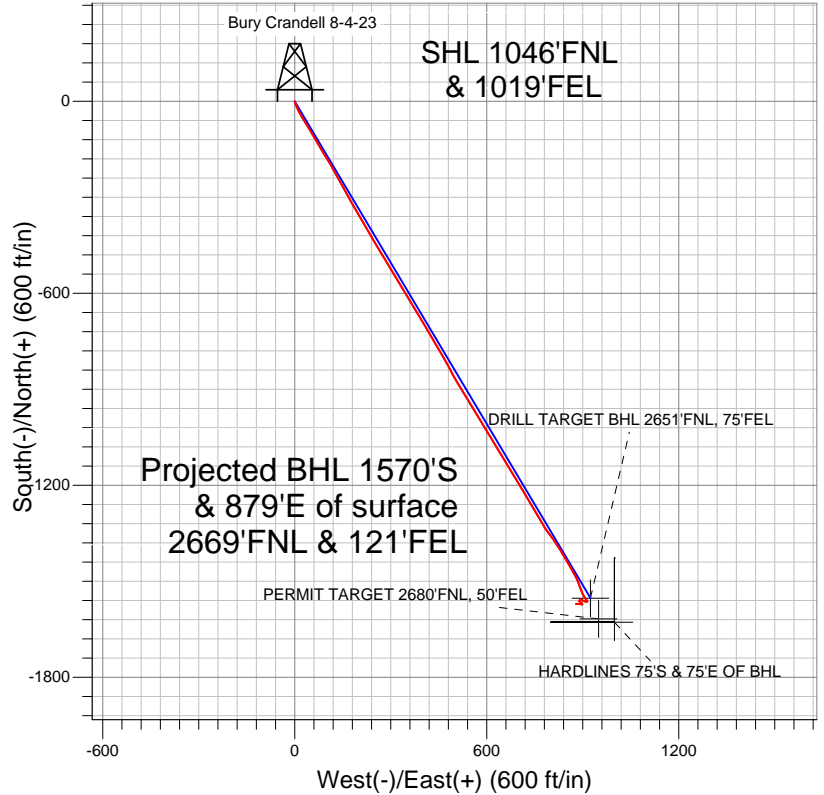
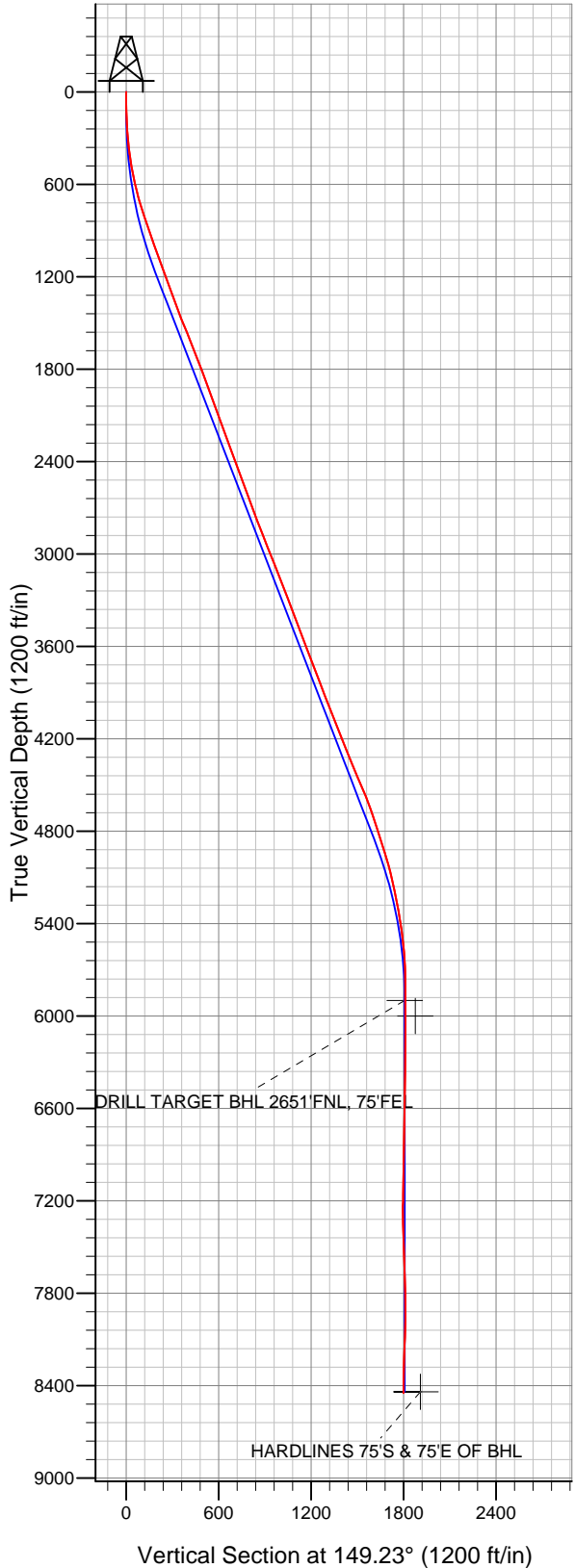


