

Well Name: **Nelson 32BD**

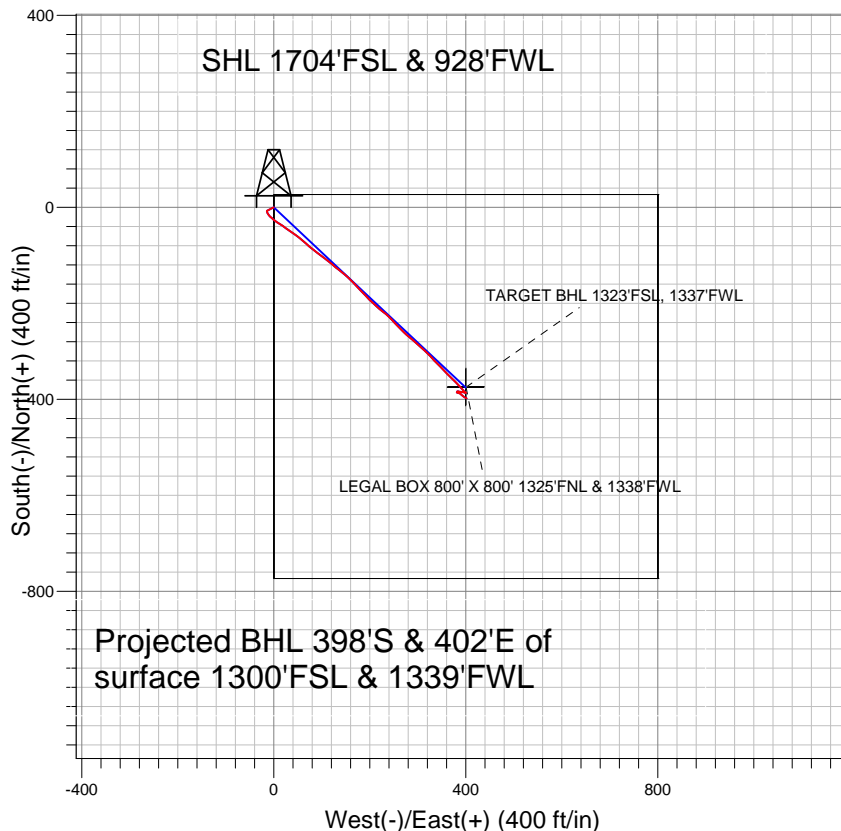
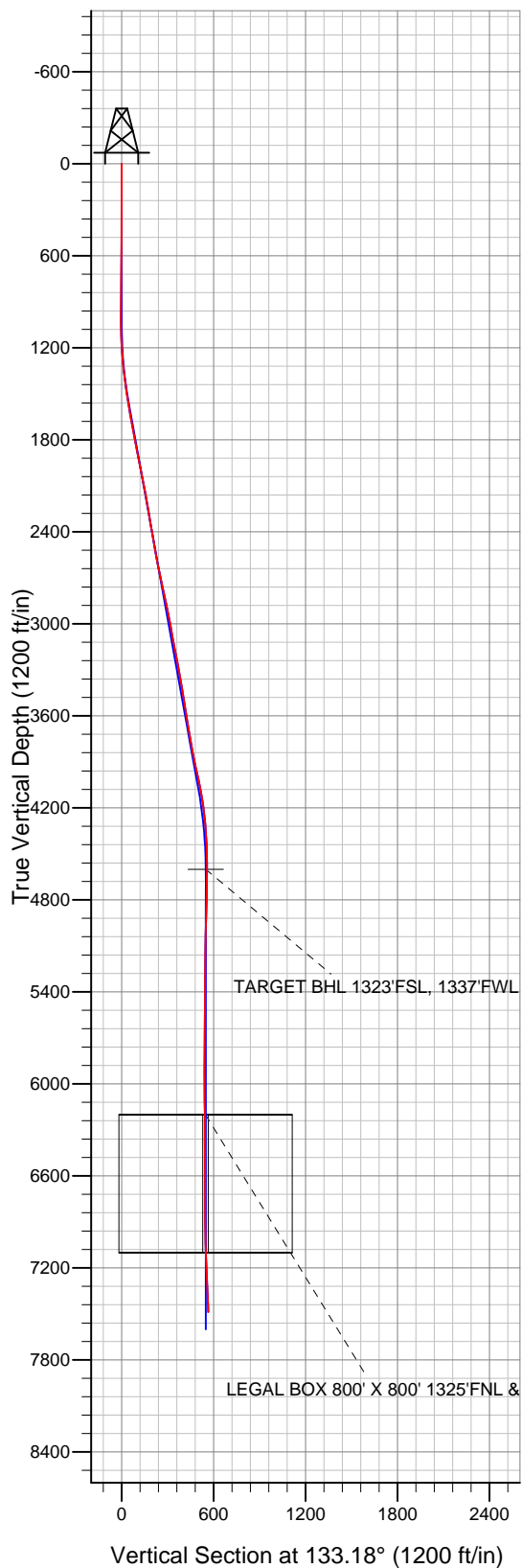
Surface Location: Nelson 32BD Pad Sec.32-T7N-R66W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4860.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1436065.65	3191912.00	40° 31' 42.060 N	104° 48' 34.632 W	

