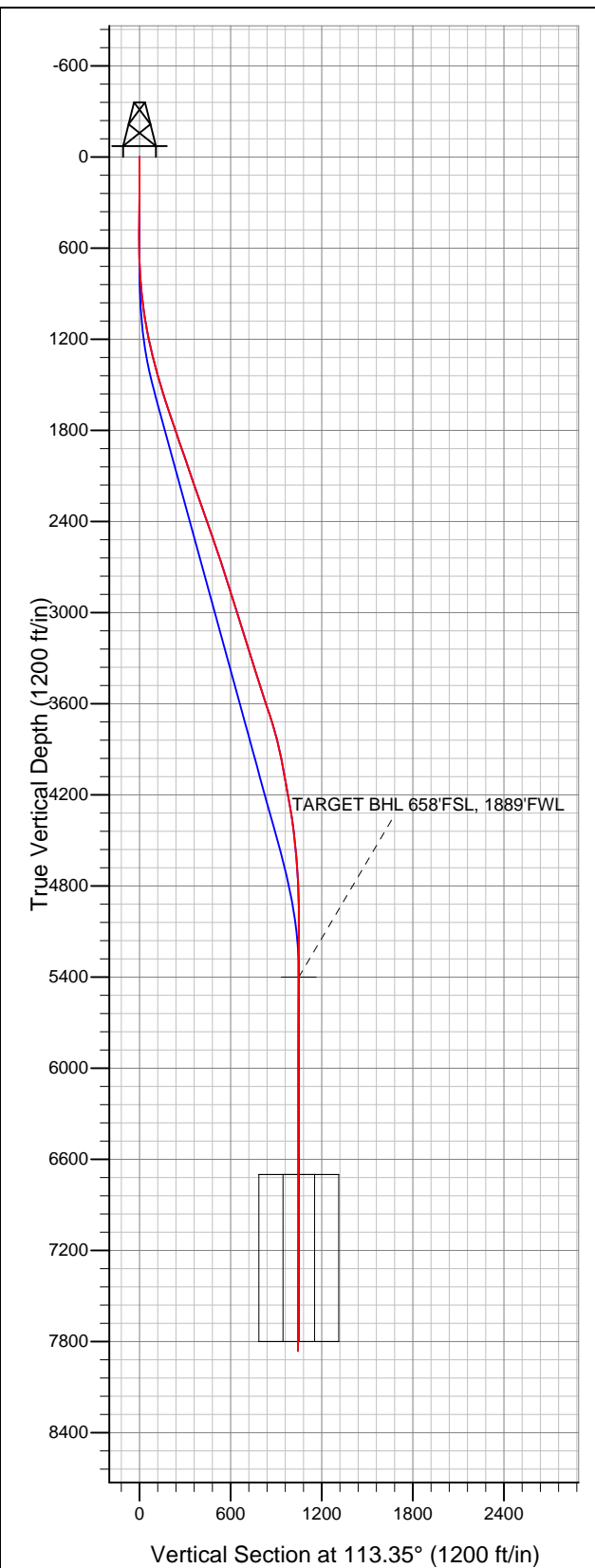


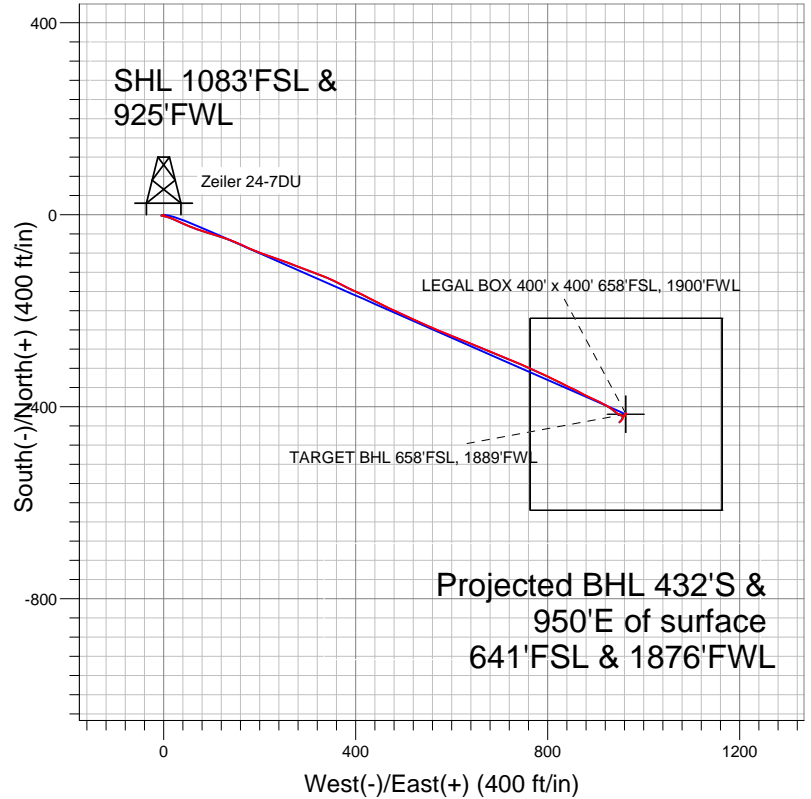


# Well Name: Zeiler 24-7DU

Surface Location: Zeiler 23-7DU Pad Sec.7-T5N-R67W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4960.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1392668.14 3155607.76 40.409930 -104.941200  
Original Well Elev WELL @ 4973.0ft (Original Well Elev)



## PETROLEUM DEVELOPMENT CORP Weld County CO



### LEGEND

- Zeiler 24-7DU, Wellbore #1, Plan #2 (11-23-11) R V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
8012'MD & 7863'TVD @ 1043'VS  
0.9 deg Inc 215.5 deg AZ

Project: SEC.7-T5N-R67W  
Site: Zeiler 23-7DU Pad Sec.7-T5N-R67W  
Well: Zeiler 24-7DU  
Plan: Wellbore #1



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T5N-R67W**

**Zeiler 23-7DU Pad Sec.7-T5N-R67W**

**Zeiler 24-7DU**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**28 November, 2011**

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Zeiler 24-7DU
<b>Project:</b>	SEC.7-T5N-R67W	<b>TVD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Site:</b>	Zeiler 23-7DU Pad Sec.7-T5N-R67W	<b>MD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Well:</b>	Zeiler 24-7DU	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

<b>Project</b>	SEC.7-T5N-R67W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		Zeiler 23-7DU Pad Sec.7-T5N-R67W			
