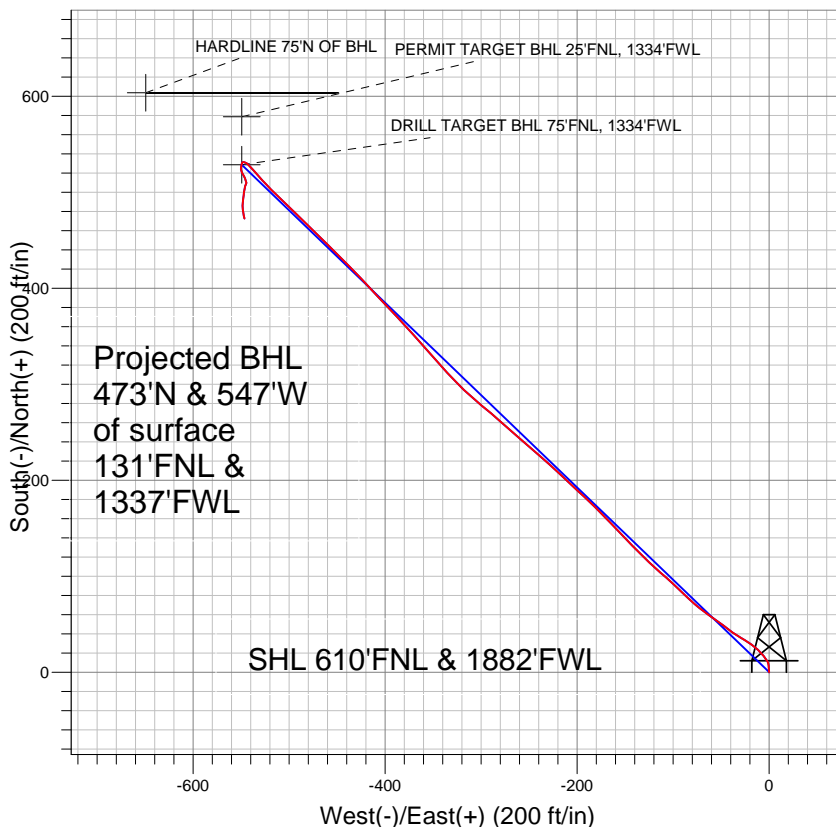
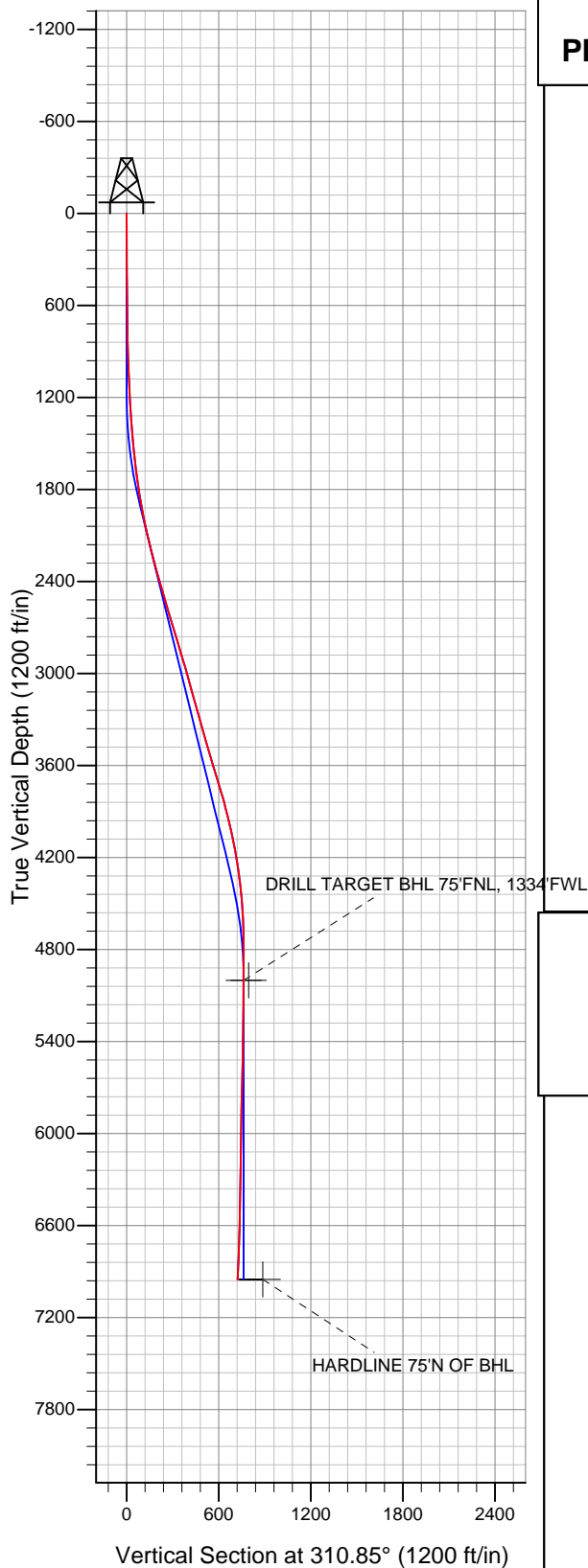


