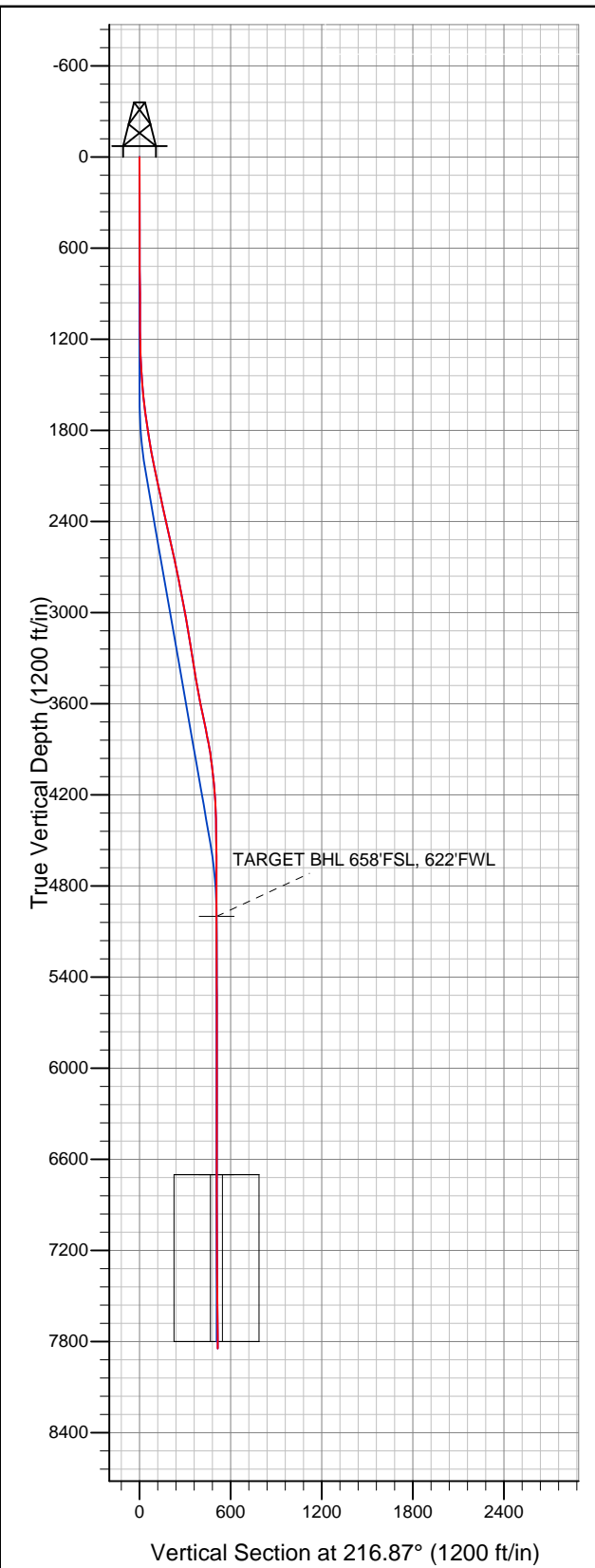


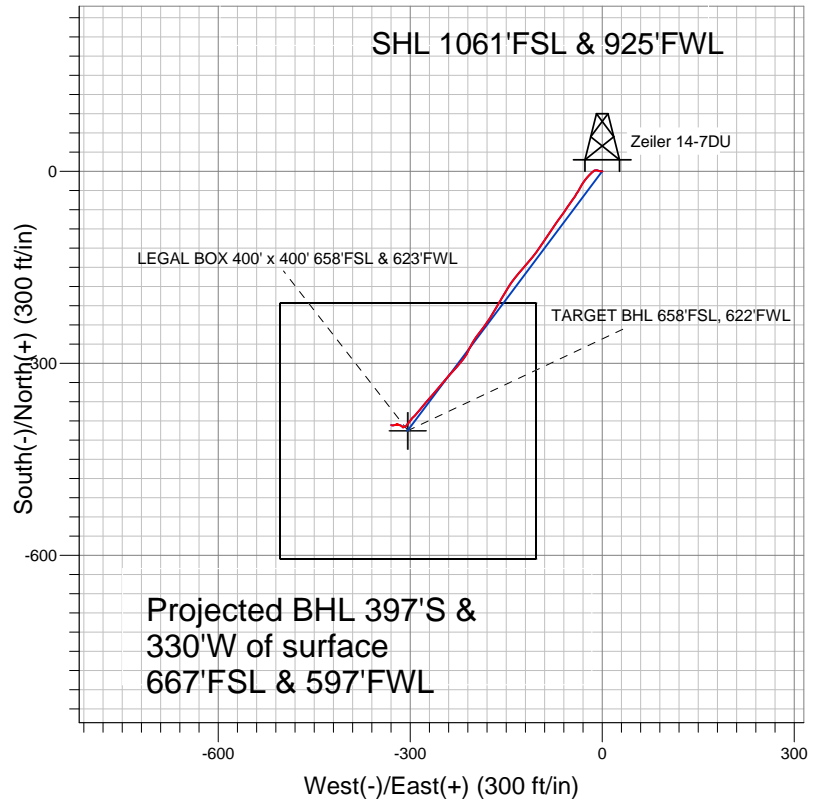


Well Name: Zeiler 14-7DU

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 1392646.29 3155607.90 40.409870 -104.941200
Original Well Elev WELL @ 4973.0ft (Original Well Elev)



PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Zeiler 14-7DU, Wellbore #1, Plan #1 (2-08-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7890'MD & 7845'TVD @ 515'VS
0.9 deg Inc 279.0 deg AZ

Project: SEC.7-T5N-R67W
Site: Zeiler 23-7DU Pad Sec.7-T5N-R67W
Well: Zeiler 14-7DU
Plan: Wellbore #1



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.7-T5N-R67W

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

Zeiler 14-7DU

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 November, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 14-7DU
Project:	SEC.7-T5N-R67W	TVD Reference:	WELL @ 4973.0ft (Original Well Elev)
Site:	Zeiler 23-7DU Pad Sec.7-T5N-R67W	MD Reference:	WELL @ 4973.0ft (Original Well Elev)
Well:	Zeiler 14-7DU	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.7-T5N-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	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 14-7DU					
Well Position	+N-S	0.0 ft	Northing:	1,392,646.29 ft	Latitude:	40.409870
	+E-W	0.0 ft	Easting:	3,155,607.90 ft	Longitude:	-104.941200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,960.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2/14/2011	8.96	67.05	53,173

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 (°)	
	5,000.0	0.0	0.0	216.87	

