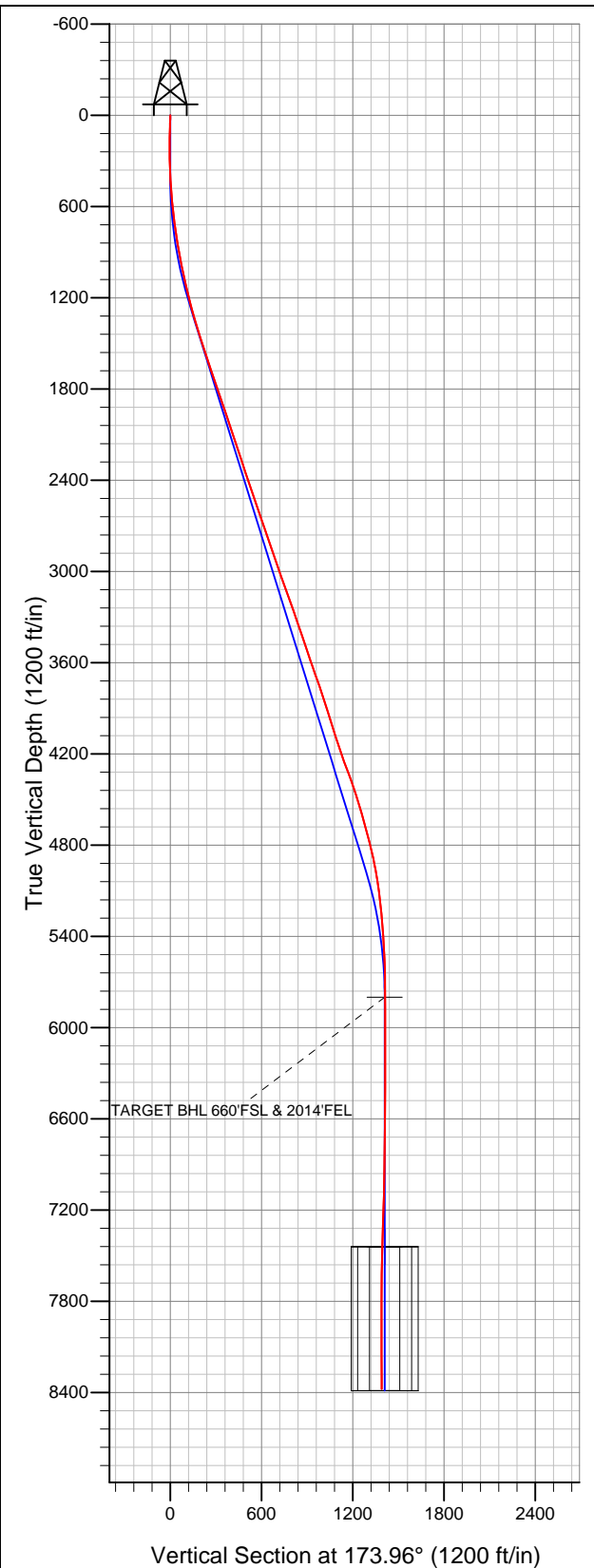


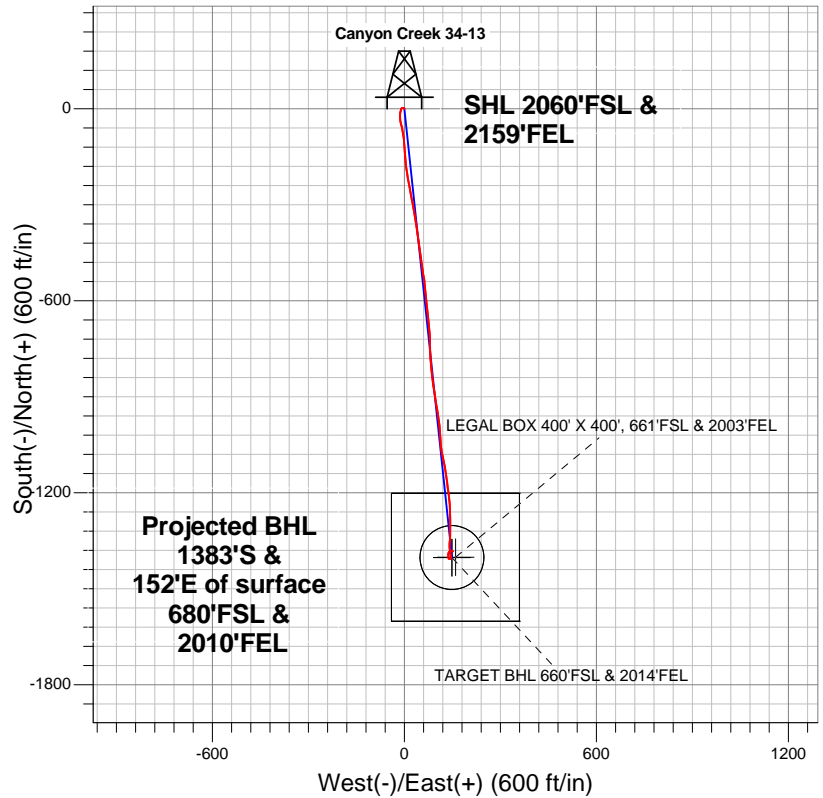
**Well Name: Canyon Creek 34-13**

Surface Location: Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 5058.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1261219.67	3122281.58	40.049610	-105.063200	
Original Well Elev		WELL @ 5071.0ft (Original Well Elev)				



**EnCana Oil & Gas Boulder County, CO**



**LEGEND**

- Wellbore #1
- Canyon Creek 34-13, Wellbore #1, Plan #1 (6-8-12) R V0
- Survey #1

**Final Survey Plot**

Projected Final Survey -  
8590'MD & 8377'TVD @ 1391'VS  
0.70 deg Inc 108.20 deg AZ

Project: SEC.13-T1N-R69W  
Site: Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W  
Well: Canyon Creek 34-13  
Plan: Wellbore #1



# **EnCana Oil & Gas Boulder County, CO**

**SEC.13-T1N-R69W**

**Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W**

**Canyon Creek 34-13**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**15 June, 2012**

<b>Company:</b>	EnCana Oil & Gas Boulder County, CO	<b>Local Co-ordinate Reference:</b>	Well Canyon Creek 34-13
<b>Project:</b>	SEC.13-T1N-R69W	<b>TVD Reference:</b>	WELL @ 5071.0ft (Original Well Elev)
<b>Site:</b>	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W	<b>MD Reference:</b>	WELL @ 5071.0ft (Original Well Elev)
<b>Well:</b>	Canyon Creek 34-13	<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.13-T1N-R69W, Boulder County, Colorado		
<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	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W				
Site Position:		Northing:	1,261,226.92 ft	Latitude:	40.049630
From:	Lat/Long	Easting:	3,122,273.14 ft	Longitude:	-105.063230
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.28 °

Well	Canyon Creek 34-13					
Well Position	+N-S	0.0 ft	Northing:	1,261,219.67 ft	Latitude:	40.049610
	+E-W	0.0 ft	Easting:	3,122,281.58 ft	Longitude:	-105.063200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,058.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/5/2012	8.86	66.68	52,810

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 (°)	
	5,800.0	0.0	0.0	173.96	

