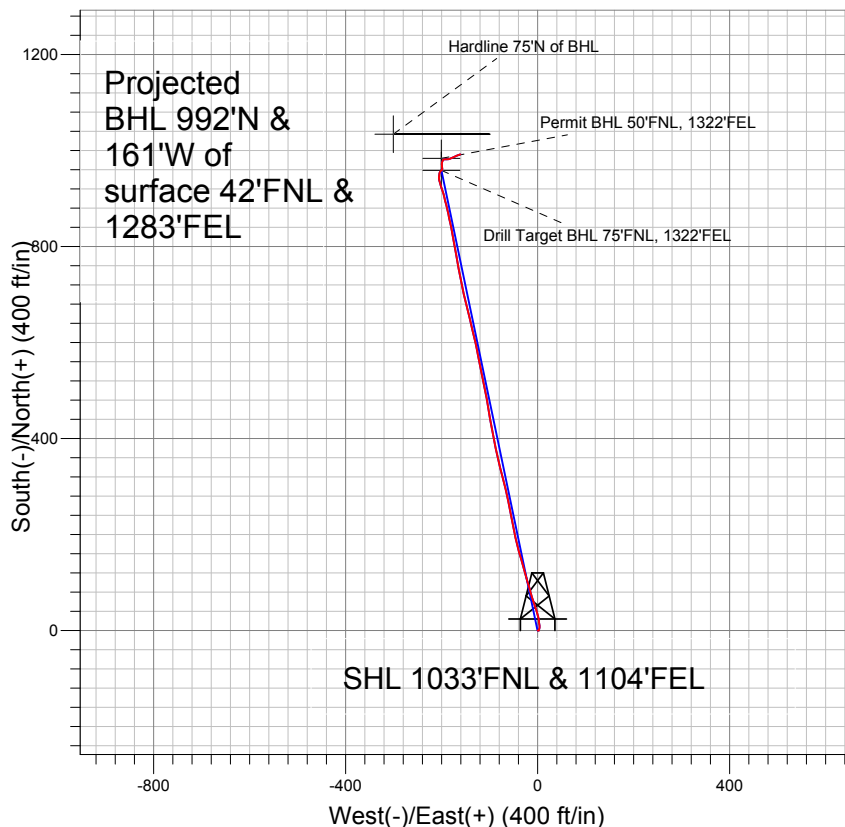
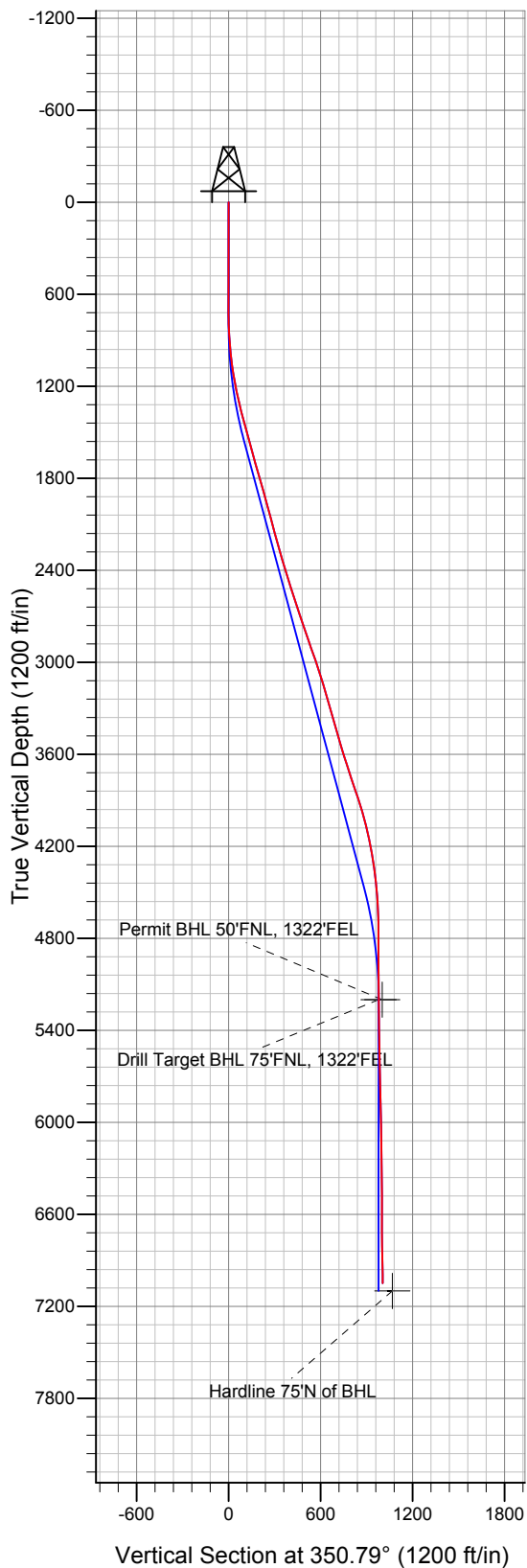