Site Position:		Northing:	1,392,755.59ft	Latitude:	40.410170
From:	Lat/Long	Easting:	3,155,607.21 ft	Longitude:	-104.941200
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.36 °

Well	Zeiler 24-7DU					
Well Position	+N-S	0.0 ft	Northing:	1,392,668.14 ft	Latitude:	40.409930
	+E-W	0.0 ft	Easting:	3,155,607.76 ft	Longitude:	-104.941200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,960.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	11/14/2011	8.86	67.02	53,096

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	113.35	

<b>Survey Program</b>	<b>Date</b>	11/28/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
422.0	8,012.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
422.0	1.10	253.10	422.0	-1.2	-3.9	-3.1	0.26	0.26	0.00
516.0	0.40	220.20	516.0	-1.7	-5.0	-3.9	0.85	-0.74	-35.00
609.0	1.20	87.90	609.0	-1.9	-4.2	-3.1	1.61	0.86	-142.26
702.0	2.40	103.80	701.9	-2.3	-1.3	-0.3	1.39	1.29	17.10
795.0	4.00	102.00	794.8	-3.5	3.7	4.8	1.72	1.72	-1.94
888.0	5.80	109.10	887.4	-5.7	11.4	12.7	2.04	1.94	7.63
981.0	7.70	113.90	979.8	-9.7	21.5	23.6	2.13	2.04	5.16
1,075.0	9.10	114.40	1,072.8	-15.4	34.0	37.3	1.49	1.49	0.53
1,168.0	11.10	112.90	1,164.3	-21.9	49.0	53.6	2.17	2.15	-1.61
1,261.0	12.50	110.70	1,255.4	-28.9	66.6	72.6	1.58	1.51	-2.37
1,354.0	14.80	107.10	1,345.7	-36.0	87.4	94.5	2.64	2.47	-3.87

