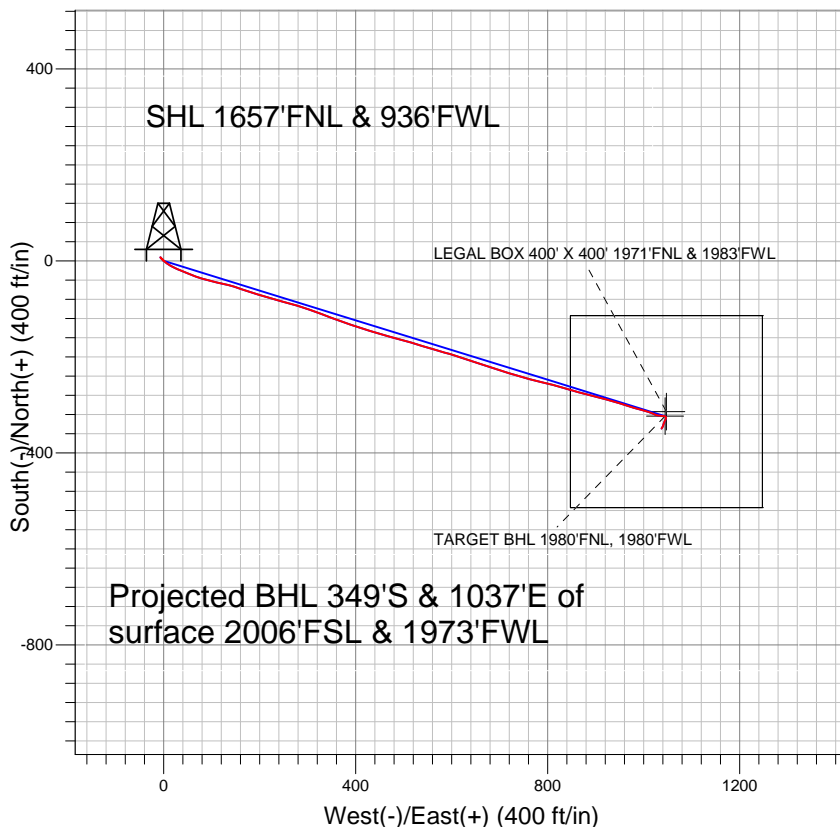
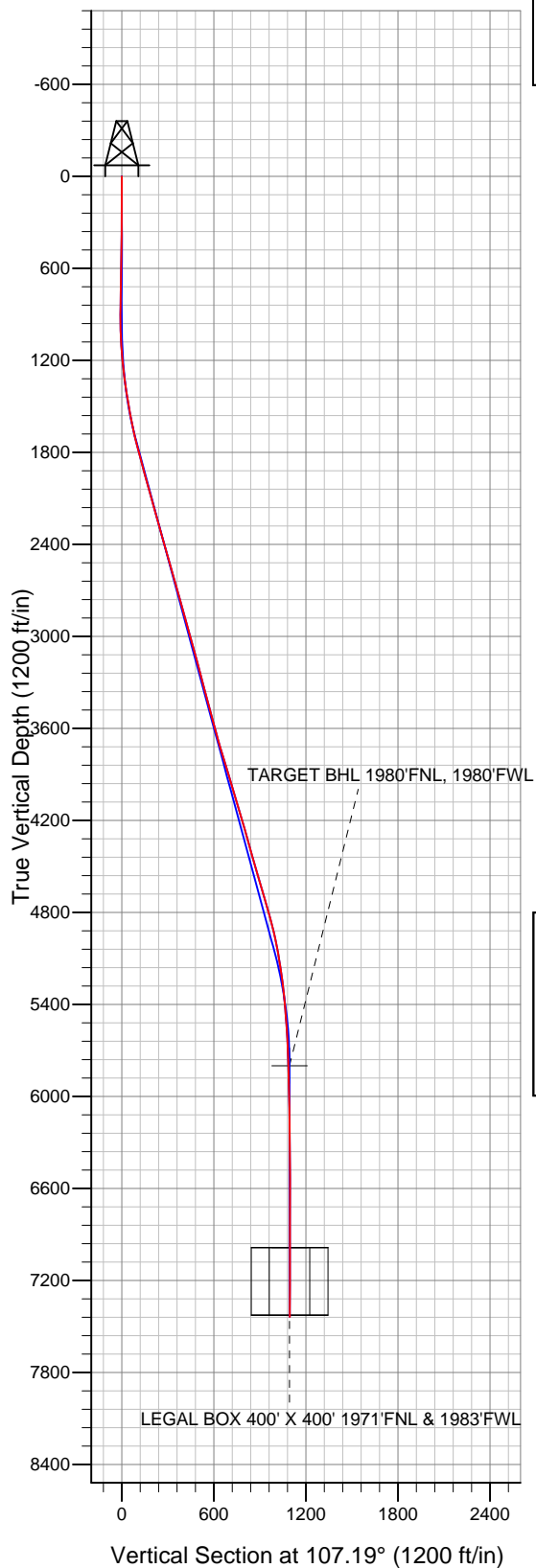