Survey Program	Date	11/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
456.0	7,890.0	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	
456.0	0.20	257.30	456.0	-0.2	-0.8	0.6	0.04	0.04	0.00	
549.0	0.60	296.30	549.0	0.0	-1.4	0.8	0.50	0.43	41.94	
642.0	0.40	272.00	642.0	0.2	-2.1	1.1	0.31	-0.22	-26.13	
735.0	0.50	270.70	735.0	0.2	-2.9	1.5	0.11	0.11	-1.40	
828.0	0.60	271.70	828.0	0.3	-3.8	2.0	0.11	0.11	1.08	
922.0	0.70	296.80	922.0	0.5	-4.8	2.4	0.32	0.11	26.70	
1,015.0	1.00	291.80	1,015.0	1.1	-6.0	2.7	0.33	0.32	-5.38	
1,108.0	0.70	293.90	1,108.0	1.6	-7.3	3.1	0.32	-0.32	2.26	
1,201.0	1.60	271.30	1,200.9	1.9	-9.1	4.0	1.07	0.97	-24.30	
1,294.0	2.20	244.40	1,293.9	1.1	-12.0	6.3	1.14	0.65	-28.92	
1,387.0	3.70	226.10	1,386.8	-1.7	-15.8	10.8	1.88	1.61	-19.68	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 14-7DU
Project:	SEC.7-T5N-R67W	TVD Reference:	WELL @ 4973.0ft (Original Well Elev)
Site:	Zeiler 23-7DU Pad Sec.7-T5N-R67W	MD Reference:	WELL @ 4973.0ft (Original Well Elev)
Well:	Zeiler 14-7DU	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)
1,481.0	4.10	224.70	1,480.5	-6.2	-20.3	17.2	0.44	0.43	-1.49
1,574.0	5.70	220.70	1,573.2	-12.1	-25.7	25.1	1.76	1.72	-4.30
1,668.0	7.20	209.20	1,666.6	-20.7	-31.6	35.6	2.10	1.60	-12.23
1,761.0	7.90	210.10	1,758.8	-31.4	-37.7	47.7	0.76	0.75	0.97
1,854.0	9.70	216.30	1,850.7	-43.2	-45.5	61.9	2.19	1.94	6.67
1,948.0	10.40	212.40	1,943.3	-56.8	-54.7	78.2	1.04	0.74	-4.15
2,041.0	11.30	216.60	2,034.6	-71.2	-64.7	95.7	1.29	0.97	4.52
2,135.0	11.90	214.30	2,126.7	-86.6	-75.6	114.6	0.81	0.64	-2.45
2,228.0	12.00	214.20	2,217.7	-102.5	-86.5	133.9	0.11	0.11	-0.11
2,321.0	11.90	213.20	2,308.7	-118.5	-97.1	153.1	0.25	-0.11	-1.08
2,414.0	12.90	220.30	2,399.5	-134.4	-109.1	173.0	1.96	1.08	7.63
2,507.0	13.80	220.60	2,490.0	-150.8	-123.0	194.4	0.97	0.97	0.32
2,600.0	12.30	219.30	2,580.6	-166.9	-136.5	215.4	1.64	-1.61	-1.40
2,693.0	11.30	209.70	2,671.6	-182.4	-147.3	234.3	2.37	-1.08	-10.32
2,785.0	11.80	211.30	2,761.8	-198.3	-156.7	252.7	0.65	0.54	1.74
2,879.0	11.30	210.00	2,853.8	-214.5	-166.3	271.4	0.60	-0.53	-1.38
2,972.0	10.50	213.00	2,945.2	-229.5	-175.4	288.9	1.05	-0.86	3.23
3,065.0	10.10	217.00	3,036.7	-243.1	-185.0	305.5	0.88	-0.43	4.30
