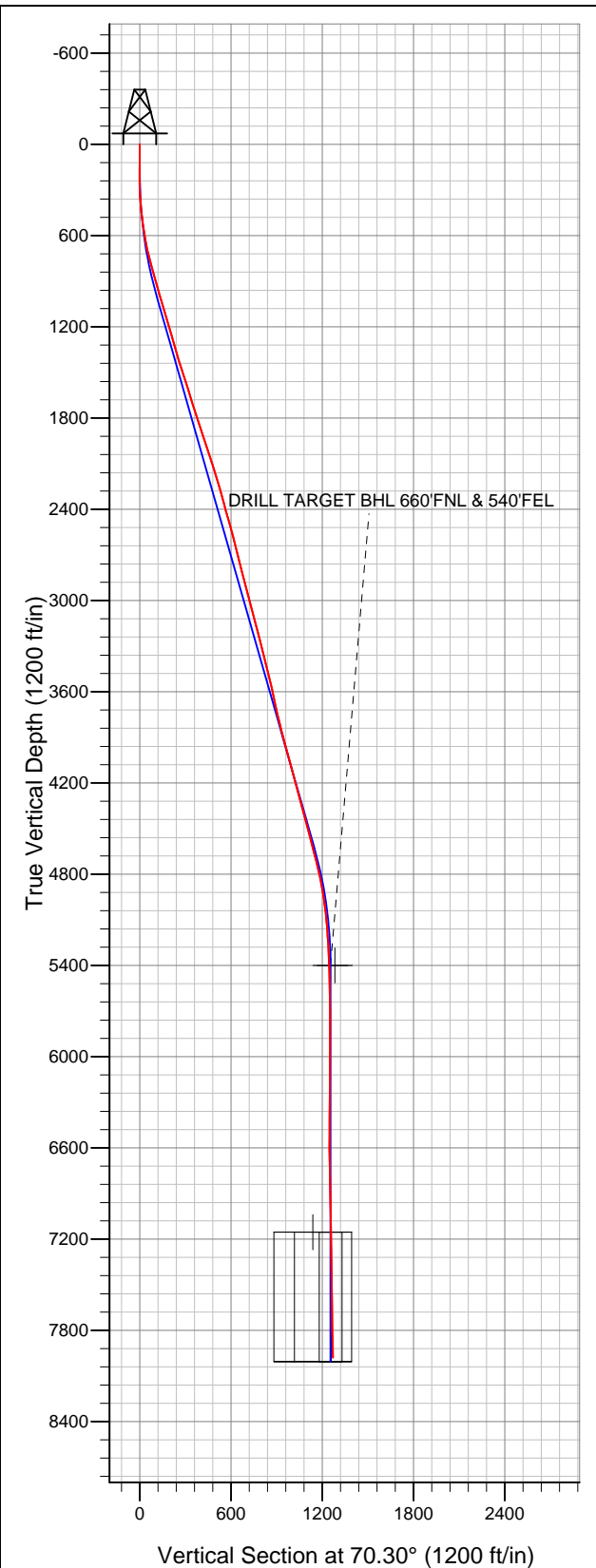


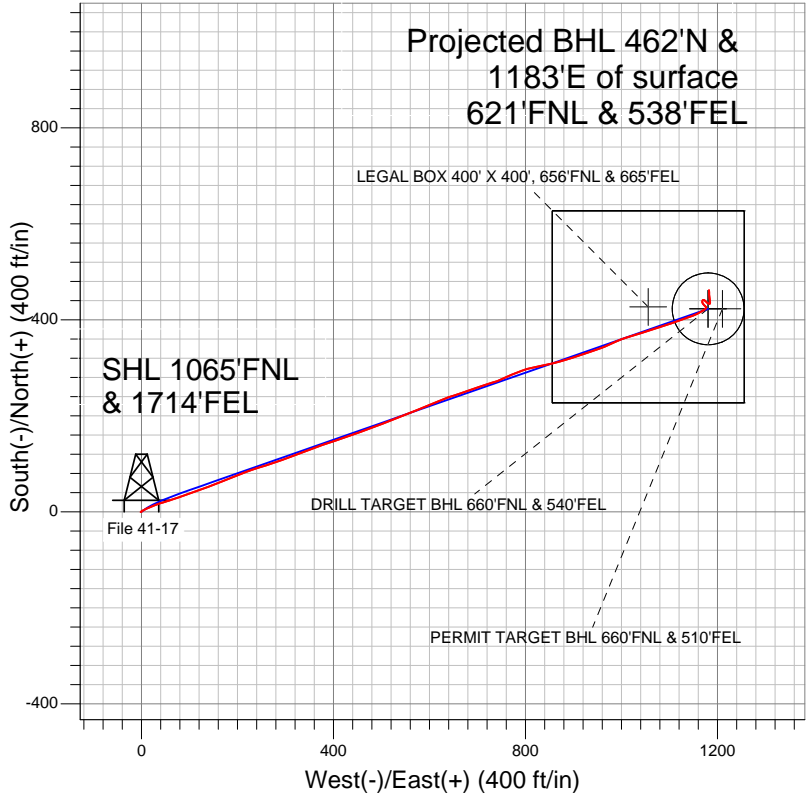
**Well Name: File 41-17**

Surface Location: File 31-17 Pad Sec.17-T2N-R68W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4882.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1295277.74	3133145.63	40.142950	-105.023740	
		Original Well Elev	WELL @ 4895.0ft (Original Well Elev)			



**EnCana Oil & Gas Weld County CO**



**LEGEND**

- Survey #1
- File 41-17, Wellbore #1, Plan #2 (3-1-12) R V0
- Wellbore #1

**Final Survey Plot**

Projected Final Survey -  
8143'MD & 7979'TVD @ 1269'VS  
2.60 deg Inc 355.60 deg AZ

Project: SEC.17-T2N-R68W  
Site: File 31-17 Pad Sec.17-T2N-R68W  
Well: File 41-17  
Plan: Wellbore #1



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

**SEC.17-T2N-R68W**

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

**File 41-17**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**12 March, 2012**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well File 41-17
<b>Project:</b>	SEC.17-T2N-R68W	<b>TVD Reference:</b>	WELL @ 4895.0ft (Original Well Elev)
<b>Site:</b>	File 31-17 Pad Sec.17-T2N-R68W	<b>MD Reference:</b>	WELL @ 4895.0ft (Original Well Elev)
<b>Well:</b>	File 41-17	<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

<b>Project</b>	SEC.17-T2N-R68W, Weld County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		File 31-17 Pad Sec.17-T2N-R68W			
Site Position:		Northing:	1,295,292.25 ft	Latitude:	40.142990
From:	Lat/Long	Easting:	3,133,131.57 ft	Longitude:	-105.023790
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.31 °

Well	File 41-17					
Well Position	+N/-S	0.0 ft	Northing:	1,295,277.74 ft	Latitude:	40.142950
	+E/-W	0.0 ft	Easting:	3,133,145.63 ft	Longitude:	-105.023740
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,882.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/1/2012	8.88	66.78	52,893