Original Well Elev WELL @ 4873.0ft (Original Well Elev)

PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Nelson 32BD, Wellbore #1, Plan #1 (1-04-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7538'MD & 7488'TVD @ 565'VS
 1.9 deg Inc 127.8 deg AZ

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



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T7N-R66W

Nelson 32BD Pad Sec.32-T7N-R66W

Nelson 32BD

Wellbore #1

Survey: Survey #1

Standard Survey Report

06 April, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Nelson 32BD
Project:	SEC.32-T7N-R66W	TVD Reference:	WELL @ 4873.0ft (Original Well Elev)
Site:	Nelson 32BD Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Well:	Nelson 32BD	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 32BD Pad Sec.32-T7N-R66W		
Site Position:		Northing:	1,436,065.66 ft
From:	Lat/Long	Easting:	3,191,912.00 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 31' 42.060 N
		Longitude:	104° 48' 34.632 W
		Grid Convergence:	0.45 °

Well	Nelson 32BD		
Well Position	+N/-S	0.0 ft	Northing: 1,436,065.65 ft
	+E/-W	0.0 ft	Easting: 3,191,912.00 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 31' 42.060 N
		Longitude:	104° 48' 34.632 W
		Ground Level:	4,860.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	1/11/2011	8.96
			Dip Angle (°)
			67.16
			Field Strength (nT)
			53,238

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 (°)
			133.18

Survey Program	Date 4/6/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
1,027.0	7,538.0	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
1,027.0	1.70	244.00	1,026.8	-6.7	-13.7	-5.4	0.17	0.17	0.00
1,122.0	2.50	155.90	1,121.8	-9.2	-14.1	-4.0	3.13	0.84	-92.74
1,217.0	4.10	150.20	1,216.6	-14.0	-11.6	1.2	1.72	1.68	-6.00
1,312.0	5.50	132.60	1,311.3	-20.1	-6.5	9.0	2.12	1.47	-18.53
1,407.0	7.60	126.70	1,405.7	-26.9	1.8	19.8	2.32	2.21	-6.21
1,501.0	8.90	124.90	1,498.7	-34.8	12.8	33.1	1.41	1.38	-1.91
1,596.0	10.40	125.10	1,592.4	-43.9	25.8	48.9	1.58	1.58	0.21
1,691.0	10.00	123.10	1,685.9	-53.3	39.8	65.5	0.56	-0.42	-2.11
1,786.0	10.50	129.10	1,779.4	-63.3	53.4	82.3	1.24	0.53	6.32
1,881.0	11.00	130.80	1,872.7	-74.7	67.0	99.9	0.62	0.53	1.79
1,976.0	11.20	129.50	1,965.9	-86.5	81.0	118.2	0.34	0.21	-1.37

