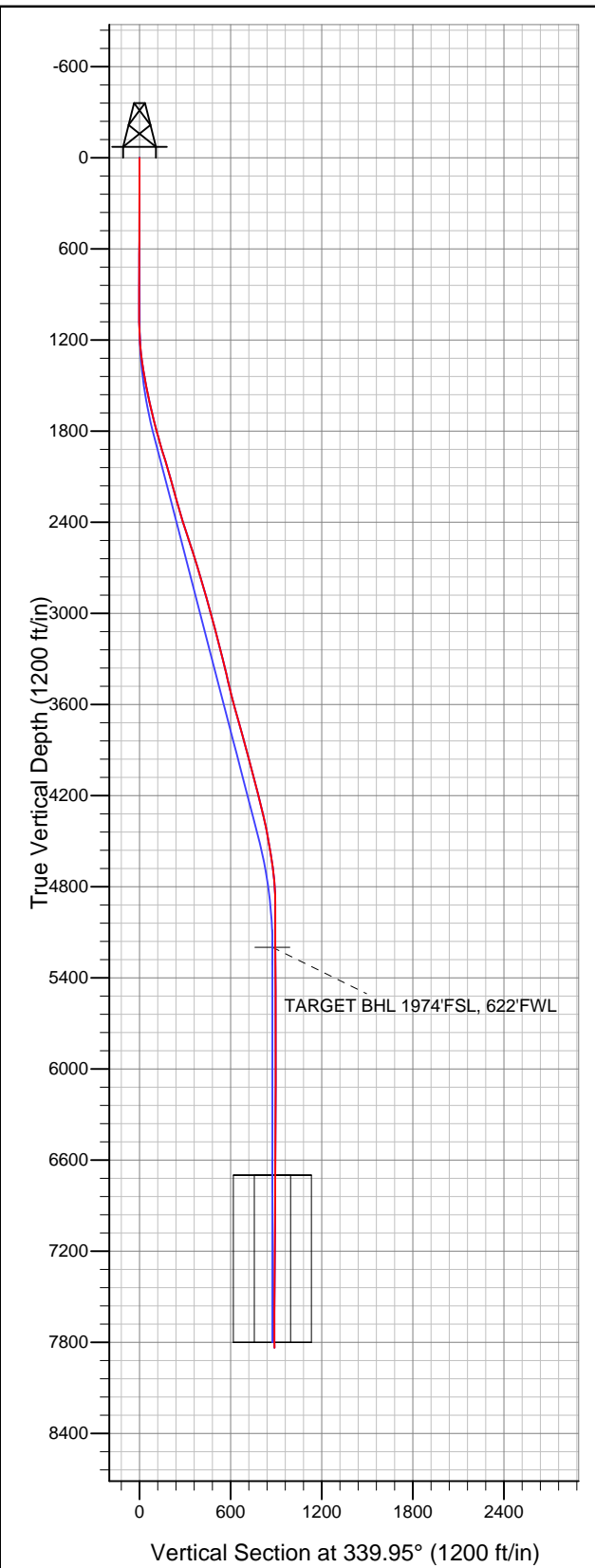


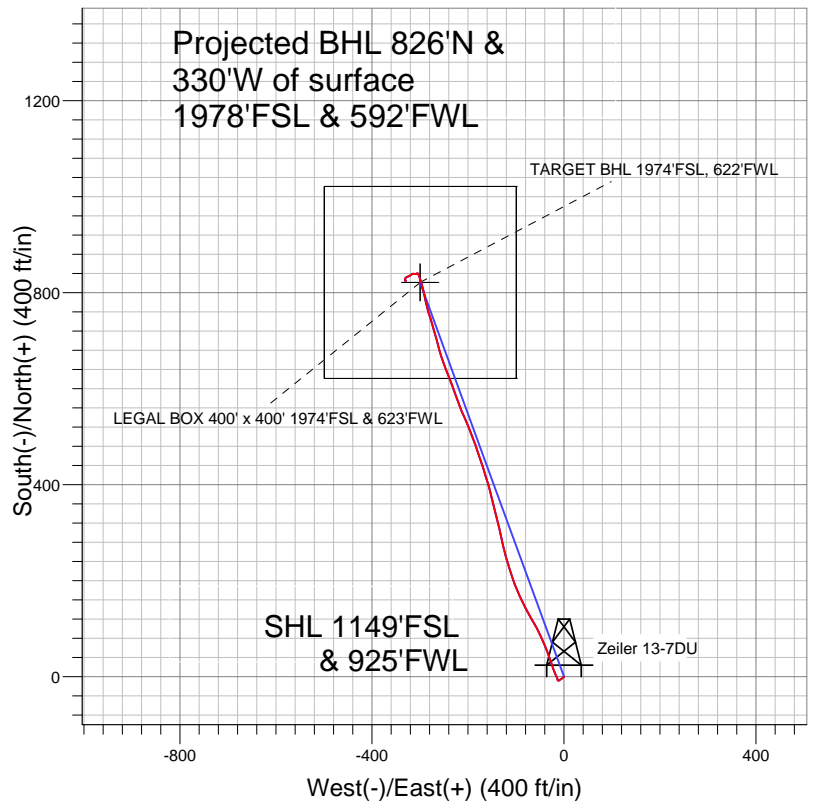


Well Name: Zeiler 13-7DU

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 1392733.72 3155607.35 40.410110 -104.941200
Original Well Elev WELL @ 4973.0ft (Original Well Elev)



PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Zeiler 13-7DU, Wellbore #1, Plan #1 (12-9-11) R V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7952'MD & 7837'TVD @ 889'VS
0.5 deg Inc 6.9 deg AZ

Project: SEC.7-T5N-R67W
Site: Zeiler 23-7DU Pad Sec.7-T5N-R67W
Well: Zeiler 13-7DU
Plan: Wellbore #1



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.7-T5N-R67W

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

Zeiler 13-7DU

Wellbore #1

Survey: Survey #1

Standard Survey Report

19 December, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 13-7DU
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 13-7DU	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 13-7DU					
Well Position	+N-S	0.0 ft	Northing:	1,392,733.72 ft	Latitude:	40.410110
	+E-W	0.0 ft	Easting:	3,155,607.35 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	12/8/2011	8.85	67.02	53,090

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 (°)	
	5,200.0	0.0	0.0	339.95	