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 (°)	
	0.0	0.0	0.0	70.30	

Survey Program		Date	3/12/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
79.0	8,143.0	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)
Main Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	79.0	0.60	244.30	79.0	-0.2	-0.4	-0.4	0.76	0.76	0.00
	170.0	0.70	248.60	170.0	-0.6	-1.3	-1.4	0.12	0.11	4.73
	261.0	0.90	49.10	261.0	-0.3	-1.3	-1.3	1.73	0.22	176.37
	353.0	3.80	56.40	352.9	1.8	1.8	2.3	3.16	3.15	7.93
	444.0	6.40	65.60	443.5	5.6	8.9	10.3	2.99	2.86	10.11
	536.0	8.00	67.10	534.8	10.2	19.5	21.8	1.75	1.74	1.63
	628.0	9.90	70.40	625.7	15.4	32.8	36.1	2.14	2.07	3.59
	720.0	13.10	73.60	715.8	21.0	50.3	54.4	3.55	3.48	3.48
	813.0	16.00	70.20	805.8	28.3	72.5	77.8	3.25	3.12	-3.66
	906.0	16.20	71.20	895.2	36.8	96.8	103.5	0.37	0.22	1.08
	999.0	16.00	70.00	984.5	45.4	121.1	129.3	0.42	-0.22	-1.29
1,092.0	16.00	68.80	1,073.9	54.4	145.1	155.0	0.36	0.00	-1.29	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well File 41-17
<b>Project:</b>	SEC.17-T2N-R68W	<b>TVD Reference:</b>	WELL @ 4895.0ft (Original Well Elev)
<b>Site:</b>	File 31-17 Pad Sec.17-T2N-R68W	<b>MD Reference:</b>	WELL @ 4895.0ft (Original Well Elev)
<b>Well:</b>	File 41-17	<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)	
1,185.0	16.60	68.70	1,163.2	63.8	169.5	181.1	0.65	0.65	-0.11	
1,278.0	16.10	68.60	1,252.4	73.4	193.8	207.2	0.54	-0.54	-0.11	
1,371.0	15.70	69.20	1,341.9	82.5	217.6	232.7	0.47	-0.43	0.65	
1,464.0	17.50	72.00	1,431.0	91.3	242.7	259.3	2.12	1.94	3.01	
1,557.0	18.50	72.80	1,519.4	100.0	270.1	288.0	1.11	1.08	0.86	
1,650.0	17.20	69.90	1,608.0	109.1	297.1	316.5	1.69	-1.40	-3.12	
1,743.0	17.50	69.10	1,696.7	118.8	323.1	344.2	0.41	0.32	-0.86	
1,836.0	17.00	69.20	1,785.6	128.6	348.8	371.8	0.54	-0.54	0.11	
1,929.0	19.20	71.10	1,874.0	138.4	376.0	400.7	2.45	2.37	2.04	
2,022.0	18.50	70.70	1,962.0	148.2	404.4	430.7	0.77	-0.75	-0.43	
2,115.0	18.20	71.00	2,050.2	157.9	432.1	460.0	0.34	-0.32	0.32	
2,208.0	17.10	70.80	2,138.9	167.1	458.7	488.2	1.18	-1.18	-0.22	
2,301.0	16.20	69.10	2,228.0	176.2	483.7	514.8	1.10	-0.97	-1.83	
2,394.0	15.80	68.40	2,317.4	185.5	507.6	540.4	0.48	-0.43	-0.75	
2,487.0	15.30	67.80	2,406.9	194.8	530.8	565.4	0.56	-0.54	-0.65	
2,580.0	15.20	69.80	2,496.7	203.6	553.6	589.8	0.58	-0.11	2.15	
2,672.0	14.80	68.00	2,585.5	212.2	575.8	613.6	0.67	-0.43	-1.96	