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- ◆ Noffsinger 2RD, Wellbore #1, Plan#1 (6-14-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7185'MD & 7049'TVD @ 1004' VS
2.9 deg Inc 72.2 deg AZ

Project: SEC.2-T5N-R65W
Site: Noffsinger Pad Sec.2-T5N-R65W
Well: Noffsinger 2RD
Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.2-T5N-R65W

Noffsinger Pad Sec.2-T5N-R65W

Noffsinger 2RD

Wellbore #1

Survey: Survey #1

Standard Survey Report

01 November, 2010





Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Noffsinger 2RD
Project:	SEC.2-T5N-R65W	TVD Reference:	WELL @ 4660.0ft (Original Well Elev)
Site:	Noffsinger Pad Sec.2-T5N-R65W	MD Reference:	WELL @ 4660.0ft (Original Well Elev)
Well:	Noffsinger 2RD	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.2-T5N-R65W, 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	Noffsinger Pad Sec.2-T5N-R65W		
Site Position:		Northing:	1,401,288.04 ft
From:	Lat/Long	Easting:	3,243,490.07 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 25' 53.908 N
		Longitude:	104° 37' 31.148 W
		Grid Convergence:	0.57 °

Well	Noffsinger 2RD		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	10/19/2010	8.88
			Dip Angle (°)
			67.12
			Field Strength (nT)
			53,234

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 (°)
			350.79

Survey Program	Date 11/1/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
699.0	7,185.0	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
699.0	0.40	98.40	699.0	-0.4	2.4	-0.7	0.06	0.06	0.00
792.0	2.20	16.40	792.0	1.3	3.2	0.8	2.34	1.94	-88.17
885.0	3.60	5.20	884.8	5.9	4.0	5.2	1.62	1.51	-12.04
978.0	5.80	355.20	977.5	13.5	3.9	12.7	2.52	2.37	-10.75
1,072.0	7.90	348.90	1,070.9	24.6	2.2	23.9	2.37	2.23	-6.70
1,165.0	10.30	342.00	1,162.7	38.8	-1.6	38.5	2.83	2.58	-7.42
1,259.0	12.30	342.00	1,254.9	56.3	-7.3	56.7	2.13	2.13	0.00
1,352.0	13.90	343.10	1,345.4	76.4	-13.6	77.6	1.74	1.72	1.18
1,445.0	16.10	344.40	1,435.3	99.5	-20.3	101.5	2.39	2.37	1.40
1,538.0	15.10	344.40	1,524.8	123.6	-27.0	126.3	1.08	-1.08	0.00
1,632.0	15.50	343.80	1,615.5	147.5	-33.8	151.0	0.46	0.43	-0.64



