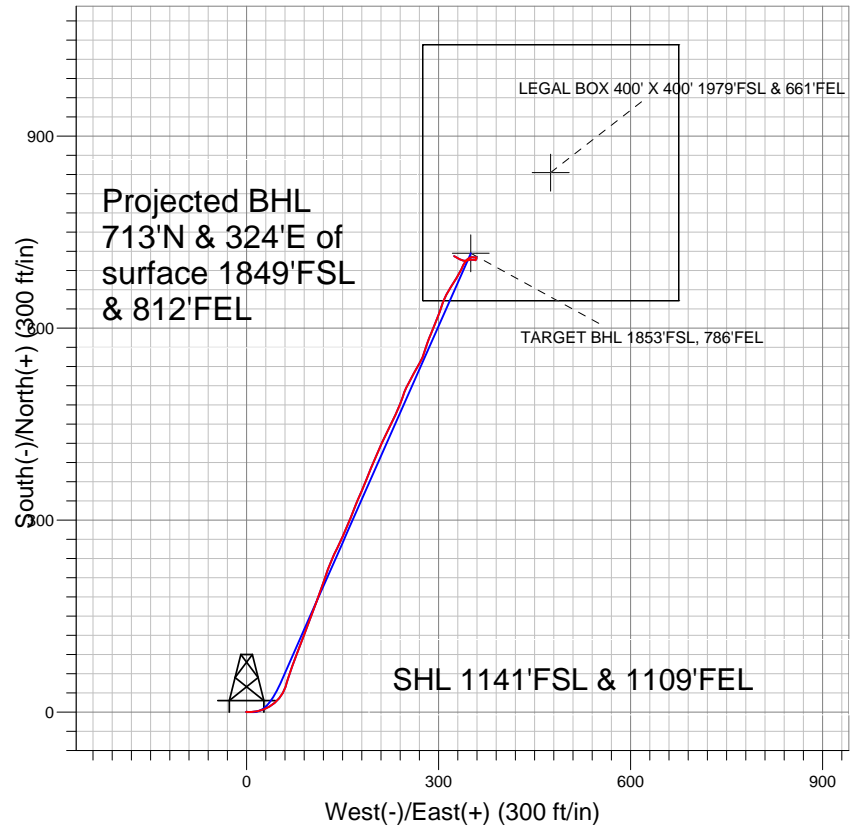
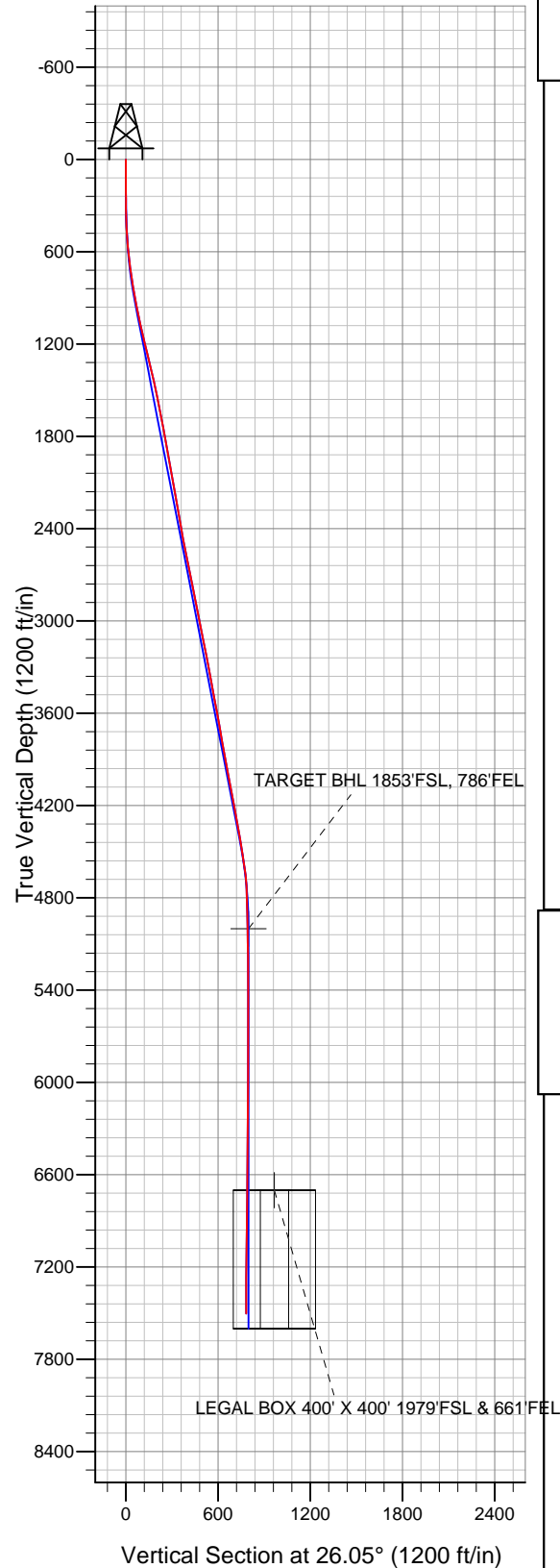