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Nelson 32BD
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Site:	Nelson 32BD Pad Sec.32-T7N-R66W	MD Reference:	WELL @ 4873.0ft (Original Well Elev)
Well:	Nelson 32BD	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)
2,071.0	10.70	128.80	2,059.2	-97.9	94.9	136.2	0.54	-0.53	-0.74
2,166.0	10.40	125.70	2,152.6	-108.4	108.8	153.5	0.68	-0.32	-3.26
2,261.0	10.70	130.70	2,246.0	-119.2	122.4	170.8	1.01	0.32	5.26
2,356.0	9.50	128.30	2,339.5	-129.8	135.3	187.4	1.34	-1.26	-2.53
2,451.0	9.70	129.70	2,433.2	-139.7	147.6	203.2	0.32	0.21	1.47
2,546.0	10.50	134.80	2,526.7	-150.9	159.9	219.9	1.26	0.84	5.37
2,640.0	10.90	136.40	2,619.1	-163.4	172.1	237.3	0.53	0.43	1.70
2,735.0	11.80	138.00	2,712.2	-177.1	184.8	256.0	1.00	0.95	1.68
2,830.0	12.90	134.00	2,805.0	-191.7	198.9	276.2	1.47	1.16	-4.21
2,925.0	11.10	132.40	2,897.9	-205.3	213.3	296.0	1.93	-1.89	-1.68
3,020.0	10.50	127.40	2,991.2	-216.7	226.9	313.8	1.17	-0.63	-5.26
3,114.0	10.20	134.70	3,083.7	-227.7	239.6	330.6	1.43	-0.32	7.77
3,209.0	11.60	136.80	3,177.0	-240.6	252.2	348.5	1.53	1.47	2.21
3,304.0	10.70	135.80	3,270.2	-253.9	264.8	366.9	0.97	-0.95	-1.05
3,399.0	9.80	131.40	3,363.7	-265.6	277.1	383.8	1.26	-0.95	-4.63
3,494.0	9.60	130.60	3,457.3	-276.1	289.1	399.8	0.25	-0.21	-0.84
3,589.0	9.40	130.50	3,551.0	-286.3	301.1	415.4	0.21	-0.21	-0.11
3,683.0	8.90	132.90	3,643.8	-296.2	312.2	430.4	0.67	-0.53	2.55
3,778.0	9.00	135.00	3,737.7	-306.5	322.9	445.1	0.36	0.11	2.21
3,873.0	11.10	137.80	3,831.2	-318.5	334.3	461.7	2.27	2.21	2.95
3,968.0	12.00	136.00	3,924.3	-332.4	347.3	480.7	1.02	0.95	-1.89
4,063.0	12.50	133.90	4,017.1	-346.6	361.5	500.8	0.70	0.53	-2.21
4,158.0	10.50	137.00	4,110.2	-360.1	374.8	519.7	2.20	-2.11	3.26
4,253.0	7.20	134.10	4,204.1	-370.5	385.0	534.3	3.50	-3.47	-3.05
4,347.0	4.80	136.50	4,297.6	-377.5	392.0	544.1	2.57	-2.55	2.55
4,442.0	3.80	144.50	4,392.3	-382.9	396.5	551.2	1.23	-1.05	8.42
4,537.0	1.40	119.10	4,487.2	-386.1	399.4	555.4	2.74	-2.53	-26.74
4,632.0	0.30	346.80	4,582.2	-386.4	400.3	556.3	1.70	-1.16	-139.26
4,649.9	0.34	329.31	4,600.1	-386.3	400.3	556.2	0.59	0.23	-97.74
TARGET BHL 1323'FSL, 1337'FWL									
4,727.0	0.70	295.60	4,677.2	-385.9	399.7	555.6	0.59	0.46	-43.72
