

Well Name: **Purvis 10TD**

Surface Location: Purvis 10TD Pad Sec. 10-T4N-R67W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

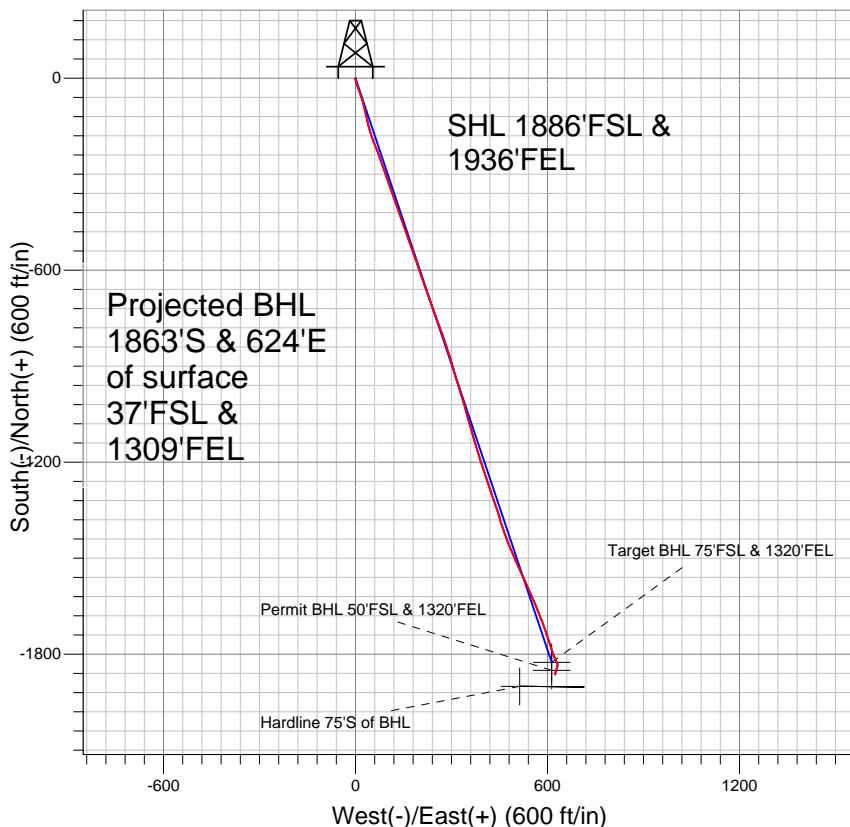
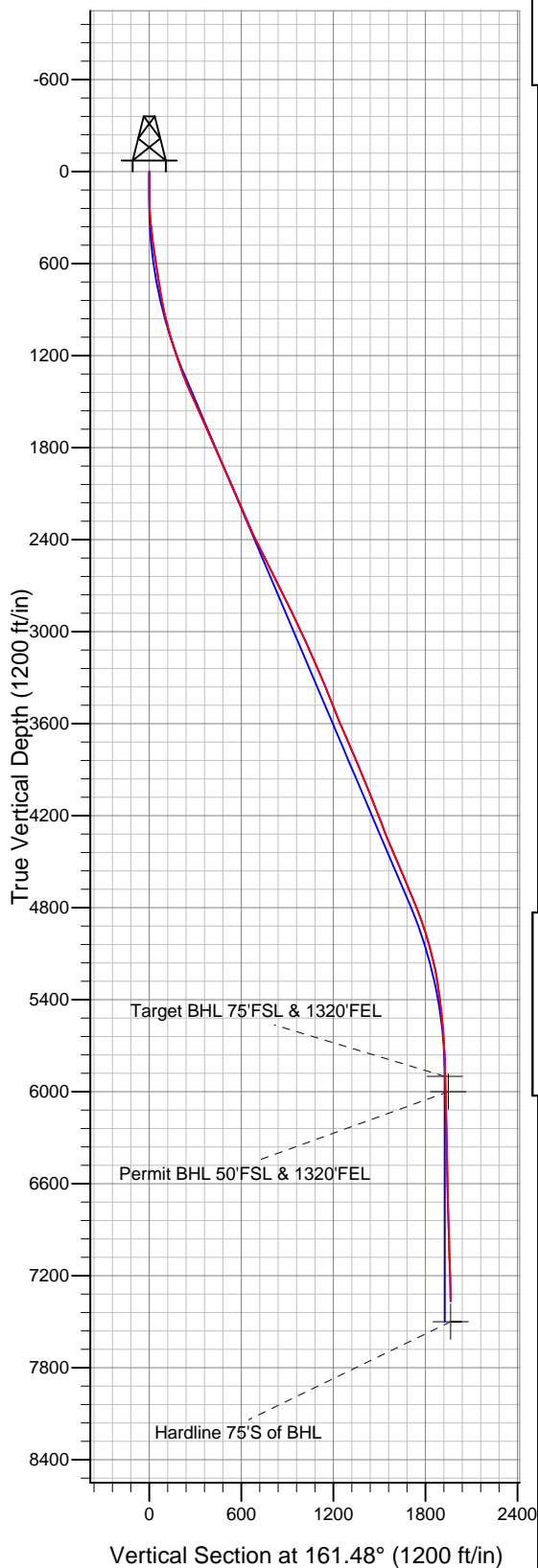
Ground Elevation: 4794.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1361747.58	3174369.58	40° 19' 28.956 N	104° 52' 28.596 W