Well Name: Bury Crandell 8-4-23

Surface Location: Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W
 North American Datum 1983 US State Plane 1983Colorado Northern Zone
 Ground Elevation: 5113.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1258347.13	3149832.47	40.041310	-104.964850	
Original Well Elev WELL @ 5126.0ft (Original Well Elev)						

EnCana Oil & Gas Broomfield County, CO



LEGEND

- Survey #1
- △ Bury Crandell 8-4-23, Wellbore #1, Plan #2 (1-5-12) R V0
- Wellbore #1

Final Survey Plot

Projected Final Survey -
 8762'MD & 8449'TVD @ 1799'VS
 1.70 deg Inc 274.70 deg AZ

Project: SEC.23-T1N-R68W
 Site: Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W
 Well: Bury Crandell 8-4-23
 Plan: Wellbore #1



EnCana Oil & Gas Broomfield County, CO

SEC.23-T1N-R68W

Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W

Bury Crandell 8-4-23

Wellbore #1

Survey: Survey #1

Standard Survey Report

16 January, 2012

Company:	EnCana Oil & Gas Broomfield County, CO	Local Co-ordinate Reference:	Well Bury Crandell 8-4-23
Project:	SEC.23-T1N-R68W	TVD Reference:	WELL @ 5126.0ft (Original Well Elev)
Site:	Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W	MD Reference:	WELL @ 5126.0ft (Original Well Elev)
Well:	Bury Crandell 8-4-23	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.23-T1N-R68W, Broomfield County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W			
Site Position:		Northing:	1,258,365.55 ft	Latitude:	40.041360
From:	Lat/Long	Easting:	3,149,865.96 ft	Longitude:	-104.964730
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.35 °

Well	Bury Crandell 8-4-23					
Well Position	+N/-S	0.0 ft	Northing:	1,258,347.13 ft	Latitude:	40.041310
	+E/-W	0.0 ft	Easting:	3,149,832.47 ft	Longitude:	-104.964850
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,113.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/5/2012	8.86	66.71	52,859

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	149.23	

Survey Program		Date	1/16/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
78.0	8,762.0	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
78.0	0.30	203.80	78.0	-0.2	-0.1	0.1	0.38	0.38	0.00
169.0	2.20	166.60	169.0	-2.1	0.2	1.9	2.16	2.09	-40.88
260.0	4.60	158.30	259.8	-7.2	2.0	7.2	2.69	2.64	-9.12
351.0	6.30	156.90	350.4	-15.2	5.3	15.7	1.87	1.87	-1.54
442.0	8.40	155.70	440.6	-25.8	10.0	27.3	2.31	2.31	-1.32
533.0	11.10	151.10	530.3	-39.6	17.0	42.7	3.09	2.97	-5.05
624.0	13.60	147.60	619.2	-56.3	26.9	62.1	2.87	2.75	-3.85
715.0	15.80	149.70	707.2	-76.0	38.9	85.2	2.49	2.42	2.31
808.0	17.80	149.00	796.3	-99.1	52.6	112.1	2.16	2.15	-0.75
902.0	19.60	149.50	885.3	-125.0	68.0	142.2	1.92	1.91	0.53
995.0	19.70	148.10	972.9	-151.8	84.2	173.5	0.52	0.11	-1.51
1,066.0	20.40	149.50	1,039.6	-172.6	96.8	197.8	1.20	0.99	1.97

