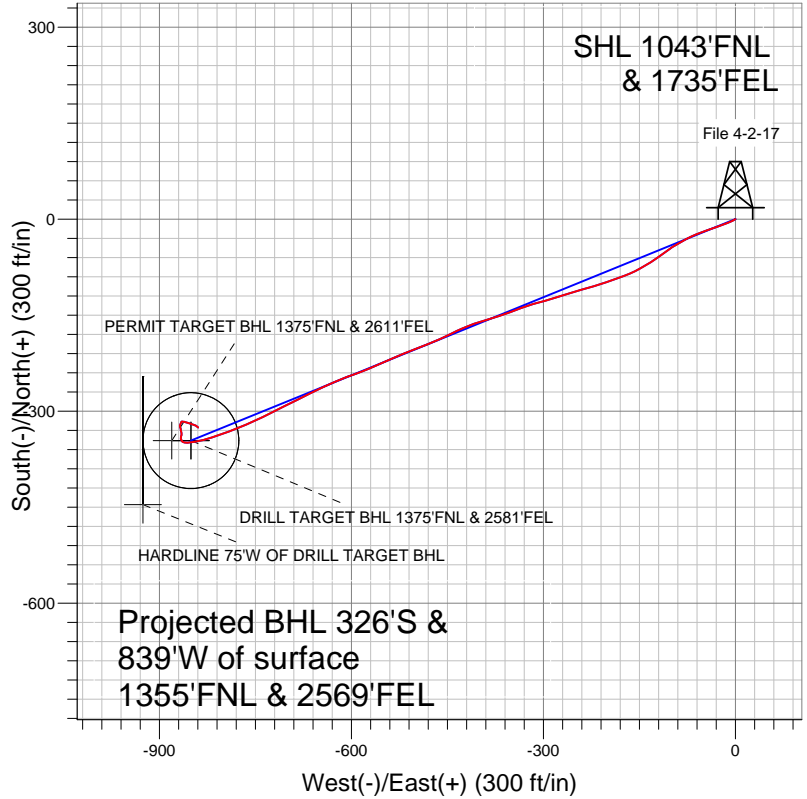


## EnCana Oil & Gas Weld County CO



### LEGEND

- File 4-2-17, Wellbore #1, Plan #2 (3-23-12) R V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
 8120'MD & 8024'TVD @ 900'VS  
 0.9 deg Inc 134.6 deg AZ

Project: SEC.17-T2N-R68W  
 Site: File 31-17 Pad Sec.17-T2N-R68W  
 Well: File 4-2-17  
 Plan: Wellbore #1



# **EnCana Oil & Gas Weld County CO**

**SEC.17-T2N-R68W**

**File 31-17 Pad Sec.17-T2N-R68W**

**File 4-2-17**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**02 April, 2012**

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)
Main Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	80.0	0.60	234.80	80.0	-0.2	-0.3	0.4	0.75	0.75	0.00
	170.0	0.70	243.00	170.0	-0.8	-1.2	1.4	0.15	0.11	9.11
	262.0	2.10	242.40	262.0	-1.8	-3.2	3.7	1.52	1.52	-0.65
	353.0	4.40	246.00	352.8	-4.0	-7.9	8.8	2.54	2.53	3.96
	444.0	6.10	249.00	443.4	-7.1	-15.6	17.1	1.89	1.87	3.30
	536.0	7.30	249.00	534.8	-11.0	-25.6	27.9	1.30	1.30	0.00
	628.0	9.10	251.50	625.9	-15.4	-38.0	41.0	1.99	1.96	2.72
	720.0	10.50	251.30	716.5	-20.4	-52.8	56.6	1.52	1.52	-0.22
	812.0	11.20	243.20	806.9	-27.1	-68.7	73.9	1.82	0.76	-8.80
	905.0	12.30	240.30	897.9	-36.1	-85.4	92.7	1.34	1.18	-3.12
	980.0	11.90	238.90	971.3	-44.0	-98.9	108.2	0.66	-0.53	-1.87
	998.0	11.60	235.50	988.9	-46.0	-102.0	111.8	4.19	-1.67	-18.89