3,159.0	9.50	216.70	3,129.3	-255.9	-194.6	321.5	0.64	-0.64	-0.32
3,252.0	8.80	210.80	3,221.1	-268.2	-202.8	336.2	1.26	-0.75	-6.34
3,345.0	9.40	204.90	3,312.9	-281.2	-209.6	350.7	1.19	0.65	-6.34
3,438.0	9.80	218.10	3,404.7	-294.3	-217.7	366.1	2.40	0.43	14.19
3,531.0	9.30	222.50	3,496.4	-306.1	-227.7	381.5	0.95	-0.54	4.73
3,624.0	11.40	221.70	3,587.9	-318.5	-238.9	398.1	2.26	2.26	-0.86
3,717.0	11.90	219.60	3,678.9	-332.7	-251.1	416.8	0.70	0.54	-2.26
3,810.0	12.10	221.00	3,769.9	-347.5	-263.6	436.1	0.38	0.22	1.51
3,903.0	10.70	220.10	3,861.1	-361.4	-275.6	454.5	1.52	-1.51	-0.97
3,996.0	7.80	220.00	3,952.8	-372.9	-285.2	469.4	3.12	-3.12	-0.11
4,088.0	6.90	223.10	4,044.1	-381.7	-293.0	481.1	1.07	-0.98	3.37
4,181.0	5.10	218.60	4,136.6	-389.0	-299.4	490.8	2.00	-1.94	-4.84
4,274.0	3.30	218.60	4,229.3	-394.3	-303.6	497.6	1.94	-1.94	0.00
4,367.0	1.80	215.70	4,322.2	-397.6	-306.1	501.8	1.62	-1.61	-3.12
4,460.0	0.90	257.10	4,415.2	-398.9	-307.7	503.8	1.37	-0.97	44.52
4,554.0	0.90	248.60	4,509.2	-399.4	-309.1	505.0	0.14	0.00	-9.04
4,646.0	1.00	260.20	4,601.2	-399.8	-310.6	506.2	0.24	0.11	12.61
4,740.0	0.30	322.70	4,695.2	-399.7	-311.5	506.7	0.96	-0.74	66.49
4,833.0	0.50	322.20	4,788.2	-399.2	-311.9	506.5	0.22	0.22	-0.54
4,927.0	0.60	301.90	4,882.2	-398.6	-312.6	506.5	0.23	0.11	-21.60
5,020.0	0.50	317.30	4,975.2	-398.1	-313.3	506.4	0.19	-0.11	16.56
5,044.7	0.52	311.66	4,999.9	-397.9	-313.4	506.4	0.22	0.08	-22.80
TARGET BHL 658'FSL, 622'FWL									
5,113.0	0.60	298.60	5,068.2	-397.5	-314.0	506.4	0.22	0.12	-19.13
5,206.0	0.40	297.30	5,161.2	-397.2	-314.7	506.5	0.22	-0.22	-1.40
5,299.0	0.60	292.90	5,254.2	-396.8	-315.4	506.7	0.22	0.22	-4.73
5,392.0	1.10	277.60	5,347.1	-396.5	-316.8	507.3	0.59	0.54	-16.45
5,486.0	0.50	282.10	5,441.1	-396.3	-318.1	507.9	0.64	-0.64	4.79
5,579.0	0.70	275.40	5,534.1	-396.2	-319.0	508.4	0.23	0.22	-7.20
5,672.0	0.30	322.80	5,627.1	-395.9	-319.7	508.6	0.58	-0.43	50.97
5,765.0	0.20	307.00	5,720.1	-395.6	-320.0	508.5	0.13	-0.11	-16.99
5,858.0	0.20	39.70	5,813.1	-395.4	-320.0	508.4	0.31	0.00	99.68
5,951.0	0.20	253.70	5,906.1	-395.3	-320.1	508.3	0.41	0.00	-156.99
6,044.0	0.30	30.80	5,999.1	-395.2	-320.1	508.2	0.50	0.11	147.42
6,137.0	0.10	246.40	6,092.1	-395.0	-320.1	508.0	0.41	-0.22	-155.27

