



Well Name: Billings 22-18

Surface Location: Billings 22-18 Pad Sec.18-T3N-R68W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone
Ground Elevation: 5214.0
Northing Easting Latitude Longitude Slot
1327709.81 3124662.33 40.232100 -105.053500
RKB - 13' WELL @ 5227.0ft (RKB - 13')

+N/-S
0.0

+E/-W
0.0

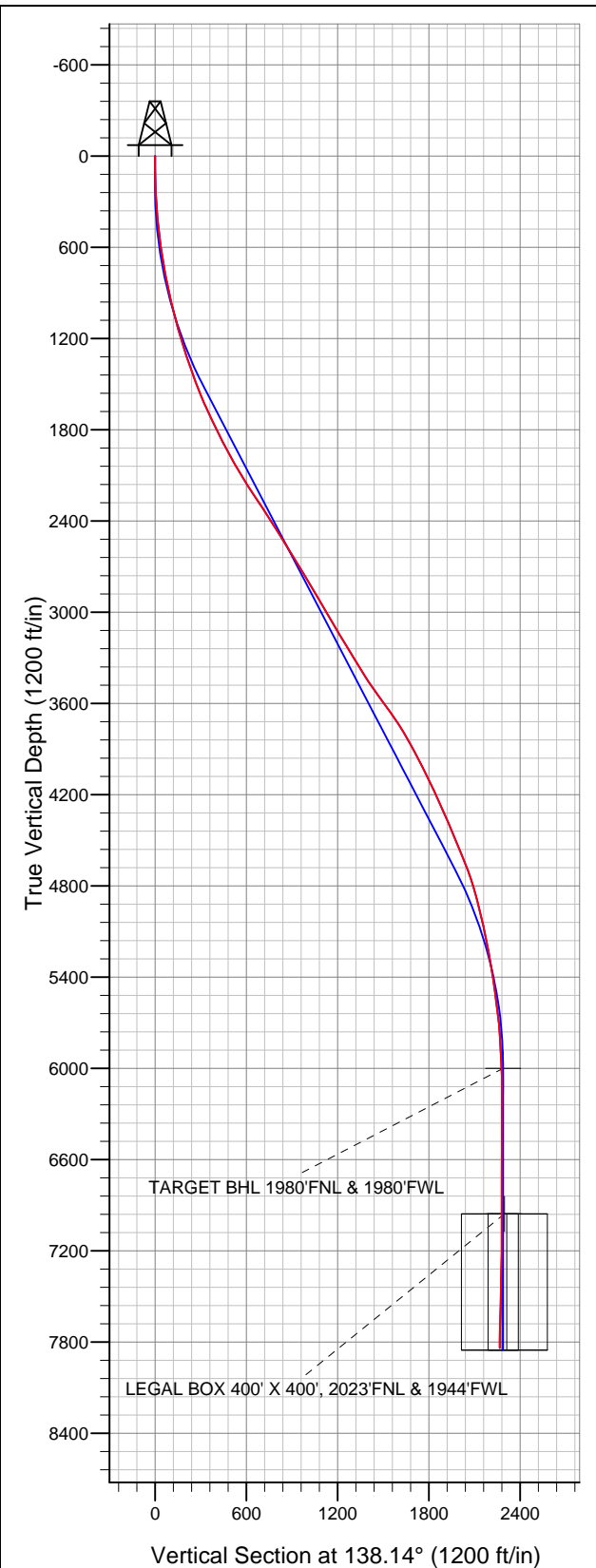
Northing
1327709.81

Easting
3124662.33

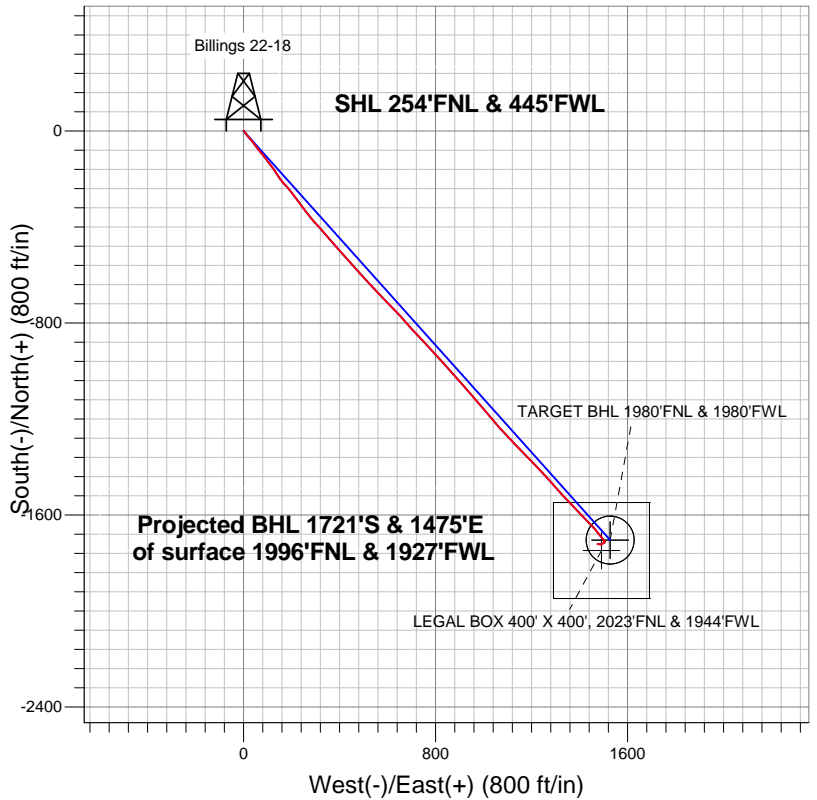
Latitude
40.232100

Longitude
-105.053500

Slot



EnCana Oil & Gas Weld County CO



LEGEND

- Billings 22-18, Wellbore #1, Plan #1 (11-27-12) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
8370'MD & 7839'TVD @ 2266'VS
1.8 deg Inc 255.3 deg AZ

Project: SEC.18-T3N-R68W
Site: Billings 22-18 Pad Sec.18-T3N-R68W
Well: Billings 22-18
Plan: Wellbore #1