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well File 4-2-17
<b>Project:</b>	SEC.17-T2N-R68W	<b>TVD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Site:</b>	File 31-17 Pad Sec.17-T2N-R68W	<b>MD Reference:</b>	WELL @ 4896.0ft (Original Well Elev)
<b>Well:</b>	File 4-2-17	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
1,091.0	11.40	232.50	1,080.0	-56.9	-117.0	129.8	0.68	-0.22	-3.23	
1,183.0	11.90	238.40	1,170.1	-67.4	-132.3	148.0	1.40	0.54	6.41	
1,276.0	11.30	240.00	1,261.2	-77.0	-148.4	166.5	0.73	-0.65	1.72	
1,369.0	11.50	247.30	1,352.4	-85.1	-164.8	184.7	1.57	0.22	7.85	
1,462.0	12.20	251.00	1,443.4	-91.9	-182.7	203.8	1.11	0.75	3.98	
1,555.0	12.70	251.00	1,534.2	-98.4	-201.6	223.9	0.54	0.54	0.00	
1,648.0	12.50	253.10	1,625.0	-104.7	-220.9	244.1	0.54	-0.22	2.26	
1,741.0	12.00	254.30	1,715.9	-110.2	-239.9	263.7	0.60	-0.54	1.29	
1,834.0	12.50	253.10	1,806.7	-115.8	-258.8	283.3	0.60	0.54	-1.29	
1,927.0	12.80	252.20	1,897.5	-121.9	-278.2	303.6	0.39	0.32	-0.97	
2,020.0	12.00	254.50	1,988.3	-127.6	-297.4	323.5	1.01	-0.86	2.47	
2,113.0	11.60	254.00	2,079.4	-132.7	-315.7	342.4	0.44	-0.43	-0.54	
2,206.0	12.10	249.90	2,170.4	-138.7	-333.8	361.4	1.05	0.54	-4.41	
2,299.0	11.50	249.20	2,261.4	-145.3	-351.6	380.5	0.66	-0.65	-0.75	
2,392.0	12.20	252.50	2,352.4	-151.6	-369.7	399.5	1.05	0.75	3.55	
2,485.0	12.90	253.60	2,443.2	-157.4	-389.0	419.6	0.80	0.75	1.18	
2,578.0	12.40	250.40	2,533.9	-163.7	-408.4	439.9	0.93	-0.54	-3.44	
2,671.0	11.70	247.40	2,624.9	-170.7	-426.5	459.4	1.01	-0.75	-3.23	
2,764.0	12.00	242.00	2,715.9	-178.9	-443.7	478.4	1.23	0.32	-5.81	
2,857.0	12.20	246.60	2,806.9	-187.3	-461.3	497.8	1.06	0.22	4.95	
2,950.0	13.00	248.70	2,897.6	-195.0	-480.0	518.1	0.99	0.86	2.26	
3,043.0	12.50	247.30	2,988.3	-202.7	-499.1	538.7	0.63	-0.54	-1.51	
3,136.0	12.70	249.00	3,079.1	-210.2	-517.9	558.9	0.45	0.22	1.83	
3,230.0	12.70	246.20	3,170.8	-218.1	-537.0	579.6	0.65	0.00	-2.98	
3,323.0	12.00	247.40	3,261.6	-226.0	-555.3	599.5	0.80	-0.75	1.29	
3,416.0	11.90	244.80	3,352.6	-233.8	-572.9	618.7	0.59	-0.11	-2.80	
3,509.0	10.90	251.10	3,443.8	-240.7	-589.9	637.1	1.72	-1.08	6.77	
3,601.0	12.10	249.90	3,533.9	-246.8	-607.2	655.4	1.33	1.30	-1.30	
3,694.0	12.50	246.60	3,624.8	-254.2	-625.5	675.2	0.87	0.43	-3.55	
3,787.0	13.10	245.00	3,715.5	-262.6	-644.3	695.8	0.75	0.65	-1.72	
3,881.0	14.00	243.40	3,806.9	-272.2	-664.2	717.8	1.04	0.96	-1.70	
3,974.0	14.80	243.40	3,896.9	-282.6	-684.8	740.8	0.86	0.86	0.00	
4,068.0	14.10	244.30	3,988.0	-292.9	-705.9	764.2	0.78	-0.74	0.96	
4,161.0	13.50	242.70	4,078.3	-302.8	-725.7	786.3	0.76	-0.65	-1.72	
4,254.0	13.10	245.00	4,168.8	-312.2	-744.9	807.7	0.71	-0.43	2.47	
4,346.0	12.10	246.40	4,258.6	-320.5	-763.2	827.7	1.14	-1.09	1.52	
4,439.0	12.40	249.00	4,349.5	-328.0	-781.5	847.5	0.68	0.32	2.80	
4,532.0	10.70	250.40	4,440.6	-334.4	-798.9	866.1	1.85	-1.83	1.51	
4,625.0	8.50	250.40	4,532.3	-339.7	-813.5	881.6	2.37	-2.37	0.00	
4,718.0	7.40	254.40	4,624.4	-343.6	-825.8	894.4	1.32	-1.18	4.30	
4,811.0	5.70	258.80	4,716.8	-346.1	-836.1	904.9	1.90	-1.83	4.73	
4,904.0	4.70	258.00	4,809.4	-347.8	-844.3	913.2	1.08	-1.08	-0.86	
4,997.0	3.30	264.80	4,902.2	-348.8	-850.7	919.5	1.59	-1.51	7.31	
5,090.0	1.80	262.00	4,995.1	-349.2	-854.8	923.4	1.62	-1.61	-3.01	
5,094.8	1.75	262.26	4,999.9	-349.3	-855.0	923.6	1.00	-0.98	5.44	
DRILL TARGET BHL 1375'FNL & 2581'FEL										
5,095.5	1.75	262.30	5,000.6	-349.3	-855.0	923.6	1.00	-0.98	5.61	
PERMIT TARGET BHL 1375'FNL & 2611'FEL										
5,183.0	0.90	271.90	5,088.0	-349.4	-857.0	925.5	1.00	-0.97	10.97	
5,276.0	1.20	282.10	5,181.0	-349.2	-858.7	927.0	0.38	0.32	10.97	
5,369.0	0.90	278.20	5,274.0	-348.9	-860.4	928.4	0.33	-0.32	-4.19	
5,462.0	0.70	289.10	5,367.0	-348.6	-861.6	929.5	0.27	-0.22	11.72	
5,555.0	0.30	268.90	5,460.0	-348.4	-862.4	930.1	0.46	-0.43	-21.72	
5,648.0	0.50	296.80	5,553.0	-348.2	-863.0	930.6	0.29	0.22	30.00	