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Bauer Debus 22JD, Wellbore #1, Plan #1 (5-15-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7045'MD & 6953'TVD @ 722' VS
 3.5 deg Inc 168.1 deg AZ

Project: SEC.22-T5N-R64W
 Site: Bauer Debus 22AD Pad Sec.22-T5N-R64W
 Well: Bauer Debus 22JD
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.22-T5N-R64W

Bauer Debus 22AD Pad Sec.22-T5N-R64W

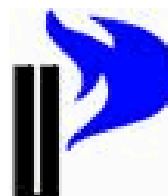
Bauer Debus 22JD

Wellbore #1

Survey: Survey #1

Standard Survey Report

26 October, 2010





Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Bauer Debus 22JD
Project:	SEC.22-T5N-R64W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Bauer Debus 22AD Pad Sec.22-T5N-R64W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Well:	Bauer Debus 22JD	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.22-T5N-R64W, 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	Bauer Debus 22AD Pad Sec.22-T5N-R64W		
Site Position:		Northing:	1,386,514.33 ft
From:	Lat/Long	Easting:	3,267,745.18 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 23' 25.440 N
		Longitude:	104° 32' 19.572 W
		Grid Convergence:	0.62 °

Well	Bauer Debus 22JD		
Well Position	+N-S	0.0 ft	Northing: 1,386,529.10 ft
	+E-W	0.0 ft	Easting: 3,267,764.52 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 23' 25.584 N
		Longitude:	104° 32' 19.320 W
		Ground Level:	4,575.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	10/19/2010	8.83
			Dip Angle (°) 67.10
			Field Strength (nT) 53,222

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 (°) 310.85

Survey Program	Date 10/26/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
732.0	7,045.0	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
732.0	1.10	354.60	732.0	7.0	-0.7	5.1	0.15	0.15	0.00
828.0	1.00	359.70	827.9	8.8	-0.8	6.3	0.14	-0.10	5.31
922.0	1.60	331.40	921.9	10.7	-1.4	8.1	0.92	0.64	-30.11
1,016.0	2.30	321.30	1,015.9	13.3	-3.2	11.1	0.83	0.74	-10.74
1,112.0	2.60	326.60	1,111.8	16.7	-5.6	15.1	0.39	0.31	5.52
1,206.0	3.50	314.70	1,205.6	20.5	-8.8	20.1	1.17	0.96	-12.66
1,301.0	4.30	311.80	1,300.4	24.9	-13.5	26.5	0.87	0.84	-3.05
1,396.0	4.60	303.90	1,395.1	29.4	-19.3	33.8	0.72	0.32	-8.32
1,492.0	4.80	302.20	1,490.8	33.7	-25.9	41.6	0.25	0.21	-1.77
1,587.0	6.10	301.00	1,585.4	38.4	-33.6	50.5	1.37	1.37	-1.26
1,682.0	7.20	307.70	1,679.7	44.6	-42.7	61.5	1.42	1.16	7.05