EnCana Oil & Gas Weld County CO

SEC.18-T3N-R68W

Billings 22-18 Pad Sec.18-T3N-R68W

Billings 22-18

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 February, 2013

Company:	EnCana Oil & Gas Weld County CO	Local Co-ordinate Reference:	Well Billings 22-18
Project:	SEC.18-T3N-R68W	TVD Reference:	WELL @ 5227.0ft (RKB - 13')
Site:	Billings 22-18 Pad Sec.18-T3N-R68W	MD Reference:	WELL @ 5227.0ft (RKB - 13')
Well:	Billings 22-18	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)
869.0	12.00	144.00	862.9	-67.5	53.5	86.0	1.64	1.63	0.81
955.0	13.00	141.30	946.8	-82.3	64.8	104.5	1.35	1.16	-3.14
1,040.0	14.20	139.40	1,029.4	-97.7	77.6	124.5	1.51	1.41	-2.24
1,126.0	15.10	139.90	1,112.7	-114.3	91.6	146.3	1.06	1.05	0.58
1,211.0	15.60	143.10	1,194.6	-131.9	105.6	168.7	1.16	0.59	3.76
1,297.0	17.90	145.90	1,277.0	-152.1	120.0	193.3	2.83	2.67	3.26
1,383.0	19.40	147.90	1,358.5	-175.1	135.0	220.5	1.90	1.74	2.33
1,468.0	20.60	142.60	1,438.3	-199.0	151.6	249.3	2.56	1.41	-6.24
1,554.0	20.70	138.70	1,518.8	-222.4	170.8	279.6	1.60	0.12	-4.53
1,639.0	23.00	141.20	1,597.7	-246.6	191.1	311.2	2.92	2.71	2.94
1,725.0	25.80	140.80	1,676.0	-274.2	213.5	346.7	3.26	3.26	-0.47
1,811.0	25.80	144.70	1,753.4	-304.0	236.1	384.0	1.97	0.00	4.53
1,896.0	25.80	144.00	1,830.0	-334.1	257.7	420.8	0.36	0.00	-0.82
1,982.0	27.00	139.40	1,907.0	-364.0	281.4	458.9	2.76	1.40	-5.35
2,067.0	29.40	137.30	1,981.9	-394.0	308.1	499.1	3.05	2.82	-2.47
2,153.0	31.40	138.50	2,056.1	-426.3	337.3	542.6	2.43	2.33	1.40
2,239.0	32.00	139.20	2,129.3	-460.3	367.0	587.8	0.82	0.70	0.81
2,324.0	32.40	138.70	2,201.2	-494.5	396.7	633.0	0.57	0.47	-0.59
2,410.0	34.30	139.10	2,273.0	-530.1	427.8	680.3	2.22	2.21	0.47
2,495.0	32.70	138.50	2,343.9	-565.4	458.7	727.2	1.92	-1.88	-0.71
2,581.0	31.00	135.70	2,417.0	-598.7	489.6	772.6	2.62	-1.98	-3.26
2,667.0	32.40	137.10	2,490.1	-631.4	520.7	817.8	1.84	1.63	1.63
2,752.0	32.60	137.30	2,561.8	-664.9	551.8	863.4	0.27	0.24	0.24
2,838.0	32.00	136.80	2,634.5	-698.6	583.1	909.4	0.76	-0.70	-0.58