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Noffsinger 2RD
Project:	SEC.2-T5N-R65W	TVD Reference:	WELL @ 4660.0ft (Original Well Elev)
Site:	Noffsinger Pad Sec.2-T5N-R65W	MD Reference:	WELL @ 4660.0ft (Original Well Elev)
Well:	Noffsinger 2RD	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)
1,725.0	16.00	344.50	1,705.0	171.7	-40.7	176.0	0.58	0.54	0.75
1,818.0	15.80	348.20	1,794.5	196.5	-46.7	201.4	1.11	-0.22	3.98
1,911.0	15.70	349.60	1,884.0	221.3	-51.6	226.7	0.42	-0.11	1.51
2,004.0	15.30	349.40	1,973.6	245.7	-56.1	251.5	0.43	-0.43	-0.22
2,097.0	15.50	348.20	2,063.2	269.9	-60.9	276.2	0.40	0.22	-1.29
2,190.0	15.40	346.90	2,152.9	294.1	-66.2	300.9	0.39	-0.11	-1.40
2,283.0	15.00	344.40	2,242.6	317.7	-72.3	325.2	0.83	-0.43	-2.69
2,376.0	16.30	347.30	2,332.2	342.1	-78.4	350.2	1.63	1.40	3.12
2,470.0	17.50	346.90	2,422.1	368.7	-84.5	377.5	1.28	1.28	-0.43
2,563.0	17.90	348.30	2,510.7	396.3	-90.5	405.7	0.63	0.43	1.51
2,655.0	17.80	350.70	2,598.3	424.0	-95.7	433.9	0.81	-0.11	2.61
2,749.0	18.70	350.50	2,687.6	453.1	-100.5	463.3	0.96	0.96	-0.21
2,842.0	19.20	349.20	2,775.5	482.8	-105.8	493.5	0.70	0.54	-1.40
2,935.0	18.30	348.10	2,863.6	512.1	-111.7	523.4	1.04	-0.97	-1.18
3,028.0	19.90	348.80	2,951.5	541.9	-117.8	553.8	1.74	1.72	0.75
3,122.0	18.10	349.10	3,040.3	571.9	-123.7	584.4	1.92	-1.91	0.32
3,215.0	16.70	347.80	3,129.1	599.2	-129.2	612.2	1.56	-1.51	-1.40
3,308.0	16.80	345.30	3,218.1	625.3	-135.4	638.9	0.78	0.11	-2.69
3,401.0	16.10	348.00	3,307.3	650.9	-141.5	665.1	1.11	-0.75	2.90
3,495.0	15.80	345.90	3,397.7	676.0	-147.4	690.9	0.69	-0.32	-2.23
3,588.0	15.40	346.70	3,487.3	700.3	-153.3	715.8	0.49	-0.43	0.86
3,681.0	17.20	348.80	3,576.5	725.8	-158.8	741.9	2.04	1.94	2.26
3,775.0	18.20	349.70	3,666.1	753.9	-164.1	770.5	1.10	1.06	0.96
3,868.0	18.60	349.70	3,754.3	782.8	-169.4	799.8	0.43	0.43	0.00
3,961.0	18.90	350.00	3,842.4	812.2	-174.6	829.7	0.34	0.32	0.32
4,055.0	17.50	348.70	3,931.7	841.1	-180.1	859.1	1.55	-1.49	-1.38
4,148.0	14.50	347.20	4,021.1	866.1	-185.4	884.7	3.26	-3.23	-1.61
4,241.0	13.40	346.80	4,111.3	888.0	-190.4	907.0	1.19	-1.18	-0.43
4,334.0	10.80	344.20	4,202.3	906.9	-195.2	926.4	2.86	-2.80	-2.80
4,427.0	8.80	341.20	4,293.9	922.0	-199.9	942.1	2.22	-2.15	-3.23
4,520.0	7.50	343.50	4,386.0	934.5	-203.9	955.1	1.44	-1.40	2.47
4,613.0	5.90	5.80	4,478.3	945.1	-205.2	965.8	3.25	-1.72	23.98
4,706.0	3.00	14.50	4,571.1	952.2	-204.1	972.6	3.19	-3.12	9.35
4,799.0	2.30	30.90	4,664.0	956.2	-202.5	976.3	1.10	-0.75	17.63
4,893.0	0.40	99.30	4,757.9	957.8	-201.2	977.6	2.32	-2.02	72.77
4,986.0	0.40	49.00	4,850.9	957.9	-200.7	977.7	0.37	0.00	-54.09
5,080.0	0.60	45.30	4,944.9	958.5	-200.1	978.1	0.22	0.21	-3.94
5,173.0	0.30	30.10	5,037.9	959.0	-199.6	978.6	0.34	-0.32	-16.34
5,266.0	0.50	45.50	5,130.9	959.5	-199.2	979.0	0.24	0.22	16.56
5,359.0	0.50	38.00	5,223.9	960.1	-198.6	979.5	0.07	0.00	-8.06
5,452.0	0.60	20.40	5,316.9	960.9	-198.2	980.2	0.21	0.11	-18.92
5,546.0	1.10	350.80	5,410.9	962.3	-198.2	981.6	0.69	0.53	-31.49
5,639.0	1.20	345.40	5,503.9	964.1	-198.6	983.4	0.16	0.11	-5.81
5,732.0	1.30	359.00	5,596.9	966.1	-198.8	985.5	0.34	0.11	14.62
5,825.0	1.10	354.70	5,689.8	968.0	-198.9	987.4	0.24	-0.22	-4.62
5,918.0	1.00	349.60	5,782.8	969.7	-199.2	989.1	0.15	-0.11	-5.48
6,011.0	1.10	1.30	5,875.8	971.4	-199.3	990.8	0.25	0.11	12.58
6,104.0	1.40	12.10	5,968.8	973.4	-199.0	992.7	0.41	0.32	11.61
6,197.0	1.50	14.40	6,061.8	975.7	-198.5	994.9	0.12	0.11	2.47
6,291.0	1.80	14.20	6,155.7	978.3	-197.8	997.4	0.32	0.32	-0.21
6,384.0	1.50	52.40	6,248.7	980.5	-196.5	999.3	1.20	-0.32	41.08
6,477.0	1.90	81.20	6,341.6	981.5	-194.0	999.9	1.00	0.43	30.97
6,570.0	1.20	98.50	6,434.6	981.6	-191.5	999.6	0.90	-0.75	18.60



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Noffsinger 2RD
Project:	SEC.2-T5N-R65W	TVD Reference:	WELL @ 4660.0ft (Original Well Elev)
Site:	Noffsinger Pad Sec.2-T5N-R65W	MD Reference:	WELL @ 4660.0ft (Original Well Elev)
Well:	Noffsinger 2RD	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)
6,663.0	2.00	87.00	6,527.6	981.5	-188.9	999.1	0.92	0.86	-12.37
6,757.0	2.90	80.40	6,621.5	982.0	-185.0	998.9	1.00	0.96	-7.02
6,849.0	3.70	63.70	6,713.3	983.7	-180.0	999.8	1.35	0.87	-18.15
6,942.0	4.00	64.20	6,806.1	986.4	-174.4	1,001.6	0.32	0.32	0.54
7,036.0	3.80	66.50	6,899.9	989.1	-168.6	1,003.3	0.27	-0.21	2.45
7,129.0	2.90	72.30	6,992.7	991.0	-163.5	1,004.4	1.03	-0.97	6.24
7,185.0	2.90	72.20	7,048.7	991.9	-160.8	1,004.8	0.01	0.00	-0.18

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------