Survey Program	Date	12/19/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
454.0	7,952.0	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	
454.0	0.90	229.70	454.0	-2.3	-2.7	-1.2	0.20	0.20	0.00	
548.0	1.10	234.40	548.0	-3.3	-4.0	-1.7	0.23	0.21	5.00	
641.0	1.00	237.40	641.0	-4.3	-5.4	-2.1	0.12	-0.11	3.23	
734.0	1.00	240.10	733.9	-5.1	-6.8	-2.5	0.05	0.00	2.90	
827.0	0.90	224.60	826.9	-6.0	-8.0	-2.9	0.30	-0.11	-16.67	
921.0	1.00	250.50	920.9	-6.8	-9.3	-3.2	0.46	0.11	27.55	
1,014.0	1.30	226.70	1,013.9	-7.8	-10.9	-3.6	0.60	0.32	-25.59	
1,107.0	1.70	320.60	1,106.9	-7.5	-12.5	-2.7	2.38	0.43	100.97	
1,200.0	4.00	345.60	1,199.8	-3.3	-14.2	1.8	2.75	2.47	26.88	
1,293.0	6.10	334.40	1,292.4	4.3	-17.1	9.9	2.48	2.26	-12.04	
1,386.0	9.40	339.60	1,384.5	15.9	-21.9	22.4	3.62	3.55	5.59	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 13-7DU
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 13-7DU	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)
1,480.0	10.50	341.50	1,477.1	31.2	-27.3	38.7	1.22	1.17	2.02
1,573.0	11.70	340.40	1,568.4	48.1	-33.2	56.6	1.31	1.29	-1.18
1,667.0	13.30	336.50	1,660.1	67.0	-40.7	76.9	1.92	1.70	-4.15
1,760.0	14.50	336.00	1,750.4	87.5	-49.7	99.2	1.30	1.29	-0.54
1,853.0	15.50	328.40	1,840.3	108.7	-60.9	123.0	2.37	1.08	-8.17
1,946.0	17.10	332.20	1,929.5	131.4	-73.8	148.7	2.07	1.72	4.09
2,039.0	17.10	334.20	2,018.4	155.8	-86.1	175.9	0.63	0.00	2.15
2,132.0	15.80	337.10	2,107.6	179.8	-97.0	202.1	1.65	-1.40	3.12
2,225.0	15.70	340.00	2,197.1	203.3	-106.2	227.4	0.85	-0.11	3.12
2,318.0	15.30	343.20	2,286.7	226.8	-114.1	252.2	1.01	-0.43	3.44
2,411.0	17.40	344.40	2,376.0	252.0	-121.4	278.3	2.29	2.26	1.29
2,504.0	18.90	347.20	2,464.3	280.0	-128.5	307.1	1.87	1.61	3.01
2,597.0	18.00	347.30	2,552.6	308.8	-134.9	336.3	0.97	-0.97	0.11
2,690.0	16.60	346.20	2,641.3	335.7	-141.3	363.8	1.55	-1.51	-1.18
2,783.0	17.50	345.80	2,730.3	362.1	-147.9	390.9	0.98	0.97	-0.43
2,875.0	16.70	346.10	2,818.2	388.4	-154.4	417.8	0.87	-0.87	0.33
2,968.0	15.40	342.10	2,907.6	413.1	-161.4	443.4	1.83	-1.40	-4.30
3,061.0	15.10	342.30	2,997.3	436.4	-168.9	467.9	0.33	-0.32	0.22
3,155.0	15.20	341.10	3,088.0	459.7	-176.6	492.4	0.35	0.11	-1.28