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Bauer Debus 22JD
Project:	SEC.22-T5N-R64W	TVD Reference:	WELL @ 4588.0ft (Original Well Elev)
Site:	Bauer Debus 22AD Pad Sec.22-T5N-R64W	MD Reference:	WELL @ 4588.0ft (Original Well Elev)
Well:	Bauer Debus 22JD	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)
1,775.0	8.40	306.30	1,771.9	52.2	-52.7	74.1	1.31	1.29	-1.51
1,870.0	9.40	305.00	1,865.7	60.8	-64.7	88.7	1.07	1.05	-1.37
1,964.0	11.00	311.10	1,958.2	71.1	-77.7	105.3	2.05	1.70	6.49
2,058.0	12.40	314.70	2,050.3	84.1	-91.7	124.3	1.68	1.49	3.83
2,153.0	13.60	311.10	2,142.9	98.6	-107.3	145.7	1.52	1.26	-3.79
2,248.0	15.30	312.80	2,234.8	114.4	-125.0	169.4	1.84	1.79	1.79
2,344.0	15.30	316.40	2,327.4	132.2	-143.0	194.6	0.99	0.00	3.75
2,439.0	15.70	316.90	2,419.0	150.7	-160.4	219.9	0.44	0.42	0.53
2,534.0	16.60	314.00	2,510.2	169.5	-179.0	246.2	1.27	0.95	-3.05
2,629.0	17.00	313.70	2,601.2	188.5	-198.8	273.7	0.43	0.42	-0.32
2,723.0	17.00	312.60	2,691.1	207.3	-218.8	301.1	0.34	0.00	-1.17
2,818.0	16.00	311.10	2,782.2	225.3	-238.9	328.1	1.14	-1.05	-1.58
2,913.0	16.70	311.10	2,873.3	242.9	-259.1	354.8	0.74	0.74	0.00
3,008.0	16.80	311.10	2,964.3	260.9	-279.7	382.2	0.11	0.11	0.00
3,102.0	15.20	309.90	3,054.7	277.7	-299.4	408.1	1.74	-1.70	-1.28
3,196.0	15.10	313.20	3,145.4	294.0	-317.8	432.7	0.92	-0.11	3.51
3,291.0	15.80	317.90	3,237.0	312.1	-335.4	457.9	1.51	0.74	4.95
3,386.0	16.10	318.60	3,328.3	331.6	-352.8	483.8	0.38	0.32	0.74
3,480.0	16.10	318.70	3,418.6	351.1	-370.1	509.6	0.03	0.00	0.11
3,575.0	16.40	316.10	3,509.8	370.7	-388.0	536.0	0.83	0.32	-2.74
3,671.0	16.70	316.90	3,601.8	390.5	-406.9	563.2	0.39	0.31	0.83
3,764.0	17.10	316.90	3,690.8	410.3	-425.3	590.1	0.43	0.43	0.00
3,859.0	17.00	314.60	3,781.7	430.2	-444.8	617.8	0.72	-0.11	-2.42
3,954.0	14.20	315.40	3,873.1	448.3	-462.8	643.3	2.96	-2.95	0.84
4,049.0	13.80	314.00	3,965.3	464.4	-479.2	666.2	0.55	-0.42	-1.47
4,142.0	12.10	314.00	4,056.0	478.9	-494.2	687.1	1.83	-1.83	0.00
4,236.0	10.60	313.80	4,148.1	491.7	-507.5	705.5	1.60	-1.60	-0.21
4,330.0	8.80	315.10	4,240.8	502.8	-518.8	721.3	1.93	-1.91	1.38
4,425.0	7.30	318.30	4,334.8	512.5	-528.0	734.6	1.65	-1.58	3.37
4,518.0	5.90	318.40	4,427.2	520.5	-535.1	745.2	1.51	-1.51	0.11
4,613.0	4.00	316.80	4,521.8	526.5	-540.6	753.3	2.01	-2.00	-1.68
4,707.0	2.60	306.30	4,615.7	530.2	-544.5	758.7	1.62	-1.49	-11.17
4,802.0	1.50	267.70	4,710.6	531.4	-547.5	761.7	1.80	-1.16	-40.63
4,898.0	0.50	203.50	4,806.6	531.0	-548.9	762.5	1.42	-1.04	-66.88
4,993.0	0.40	195.40	4,901.6	530.3	-549.2	762.3	0.12	-0.11	-8.53
5,088.0	0.70	196.10	4,996.6	529.4	-549.4	761.9	0.32	0.32	0.74
5,183.0	1.10	191.10	5,091.6	527.9	-549.8	761.2	0.43	0.42	-5.26
5,278.0	1.30	186.30	5,186.6	526.0	-550.1	760.1	0.24	0.21	-5.05
5,373.0	1.10	185.40	5,281.6	524.0	-550.3	759.0	0.21	-0.21	-0.95
5,469.0	0.70	156.30	5,377.5	522.5	-550.1	757.9	0.62	-0.42	-30.31
5,564.0	1.30	151.50	5,472.5	521.1	-549.4	756.4	0.64	0.63	-5.05
5,658.0	1.40	150.80	5,566.5	519.1	-548.3	754.3	0.11	0.11	-0.74
5,754.0	1.50	153.70	5,662.5	517.0	-547.2	752.0	0.13	0.10	3.02
5,848.0	1.60	155.10	5,756.4	514.7	-546.1	749.7	0.11	0.11	1.49
5,942.0	1.70	164.60	5,850.4	512.1	-545.2	747.4	0.31	0.11	10.11
6,037.0	1.10	174.00	5,945.4	509.9	-544.7	745.5	0.67	-0.63	9.89
6,131.0	1.10	207.50	6,039.4	508.2	-545.0	744.7	0.67	0.00	35.64
6,226.0	1.50	197.60	6,134.3	506.2	-545.8	744.0	0.48	0.42	-10.42
6,322.0	1.90	191.40	6,230.3	503.4	-546.5	742.7	0.46	0.42	-6.46
6,417.0	2.10	188.80	6,325.2	500.2	-547.1	741.0	0.23	0.21	-2.74
6,511.0	2.30	185.70	6,419.2	496.6	-547.5	739.0	0.25	0.21	-3.30
6,605.0	1.90	185.70	6,513.1	493.2	-547.9	737.0	0.43	-0.43	0.00
6,699.0	2.10	190.60	6,607.0	489.9	-548.3	735.2	0.28	0.21	5.21



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6,794.0	2.60	177.50	6,702.0	486.1	-548.6	732.9	0.77	0.53	-13.79
6,889.0	2.90	173.40	6,796.9	481.5	-548.2	729.6	0.38	0.32	-4.32
7,002.0	3.50	168.10	6,909.7	475.3	-547.2	724.8	0.59	0.53	-4.69
7,045.0	3.50	168.10	6,952.6	472.7	-546.6	722.7	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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