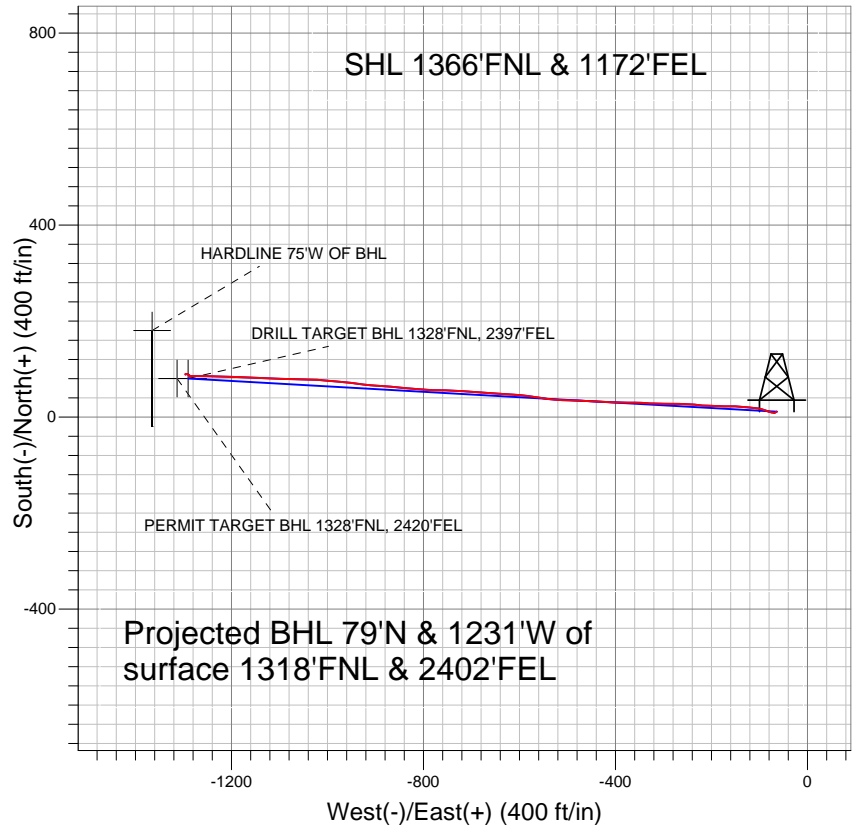
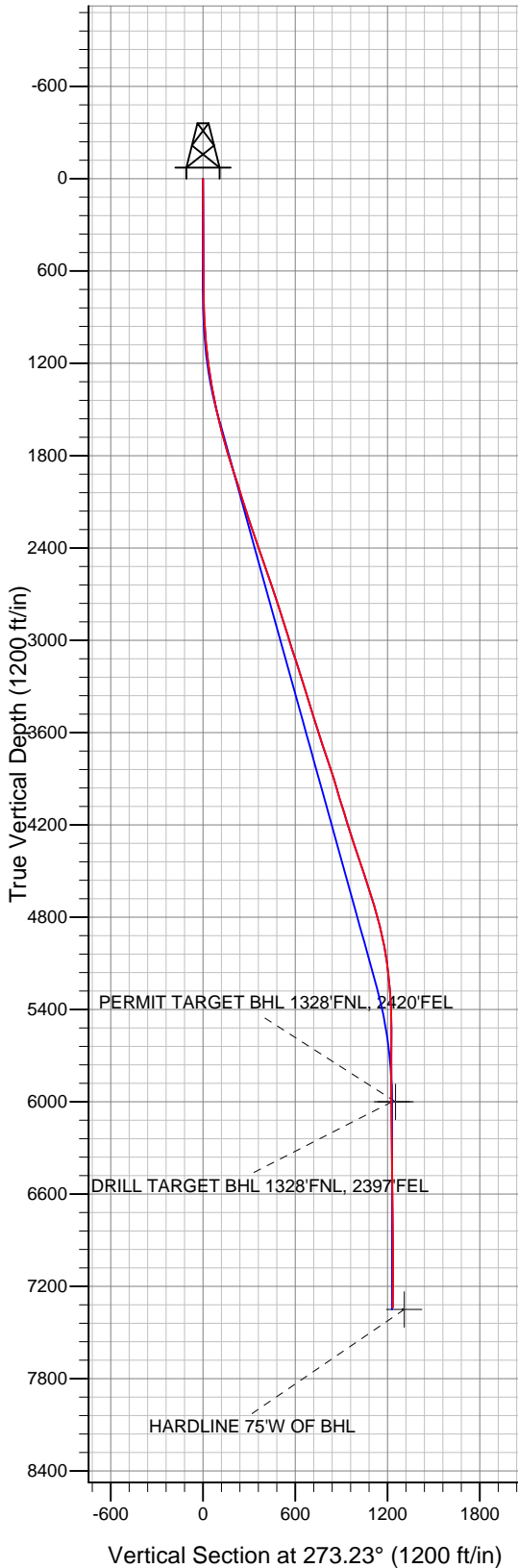