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 14-7DU
Project:	SEC.7-T5N-R67W	TVD Reference:	WELL @ 4973.0ft (Original Well Elev)
Site:	Zeiler 23-7DU Pad Sec.7-T5N-R67W	MD Reference:	WELL @ 4973.0ft (Original Well Elev)
Well:	Zeiler 14-7DU	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)
6,230.0	0.10	7.50	6,185.1	-394.9	-320.1	508.0	0.19	0.00	130.22
6,323.0	0.10	109.40	6,278.1	-394.9	-320.1	507.9	0.17	0.00	109.57
6,416.0	0.40	220.20	6,371.1	-395.2	-320.2	508.2	0.48	0.32	119.14
6,509.0	0.40	149.70	6,464.1	-395.7	-320.2	508.7	0.50	0.00	-75.81
6,601.0	0.40	118.30	6,556.1	-396.1	-319.8	508.8	0.24	0.00	-34.13
6,695.0	0.40	106.30	6,650.1	-396.4	-319.2	508.6	0.09	0.00	-12.77
6,744.9	0.16	163.01	6,700.0	-396.5	-319.0	508.6	0.68	-0.49	113.57
LEGAL BOX 400' x 400' 658'FSL & 623'FWL									
6,787.0	0.30	232.90	6,742.1	-396.6	-319.1	508.7	0.68	0.34	166.14
6,881.0	0.20	354.70	6,836.1	-396.6	-319.3	508.8	0.47	-0.11	129.57
6,973.0	0.10	338.60	6,928.1	-396.4	-319.3	508.7	0.12	-0.11	-17.50
7,067.0	0.00	140.40	7,022.1	-396.3	-319.4	508.6	0.11	-0.11	0.00
7,159.0	0.60	280.10	7,114.1	-396.2	-319.8	508.8	0.65	0.65	0.00
7,252.0	0.50	286.90	7,207.1	-396.0	-320.7	509.2	0.13	-0.11	7.31
7,345.0	0.80	268.10	7,300.1	-395.9	-321.7	509.8	0.39	0.32	-20.22
7,439.0	0.50	250.00	7,394.1	-396.1	-322.8	510.5	0.38	-0.32	-19.26
7,532.0	0.40	255.80	7,487.1	-396.3	-323.5	511.1	0.12	-0.11	6.24
7,625.0	1.00	248.40	7,580.1	-396.7	-324.5	512.0	0.65	0.65	-7.96
7,718.0	1.20	271.20	7,673.1	-396.9	-326.3	513.3	0.51	0.22	24.52
7,812.0	1.10	276.90	7,767.0	-396.8	-328.1	514.3	0.16	-0.11	6.06
7,890.0	0.90	279.00	7,845.0	-396.6	-329.5	515.0	0.26	-0.26	2.69

Checked By: _____	Approved By: _____	Date: _____
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