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- ◆ Nelson 43-32D, Wellbore #1, Plan #2 (1-31-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7578'MD & 7502'TVD @ 783'VS
3.6 deg Inc 297.7 deg AZ

Project: SEC.32-T7N-R66W
Site: Nelson 33-32D Pad Sec.32-T7N-R66W
Well: Nelson 43-32D
Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T7N-R66W

Nelson 33-32D Pad Sec.32-T7N-R66W

Nelson 43-32D

Wellbore #1

Survey: Survey #1

Standard Survey Report

20 June, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Nelson 43-32D
Project:	SEC.32-T7N-R66W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson 33-32D Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Well:	Nelson 43-32D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.32-T7N-R66W, 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	Nelson 33-32D Pad Sec.32-T7N-R66W				
Site Position:		Northing:	1,435,592.16ft	Latitude:	40.526980
From:	Lat/Long	Easting:	3,195,173.82ft	Longitude:	-104.797900
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.45 °

Well	Nelson 43-32D					
Well Position	+N-S	0.0 ft	Northing:	1,435,570.28 ft	Latitude:	40.526920
	+E-W	0.0 ft	Easting:	3,195,173.99 ft	Longitude:	-104.797900
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,860.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/18/2011	8.95	67.16	53,237

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	26.05	

Survey Program	Date 6/20/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
119.0	7,578.0	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
119.0	0.40	321.10	119.0	0.3	-0.3	0.2	0.34	0.34	0.00
210.0	0.10	307.40	210.0	0.6	-0.5	0.3	0.33	-0.33	-15.05
301.0	1.70	93.50	301.0	0.6	0.8	0.9	1.96	1.76	160.55
392.0	3.80	96.00	391.9	0.2	5.1	2.4	2.31	2.31	2.75
481.0	6.10	79.20	480.5	0.8	12.7	6.3	3.03	2.58	-18.88
576.0	7.30	73.90	574.9	3.4	23.4	13.3	1.42	1.26	-5.58
669.0	8.20	60.10	667.1	8.3	34.9	22.8	2.22	0.97	-14.84
764.0	9.00	49.00	761.0	16.6	46.4	35.3	1.94	0.84	-11.68
857.0	10.40	27.70	852.7	28.8	55.7	50.3	4.11	1.51	-22.90
948.0	11.50	18.20	942.0	44.7	62.4	67.5	2.32	1.21	-10.44
989.0	12.20	17.60	982.2	52.7	65.0	75.9	1.73	1.71	-1.46

