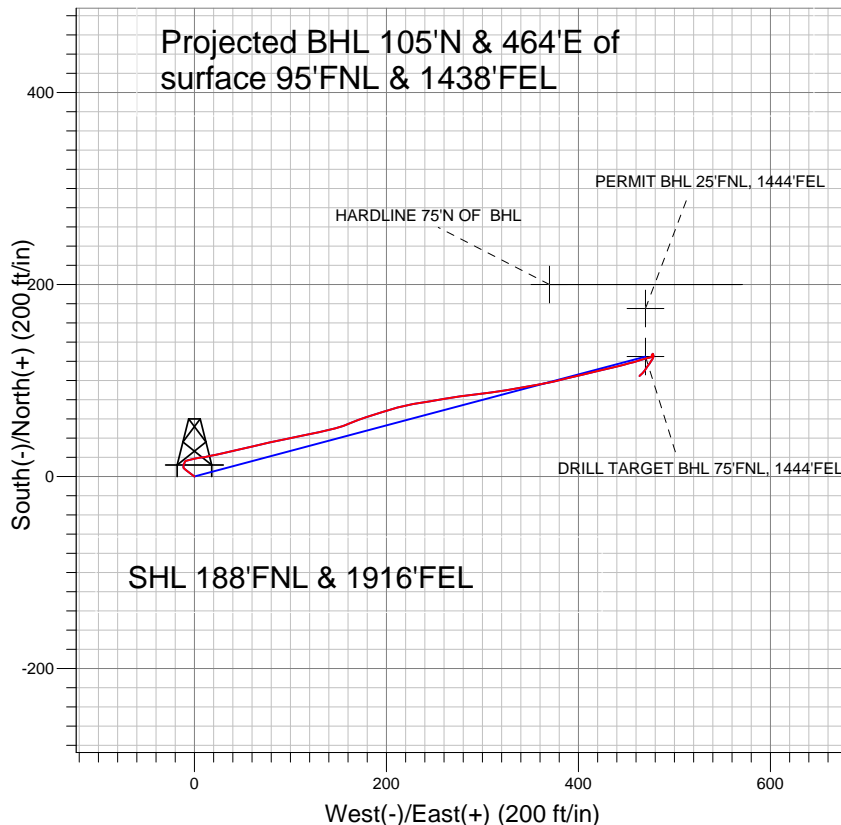
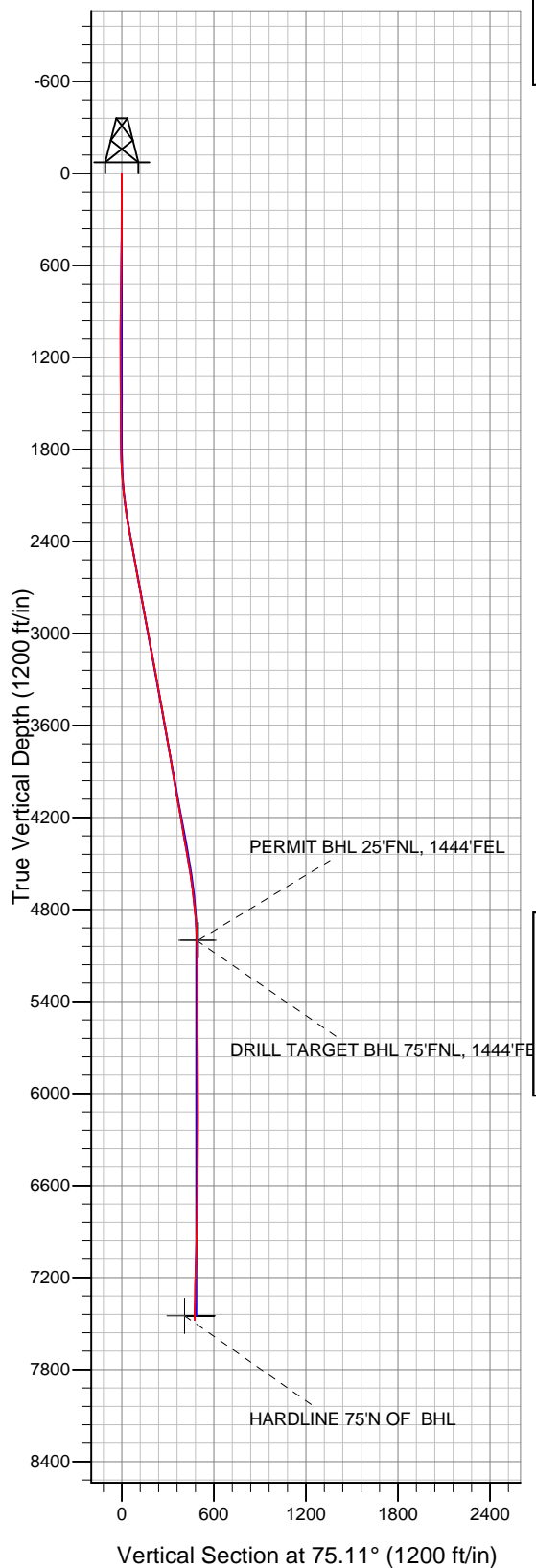