Survey Program		Date	6/15/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.0	8,590.0	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
25.0	0.96	313.11	25.0	0.1	-0.2	-0.2	3.84	3.84	0.00
50.0	1.18	315.43	50.0	0.5	-0.5	-0.5	0.90	0.88	9.28
75.0	1.09	297.53	75.0	0.8	-0.9	-0.9	1.46	-0.36	-71.60
100.0	1.27	305.16	100.0	1.0	-1.3	-1.2	0.95	0.72	30.52
125.0	1.45	298.16	125.0	1.3	-1.8	-1.5	0.98	0.72	-28.00
150.0	1.61	293.66	150.0	1.6	-2.4	-1.9	0.80	0.64	-18.00
175.0	1.69	301.60	175.0	2.0	-3.1	-2.3	0.97	0.32	31.76
191.0	1.70	303.42	191.0	2.2	-3.5	-2.6	0.34	0.06	11.38
284.0	2.10	260.00	283.9	2.7	-6.3	-3.3	1.56	0.43	-46.69
376.0	2.90	219.30	375.8	0.6	-9.4	-1.6	2.06	0.87	-44.24
468.0	4.30	188.50	467.6	-4.6	-11.4	3.4	2.54	1.52	-33.48
560.0	5.80	192.20	559.3	-12.6	-12.9	11.2	1.67	1.63	4.02