Original Well Elev WELL @ 4807.0ft (Original Well Elev)

Slot

PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- ✕ Purvis 10TD, Wellbore #1, Plan #1 (7-14-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7736'MD & 7367'TVD @ 1965' VS
 1.5 deg Inc 193.5 deg AZ

Project: SEC.10-T4N-R67W
 Site: Purvis 10TD Pad Sec. 10-T4N-R67W
 Well: Purvis 10TD
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.10-T4N-R67W

Purvis 10TD Pad Sec. 10-T4N-R67W

Purvis 10TD

Wellbore #1

Survey: Survey #1

Standard Survey Report

03 February, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Purvis 10TD
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (Original Well Elev)
Site:	Purvis 10TD Pad Sec. 10-T4N-R67W	MD Reference:	WELL @ 4807.0ft (Original Well Elev)
Well:	Purvis 10TD	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.10-T4N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Purvis 10TD Pad Sec. 10-T4N-R67W		
Site Position:		Northing:	1,361,747.58 ft
From:	Lat/Long	Easting:	3,174,369.58 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 28.956 N
		Longitude:	104° 52' 28.596 W
		Grid Convergence:	0.40 °

Well	Purvis 10TD		
Well Position	+N/-S	0.0 ft	Northing: 1,361,747.58 ft
	+E/-W	0.0 ft	Easting: 3,174,369.58 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 19' 28.956 N
		Longitude:	104° 52' 28.596 W
		Ground Level:	4,794.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/19/2010	9.04	67.00	53,176

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	161.48

Survey Program	Date 2/3/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
155.0	7,736.0	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
155.0	0.80	203.90	155.0	-1.0	-0.4	0.8	0.52	0.52	0.00
246.0	2.50	166.60	246.0	-3.5	-0.2	3.2	2.12	1.87	-40.99
337.0	5.60	161.80	336.7	-9.7	1.6	9.7	3.42	3.41	-5.27
427.0	7.10	163.00	426.2	-19.1	4.6	19.6	1.67	1.67	1.33
520.0	8.50	160.80	518.3	-31.1	8.6	32.2	1.54	1.51	-2.37
613.0	8.60	159.20	610.3	-44.1	13.3	46.1	0.28	0.11	-1.72
629.0	8.60	159.40	626.1	-46.4	14.1	48.4	0.19	0.00	1.25
704.0	8.40	161.50	700.3	-56.8	17.8	59.5	0.49	-0.27	2.80
798.0	9.70	163.80	793.1	-70.9	22.2	74.3	1.44	1.38	2.45
891.0	11.60	165.80	884.5	-87.5	26.7	91.5	2.08	2.04	2.15
985.0	13.70	168.90	976.2	-107.6	31.2	111.9	2.35	2.23	3.30

