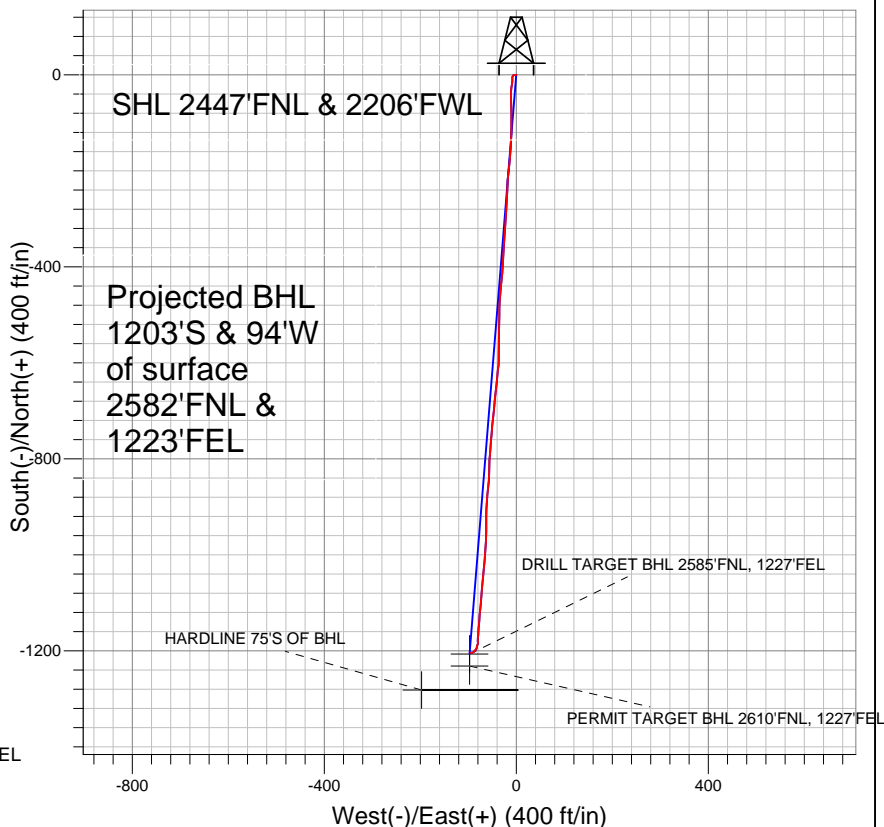
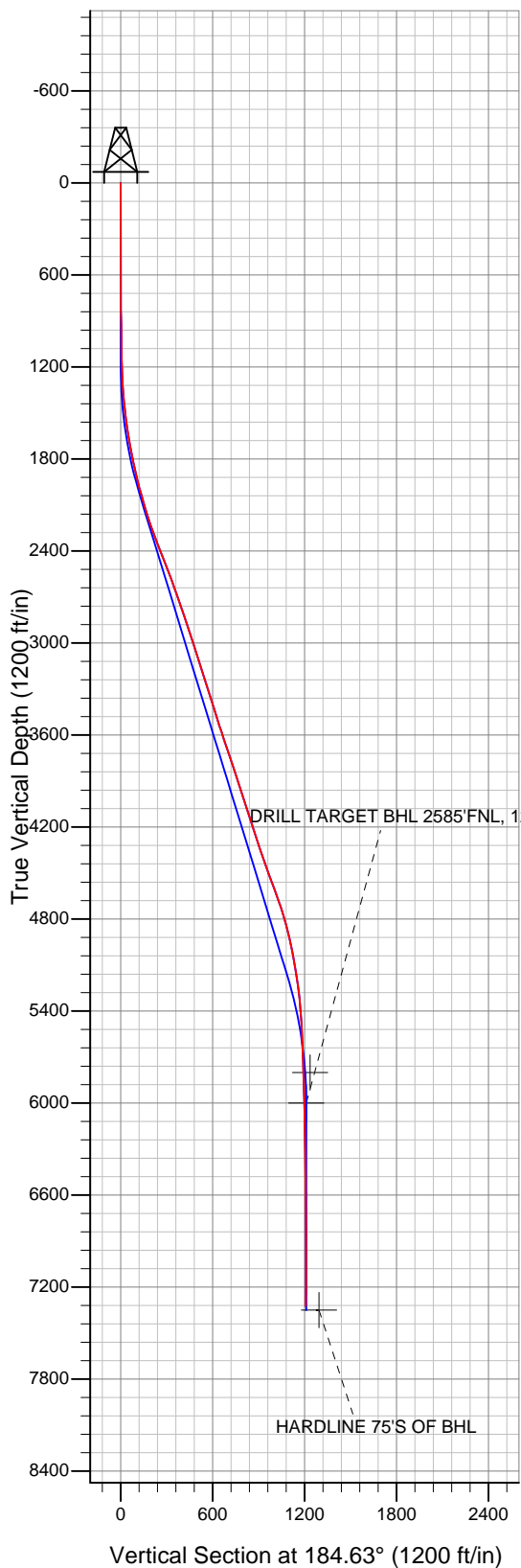