<b>Company:</b>	EnCana Oil & Gas Boulder County, CO	<b>Local Co-ordinate Reference:</b>	Well Canyon Creek 34-13
<b>Project:</b>	SEC.13-T1N-R69W	<b>TVD Reference:</b>	WELL @ 5071.0ft (Original Well Elev)
<b>Site:</b>	Canyon Creek 4-6-13 Pad Sec.13-T1N-R69W	<b>MD Reference:</b>	WELL @ 5071.0ft (Original Well Elev)
<b>Well:</b>	Canyon Creek 34-13	<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)	
651.0	7.20	180.10	649.7	-22.8	-13.9	21.2	2.14	1.54	-13.30	
743.0	8.80	173.20	740.8	-35.5	-13.1	34.0	2.03	1.74	-7.50	
786.0	8.80	170.80	783.3	-42.0	-12.1	40.5	0.85	0.00	-5.58	
850.0	9.00	167.00	846.5	-51.8	-10.2	50.4	0.97	0.31	-5.94	
938.0	10.00	166.40	933.3	-65.9	-6.9	64.8	1.14	1.14	-0.68	
1,025.0	11.50	168.30	1,018.8	-81.7	-3.4	80.9	1.77	1.72	2.18	
1,112.0	12.80	176.90	1,103.9	-99.8	-1.1	99.2	2.56	1.49	9.89	
1,200.0	14.30	175.90	1,189.4	-120.4	0.2	119.8	1.73	1.70	-1.14	
1,287.0	15.60	176.60	1,273.5	-142.8	1.7	142.2	1.51	1.49	0.80	
1,374.0	16.40	173.90	1,357.1	-166.7	3.7	166.2	1.26	0.92	-3.10	
1,461.0	17.20	171.60	1,440.4	-191.6	6.9	191.3	1.20	0.92	-2.64	
1,549.0	18.20	171.30	1,524.2	-218.1	10.9	218.0	1.14	1.14	-0.34	
1,636.0	18.40	168.30	1,606.8	-245.0	15.7	245.3	1.11	0.23	-3.45	
1,723.0	19.00	169.90	1,689.2	-272.4	21.0	273.1	0.91	0.69	1.84	
1,811.0	19.30	171.30	1,772.3	-300.8	25.7	301.9	0.62	0.34	1.59	
1,898.0	18.60	167.40	1,854.6	-328.6	30.9	330.0	1.66	-0.80	-4.48	
1,985.0	18.40	170.80	1,937.1	-355.7	36.1	357.5	1.26	-0.23	3.91	
2,073.0	18.50	171.80	2,020.6	-383.2	40.3	385.3	0.38	0.11	1.14	
2,160.0	18.30	171.10	2,103.2	-410.4	44.4	412.8	0.34	-0.23	-0.80	
2,247.0	18.80	172.90	2,185.6	-437.8	48.2	440.4	0.87	0.57	2.07	
2,334.0	18.30	175.00	2,268.1	-465.3	51.2	468.1	0.96	-0.57	2.41	
2,422.0	18.00	171.30	2,351.8	-492.5	54.4	495.5	1.35	-0.34	-4.20	
2,509.0	18.40	168.50	2,434.4	-519.2	59.2	522.6	1.11	0.46	-3.22	
2,596.0	19.20	174.40	2,516.8	-546.9	63.3	550.6	2.37	0.92	6.78	
2,684.0	19.60	175.30	2,599.8	-576.1	66.0	579.8	0.57	0.45	1.02	
2,771.0	19.70	173.20	2,681.7	-605.2	68.9	609.0	0.82	0.11	-2.41	
2,858.0	18.80	173.60	2,763.8	-633.6	72.2	637.7	1.05	-1.03	0.46	
2,946.0	18.30	173.90	2,847.3	-661.5	75.2	665.7	0.58	-0.57	0.34	
3,033.0	18.60	177.60	2,929.8	-688.9	77.3	693.2	1.39	0.34	4.25	
3,120.0	19.10	175.30	3,012.1	-717.0	79.0	721.3	1.03	0.57	-2.64	
3,207.0	20.40	179.20	3,094.0	-746.3	80.4	750.6	2.13	1.49	4.48	
3,295.0	20.00	177.60	3,176.6	-776.7	81.2	780.9	0.78	-0.45	-1.82	
3,382.0	19.50	173.60	3,258.5	-806.0	83.5	810.3	1.66	-0.57	-4.60	
3,469.0	18.60	173.70	3,340.7	-834.2	86.6	838.7	1.04	-1.03	0.11	
3,557.0	19.40	172.70	3,423.9	-862.7	90.0	867.3	0.98	0.91	-1.14	
3,644.0	18.90	170.80	3,506.1	-890.9	94.1	895.9	0.92	-0.57	-2.18	
3,731.0	18.30	170.40	3,588.6	-918.3	98.6	923.6	0.71	-0.69	-0.46	
3,819.0	19.50	171.60	3,671.8	-946.4	103.1	952.0	1.43	1.36	1.36	
3,906.0	18.90	171.10	3,754.0	-974.7	107.4	980.6	0.72	-0.69	-0.57	
3,993.0	18.50	175.90	3,836.4	-1,002.4	110.6	1,008.5	1.83	-0.46	5.52	
4,080.0	17.40	176.40	3,919.2	-1,029.2	112.4	1,035.3	1.28	-1.26	0.57	
4,168.0	17.20	175.00	4,003.2	-1,055.2	114.3	1,061.4	0.52	-0.23	-1.59	
4,255.0	17.80	167.80	4,086.2	-1,081.1	118.2	1,087.5	2.58	0.69	-8.28	
4,342.0	18.60	167.80	4,168.8	-1,107.6	124.0	1,114.5	0.92	0.92	0.00	
4,430.0	20.80	172.30	4,251.7	-1,136.8	129.0	1,144.1	3.03	2.50	5.11	
4,517.0	20.30	171.60	4,333.1	-1,167.1	133.3	1,174.6	0.64	-0.57	-0.80	
4,604.0	19.00	173.90	4,415.1	-1,196.1	137.0	1,203.9	1.74	-1.49	2.64	
4,692.0	16.80	172.70	4,498.8	-1,222.9	140.2	1,230.9	2.53	-2.50	-1.36	
4,779.0	16.90	175.70	4,582.1	-1,248.0	142.7	1,256.1	1.01	0.11	3.45	
4,866.0	15.10	182.50	4,665.7	-1,272.0	143.2	1,280.0	2.98	-2.07	7.82	
4,953.0	14.90	181.30	4,749.7	-1,294.5	142.4	1,302.3	0.42	-0.23	-1.38	
5,041.0	13.50	177.60	4,835.0	-1,316.0	142.6	1,323.7	1.90	-1.59	-4.20	
5,128.0	11.30	181.50	4,920.0	-1,334.7	142.8	1,342.3	2.70	-2.53	4.48	
5,215.0	9.50	185.00	5,005.6	-1,350.4	142.0	1,357.8	2.19	-2.07	4.02	