3,248.0	14.30	340.30	3,178.0	482.1	-184.5	516.1	0.99	-0.97	-0.86
3,341.0	13.60	340.80	3,268.2	503.2	-191.9	538.5	0.76	-0.75	0.54
3,434.0	14.20	335.80	3,358.5	523.9	-200.2	560.8	1.44	0.65	-5.38
3,527.0	12.90	336.70	3,448.9	543.9	-209.0	582.6	1.42	-1.40	0.97
3,620.0	14.60	339.20	3,539.2	564.4	-217.3	604.6	1.94	1.83	2.69
3,713.0	15.50	339.70	3,629.0	587.0	-225.7	628.8	0.98	0.97	0.54
3,806.0	15.80	339.10	3,718.6	610.5	-234.6	653.9	0.37	0.32	-0.65
3,899.0	15.90	338.70	3,808.1	634.2	-243.7	679.3	0.16	0.11	-0.43
3,993.0	14.90	340.90	3,898.7	657.6	-252.3	704.2	1.23	-1.06	2.34
4,086.0	14.20	345.70	3,988.7	679.9	-259.1	727.5	1.50	-0.75	5.16
4,179.0	15.00	344.40	4,078.7	702.6	-265.1	750.9	0.93	0.86	-1.40
4,273.0	14.70	343.10	4,169.6	725.7	-271.9	774.9	0.48	-0.32	-1.38
4,365.0	14.20	342.90	4,258.7	747.7	-278.6	797.8	0.55	-0.54	-0.22
4,459.0	12.80	345.00	4,350.1	768.7	-284.7	819.7	1.58	-1.49	2.23
4,552.0	10.50	346.20	4,441.1	786.9	-289.3	838.4	2.49	-2.47	1.29
4,645.0	9.80	350.50	4,532.7	803.0	-292.7	854.6	1.11	-0.75	4.62
4,738.0	9.10	342.90	4,624.4	817.8	-296.1	869.8	1.54	-0.75	-8.17
4,832.0	6.50	341.50	4,717.5	829.9	-300.0	882.5	2.77	-2.77	-1.49
4,925.0	3.40	334.00	4,810.2	837.4	-302.9	890.5	3.40	-3.33	-8.06
5,018.0	0.50	324.70	4,903.1	840.2	-304.3	893.6	3.13	-3.12	-10.00
5,112.0	0.50	248.80	4,997.1	840.4	-305.0	894.0	0.65	0.00	-80.74
5,204.0	0.40	281.00	5,089.1	840.3	-305.6	894.2	0.29	-0.11	35.00
5,298.0	0.70	248.50	5,183.1	840.2	-306.5	894.3	0.45	0.32	-34.57
5,314.9	0.75	250.83	5,200.0	840.1	-306.7	894.3	0.36	0.31	13.80
TARGET BHL 1974'FSL, 622'FWL									
5,391.0	1.00	258.20	5,276.1	839.8	-307.8	894.4	0.36	0.33	9.68
5,484.0	1.10	260.40	5,369.1	839.5	-309.5	894.7	0.12	0.11	2.37
5,577.0	1.10	278.20	5,462.1	839.5	-311.3	895.3	0.37	0.00	19.14
5,670.0	1.10	277.70	5,555.1	839.7	-313.0	896.1	0.01	0.00	-0.54
5,763.0	0.90	270.40	5,648.0	839.8	-314.6	896.8	0.25	-0.22	-7.85
5,856.0	1.00	239.60	5,741.0	839.4	-316.1	896.9	0.55	0.11	-33.12
5,949.0	0.70	211.30	5,834.0	838.5	-317.1	896.4	0.55	-0.32	-30.43
6,042.0	0.90	237.50	5,927.0	837.7	-318.0	895.9	0.44	0.22	28.17
6,135.0	0.90	243.00	6,020.0	836.9	-319.2	895.7	0.09	0.00	5.91