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Nelson 43-32D
Project:	SEC.32-T7N-R66W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson 33-32D Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Well:	Nelson 43-32D	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)
1,084.0	12.90	20.30	1,074.9	72.2	71.7	96.4	0.96	0.74	2.84
1,179.0	13.30	20.50	1,167.4	92.4	79.2	117.8	0.42	0.42	0.21
1,274.0	13.20	19.80	1,259.9	112.8	86.7	139.4	0.20	-0.11	-0.74
1,369.0	13.30	21.90	1,352.4	133.2	94.5	161.1	0.52	0.11	2.21
1,464.0	12.70	20.90	1,444.9	153.1	102.3	182.4	0.67	-0.63	-1.05
1,559.0	11.70	20.60	1,537.8	171.8	109.4	202.4	1.05	-1.05	-0.32
1,654.0	11.20	18.40	1,630.9	189.6	115.7	221.2	0.70	-0.53	-2.32
1,749.0	10.70	18.40	1,724.2	206.7	121.4	239.0	0.53	-0.53	0.00
1,844.0	10.50	20.60	1,817.5	223.2	127.2	256.4	0.48	-0.21	2.32
1,939.0	10.10	22.90	1,911.0	239.0	133.5	273.3	0.60	-0.42	2.42
2,034.0	10.50	28.20	2,004.5	254.3	140.8	290.3	1.08	0.42	5.58
2,128.0	10.30	22.00	2,096.9	269.6	148.0	307.2	1.21	-0.21	-6.60
2,223.0	9.60	25.70	2,190.5	284.6	154.6	323.6	1.00	-0.74	3.89
2,318.0	10.10	19.80	2,284.1	299.6	160.9	339.8	1.18	0.53	-6.21
2,413.0	9.80	24.30	2,377.7	314.8	167.0	356.2	0.88	-0.32	4.74
2,508.0	10.90	20.60	2,471.1	330.6	173.5	373.2	1.35	1.16	-3.89
2,603.0	11.10	25.10	2,564.4	347.3	180.6	391.3	0.93	0.21	4.74
2,698.0	11.20	20.90	2,657.6	364.2	187.7	409.6	0.86	0.11	-4.42
2,792.0	11.30	23.20	2,749.8	381.2	194.6	427.9	0.49	0.11	2.45
2,887.0	12.50	23.20	2,842.8	399.2	202.3	447.5	1.26	1.26	0.00
2,982.0	11.30	24.20	2,935.7	417.1	210.2	467.1	1.28	-1.26	1.05
3,077.0	10.60	23.90	3,029.0	433.6	217.6	485.1	0.74	-0.74	-0.32
3,172.0	11.20	27.20	3,122.3	449.8	225.3	503.1	0.91	0.63	3.47
3,267.0	11.40	26.00	3,215.4	466.4	233.7	521.7	0.32	0.21	-1.26
3,362.0	10.80	18.70	3,308.7	483.3	240.6	539.9	1.61	-0.63	-7.68
3,457.0	10.00	21.50	3,402.1	499.4	246.5	556.9	1.00	-0.84	2.95
3,552.0	10.40	28.30	3,495.6	514.6	253.6	573.7	1.33	0.42	7.16
3,647.0	10.60	27.80	3,589.0	529.9	261.7	591.0	0.23	0.21	-0.53
3,741.0	10.30	30.70	3,681.4	544.8	270.0	608.0	0.64	-0.32	3.09
3,836.0	10.00	18.70	3,775.0	559.9	277.0	624.7	2.24	-0.32	-12.63
3,931.0	10.20	17.60	3,868.5	575.7	282.2	641.2	0.29	0.21	-1.16
4,026.0	10.60	23.80	3,961.9	591.8	288.3	658.2	1.25	0.42	6.53
4,121.0	11.20	21.20	4,055.2	608.4	295.2	676.2	0.82	0.63	-2.74
4,215.0	10.50	20.60	4,147.5	624.9	301.5	693.8	0.75	-0.74	-0.64
4,310.0	10.40	19.20	4,241.0	641.1	307.3	710.9	0.29	-0.11	-1.47
4,405.0	10.10	30.80	4,334.5	656.3	314.4	727.7	2.19	-0.32	12.21
4,500.0	9.50	34.00	4,428.1	670.0	323.1	743.8	0.85	-0.63	3.37
4,595.0	9.50	28.00	4,521.8	683.4	331.1	759.4	1.04	0.00	-6.32
4,690.0	8.10	25.90	4,615.7	696.4	337.7	773.9	1.51	-1.47	-2.21
4,785.0	3.20	36.80	4,710.2	704.5	342.2	783.2	5.26	-5.16	11.47
4,880.0	2.10	53.40	4,805.1	707.7	345.2	787.4	1.40	-1.16	17.47
4,975.0	1.10	53.80	4,900.0	709.2	347.4	789.7	1.05	-1.05	0.42
5,070.0	1.10	63.70	4,995.0	710.2	348.9	791.3	0.20	0.00	10.42
5,075.1	1.11	64.41	5,000.1	710.2	349.0	791.3	0.33	0.19	13.99
TARGET BHL 1853'FSL, 786'FEL									
5,164.0	1.30	75.00	5,089.0	710.9	350.8	792.7	0.33	0.21	11.91
5,259.0	1.60	99.00	5,184.0	710.9	353.1	793.8	0.71	0.32	25.26
5,354.0	0.90	85.30	5,278.9	710.8	355.2	794.6	0.80	-0.74	-14.42
5,449.0	0.70	105.00	5,373.9	710.7	356.5	795.0	0.36	-0.21	20.74
5,544.0	0.70	84.70	5,468.9	710.6	357.6	795.5	0.26	0.00	-21.37
5,639.0	0.70	60.70	5,563.9	710.9	358.7	796.2	0.31	0.00	-25.26
5,734.0	0.60	140.00	5,658.9	710.8	359.5	796.5	0.88	-0.11	83.47
5,828.0	0.40	218.20	5,752.9	710.2	359.6	796.0	0.69	-0.21	83.19

