32	-0.32	-2.13
6,340.5	0.38	42.34	5,999.5	1,109.4	1,457.3	1,831.3	0.23	-0.22	-10.93
PERMIT TARGET BHL 660'FNL, 1800'FWL									
6,378.0	0.30	35.50	6,037.0	1,109.5	1,457.4	1,831.5	0.23	-0.21	-18.22
6,472.0	0.40	12.50	6,131.0	1,110.1	1,457.6	1,832.0	0.18	0.11	-24.47
6,565.0	0.20	29.90	6,224.0	1,110.5	1,457.8	1,832.4	0.23	-0.22	18.71
6,659.0	0.30	329.80	6,318.0	1,110.9	1,457.7	1,832.6	0.28	0.11	-63.94
6,753.0	0.70	296.80	6,412.0	1,111.3	1,457.1	1,832.3	0.51	0.43	-35.11
6,846.0	1.30	301.30	6,505.0	1,112.1	1,455.7	1,831.7	0.65	0.65	4.84
6,939.0	1.60	293.80	6,598.0	1,113.2	1,453.6	1,830.8	0.38	0.32	-8.06
7,033.0	2.30	296.20	6,691.9	1,114.6	1,450.7	1,829.3	0.75	0.74	2.55
7,033.7	2.30	296.21	6,692.7	1,114.6	1,450.7	1,829.3	0.65	0.64	1.89
LEGAL BOX 400' X 400' 660'FNL, 1986'FWL									
7,126.0	2.90	297.60	6,784.8	1,116.5	1,447.0	1,827.6	0.65	0.65	1.50
7,220.0	3.00	295.20	6,878.7	1,118.6	1,442.6	1,825.5	0.17	0.11	-2.55
7,313.0	2.50	292.60	6,971.6	1,120.5	1,438.6	1,823.4	0.55	-0.54	-2.80
7,407.0	2.10	285.80	7,065.5	1,121.7	1,435.0	1,821.4	0.51	-0.43	-7.23
7,500.0	2.10	285.80	7,158.5	1,122.6	1,431.7	1,819.4	0.00	0.00	0.00
7,594.0	1.30	279.90	7,252.4	1,123.3	1,429.0	1,817.7	0.87	-0.85	-6.28
7,661.0	1.30	279.90	7,319.4	1,123.6	1,427.5	1,816.6	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____