PETROLEUM DEVELOPMENT CORP Weld County CO



LEGEND

- + Lajco 17SD, Wellbore #1, Plan #2 (6-20-10) VO
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7500'MD & 7323'TVD @ 1207' VS
0.4 deg Inc 15.9 deg AZ

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



Directional

PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.17-T4N-R67W

Lajco Pad Sec.17-T4N-R67W

Lajco 17SD

Wellbore #1

Survey: Survey #1

Standard Survey Report

03 March, 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 17SD	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 17SD		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 18' 59.076 N
		Longitude:	104° 54' 35.532 W
		Ground Level:	4,790.0 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	5/19/2010	9.08
			Dip Angle (°)
			67.00
			Field Strength (nT)
			53,185

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 (°)
			184.63

Survey Program	Date 3/3/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
735.0	7,500.0	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
735.0	0.80	268.80	735.0	-0.1	-5.1	0.5	0.11	0.11	0.00
828.0	1.10	224.70	828.0	-0.8	-6.4	1.3	0.82	0.32	-47.42
922.0	1.20	189.70	921.9	-2.4	-7.2	2.9	0.74	0.11	-37.23
1,015.0	0.90	202.30	1,014.9	-4.0	-7.6	4.6	0.41	-0.32	13.55
1,109.0	0.90	202.30	1,108.9	-5.4	-8.2	6.0	0.00	0.00	0.00
1,202.0	1.10	168.60	1,201.9	-6.9	-8.3	7.6	0.66	0.22	-36.24
1,296.0	3.20	179.70	1,295.8	-10.4	-8.1	11.0	2.27	2.23	11.81
1,389.0	5.40	187.80	1,388.6	-17.4	-8.7	18.0	2.45	2.37	8.71
1,483.0	6.30	190.10	1,482.1	-26.8	-10.2	27.6	0.99	0.96	2.45
1,576.0	7.90	179.60	1,574.4	-38.2	-11.1	39.0	2.21	1.72	-11.29
1,670.0	9.50	180.40	1,667.3	-52.5	-11.1	53.2	1.71	1.70	0.85