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- Lajco 17ND, Wellbore #1, Plan #1 (6-20-10) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7516'MD & 7339'TVD @ 1234' VS
 0.4 deg Inc 43.6 deg AZ

Project: SEC.17-T4N-R67W
 Site: Lajco Pad Sec.17-T4N-R67W
 Well: Lajco 17ND
 Plan: Wellbore #1



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.17-T4N-R67W

Lajco Pad Sec.17-T4N-R67W

Lajco 17ND

Wellbore #1

Survey: Survey #1

Standard Survey Report

10 February, 2011

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Site Lajco Pad Sec.17-T4N-R67W
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Lajco Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Well:	Lajco 17ND	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.17-T4N-R67W, 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	Lajco Pad Sec.17-T4N-R67W		
Site Position:		Northing:	1,358,656.65 ft
From:	Lat/Long	Easting:	3,164,558.76 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 18' 59.076 N
		Longitude:	104° 54' 35.532 W
		Grid Convergence:	0.38 °

Well	Lajco 17ND		
Well Position	+N/-S	10.9 ft	Northing:
	+E/-W	-64.1 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/20/2010	9.07	66.99	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 (°)
	6,000.0	10.9	-64.1	273.23

Survey Program	Date 2/10/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
703.0	7,516.0	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	10.9	-64.1	0.0	0.00	0.00	0.00
703.0	0.60	240.50	703.0	9.1	-67.3	3.1	0.09	0.09	0.00
796.0	1.30	266.30	796.0	8.8	-68.8	4.6	0.86	0.75	27.74
889.0	2.60	274.40	888.9	8.9	-72.0	7.7	1.43	1.40	8.71
983.0	3.90	287.20	982.8	10.0	-77.2	12.9	1.58	1.38	13.62
1,076.0	5.80	289.60	1,075.4	12.5	-84.6	20.5	2.05	2.04	2.58
1,170.0	7.20	287.00	1,168.8	15.8	-94.7	30.8	1.52	1.49	-2.77
1,263.0	7.90	276.50	1,261.0	18.3	-106.6	42.8	1.66	0.75	-11.29
1,357.0	10.00	274.90	1,353.9	19.7	-121.2	57.5	2.25	2.23	-1.70
1,450.0	11.80	275.60	1,445.2	21.3	-138.7	75.0	1.94	1.94	0.75
1,544.0	12.80	269.70	1,537.0	22.2	-158.7	95.0	1.71	1.06	-6.28
1,637.0	15.10	272.60	1,627.3	22.7	-181.1	117.4	2.58	2.47	3.12