KP KAUFFMAN



LEGEND

- Koester 18-33-6, Wellbore #1, Plan #1 (2-22-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7578'MD & 7438'TVD @ 1094'VS
1.1 deg Inc 216.9 deg AZ

Project: SEC.33-T4N-R67W
Site: Koester 18-33-4 PAD SEC.33-T4N-R67W
Well: Koester 18-33-6
Plan: Wellbore #1



Directional

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SEC.33-T4N-R67W

Koester 18-33-4 PAD SEC.33-T4N-R67W

Koester 18-33-6

Wellbore #1

Survey: Survey #1

Standard Survey Report

28 April, 2011

Survey	Wellbore Data									
	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)
Survey Data	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	758.0	1.30	316.90	757.9	6.3	-5.9	-7.5	0.17	0.17	0.00
	852.0	0.50	328.40	851.9	7.4	-6.8	-8.7	0.87	-0.85	12.23
	914.0	0.20	11.30	913.9	7.7	-6.9	-8.9	0.61	-0.48	69.19
	1,007.0	1.60	144.80	1,006.9	6.8	-6.2	-7.9	1.87	1.51	143.55
	1,100.0	3.90	135.90	1,099.8	3.5	-3.2	-4.1	2.51	2.47	-9.57
	1,193.0	5.90	132.20	1,192.5	-2.0	2.5	3.0	2.18	2.15	-3.98
	1,287.0	7.30	120.60	1,285.8	-8.3	11.3	13.2	2.05	1.49	-12.34
	1,380.0	8.40	116.40	1,378.0	-14.3	22.4	25.6	1.33	1.18	-4.52
	1,473.0	9.10	109.90	1,469.9	-19.8	35.4	39.7	1.30	0.75	-6.99
	1,566.0	10.90	114.70	1,561.5	-26.0	50.3	55.8	2.13	1.94	5.16
	1,659.0	12.40	107.90	1,652.5	-32.7	67.8	74.5	2.18	1.61	-7.31
	1,752.0	13.80	106.20	1,743.1	-38.9	88.0	95.5	1.56	1.51	-1.83