4,822.0	1.40	281.50	4,772.2	-385.4	398.1	554.0	0.78	0.74	-14.84
4,917.0	1.60	276.20	4,867.1	-385.0	395.6	552.0	0.26	0.21	-5.58
5,012.0	1.60	274.80	4,962.1	-384.8	393.0	549.9	0.04	0.00	-1.47
5,102.0	1.50	279.30	5,052.1	-384.5	390.6	547.9	0.17	-0.11	5.00
5,201.0	1.10	277.00	5,151.0	-384.2	388.3	546.1	0.41	-0.40	-2.32
5,296.0	0.80	272.30	5,246.0	-384.0	386.8	544.8	0.33	-0.32	-4.95
5,391.0	0.60	273.20	5,341.0	-384.0	385.6	544.0	0.21	-0.21	0.95
5,486.0	0.40	291.10	5,436.0	-383.8	384.8	543.3	0.26	-0.21	18.84
5,581.0	0.40	323.10	5,531.0	-383.4	384.3	542.6	0.23	0.00	33.68
5,676.0	0.40	278.50	5,626.0	-383.1	383.8	542.0	0.32	0.00	-46.95
5,771.0	0.40	262.50	5,721.0	-383.1	383.1	541.5	0.12	0.00	-16.84
5,866.0	0.30	243.30	5,816.0	-383.3	382.6	541.3	0.16	-0.11	-20.21
5,960.0	0.40	210.50	5,910.0	-383.7	382.2	541.2	0.23	0.11	-34.89
6,055.0	0.40	206.20	6,005.0	-384.3	381.9	541.4	0.03	0.00	-4.53
6,150.0	0.30	220.30	6,100.0	-384.7	381.6	541.5	0.14	-0.11	14.84
6,245.0	0.20	186.90	6,195.0	-385.1	381.4	541.6	0.18	-0.11	-35.16
6,250.0	0.20	185.31	6,200.0	-385.1	381.4	541.6	0.11	-0.03	-31.84
LEGAL BOX 800' X 800' 1325'FNL & 1338'FWL									
6,340.0	0.20	155.30	6,290.0	-385.4	381.4	541.9	0.11	0.00	-33.34
6,435.0	0.30	126.50	6,385.0	-385.7	381.7	542.3	0.17	0.11	-30.32
6,530.0	0.30	105.40	6,480.0	-385.9	382.1	542.7	0.12	0.00	-22.21
6,625.0	0.40	102.00	6,575.0	-386.1	382.7	543.3	0.11	0.11	-3.58

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6,720.0	0.40	100.60	6,670.0	-386.2	383.4	543.8	0.01	0.00	-1.47
6,815.0	0.40	103.50	6,765.0	-386.3	384.0	544.4	0.02	0.00	3.05
6,910.0	0.50	103.10	6,860.0	-386.5	384.7	545.0	0.11	0.11	-0.42
7,005.0	0.70	101.00	6,955.0	-386.7	385.7	545.9	0.21	0.21	-2.21
7,100.0	1.20	118.00	7,050.0	-387.3	387.2	547.3	0.60	0.53	17.89
7,195.0	2.40	131.60	7,144.9	-389.1	389.5	550.3	1.33	1.26	14.32
7,290.0	2.90	130.90	7,239.8	-392.0	392.8	554.7	0.53	0.53	-0.74
7,385.0	2.60	119.60	7,334.7	-394.6	396.5	559.2	0.65	-0.32	-11.89
7,496.0	2.10	125.10	7,445.6	-397.0	400.4	563.6	0.49	-0.45	4.95
7,538.0	1.90	127.80	7,487.6	-397.9	401.5	565.1	0.53	-0.48	6.43

Checked By: _____	Approved By: _____	Date: _____
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