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Zeiler 24-7DU
<b>Project:</b>	SEC.7-T5N-R67W	<b>TVD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Site:</b>	Zeiler 23-7DU Pad Sec.7-T5N-R67W	<b>MD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Well:</b>	Zeiler 24-7DU	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
1,447.0	15.90	107.20	1,435.4	-43.2	110.9	119.0	1.18	1.18	0.11
1,540.0	16.90	110.60	1,524.6	-51.8	135.7	145.1	1.49	1.08	3.66
1,633.0	18.20	113.50	1,613.3	-62.3	161.7	173.2	1.68	1.40	3.12
1,727.0	18.70	114.10	1,702.5	-74.3	188.9	202.9	0.57	0.53	0.64
1,819.0	18.50	107.60	1,789.7	-84.8	216.3	232.2	2.26	-0.22	-7.07
1,911.0	19.40	110.90	1,876.7	-94.6	244.5	262.0	1.52	0.98	3.59
2,005.0	19.50	110.50	1,965.3	-105.7	273.8	293.3	0.18	0.11	-0.43
2,097.0	18.90	110.80	2,052.2	-116.4	302.1	323.5	0.66	-0.65	0.33
2,190.0	18.80	110.50	2,140.2	-127.0	330.2	353.5	0.15	-0.11	-0.32
2,283.0	18.80	116.90	2,228.3	-139.0	357.6	383.4	2.22	0.00	6.88
2,376.0	19.10	115.90	2,316.2	-152.4	384.7	413.6	0.48	0.32	-1.08
2,468.0	20.10	116.10	2,402.9	-165.9	412.4	444.4	1.09	1.09	0.22
2,561.0	19.80	117.10	2,490.3	-180.1	440.8	476.1	0.49	-0.32	1.08
2,655.0	19.00	115.70	2,579.0	-194.0	468.7	507.3	0.98	-0.85	-1.49
2,748.0	17.10	114.60	2,667.4	-206.3	494.8	536.1	2.08	-2.04	-1.18
2,842.0	18.50	113.80	2,756.9	-218.1	521.0	564.8	1.51	1.49	-0.85
2,935.0	18.20	114.60	2,845.2	-230.1	547.7	594.1	0.42	-0.32	0.86
3,028.0	16.50	114.20	2,933.9	-241.5	573.0	621.8	1.83	-1.83	-0.43
3,122.0	17.10	110.90	3,023.9	-251.9	598.1	648.9	1.20	0.64	-3.51
3,215.0	17.50	110.40	3,112.7	-261.7	624.0	676.6	0.46	0.43	-0.54
3,308.0	17.90	112.80	3,201.3	-272.1	650.2	704.8	0.89	0.43	2.58
3,401.0	17.30	113.10	3,289.9	-283.1	676.1	732.9	0.65	-0.65	0.32
3,494.0	18.10	112.80	3,378.5	-294.1	702.2	761.2	0.87	0.86	-0.32
3,587.0	17.30	112.30	3,467.1	-304.9	728.3	789.5	0.88	-0.86	-0.54
3,680.0	17.70	113.60	3,555.8	-315.8	754.0	817.4	0.60	0.43	1.40
3,773.0	19.40	114.80	3,644.0	-328.0	781.0	847.0	1.87	1.83	1.29
3,866.0	16.40	116.60	3,732.5	-340.3	806.8	875.6	3.28	-3.23	1.94
3,959.0	15.20	116.20	3,822.0	-351.6	829.5	900.9	1.30	-1.29	-0.43
4,051.0	12.10	115.20	3,911.4	-361.0	849.0	922.6	3.38	-3.37	-1.09
4,144.0	10.70	117.80	4,002.5	-369.2	865.5	940.9	1.60	-1.51	2.80
4,237.0	10.40	117.30	4,094.0	-377.1	880.6	957.9	0.34	-0.32	-0.54
4,330.0	10.30	113.20	4,185.4	-384.2	895.7	974.6	0.80	-0.11	-4.41
4,423.0	9.90	117.30	4,277.0	-391.1	910.4	990.9	0.88	-0.43	4.41
4,517.0	8.10	120.10	4,369.8	-398.2	923.3	1,005.5	1.97	-1.91	2.98
4,610.0	6.40	125.00	4,462.1	-404.4	933.2	1,017.1	1.94	-1.83	5.27
4,704.0	5.90	132.70	4,555.6	-410.7	941.1	1,026.8	1.03	-0.53	8.19
4,797.0	5.00	118.60	4,648.1	-415.9	948.1	1,035.3	1.73	-0.97	-15.16
4,891.0	3.60	107.90	4,741.9	-418.8	954.5	1,042.3	1.71	-1.49	-11.38
4,984.0	1.90	68.30	4,834.8	-419.1	958.8	1,046.3	2.64	-1.83	-42.58
5,078.0	1.60	36.50	4,928.7	-417.5	961.0	1,047.7	1.07	-0.32	-33.83
5,171.0	1.10	23.50	5,021.7	-415.6	962.1	1,048.0	0.63	-0.54	-13.98
5,264.0	0.80	25.70	5,114.7	-414.2	962.8	1,048.1	0.32	-0.32	2.37
5,357.0	0.50	334.70	5,207.7	-413.2	962.9	1,047.8	0.67	-0.32	-54.84
5,451.0	0.20	231.10	5,301.7	-413.0	962.6	1,047.4	0.62	-0.32	-110.21
5,544.0	0.20	209.40	5,394.7	-413.2	962.4	1,047.3	0.08	0.00	-23.33
5,549.3	0.22	210.62	5,400.0	-413.2	962.3	1,047.3	0.43	0.42	22.82
TARGET BHL 658'FSL, 1889'FWL									
5,637.0	0.60	217.30	5,487.7	-413.7	962.0	1,047.2	0.43	0.43	7.62
5,730.0	0.60	219.90	5,580.7	-414.5	961.4	1,046.9	0.03	0.00	2.80
5,823.0	0.70	212.90	5,673.7	-415.4	960.8	1,046.7	0.14	0.11	-7.53
5,916.0	0.70	222.10	5,766.7	-416.3	960.1	1,046.4	0.12	0.00	9.89
6,009.0	0.60	233.40	5,859.7	-417.0	959.3	1,046.0	0.17	-0.11	12.15
6,102.0	0.60	218.20	5,952.7	-417.6	958.6	1,045.6	0.17	0.00	-16.34