**Company:** EnCana Oil & Gas Weld County CO  
**Project:** SEC.17-T2N-R68W  
**Site:** File 31-17 Pad Sec.17-T2N-R68W  
**Well:** File 4-2-17  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well File 4-2-17  
**TVD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4896.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**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)
5,741.0	0.70	309.80	5,646.0	-347.7	-863.8	931.2	0.26	0.22	13.98
5,834.0	0.80	329.90	5,739.0	-346.8	-864.6	931.5	0.30	0.11	21.61
5,927.0	0.70	347.60	5,832.0	-345.7	-865.0	931.5	0.27	-0.11	19.03
6,020.0	0.70	285.60	5,925.0	-344.9	-865.7	931.9	0.78	0.00	-66.67
6,113.0	0.90	1.50	6,017.9	-344.1	-866.2	932.0	1.07	0.22	81.61
6,205.0	1.70	358.20	6,109.9	-342.0	-866.3	931.3	0.87	0.87	-3.59
6,299.0	1.40	13.10	6,203.9	-339.5	-866.0	930.1	0.53	-0.32	15.85
6,392.0	1.50	12.20	6,296.9	-337.2	-865.5	928.8	0.11	0.11	-0.97
6,485.0	1.10	354.70	6,389.8	-335.1	-865.4	927.8	0.60	-0.43	-18.82
6,578.0	1.40	344.60	6,482.8	-333.1	-865.7	927.4	0.40	0.32	-10.86
6,671.0	1.70	354.10	6,575.8	-330.6	-866.2	926.9	0.42	0.32	10.22
6,764.0	2.10	347.50	6,668.7	-327.6	-866.7	926.2	0.49	0.43	-7.10
6,857.0	1.70	342.70	6,761.7	-324.6	-867.5	925.8	0.46	-0.43	-5.16
6,950.0	1.20	9.30	6,854.6	-322.3	-867.7	925.2	0.89	-0.54	28.60
7,043.0	1.30	22.40	6,947.6	-320.4	-867.2	924.0	0.32	0.11	14.09
7,136.0	1.10	36.60	7,040.6	-318.7	-866.2	922.5	0.38	-0.22	15.27
7,228.0	1.20	0.30	7,132.6	-317.0	-865.7	921.4	0.79	0.11	-39.46
7,253.4	0.97	30.38	7,158.0	-316.6	-865.6	921.1	2.39	-0.92	118.53
TARGET CIRCLE 1375'FNL & 2581'FEL									
7,322.0	1.80	95.00	7,226.6	-316.2	-864.2	919.7	2.39	1.21	94.17
7,414.0	2.80	108.20	7,318.5	-317.0	-860.6	916.7	1.22	1.09	14.35
7,507.0	2.70	103.50	7,411.4	-318.2	-856.4	913.2	0.27	-0.11	-5.05
7,600.0	2.60	105.10	7,504.3	-319.3	-852.2	909.7	0.13	-0.11	1.72
7,693.0	2.00	116.00	7,597.2	-320.6	-848.7	906.9	0.80	-0.65	11.72
7,786.0	1.80	104.30	7,690.2	-321.6	-845.8	904.7	0.47	-0.22	-12.58
7,879.0	1.80	118.90	7,783.1	-322.7	-843.1	902.6	0.49	0.00	15.70
7,972.0	1.10	128.80	7,876.1	-324.0	-841.2	901.2	0.80	-0.75	10.65
8,078.0	1.00	131.20	7,982.1	-325.2	-839.7	900.3	0.10	-0.09	2.26
8,109.2	0.93	133.66	8,013.3	-325.6	-839.3	900.1	0.27	-0.24	7.87
HARDLINE 75'W OF DRILL TARGET BHL									
8,120.0	0.90	134.60	8,024.1	-325.7	-839.2	900.0	0.27	-0.24	8.74

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_