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Purvis 10TD
Project:	SEC.10-T4N-R67W	TVD Reference:	WELL @ 4807.0ft (Original Well Elev)
Site:	Purvis 10TD Pad Sec. 10-T4N-R67W	MD Reference:	WELL @ 4807.0ft (Original Well Elev)
Well:	Purvis 10TD	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)
1,078.0	16.30	166.80	1,066.0	-131.1	36.3	135.8	2.86	2.80	-2.26
1,172.0	17.80	164.10	1,155.9	-157.8	43.2	163.3	1.80	1.60	-2.87
1,265.0	19.60	160.60	1,244.0	-186.2	52.3	193.1	2.28	1.94	-3.76
1,359.0	20.10	157.50	1,332.4	-216.0	63.7	225.0	1.24	0.53	-3.30
1,452.0	23.20	159.70	1,418.8	-247.9	76.2	259.3	3.45	3.33	2.37
1,546.0	24.90	161.90	1,504.7	-284.1	88.8	297.6	2.04	1.81	2.34
1,640.0	24.20	160.40	1,590.2	-321.0	101.4	336.6	1.00	-0.74	-1.60
1,733.0	24.20	161.80	1,675.0	-357.1	113.7	374.7	0.62	0.00	1.51
1,827.0	23.70	160.00	1,760.9	-393.2	126.2	412.9	0.94	-0.53	-1.91
1,920.0	23.20	160.10	1,846.2	-428.0	138.8	449.9	0.54	-0.54	0.11
2,014.0	24.40	159.90	1,932.2	-463.6	151.8	487.8	1.28	1.28	-0.21
2,107.0	23.90	160.90	2,017.1	-499.4	164.6	525.9	0.69	-0.54	1.08
2,201.0	23.10	160.90	2,103.3	-534.9	176.8	563.3	0.85	-0.85	0.00
2,295.0	23.20	160.40	2,189.7	-569.7	189.1	600.3	0.23	0.11	-0.53
2,388.0	23.80	160.60	2,275.0	-604.7	201.5	637.4	0.65	0.65	0.22
2,482.0	24.00	161.00	2,360.9	-640.7	214.0	675.4	0.27	0.21	0.43
2,575.0	26.50	160.00	2,445.1	-678.0	227.2	715.1	2.73	2.69	-1.08
2,669.0	26.90	160.70	2,529.0	-717.8	241.4	757.3	0.54	0.43	0.74
2,763.0	27.70	160.20	2,612.6	-758.4	255.9	800.4	0.89	0.85	-0.53
2,856.0	26.00	159.10	2,695.5	-797.8	270.5	842.4	1.90	-1.83	-1.18
2,950.0	25.80	161.60	2,780.1	-836.5	284.3	883.5	1.18	-0.21	2.66
3,043.0	25.80	164.00	2,863.8	-875.1	296.2	923.9	1.12	0.00	2.58
3,137.0	26.10	163.60	2,948.4	-914.6	307.7	965.0	0.37	0.32	-0.43
3,231.0	24.60	161.80	3,033.3	-953.1	319.7	1,005.2	1.79	-1.60	-1.91
3,324.0	24.40	164.10	3,117.9	-989.9	331.0	1,043.8	1.05	-0.22	2.47
3,418.0	23.40	164.40	3,203.9	-1,026.6	341.3	1,081.8	1.07	-1.06	0.32
3,511.0	22.90	164.00	3,289.4	-1,061.8	351.3	1,118.3	0.56	-0.54	-0.43
3,605.0	22.40	163.00	3,376.1	-1,096.5	361.5	1,154.5	0.67	-0.53	-1.06
3,698.0	21.60	163.80	3,462.4	-1,129.9	371.5	1,189.3	0.92	-0.86	0.86
3,791.0	21.60	164.20	3,548.8	-1,162.8	380.9	1,223.5	0.16	0.00	0.43
3,885.0	23.50	162.60	3,635.6	-1,197.3	391.2	1,259.6	2.12	2.02	-1.70
3,979.0	23.20	162.20	3,721.9	-1,232.8	402.5	1,296.8	0.36	-0.32	-0.43
4,072.0	23.80	159.90	3,807.2	-1,267.9	414.6	1,333.9	1.18	0.65	-2.47
4,166.0	23.60	160.40	3,893.3	-1,303.4	427.4	1,371.7	0.30	-0.21	0.53
4,259.0	21.70	161.10	3,979.1	-1,337.2	439.2	1,407.5	2.06	-2.04	0.75
4,353.0	20.70	164.20	4,066.8	-1,369.7	449.4	1,441.5	1.60	-1.06	3.30
4,447.0	21.70	162.30	4,154.4	-1,402.2	459.2	1,475.4	1.29	1.06	-2.02
4,540.0	21.40	160.00	4,240.9	-1,434.5	470.2	1,509.6	0.96	-0.32	-2.47
4,634.0	21.90	156.50	4,328.3	-1,466.7	483.1	1,544.2	1.47	0.53	-3.72
4,727.0	23.50	157.20	4,414.1	-1,499.7	497.2	1,580.0	1.74	1.72	0.75
4,821.0	23.30	154.60	4,500.3	-1,533.8	512.4	1,617.1	1.12	-0.21	-2.77
4,914.0	23.00	156.00	4,585.8	-1,567.0	527.7	1,653.5	0.67	-0.32	1.51
5,008.0	23.10	156.30	4,672.3	-1,600.7	542.6	1,690.1	0.16	0.11	0.32
5,102.0	22.20	156.90	4,759.1	-1,633.9	556.9	1,726.2	0.99	-0.96	0.64
5,196.0	20.60	157.60	4,846.6	-1,665.5	570.2	1,760.4	1.72	-1.70	0.74
5,289.0	17.90	159.30	4,934.4	-1,694.0	581.5	1,791.0	2.96	-2.90	1.83
5,383.0	16.00	160.10	5,024.3	-1,719.7	591.0	1,818.4	2.04	-2.02	0.85
5,476.0	14.40	161.10	5,114.1	-1,742.7	599.1	1,842.7	1.74	-1.72	1.08
5,570.0	11.30	162.50	5,205.7	-1,762.5	605.7	1,863.6	3.31	-3.30	1.49
5,663.0	9.20	162.00	5,297.2	-1,778.3	610.7	1,880.2	2.26	-2.26	-0.54
5,757.0	7.10	161.50	5,390.2	-1,791.0	614.9	1,893.5	2.24	-2.23	-0.53
5,851.0	5.90	158.50	5,483.6	-1,801.0	618.5	1,904.2	1.33	-1.28	-3.19
5,944.0	4.70	156.00	5,576.2	-1,808.9	621.8	1,912.7	1.31	-1.29	-2.69