## PETROLEUM DEVELOPMENT CORP Weld County CO



### LEGEND

- ✕ Schaefer 7RD, Wellbore #1, Plan #2 (2-8-11) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 7518'MD & 7476'TVD @ 475' VS  
 0.9 deg Inc 224.4 deg AZ

Project: SEC.7-T6N-R66W  
 Site: Schaefer 7MD Pad Sec.7-T6N-R66W  
 Well: Schaefer 7RD  
 Plan: Wellbore #1



## **Directional**

# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.7-T6N-R66W**

**Schaefer 7MD Pad Sec.7-T6N-R66W**

**Schaefer 7RD**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**15 February, 2011**

Survey	Wellbore Data									
	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)
Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	831.0	1.40	307.50	830.9	6.2	-8.1	-6.2	0.17	0.17	0.00
	926.0	1.50	304.50	925.9	7.6	-10.0	-7.7	0.13	0.11	-3.16
	1,021.0	0.90	331.70	1,020.9	9.0	-11.4	-8.7	0.85	-0.63	28.63
	1,116.0	0.50	23.50	1,115.9	10.0	-11.6	-8.6	0.75	-0.42	54.53
	1,211.0	0.60	13.30	1,210.9	10.9	-11.3	-8.1	0.15	0.11	-10.74
	1,306.0	0.70	343.90	1,305.8	11.9	-11.3	-7.9	0.36	0.11	-30.95
	1,401.0	0.60	43.10	1,400.8	12.8	-11.2	-7.5	0.68	-0.11	62.32
	1,496.0	0.60	30.30	1,495.8	13.6	-10.6	-6.7	0.14	0.00	-13.47
	1,591.0	0.40	20.30	1,590.8	14.3	-10.2	-6.2	0.23	-0.21	-10.53
	1,686.0	0.50	359.40	1,685.8	15.1	-10.1	-5.9	0.20	0.11	-22.00
	1,781.0	0.50	50.60	1,780.8	15.8	-9.8	-5.4	0.45	0.00	53.89
	1,876.0	0.50	359.40	1,875.8	16.5	-9.5	-5.1	0.20	0.11	-22.00
	1,971.0	0.50	50.60	1,970.8	17.2	-9.2	-4.8	0.45	0.00	53.89
	2,066.0	0.50	359.40	2,065.8	17.9	-9.0	-4.5	0.20	0.11	-22.00