<b>Company:</b>	EnCana Oil & Gas Boulder County, CO	<b>Local Co-ordinate Reference:</b>	Well Canyon Creek 34-13
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<b>Well:</b>	Canyon Creek 34-13	<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)	
5,303.0	7.50	181.70	5,092.6	-1,363.4	141.1	1,370.6	2.34	-2.27	-3.75	
5,390.0	6.60	177.40	5,178.9	-1,374.0	141.2	1,381.3	1.20	-1.03	-4.94	
5,477.0	5.20	170.40	5,265.5	-1,382.9	142.1	1,390.2	1.81	-1.61	-8.05	
5,565.0	4.60	169.90	5,353.2	-1,390.3	143.4	1,397.7	0.68	-0.68	-0.57	
5,652.0	3.00	166.70	5,440.0	-1,396.0	144.5	1,403.4	1.85	-1.84	-3.68	
5,739.0	2.90	173.40	5,526.9	-1,400.4	145.3	1,407.9	0.41	-0.11	7.70	
5,826.0	1.80	201.70	5,613.8	-1,403.8	145.0	1,411.3	1.80	-1.26	32.53	
5,914.0	0.70	225.60	5,701.8	-1,405.5	144.1	1,412.9	1.36	-1.25	27.16	
6,012.2	0.57	238.61	5,799.9	-1,406.2	143.3	1,413.4	0.20	-0.13	13.25	
<b>TARGET BHL 660'FSL &amp; 2014'FEL</b>										
6,088.0	0.50	252.70	5,875.8	-1,406.5	142.7	1,413.7	0.20	-0.09	18.58	
6,263.0	0.20	266.00	6,050.7	-1,406.7	141.6	1,413.8	0.18	-0.17	7.60	
6,438.0	0.40	271.30	6,225.7	-1,406.7	140.7	1,413.7	0.12	0.11	3.03	
6,612.0	0.60	288.60	6,399.7	-1,406.4	139.2	1,413.3	0.14	0.11	9.94	
6,787.0	0.50	351.00	6,574.7	-1,405.4	138.2	1,412.1	0.33	-0.06	35.66	
6,961.0	0.50	342.50	6,748.7	-1,403.9	137.9	1,410.6	0.04	0.00	-4.89	
7,136.0	0.90	347.20	6,923.7	-1,401.8	137.4	1,408.5	0.23	0.23	2.69	
7,311.0	1.50	357.40	7,098.7	-1,398.2	137.0	1,404.8	0.36	0.34	5.83	
7,485.0	1.80	6.00	7,272.6	-1,393.2	137.1	1,399.9	0.22	0.17	4.94	
7,653.1	1.80	18.20	7,440.6	-1,388.1	138.2	1,394.9	0.23	0.00	7.26	
<b>TARGET CIRCLE 660'FSL &amp; 2014'FEL</b>										
7,653.3	1.80	18.20	7,440.8	-1,388.1	138.2	1,394.9	0.00	0.00	0.00	
<b>LEGAL BOX 400' X 400', 661'FSL &amp; 2003'FEL</b>										
7,660.0	1.80	18.70	7,447.5	-1,387.9	138.3	1,394.7	0.23	0.02	7.40	
7,834.0	1.20	49.80	7,621.5	-1,384.1	140.6	1,391.2	0.57	-0.34	17.87	
8,009.0	1.00	77.80	7,796.4	-1,382.6	143.5	1,390.0	0.32	-0.11	16.00	
8,184.0	0.90	88.00	7,971.4	-1,382.2	146.3	1,389.9	0.11	-0.06	5.83	
8,358.0	0.80	90.40	8,145.4	-1,382.2	148.9	1,390.2	0.06	-0.06	1.38	
8,533.0	0.70	108.20	8,320.4	-1,382.5	151.2	1,390.8	0.14	-0.06	10.17	
8,590.0	0.70	108.20	8,377.4	-1,382.7	151.8	1,391.0	0.00	0.00	0.00	

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