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 17SD	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)
1,763.0	10.80	176.40	1,758.8	-68.8	-10.6	69.5	1.59	1.40	-4.30
1,857.0	12.60	179.40	1,850.9	-87.9	-9.9	88.4	2.02	1.91	3.19
1,950.0	14.10	181.60	1,941.4	-109.3	-10.1	109.8	1.70	1.61	2.37
2,044.0	15.50	181.90	2,032.2	-133.3	-10.9	133.8	1.49	1.49	0.32
2,137.0	16.90	183.90	2,121.5	-159.3	-12.2	159.7	1.62	1.51	2.15
2,231.0	18.50	186.40	2,211.1	-187.7	-14.8	188.3	1.88	1.70	2.66
2,324.0	20.10	184.30	2,298.9	-218.3	-17.6	219.0	1.88	1.72	-2.26
2,418.0	21.60	182.40	2,386.7	-251.7	-19.6	252.5	1.75	1.60	-2.02
2,511.0	22.10	183.40	2,473.0	-286.3	-21.3	287.0	0.67	0.54	1.08
2,605.0	20.70	184.00	2,560.5	-320.5	-23.5	321.3	1.51	-1.49	0.64
2,698.0	18.80	183.80	2,648.1	-351.8	-25.7	352.8	2.04	-2.04	-0.22
2,792.0	20.30	182.20	2,736.6	-383.3	-27.3	384.2	1.69	1.60	-1.70
2,885.0	18.20	186.50	2,824.4	-413.8	-29.6	414.8	2.72	-2.26	4.62
2,979.0	17.60	184.70	2,913.9	-442.6	-32.4	443.7	0.87	-0.64	-1.91
3,073.0	18.30	184.10	3,003.3	-471.4	-34.6	472.7	0.77	0.74	-0.64
3,166.0	18.00	179.70	3,091.7	-500.4	-35.6	501.6	1.51	-0.32	-4.73
3,260.0	17.80	181.60	3,181.1	-529.3	-35.9	530.4	0.66	-0.21	2.02
3,353.0	17.90	180.20	3,269.7	-557.8	-36.3	558.9	0.47	0.11	-1.51
3,447.0	17.60	180.20	3,359.2	-586.4	-36.4	587.4	0.32	-0.32	0.00
3,540.0	17.10	186.80	3,448.0	-614.1	-38.1	615.1	2.18	-0.54	7.10
3,634.0	17.90	185.70	3,537.6	-642.2	-41.2	643.4	0.92	0.85	-1.17
3,728.0	19.10	185.60	3,626.8	-671.8	-44.1	673.2	1.28	1.28	-0.11
3,821.0	18.90	185.60	3,714.7	-702.0	-47.1	703.5	0.22	-0.22	0.00
3,915.0	18.20	186.40	3,803.8	-731.7	-50.2	733.4	0.79	-0.74	0.85
4,008.0	17.90	183.30	3,892.2	-760.4	-52.6	762.2	1.08	-0.32	-3.33
4,101.0	17.30	185.30	3,980.9	-788.5	-54.7	790.3	0.92	-0.65	2.15
4,195.0	18.10	180.50	4,070.4	-817.0	-56.2	818.8	1.77	0.85	-5.11
4,289.0	18.10	185.20	4,159.8	-846.1	-57.6	848.0	1.55	0.00	5.00
4,382.0	18.00	185.30	4,248.2	-874.8	-60.2	876.8	0.11	-0.11	0.11
4,476.0	19.00	182.00	4,337.4	-904.6	-62.1	906.6	1.54	1.06	-3.51
4,569.0	19.70	179.30	4,425.1	-935.4	-62.5	937.4	1.22	0.75	-2.90
4,663.0	19.70	182.40	4,513.6	-967.0	-62.9	969.0	1.11	0.00	3.30
4,757.0	20.50	185.20	4,601.9	-999.3	-65.1	1,001.3	1.33	0.85	2.98
4,850.0	19.50	185.20	4,689.3	-1,030.9	-68.0	1,033.1	1.08	-1.08	0.00
4,944.0	16.70	185.10	4,778.6	-1,060.0	-70.6	1,062.3	2.98	-2.98	-0.11
5,037.0	14.10	184.10	4,868.3	-1,084.6	-72.6	1,087.0	2.81	-2.80	-1.08
5,131.0	12.00	185.70	4,959.8	-1,105.8	-74.4	1,108.2	2.27	-2.23	1.70
5,225.0	10.50	185.00	5,052.0	-1,124.0	-76.1	1,126.5	1.60	-1.60	-0.74
5,318.0	9.10	185.10	5,143.7	-1,139.8	-77.5	1,142.3	1.51	-1.51	0.11
5,411.0	7.80	184.30	5,235.7	-1,153.4	-78.6	1,156.0	1.40	-1.40	-0.86
5,505.0	6.10	183.20	5,329.0	-1,164.8	-79.4	1,167.4	1.81	-1.81	-1.17
5,598.0	3.70	185.10	5,421.6	-1,172.7	-79.9	1,175.3	2.59	-2.58	2.04
5,692.0	3.30	179.10	5,515.4	-1,178.4	-80.1	1,181.0	0.58	-0.43	-6.38
5,786.0	2.68	169.70	5,609.3	-1,183.3	-79.7	1,185.9	0.84	-0.66	-10.00
5,879.0	2.10	225.60	5,702.2	-1,186.6	-80.5	1,189.3	2.47	-0.62	60.11
5,973.0	2.20	184.20	5,796.2	-1,189.6	-81.9	1,192.4	1.62	0.11	-44.04
5,978.3	2.17	184.55	5,801.5	-1,189.8	-81.9	1,192.6	0.61	-0.55	6.55
PERMIT TARGET BHL 2610'FNL, 1227'FEL									
6,066.0	1.70	192.00	5,889.1	-1,192.8	-82.3	1,195.5	0.61	-0.54	8.50
6,160.0	1.40	208.00	5,983.1	-1,195.1	-83.1	1,197.9	0.56	-0.32	17.02
6,177.3	1.34	209.05	6,000.4	-1,195.5	-83.3	1,198.3	0.36	-0.33	6.06
DRILL TARGET BHL 2585'FNL, 1227'FEL									
6,253.0	1.10	214.90	6,076.1	-1,196.9	-84.2	1,199.8	0.36	-0.32	7.73