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Zeiler 13-7DU
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 13-7DU	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)
6,228.0	1.00	226.50	6,113.0	836.0	-320.5	895.3	0.31	0.11	-17.74
6,321.0	0.90	247.80	6,206.0	835.2	-321.8	894.9	0.39	-0.11	22.90
6,413.0	0.70	250.00	6,298.0	834.7	-322.9	894.9	0.22	-0.22	2.39
6,507.0	0.70	259.30	6,392.0	834.4	-324.1	895.0	0.12	0.00	9.89
6,599.0	0.70	231.00	6,483.9	834.0	-325.0	894.9	0.37	0.00	-30.76
6,692.0	0.90	234.70	6,576.9	833.2	-326.1	894.5	0.22	0.22	3.98
6,785.0	1.00	252.50	6,669.9	832.5	-327.4	894.3	0.33	0.11	19.14
6,814.8	0.87	248.95	6,699.7	832.4	-327.9	894.4	0.49	-0.45	-11.92
LEGAL BOX 400' x 400' 1974'FSL & 623'FWL									
6,878.0	0.60	236.30	6,762.9	832.0	-328.6	894.3	0.49	-0.42	-20.01
6,971.0	0.60	220.00	6,855.9	831.4	-329.3	893.9	0.18	0.00	-17.53
7,064.0	0.90	225.70	6,948.9	830.5	-330.2	893.4	0.33	0.32	6.13
7,157.0	0.70	212.30	7,041.9	829.5	-331.0	892.7	0.29	-0.22	-14.41
7,251.0	0.70	174.00	7,135.9	828.5	-331.3	891.8	0.49	0.00	-40.74
7,344.0	0.80	147.10	7,228.9	827.3	-330.8	890.6	0.39	0.11	-28.92
7,438.0	0.70	165.00	7,322.9	826.2	-330.3	889.4	0.27	-0.11	19.04
7,531.0	0.30	194.30	7,415.9	825.5	-330.3	888.6	0.50	-0.43	31.51
7,624.0	0.40	152.30	7,508.9	824.9	-330.2	888.1	0.29	0.11	-45.16
7,717.0	0.10	45.80	7,601.9	824.7	-330.0	887.8	0.47	-0.32	-114.52
7,811.0	0.10	325.20	7,695.9	824.8	-329.9	887.9	0.14	0.00	-85.74
7,905.0	0.50	6.90	7,789.9	825.3	-329.9	888.4	0.46	0.43	44.36
7,952.0	0.50	6.90	7,836.9	825.7	-329.9	888.8	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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