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schaefer 7RD
<b>Project:</b>	SEC.7-T6N-R66W	<b>TVD Reference:</b>	WELL @ 4887.0ft (Original Well Elev)
<b>Site:</b>	Schaefer 7MD Pad Sec.7-T6N-R66W	<b>MD Reference:</b>	WELL @ 4887.0ft (Original Well Elev)
<b>Well:</b>	Schaefer 7RD	<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)
1,876.0	2.40	74.10	1,875.8	16.6	-7.5	-3.0	2.05	2.00	24.74
1,970.0	4.20	74.90	1,969.6	18.0	-2.3	2.4	1.92	1.91	0.85
2,065.0	5.60	82.80	2,064.3	19.5	5.6	10.5	1.63	1.47	8.32
2,160.0	7.40	78.30	2,158.7	21.3	16.2	21.2	1.97	1.89	-4.74
2,255.0	8.80	77.00	2,252.7	24.2	29.3	34.5	1.49	1.47	-1.37
2,350.0	10.00	77.90	2,346.4	27.5	44.4	50.0	1.27	1.26	0.95
2,445.0	10.80	76.60	2,439.9	31.3	61.2	67.2	0.88	0.84	-1.37
2,540.0	10.50	77.40	2,533.2	35.3	78.3	84.7	0.35	-0.32	0.84
2,635.0	10.60	78.50	2,626.6	38.9	95.3	102.1	0.24	0.11	1.16
2,730.0	10.90	77.90	2,720.0	42.5	112.6	119.8	0.34	0.32	-0.63
2,824.0	10.60	77.70	2,812.3	46.2	129.8	137.3	0.32	-0.32	-0.21
2,919.0	10.50	76.30	2,905.7	50.2	146.7	154.7	0.29	-0.11	-1.47
3,014.0	10.40	66.10	2,999.2	55.7	163.0	171.8	1.95	-0.11	-10.74
3,109.0	10.50	72.10	3,092.6	61.8	179.0	188.9	1.15	0.11	6.32
3,204.0	10.20	72.20	3,186.0	67.0	195.3	206.0	0.32	-0.32	0.11
3,298.0	10.30	75.10	3,278.5	71.8	211.3	222.7	0.56	0.11	3.09
3,393.0	10.10	79.80	3,372.0	75.4	227.7	239.5	0.90	-0.21	4.95
3,488.0	10.40	81.30	3,465.5	78.2	244.4	256.3	0.42	0.32	1.58
3,583.0	9.80	80.00	3,559.0	80.9	260.9	272.9	0.68	-0.63	-1.37
3,678.0	9.70	83.10	3,652.7	83.3	276.8	288.9	0.56	-0.11	3.26
3,773.0	10.00	82.50	3,746.3	85.3	292.9	305.0	0.33	0.32	-0.63
3,868.0	9.60	82.40	3,839.9	87.4	308.9	321.0	0.42	-0.42	-0.11
3,962.0	10.00	80.40	3,932.5	89.8	324.7	336.9	0.56	0.43	-2.13
4,057.0	9.80	81.00	4,026.1	92.5	340.8	353.2	0.24	-0.21	0.63
4,152.0	10.20	79.40	4,119.7	95.3	357.1	369.6	0.51	0.42	-1.68
4,247.0	9.70	77.00	4,213.2	98.6	373.2	386.0	0.68	-0.53	-2.53
4,342.0	9.90	76.20	4,306.8	102.4	388.9	402.1	0.25	0.21	-0.84
4,437.0	9.70	76.20	4,400.5	106.2	404.6	418.3	0.21	-0.21	0.00
4,532.0	10.10	77.30	4,494.0	110.0	420.5	434.6	0.47	0.42	1.16
4,627.0	8.40	76.80	4,587.8	113.4	435.4	449.9	1.79	-1.79	-0.53
4,721.0	7.00	75.10	4,681.0	116.4	447.6	462.5	1.51	-1.49	-1.81
4,816.0	5.80	73.80	4,775.4	119.2	457.8	473.1	1.27	-1.26	-1.37
4,911.0	4.80	73.50	4,870.0	121.7	466.2	481.8	1.05	-1.05	-0.32
5,006.0	2.70	76.20	4,964.7	123.4	472.2	488.1	2.22	-2.21	2.84
5,041.2	2.00	75.35	4,999.9	123.7	473.6	489.5	2.01	-2.00	-2.40
<b>DRILL TARGET BHL 75'FNL, 1444'FEL</b>									
5,041.5	1.99	75.34	5,000.3	123.7	473.6	489.5	2.01	-2.00	-3.26
<b>PERMIT BHL 25'FNL, 1444'FEL</b>									
5,101.0	0.80	70.50	5,059.7	124.1	475.0	491.0	2.01	-2.00	-8.15
5,196.0	0.60	49.70	5,154.7	124.7	476.0	492.1	0.34	-0.21	-21.89
5,291.0	0.40	37.20	5,249.7	125.3	476.6	492.8	0.24	-0.21	-13.16
5,386.0	0.30	340.90	5,344.7	125.8	476.7	493.0	0.36	-0.11	-59.26
5,481.0	0.20	310.80	5,439.7	126.1	476.5	492.9	0.17	-0.11	-31.68
5,576.0	0.10	307.50	5,534.7	126.3	476.3	492.8	0.11	-0.11	-3.47
5,671.0	0.40	57.70	5,629.7	126.5	476.5	493.0	0.47	0.32	116.00
5,767.0	0.20	29.30	5,725.7	126.8	476.9	493.5	0.25	-0.21	-29.58
5,861.0	0.30	22.60	5,819.7	127.2	477.1	493.7	0.11	0.11	-7.13
5,956.0	0.20	8.20	5,914.7	127.6	477.2	493.9	0.12	-0.11	-15.16
6,051.0	0.10	50.10	6,009.7	127.8	477.3	494.1	0.15	-0.11	44.11
6,145.0	0.20	133.80	6,103.7	127.7	477.5	494.2	0.23	0.11	89.04
6,241.0	0.20	161.10	6,199.7	127.5	477.6	494.3	0.10	0.00	28.44
6,336.0	0.40	161.10	6,294.7	127.0	477.8	494.4	0.21	0.21	0.00
6,431.0	0.60	153.40	6,389.7	126.2	478.1	494.5	0.22	0.21	-8.11