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Site Lajco Pad Sec.17-T4N-R67W
Project:	SEC.17-T4N-R67W	TVD Reference:	WELL @ 4803.0ft (Original Well Elev)
Site:	Lajco Pad Sec.17-T4N-R67W	MD Reference:	WELL @ 4803.0ft (Original Well Elev)
Well:	Lajco 17ND	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)
1,731.0	15.80	270.70	1,717.9	23.4	-206.1	142.5	0.92	0.74	-2.02
1,825.0	17.20	275.40	1,808.0	24.9	-232.7	169.1	2.06	1.49	5.00
1,918.0	17.60	272.80	1,896.8	26.8	-260.5	196.9	0.94	0.43	-2.80
2,012.0	17.50	269.20	1,986.4	27.3	-288.8	225.2	1.16	-0.11	-3.83
2,105.0	17.50	272.70	2,075.1	27.8	-316.8	253.2	1.13	0.00	3.76
2,199.0	17.90	273.60	2,164.6	29.4	-345.3	281.7	0.52	0.43	0.96
2,292.0	18.10	269.00	2,253.1	30.0	-374.0	310.4	1.54	0.22	-4.95
2,386.0	19.30	273.80	2,342.1	30.8	-404.1	340.5	2.08	1.28	5.11
2,479.0	19.70	272.10	2,429.8	32.4	-435.1	371.6	0.75	0.43	-1.83
2,573.0	19.90	272.70	2,518.2	33.7	-466.9	403.4	0.30	0.21	0.64
2,666.0	18.30	270.90	2,606.1	34.7	-497.3	433.8	1.83	-1.72	-1.94
2,760.0	18.10	274.70	2,695.4	36.1	-526.6	463.2	1.28	-0.21	4.04
2,854.0	18.10	279.40	2,784.8	39.7	-555.6	492.3	1.55	0.00	5.00
2,947.0	17.80	277.20	2,873.3	43.8	-584.0	520.8	0.80	-0.32	-2.37
3,041.0	17.30	274.20	2,962.9	46.7	-612.1	549.2	1.10	-0.53	-3.19
3,134.0	17.50	273.50	3,051.6	48.5	-639.9	577.0	0.31	0.22	-0.75
3,228.0	17.60	273.90	3,141.2	50.4	-668.2	605.3	0.17	0.11	0.43
3,322.0	18.20	273.60	3,230.7	52.3	-697.0	634.2	0.65	0.64	-0.32
3,415.0	18.10	274.30	3,319.1	54.3	-725.9	663.2	0.26	-0.11	0.75
3,508.0	17.00	269.80	3,407.7	55.3	-753.9	691.2	1.88	-1.18	-4.84
3,602.0	16.90	273.20	3,497.7	56.0	-781.3	718.6	1.06	-0.11	3.62
3,695.0	18.10	274.20	3,586.4	57.8	-809.2	746.5	1.33	1.29	1.08
3,789.0	18.60	275.50	3,675.6	60.3	-838.7	776.1	0.69	0.53	1.38
3,883.0	18.50	274.70	3,764.7	63.0	-868.5	806.0	0.29	-0.11	-0.85
3,976.0	17.90	273.30	3,853.0	65.0	-897.4	835.0	0.80	-0.65	-1.51
4,069.0	16.40	277.60	3,941.9	67.6	-924.7	862.4	2.11	-1.61	4.62
4,163.0	17.00	276.40	4,031.9	70.9	-951.5	889.4	0.74	0.64	-1.28
4,257.0	17.50	275.30	4,121.7	73.7	-979.3	917.2	0.64	0.53	-1.17
4,350.0	17.10	275.30	4,210.5	76.2	-1,006.8	944.9	0.43	-0.43	0.00
4,444.0	18.30	271.20	4,300.1	77.8	-1,035.3	973.4	1.84	1.28	-4.36
4,538.0	18.50	272.40	4,389.3	78.8	-1,065.0	1,003.1	0.46	0.21	1.28
4,632.0	18.30	271.70	4,478.4	79.8	-1,094.6	1,032.7	0.32	-0.21	-0.74
4,725.0	18.10	271.20	4,566.8	80.6	-1,123.7	1,061.8	0.27	-0.22	-0.54
4,819.0	18.50	272.80	4,656.0	81.6	-1,153.2	1,091.3	0.68	0.43	1.70
4,912.0	16.60	272.20	4,744.7	82.8	-1,181.2	1,119.3	2.05	-2.04	-0.65
5,006.0	14.00	273.10	4,835.4	84.0	-1,206.0	1,144.1	2.78	-2.77	0.96
5,100.0	11.80	270.20	4,927.0	84.6	-1,226.9	1,165.1	2.44	-2.34	-3.09
5,193.0	10.10	270.40	5,018.3	84.7	-1,244.6	1,182.7	1.83	-1.83	0.22
5,287.0	7.70	271.50	5,111.2	84.9	-1,259.1	1,197.3	2.56	-2.55	1.17
5,380.0	6.20	269.90	5,203.5	85.1	-1,270.4	1,208.5	1.63	-1.61	-1.72
5,474.0	4.40	268.90	5,297.1	85.0	-1,279.1	1,217.2	1.92	-1.91	-1.06
5,568.0	2.20	266.90	5,390.9	84.8	-1,284.5	1,222.6	2.34	-2.34	-2.13
5,661.0	0.30	195.50	5,483.9	84.5	-1,286.3	1,224.4	2.28	-2.04	-76.77
5,755.0	0.10	19.10	5,577.9	84.3	-1,286.4	1,224.4	0.43	-0.21	-187.66
5,848.0	0.30	346.10	5,670.9	84.7	-1,286.4	1,224.5	0.24	0.22	-35.48
5,942.0	0.40	307.70	5,764.9	85.1	-1,286.7	1,224.8	0.26	0.11	-40.85
6,035.0	0.20	307.40	5,857.9	85.4	-1,287.1	1,225.2	0.22	-0.22	-0.32
6,129.0	0.60	344.70	5,951.9	86.0	-1,287.3	1,225.5	0.49	0.43	39.68
6,177.1	0.46	327.40	6,000.0	86.4	-1,287.5	1,225.7	0.43	-0.28	-35.96
DRILL TARGET BHL 1328'FNL, 2397'FEL									
6,177.2	0.46	327.40	6,000.1	86.4	-1,287.5	1,225.7	0.00	0.00	0.00
PERMIT TARGET BHL 1328'FNL, 2420'FEL									
6,222.0	0.40	302.80	6,044.9	86.6	-1,287.7	1,225.9	0.44	-0.14	-54.95