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Koester 18-33-6
Project:	SEC.33-T4N-R67W	TVD Reference:	WELL @ 4936.0ft (Original Well Elev)
Site:	Koester 18-33-4 PAD SEC.33-T4N-R67W	MD Reference:	WELL @ 4936.0ft (Original Well Elev)
Well:	Koester 18-33-6	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)
1,845.0	15.20	102.40	1,833.2	-44.6	110.5	118.8	1.82	1.51	-4.09
1,939.0	15.30	103.90	1,923.9	-50.2	134.6	143.4	0.43	0.11	1.60
2,032.0	16.20	109.10	2,013.4	-57.4	158.8	168.7	1.80	0.97	5.59
2,126.0	15.30	108.20	2,103.8	-65.6	183.0	194.2	0.99	-0.96	-0.96
2,219.0	15.30	107.40	2,193.5	-73.1	206.3	218.7	0.23	0.00	-0.86
2,312.0	15.60	105.30	2,283.2	-80.1	230.1	243.5	0.68	0.32	-2.26
2,404.0	15.40	103.70	2,371.8	-86.2	253.9	268.0	0.51	-0.22	-1.74
2,498.0	15.80	108.00	2,462.4	-93.1	278.2	293.3	1.30	0.43	4.57
2,591.0	16.40	109.00	2,551.7	-101.3	302.6	319.1	0.71	0.65	1.08
2,686.0	16.40	109.60	2,642.9	-110.2	328.0	345.9	0.18	0.00	0.63
2,780.0	15.60	111.40	2,733.2	-119.2	352.2	371.7	1.00	-0.85	1.91
2,873.0	15.50	109.60	2,822.8	-128.0	375.6	396.6	0.53	-0.11	-1.94
2,966.0	15.60	108.80	2,912.4	-136.2	399.1	421.5	0.25	0.11	-0.86
3,059.0	14.90	107.90	3,002.1	-143.9	422.3	446.0	0.79	-0.75	-0.97
3,152.0	14.60	104.50	3,092.1	-150.5	445.1	469.7	0.98	-0.32	-3.66
3,246.0	15.60	106.20	3,182.8	-157.0	468.7	494.1	1.16	1.06	1.81
3,339.0	14.80	105.90	3,272.6	-163.7	492.1	518.5	0.86	-0.86	-0.32
3,432.0	15.20	104.90	3,362.4	-170.1	515.3	542.6	0.51	0.43	-1.08
3,525.0	15.00	108.20	3,452.2	-177.0	538.5	566.8	0.95	-0.22	3.55
3,618.0	14.90	106.40	3,542.0	-184.1	561.4	590.8	0.51	-0.11	-1.94
3,712.0	14.80	105.60	3,632.9	-190.8	584.6	614.9	0.24	-0.11	-0.85
3,805.0	16.70	107.00	3,722.4	-197.9	608.8	640.1	2.08	2.04	1.51
3,898.0	17.40	108.90	3,811.3	-206.3	634.7	667.4	0.96	0.75	2.04
3,991.0	17.40	107.80	3,900.1	-215.1	661.1	695.2	0.35	0.00	-1.18
4,084.0	16.80	109.00	3,989.0	-223.7	687.1	722.5	0.75	-0.65	1.29
4,178.0	16.20	107.20	4,079.1	-232.0	712.5	749.2	0.84	-0.64	-1.91
4,271.0	16.10	105.70	4,168.4	-239.3	737.3	775.1	0.46	-0.11	-1.61
4,364.0	15.60	105.10	4,257.9	-246.1	761.7	800.4	0.57	-0.54	-0.65
4,457.0	15.50	103.40	4,347.5	-252.2	785.9	825.3	0.50	-0.11	-1.83
4,550.0	16.30	104.40	4,436.9	-258.3	810.6	850.8	0.91	0.86	1.08
4,643.0	15.90	106.00	4,526.3	-265.1	835.5	876.5	0.64	-0.43	1.72
4,736.0	16.10	106.20	4,615.7	-272.2	860.2	902.2	0.22	0.22	0.22
4,829.0	16.40	104.20	4,705.0	-279.0	885.3	928.2	0.68	0.32	-2.15
4,922.0	16.40	104.90	4,794.2	-285.6	910.7	954.4	0.21	0.00	0.75
5,015.0	14.40	106.00	4,883.8	-292.2	934.5	979.1	2.17	-2.15	1.18
5,109.0	12.00	107.10	4,975.3	-298.3	955.1	1,000.6	2.57	-2.55	1.17
5,202.0	9.90	107.80	5,066.6	-303.5	971.9	1,018.2	2.26	-2.26	0.75
5,295.0	8.60	105.10	5,158.4	-307.8	986.2	1,033.2	1.47	-1.40	-2.90
5,388.0	7.40	104.80	5,250.5	-311.1	998.8	1,046.1	1.29	-1.29	-0.32
5,482.0	6.00	108.60	5,343.9	-314.3	1,009.3	1,057.1	1.56	-1.49	4.04
5,575.0	4.80	113.60	5,436.5	-317.4	1,017.4	1,065.8	1.38	-1.29	5.38
5,668.0	3.80	115.00	5,529.2	-320.2	1,023.8	1,072.7	1.08	-1.08	1.51
5,761.0	3.20	96.70	5,622.0	-321.8	1,029.2	1,078.3	1.36	-0.65	-19.68
5,854.0	2.30	96.50	5,714.9	-322.3	1,033.6	1,082.7	0.97	-0.97	-0.22
5,939.4	1.75	92.80	5,800.3	-322.6	1,036.6	1,085.6	0.66	-0.64	-4.33
TARGET BHL 1980'FNL, 1980'FWL									
5,948.0	1.70	92.30	5,808.9	-322.6	1,036.9	1,085.9	0.66	-0.63	-5.85
6,041.0	1.20	103.90	5,901.8	-322.9	1,039.2	1,088.2	0.62	-0.54	12.47
6,227.0	1.00	81.60	6,087.8	-323.1	1,042.7	1,091.6	0.25	-0.11	-11.99
6,413.0	0.70	130.40	6,273.8	-323.6	1,045.2	1,094.1	0.41	-0.16	26.24
6,600.0	1.00	172.20	6,460.8	-326.0	1,046.2	1,095.9	0.36	0.16	22.35
6,787.0	1.20	200.00	6,647.7	-329.4	1,045.8	1,096.4	0.30	0.11	14.87
6,973.0	1.40	207.20	6,833.7	-333.3	1,044.1	1,096.0	0.14	0.11	3.87
7,125.7	1.89	200.08	6,986.3	-337.3	1,042.4	1,095.5	0.35	0.32	-4.66

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Survey									
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LEGAL BOX 400' X 400' 1971'FNL & 1983'FWL									
7,159.0	2.00	199.00	7,019.6	-338.4	1,042.0	1,095.5	0.35	0.33	-3.25
7,374.0	1.80	202.80	7,234.5	-345.0	1,039.5	1,095.0	0.11	-0.09	1.77
7,530.0	1.10	216.90	7,390.4	-348.5	1,037.6	1,094.3	0.50	-0.45	9.04
7,578.0	1.10	216.90	7,438.4	-349.2	1,037.1	1,094.0	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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