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Design:	Wellbore #1	Database:	Landmark

Survey									
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5,923.0	0.70	188.50	5,847.9	709.4	359.3	795.1	0.43	0.32	-31.26
6,018.0	0.30	188.30	5,942.9	708.6	359.2	794.3	0.42	-0.42	-0.21
6,113.0	0.40	189.30	6,037.9	708.0	359.1	793.8	0.11	0.11	1.05
6,208.0	0.70	229.00	6,132.9	707.3	358.6	792.9	0.49	0.32	41.79
6,303.0	0.40	211.50	6,227.9	706.6	358.0	792.1	0.36	-0.32	-18.42
6,398.0	0.30	287.70	6,322.9	706.4	357.6	791.7	0.46	-0.11	80.21
6,492.0	0.80	268.40	6,416.9	706.5	356.7	791.3	0.56	0.53	-20.53
6,587.0	0.50	272.50	6,511.9	706.5	355.6	790.9	0.32	-0.32	4.32
6,682.0	1.10	285.30	6,606.9	706.7	354.4	790.5	0.66	0.63	13.47
6,773.0	1.19	268.75	6,697.9	706.9	352.6	789.9	0.38	0.10	-18.18
LEGAL BOX 400' X 400' 1979'FSL & 661'FEL									
6,777.0	1.20	268.10	6,701.8	706.9	352.5	789.9	0.38	0.16	-16.43
6,872.0	0.90	276.60	6,796.8	707.0	350.7	789.2	0.35	-0.32	8.95
6,967.0	1.40	257.70	6,891.8	706.8	348.9	788.2	0.65	0.53	-19.89
7,062.0	1.70	256.30	6,986.8	706.2	346.4	786.6	0.32	0.32	-1.47
7,157.0	1.60	255.90	7,081.7	705.6	343.7	784.8	0.11	-0.11	-0.42
7,252.0	2.20	271.30	7,176.7	705.3	340.6	783.2	0.82	0.63	16.21
7,346.0	2.90	295.00	7,270.6	706.3	336.6	782.4	1.33	0.74	25.21
7,441.0	3.50	297.90	7,365.4	708.7	331.9	782.5	0.65	0.63	3.05
7,536.0	3.60	297.80	7,460.3	711.5	326.7	782.7	0.11	0.11	-0.11
7,578.0	3.60	297.70	7,502.2	712.7	324.4	782.7	0.01	0.00	-0.24

Checked By: _____	Approved By: _____	Date: _____
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