2,765.0	14.50	66.60	2,675.5	221.3	597.5	637.1	0.50	-0.32	-1.51	
2,858.0	14.40	67.60	2,765.6	230.3	618.9	660.3	0.29	-0.11	1.08	
2,952.0	14.00	70.50	2,856.7	238.6	640.4	683.3	0.87	-0.43	3.09	
3,045.0	15.20	72.40	2,946.7	246.0	662.6	706.7	1.39	1.29	2.04	
3,138.0	14.70	69.80	3,036.6	253.8	685.3	730.7	0.90	-0.54	-2.80	
3,231.0	14.50	72.10	3,126.5	261.4	707.5	754.2	0.66	-0.22	2.47	
3,324.0	14.90	72.50	3,216.5	268.6	729.9	777.7	0.44	0.43	0.43	
3,417.0	13.80	66.60	3,306.6	276.6	751.5	800.8	1.97	-1.18	-6.34	
3,510.0	14.20	66.10	3,396.8	285.6	772.1	823.2	0.45	0.43	-0.54	
3,602.0	14.00	70.30	3,486.1	293.9	792.9	845.6	1.13	-0.22	4.57	
3,694.0	13.00	77.50	3,575.5	299.9	813.5	867.0	2.12	-1.09	7.83	
3,787.0	12.20	78.00	3,666.3	304.2	833.3	887.1	0.87	-0.86	0.54	
3,880.0	12.60	78.00	3,757.1	308.4	852.9	906.9	0.43	0.43	0.00	
3,973.0	14.70	75.10	3,847.5	313.5	874.2	928.7	2.37	2.26	-3.12	
4,066.0	15.80	72.00	3,937.2	320.5	897.6	953.1	1.47	1.18	-3.33	
4,159.0	15.00	70.00	4,026.9	328.5	921.0	977.8	1.03	-0.86	-2.15	
4,252.0	14.20	73.60	4,116.9	335.8	943.2	1,001.2	1.30	-0.86	3.87	
4,345.0	15.50	65.20	4,206.8	344.3	965.5	1,025.0	2.70	1.40	-9.03	
4,438.0	14.90	66.60	4,296.5	354.2	987.7	1,049.3	0.76	-0.65	1.51	
4,531.0	15.40	72.50	4,386.3	362.7	1,010.5	1,073.6	1.74	0.54	6.34	
4,624.0	15.30	71.90	4,476.0	370.2	1,033.9	1,098.2	0.20	-0.11	-0.65	
4,717.0	14.10	74.60	4,565.9	377.0	1,056.5	1,121.8	1.49	-1.29	2.90	
4,810.0	14.50	70.80	4,656.1	383.9	1,078.4	1,144.7	1.10	0.43	-4.09	
4,903.0	13.60	71.30	4,746.3	391.2	1,099.8	1,167.3	0.98	-0.97	0.54	
4,997.0	12.10	70.60	4,837.9	398.0	1,119.5	1,188.2	1.60	-1.60	-0.74	
5,090.0	9.20	70.70	4,929.3	403.7	1,135.7	1,205.4	3.12	-3.12	0.11	
5,183.0	6.90	70.40	5,021.4	408.1	1,148.0	1,218.4	2.47	-2.47	-0.32	
5,276.0	4.90	63.20	5,113.9	411.7	1,156.8	1,227.9	2.29	-2.15	-7.74	
5,369.0	3.90	60.30	5,206.6	415.1	1,163.1	1,235.0	1.10	-1.08	-3.12	
5,462.0	2.90	55.80	5,299.5	418.0	1,167.8	1,240.4	1.11	-1.08	-4.84	
5,555.0	2.30	56.80	5,392.4	420.3	1,171.3	1,244.5	0.65	-0.65	1.08	
5,563.0	2.23	56.77	5,400.3	420.5	1,171.6	1,244.8	0.86	-0.86	-0.36	
DRILL TARGET BHL 660'FNL & 540'FEL										
5,563.8	2.22	56.77	5,401.1	420.5	1,171.6	1,244.8	0.86	-0.86	-0.37	
PERMIT TARGET BHL 660'FNL & 510'FEL										
5,648.0	1.50	56.30	5,485.3	422.0	1,173.9	1,247.5	0.86	-0.86	-0.56	