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Survey									
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6,038.0	3.60	158.10	5,670.0	-1,815.1	624.5	1,919.5	1.18	-1.17	2.23
6,132.0	2.90	159.60	5,763.8	-1,820.1	626.4	1,924.8	0.75	-0.74	1.60
6,225.0	1.90	156.40	5,856.8	-1,823.7	627.8	1,928.7	1.08	-1.08	-3.44
6,268.1	1.61	151.29	5,899.8	-1,824.9	628.4	1,930.0	0.76	-0.67	-11.87
Target BHL 75'FSL & 1320'FEL									
6,318.0	1.30	142.60	5,949.7	-1,826.0	629.1	1,931.2	0.76	-0.62	-17.40
6,368.5	1.19	146.96	6,000.2	-1,826.9	629.7	1,932.3	0.29	-0.22	8.64
Permit BHL 50'FSL & 1320'FEL									
6,412.0	1.10	151.40	6,043.7	-1,827.6	630.2	1,933.1	0.29	-0.20	10.21
6,505.0	0.80	158.50	6,136.7	-1,829.0	630.8	1,934.7	0.35	-0.32	7.63
6,598.0	1.10	167.60	6,229.7	-1,830.5	631.3	1,936.2	0.36	0.32	9.78
6,692.0	1.20	177.00	6,323.7	-1,832.4	631.5	1,938.0	0.23	0.11	10.00
6,786.0	1.30	185.00	6,417.6	-1,834.4	631.5	1,940.0	0.21	0.11	8.51
6,879.0	1.60	182.30	6,510.6	-1,836.7	631.3	1,942.2	0.33	0.32	-2.90
6,973.0	1.80	192.50	6,604.6	-1,839.5	630.9	1,944.6	0.39	0.21	10.85
7,067.0	1.70	201.50	6,698.5	-1,842.2	630.1	1,947.0	0.31	-0.11	9.57
7,160.0	1.80	197.70	6,791.5	-1,844.9	629.2	1,949.2	0.16	0.11	-4.09
7,254.0	1.80	197.70	6,885.4	-1,847.7	628.3	1,951.6	0.00	0.00	0.00
7,347.0	2.10	198.80	6,978.4	-1,850.7	627.3	1,954.1	0.33	0.32	1.18
7,441.0	2.10	196.50	7,072.3	-1,854.0	626.2	1,956.9	0.09	0.00	-2.45
7,534.0	2.40	187.80	7,165.2	-1,857.6	625.5	1,960.1	0.49	0.32	-9.35
7,628.0	1.50	193.50	7,259.2	-1,860.7	624.9	1,962.9	0.98	-0.96	6.06
7,736.0	1.50	193.50	7,367.2	-1,863.5	624.3	1,965.3	0.00	0.00	0.00
Hardline 75'S of BHL									

Checked By: _____	Approved By: _____	Date: _____
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