2,923.0	31.00	135.50	2,707.0	-730.6	613.8	953.8	1.42	-1.18	-1.53
3,009.0	29.80	136.40	2,781.1	-761.9	644.1	997.2	1.49	-1.40	1.05
3,095.0	30.80	139.40	2,855.4	-794.1	673.2	1,040.6	2.11	1.16	3.49
3,180.0	30.30	138.00	2,928.6	-826.5	701.7	1,083.8	1.02	-0.59	-1.65
3,266.0	31.00	135.70	3,002.6	-858.5	731.7	1,127.6	1.59	0.81	-2.67
3,351.0	30.30	137.00	3,075.7	-889.8	761.6	1,170.9	1.13	-0.82	1.53
3,437.0	30.90	137.80	3,149.7	-922.1	791.2	1,214.7	0.84	0.70	0.93
3,523.0	31.50	138.00	3,223.3	-955.1	821.1	1,259.3	0.71	0.70	0.23
3,608.0	31.30	138.00	3,295.9	-988.0	850.7	1,303.6	0.24	-0.24	0.00
3,694.0	31.60	138.00	3,369.2	-1,021.4	880.7	1,348.4	0.35	0.35	0.00
3,779.0	32.60	138.70	3,441.2	-1,055.1	910.7	1,393.6	1.26	1.18	0.82
3,865.0	35.70	139.20	3,512.4	-1,091.5	942.4	1,441.9	3.62	3.60	0.58
3,951.0	35.70	139.80	3,582.2	-1,129.7	975.0	1,492.0	0.41	0.00	0.70
4,036.0	36.20	139.80	3,651.0	-1,167.8	1,007.2	1,541.9	0.59	0.59	0.00
4,122.0	33.90	139.20	3,721.4	-1,205.4	1,039.3	1,591.3	2.70	-2.67	-0.70
4,207.0	30.40	138.70	3,793.4	-1,239.5	1,069.0	1,636.5	4.13	-4.12	-0.59
4,293.0	28.60	136.80	3,868.2	-1,270.8	1,097.5	1,678.8	2.36	-2.09	-2.21
4,379.0	27.50	135.50	3,944.1	-1,300.0	1,125.5	1,719.3	1.46	-1.28	-1.51
4,464.0	27.00	135.50	4,019.7	-1,327.8	1,152.7	1,758.1	0.59	-0.59	0.00
4,550.0	26.70	135.90	4,096.4	-1,355.6	1,179.9	1,796.9	0.41	-0.35	0.47
4,635.0	25.20	137.10	4,172.9	-1,382.5	1,205.5	1,834.1	1.87	-1.76	1.41
4,721.0	23.80	136.30	4,251.1	-1,408.5	1,229.9	1,869.8	1.67	-1.63	-0.93
4,807.0	23.40	137.80	4,329.9	-1,433.7	1,253.4	1,904.2	0.84	-0.47	1.74
4,892.0	22.90	138.00	4,408.1	-1,458.5	1,275.8	1,937.6	0.60	-0.59	0.24
4,978.0	23.30	137.80	4,487.2	-1,483.5	1,298.4	1,971.3	0.47	0.47	-0.23
5,063.0	23.00	138.70	4,565.3	-1,508.4	1,320.7	2,004.8	0.55	-0.35	1.06
5,149.0	21.60	136.40	4,644.9	-1,532.5	1,342.7	2,037.4	1.92	-1.63	-2.67
5,235.0	19.00	137.00	4,725.6	-1,554.2	1,363.1	2,067.2	3.03	-3.02	0.70
5,320.0	17.00	135.20	4,806.4	-1,573.2	1,381.3	2,093.5	2.44	-2.35	-2.12
5,406.0	14.60	135.90	4,889.1	-1,589.9	1,397.7	2,116.8	2.80	-2.79	0.81