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Site Lajco Pad Sec.17-T4N-R67W
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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)
6,347.0	1.10	220.40	6,170.0	-1,198.3	-85.3	1,201.3	0.11	0.00	5.85
6,440.0	1.10	220.50	6,263.0	-1,199.7	-86.4	1,202.7	0.00	0.00	0.11
6,535.0	1.10	224.20	6,358.0	-1,201.0	-87.7	1,204.2	0.07	0.00	3.89
6,628.0	1.10	234.60	6,451.0	-1,202.2	-89.0	1,205.4	0.21	0.00	11.18
6,722.0	0.90	232.40	6,545.0	-1,203.1	-90.3	1,206.5	0.22	-0.21	-2.34
6,815.0	0.80	257.40	6,638.0	-1,203.7	-91.5	1,207.2	0.41	-0.11	26.88
6,909.0	0.70	257.20	6,732.0	-1,204.0	-92.7	1,207.5	0.11	-0.11	-0.21
7,003.0	0.30	231.10	6,826.0	-1,204.3	-93.5	1,207.9	0.48	-0.43	-27.77
7,096.0	0.30	265.60	6,919.0	-1,204.5	-93.9	1,208.1	0.19	0.00	37.10
7,190.0	0.10	221.30	7,013.0	-1,204.5	-94.2	1,208.2	0.25	-0.21	-47.13
7,283.0	0.10	28.30	7,106.0	-1,204.5	-94.2	1,208.2	0.21	0.00	179.57
7,377.0	0.40	31.10	7,200.0	-1,204.2	-94.0	1,207.8	0.32	0.32	2.98
7,454.0	0.40	15.90	7,277.0	-1,203.7	-93.8	1,207.3	0.14	0.00	-19.74
7,500.0	0.40	15.90	7,323.0	-1,203.4	-93.7	1,207.0	0.00	0.00	0.00
HARDLINE 75'S OF BHL									

Checked By: _____	Approved By: _____	Date: _____
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