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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)
6,316.0	0.50	340.30	6,138.9	87.2	-1,288.2	1,226.4	0.32	0.11	39.89
6,410.0	0.70	291.70	6,232.9	87.8	-1,288.8	1,227.1	0.56	0.21	-51.70
6,503.0	0.70	291.70	6,325.9	88.2	-1,289.9	1,228.2	0.00	0.00	0.00
6,597.0	0.70	299.00	6,419.8	88.7	-1,290.9	1,229.2	0.09	0.00	7.77
6,690.0	0.50	288.10	6,512.8	89.1	-1,291.8	1,230.1	0.25	-0.22	-11.72
6,784.0	0.60	280.30	6,606.8	89.3	-1,292.7	1,231.0	0.13	0.11	-8.30
6,877.0	0.50	251.10	6,699.8	89.3	-1,293.5	1,231.9	0.32	-0.11	-31.40
6,971.0	0.70	275.80	6,793.8	89.2	-1,294.5	1,232.8	0.34	0.21	26.28
7,065.0	0.40	230.60	6,887.8	89.0	-1,295.3	1,233.6	0.54	-0.32	-48.09
7,158.0	0.40	255.50	6,980.8	88.7	-1,295.9	1,234.2	0.19	0.00	26.77
7,252.0	0.20	25.80	7,074.8	88.8	-1,296.1	1,234.4	0.59	-0.21	138.62
7,344.0	0.30	25.80	7,166.8	89.2	-1,296.0	1,234.3	0.11	0.11	0.00
7,470.0	0.40	43.60	7,292.8	89.8	-1,295.5	1,233.9	0.12	0.08	14.13
7,516.0	0.40	43.60	7,338.8	90.0	-1,295.3	1,233.7	0.00	0.00	0.00
HARDLINE 75'W OF BHL									

Checked By: _____	Approved By: _____	Date: _____
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