5,741.0	1.10	51.30	5,578.3	423.3	1,175.6	1,249.5	0.45	-0.43	-5.38	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well File 41-17
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<b>Well:</b>	File 41-17	<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)
5,834.0	0.80	12.70	5,671.3	424.4	1,176.4	1,250.7	0.74	-0.32	-41.51
5,927.0	0.80	345.30	5,764.3	425.7	1,176.4	1,251.1	0.41	0.00	-29.46
6,020.0	0.50	324.30	5,857.3	426.7	1,176.0	1,251.0	0.41	-0.32	-22.58
6,113.0	0.40	312.80	5,950.2	427.2	1,175.5	1,250.8	0.14	-0.11	-12.37
6,206.0	0.40	289.80	6,043.2	427.5	1,175.0	1,250.4	0.17	0.00	-24.73
6,299.0	0.70	322.10	6,136.2	428.1	1,174.3	1,249.9	0.45	0.32	34.73
6,392.0	0.80	309.20	6,229.2	429.0	1,173.5	1,249.4	0.21	0.11	-13.87
6,485.0	1.00	325.70	6,322.2	430.0	1,172.5	1,248.9	0.35	0.22	17.74
6,578.0	1.30	315.60	6,415.2	431.5	1,171.3	1,248.2	0.39	0.32	-10.86
6,671.0	1.80	324.10	6,508.2	433.4	1,169.7	1,247.4	0.59	0.54	9.14
6,762.0	2.20	347.20	6,599.1	436.3	1,168.5	1,247.2	0.98	0.44	25.38
6,854.0	1.80	21.10	6,691.1	439.3	1,168.7	1,248.3	1.33	-0.43	36.85
6,947.0	1.20	73.10	6,784.0	441.0	1,170.1	1,250.3	1.53	-0.65	55.91
7,040.0	1.40	113.50	6,877.0	440.8	1,172.1	1,252.1	0.99	0.22	43.44
7,133.0	1.80	130.60	6,970.0	439.4	1,174.2	1,253.6	0.67	0.43	18.39
7,226.0	1.80	139.30	7,062.9	437.3	1,176.3	1,254.9	0.29	0.00	9.35
7,314.9	2.37	124.41	7,151.8	435.2	1,178.7	1,256.5	0.88	0.64	-16.75
<b>LEGAL BOX 400' X 400', 656'FNL &amp; 665'FEL</b>									
7,318.5	2.40	123.96	7,155.4	435.2	1,178.8	1,256.5	0.88	0.71	-12.44
<b>TARGET CIRCLE 660'FNL &amp; 540'FEL</b>									
7,319.0	2.40	123.90	7,155.9	435.2	1,178.9	1,256.6	0.88	0.71	-12.29
7,412.0	1.80	114.40	7,248.8	433.5	1,181.8	1,258.8	0.74	-0.65	-10.22
7,505.0	0.70	79.50	7,341.8	433.0	1,183.7	1,260.4	1.39	-1.18	-37.53
7,598.0	1.50	13.50	7,434.8	434.3	1,184.5	1,261.6	1.48	0.86	-70.97
7,691.0	2.30	349.70	7,527.7	437.3	1,184.5	1,262.6	1.19	0.86	-25.59
7,784.0	2.90	352.60	7,620.6	441.4	1,183.9	1,263.4	0.66	0.65	3.12
7,877.0	3.50	353.30	7,713.5	446.6	1,183.2	1,264.5	0.65	0.65	0.75
7,970.0	3.50	0.10	7,806.3	452.3	1,182.9	1,266.1	0.45	0.00	7.31
8,063.0	3.10	357.60	7,899.1	457.6	1,182.8	1,267.8	0.46	-0.43	-2.69
8,143.0	2.60	355.60	7,979.1	461.6	1,182.6	1,268.9	0.64	-0.63	-2.50

Checked By: _____	Approved By: _____	Date: _____
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