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Zeiler 24-7DU
<b>Project:</b>	SEC.7-T5N-R67W	<b>TVD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Site:</b>	Zeiler 23-7DU Pad Sec.7-T5N-R67W	<b>MD Reference:</b>	WELL @ 4973.0ft (Original Well Elev)
<b>Well:</b>	Zeiler 24-7DU	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
6,195.0	0.50	207.20	6,045.6	-418.4	958.1	1,045.5	0.16	-0.11	-11.83
6,288.0	0.60	193.70	6,138.6	-419.2	957.8	1,045.5	0.18	0.11	-14.52
6,381.0	0.50	191.00	6,231.6	-420.1	957.6	1,045.7	0.11	-0.11	-2.90
6,474.0	0.60	232.80	6,324.6	-420.8	957.2	1,045.5	0.43	0.11	44.95
6,567.0	0.70	208.30	6,417.6	-421.6	956.5	1,045.2	0.31	0.11	-26.34
6,660.0	0.70	210.20	6,510.6	-422.6	955.9	1,045.1	0.02	0.00	2.04
6,752.0	0.40	189.00	6,602.6	-423.4	955.6	1,045.1	0.39	-0.33	-23.04
6,846.0	0.40	185.40	6,696.6	-424.0	955.5	1,045.3	0.03	0.00	-3.83
6,849.4	0.39	183.60	6,700.0	-424.0	955.5	1,045.3	0.42	-0.20	-53.72
<b>LEGAL BOX 400' x 400' 658'FSL, 1900'FWL</b>									
6,938.0	0.40	127.40	6,788.6	-424.5	955.7	1,045.7	0.42	0.01	-63.40
7,032.0	0.10	158.50	6,882.6	-424.8	956.0	1,046.1	0.34	-0.32	33.09
7,124.0	0.30	263.80	6,974.6	-424.9	955.8	1,046.0	0.37	0.22	114.46
7,217.0	0.40	220.70	7,067.6	-425.2	955.4	1,045.7	0.29	0.11	-46.34
7,311.0	0.40	217.60	7,161.6	-425.7	955.0	1,045.5	0.02	0.00	-3.30
7,404.0	0.40	216.60	7,254.6	-426.2	954.6	1,045.3	0.01	0.00	-1.08
7,498.0	0.50	215.90	7,348.6	-426.8	954.1	1,045.2	0.11	0.11	-0.74
7,591.0	0.70	216.70	7,441.6	-427.6	953.6	1,044.9	0.22	0.22	0.86
7,685.0	0.60	217.50	7,535.6	-428.4	952.9	1,044.7	0.11	-0.11	0.85
7,779.0	0.70	224.90	7,629.6	-429.2	952.2	1,044.4	0.14	0.11	7.87
7,872.0	1.10	224.90	7,722.6	-430.3	951.2	1,043.8	0.43	0.43	0.00
7,965.0	0.90	215.50	7,815.6	-431.5	950.1	1,043.3	0.28	-0.22	-10.11
8,012.0	0.90	215.50	7,862.6	-432.1	949.7	1,043.2	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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