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Well:	Billings 22-18	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)
5,493.0	13.30	137.50	4,973.6	-1,605.1	1,412.1	2,137.8	1.56	-1.49	1.84
5,581.0	12.80	136.10	5,059.3	-1,619.6	1,425.7	2,157.7	0.67	-0.57	-1.59
5,669.0	10.60	137.30	5,145.5	-1,632.6	1,438.0	2,175.5	2.52	-2.50	1.36
5,756.0	10.80	135.50	5,231.0	-1,644.3	1,449.1	2,191.6	0.45	0.23	-2.07
5,844.0	10.40	134.80	5,317.5	-1,655.8	1,460.5	2,207.8	0.48	-0.45	-0.80
5,932.0	8.50	139.10	5,404.3	-1,666.3	1,470.4	2,222.2	2.30	-2.16	4.89
6,021.0	7.70	149.60	5,492.4	-1,676.4	1,477.8	2,234.7	1.89	-0.90	11.80
6,110.0	7.20	141.00	5,580.6	-1,685.9	1,484.3	2,246.1	1.37	-0.56	-9.66
6,196.0	6.50	134.10	5,666.0	-1,693.5	1,491.2	2,256.3	1.25	-0.81	-8.02
6,282.0	4.70	139.10	5,751.6	-1,699.5	1,497.0	2,264.7	2.17	-2.09	5.81
6,368.0	3.30	147.90	5,837.4	-1,704.3	1,500.6	2,270.7	1.77	-1.63	10.23
6,454.0	2.60	157.90	5,923.3	-1,708.2	1,502.6	2,274.9	1.01	-0.81	11.63
6,540.0	2.50	158.40	6,009.2	-1,711.7	1,504.1	2,278.5	0.12	-0.12	0.58
6,626.0	1.00	116.60	6,095.1	-1,713.8	1,505.4	2,281.0	2.18	-1.74	-48.60
6,712.0	0.40	90.10	6,181.1	-1,714.1	1,506.4	2,281.9	0.77	-0.70	-30.81
6,884.0	0.40	272.80	6,353.1	-1,714.1	1,506.4	2,281.9	0.46	0.00	-103.08
7,055.0	0.80	273.20	6,524.1	-1,714.0	1,504.6	2,280.6	0.23	0.23	0.23
7,227.0	1.50	246.50	6,696.1	-1,714.8	1,501.3	2,279.0	0.50	0.41	-15.52
7,399.0	1.80	216.20	6,868.0	-1,717.9	1,497.7	2,278.9	0.53	0.17	-17.62
7,571.0	1.50	220.10	7,040.0	-1,721.8	1,494.6	2,279.8	0.19	-0.17	2.27
7,743.0	1.10	277.10	7,211.9	-1,723.3	1,491.6	2,278.8	0.75	-0.23	33.14
7,914.0	1.20	284.40	7,382.9	-1,722.7	1,488.2	2,276.1	0.10	0.06	4.27
8,086.0	1.90	283.90	7,554.8	-1,721.6	1,483.7	2,272.3	0.41	0.41	-0.29
8,258.0	1.90	272.50	7,726.7	-1,720.8	1,478.1	2,267.9	0.22	0.00	-6.63
8,327.0	1.80	255.30	7,795.7	-1,721.0	1,475.9	2,266.6	0.81	-0.14	-24.93
8,370.0	1.80	255.30	7,838.7	-1,721.3	1,474.6	2,266.0	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____