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Schaefer 7RD
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<b>Site:</b>	Schaefer 7MD Pad Sec.7-T6N-R66W	<b>MD Reference:</b>	WELL @ 4887.0ft (Original Well Elev)
<b>Well:</b>	Schaefer 7RD	<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)
6,524.0	0.60	184.10	6,482.7	125.3	478.3	494.4	0.34	0.00	33.01
6,619.0	1.10	206.00	6,577.7	124.0	477.9	493.7	0.62	0.53	23.05
6,714.0	1.30	207.90	6,672.6	122.2	477.0	492.4	0.21	0.21	2.00
6,811.0	1.40	212.80	6,769.6	120.3	475.8	490.7	0.16	0.10	5.05
6,906.0	1.80	214.50	6,864.6	118.0	474.3	488.7	0.42	0.42	1.79
7,001.0	2.10	216.10	6,959.5	115.4	472.5	486.3	0.32	0.32	1.68
7,096.0	2.20	212.70	7,054.4	112.5	470.5	483.6	0.17	0.11	-3.58
7,191.0	1.80	214.50	7,149.4	109.7	468.6	481.1	0.43	-0.42	1.89
7,286.0	1.40	226.70	7,244.4	107.7	466.9	478.9	0.55	-0.42	12.84
7,381.0	1.10	229.40	7,339.3	106.3	465.4	477.1	0.32	-0.32	2.84
7,476.0	1.00	226.90	7,434.3	105.1	464.1	475.5	0.12	-0.11	-2.63
<b>HARDLINE 75°N OF BHL</b>									
7,518.0	0.90	224.40	7,476.3	104.6	463.6	474.9	0.26	-0.24	-5.95

Checked By: _____	Approved By: _____	Date: _____
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