Company:	EnCana Oil & Gas Broomfield County, CO	Local Co-ordinate Reference:	Well Bury Crandell 8-4-23
Project:	SEC.23-T1N-R68W	TVD Reference:	WELL @ 5126.0ft (Original Well Elev)
Site:	Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W	MD Reference:	WELL @ 5126.0ft (Original Well Elev)
Well:	Bury Crandell 8-4-23	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)	
1,153.0	20.50	149.50	1,121.1	-198.8	112.3	228.2	0.11	0.11	0.00	
1,246.0	19.60	150.90	1,208.4	-226.4	128.1	260.1	1.10	-0.97	1.51	
1,340.0	19.20	152.70	1,297.1	-254.0	142.9	291.3	0.77	-0.43	1.91	
1,433.0	20.30	150.70	1,384.6	-281.6	157.8	322.7	1.39	1.18	-2.15	
1,527.0	22.20	149.90	1,472.2	-311.2	174.7	356.7	2.04	2.02	-0.85	
1,620.0	22.20	150.20	1,558.4	-341.6	192.2	391.9	0.12	0.00	0.32	
1,714.0	21.80	149.50	1,645.5	-372.1	209.9	427.1	0.51	-0.43	-0.74	
1,807.0	20.90	150.90	1,732.1	-401.5	226.7	460.9	1.11	-0.97	1.51	
1,901.0	20.30	149.30	1,820.1	-430.1	243.2	494.0	0.88	-0.64	-1.70	
1,994.0	19.90	148.60	1,907.4	-457.5	259.7	526.0	0.50	-0.43	-0.75	
2,088.0	20.00	148.50	1,995.8	-484.9	276.4	558.0	0.11	0.11	-0.11	
2,182.0	20.80	148.80	2,083.9	-512.9	293.5	590.8	0.86	0.85	0.32	
2,275.0	21.00	148.10	2,170.8	-541.1	310.8	624.0	0.34	0.22	-0.75	
2,369.0	20.00	149.20	2,258.8	-569.2	328.0	656.9	1.14	-1.06	1.17	
2,462.0	19.40	148.80	2,346.4	-596.1	344.1	688.2	0.66	-0.65	-0.43	
2,555.0	19.90	149.20	2,434.0	-622.9	360.2	719.5	0.56	0.54	0.43	
2,649.0	21.10	150.60	2,522.0	-651.4	376.7	752.4	1.38	1.28	1.49	
2,743.0	19.60	148.50	2,610.2	-679.6	393.2	785.1	1.77	-1.60	-2.23	
2,836.0	20.30	149.50	2,697.6	-706.8	409.6	816.8	0.84	0.75	1.08	
2,929.0	21.10	149.30	2,784.6	-735.1	426.3	849.7	0.86	0.86	-0.22	
3,023.0	21.50	149.20	2,872.2	-764.4	443.8	883.9	0.43	0.43	-0.11	
3,116.0	21.80	149.90	2,958.6	-794.0	461.2	918.2	0.43	0.32	0.75	
3,210.0	22.30	151.60	3,045.7	-824.8	478.4	953.4	0.86	0.53	1.81	
3,305.0	21.50	151.80	3,133.9	-856.0	495.2	988.8	0.85	-0.84	0.21	
3,399.0	20.20	149.00	3,221.7	-885.1	511.7	1,022.3	1.74	-1.38	-2.98	
3,492.0	20.40	148.10	3,308.9	-912.6	528.5	1,054.5	0.40	0.22	-0.97	
3,586.0	21.90	148.80	3,396.6	-941.5	546.3	1,088.5	1.62	1.60	0.74	
3,679.0	21.40	147.90	3,483.0	-970.7	564.3	1,122.8	0.65	-0.54	-0.97	
3,773.0	20.10	148.60	3,570.9	-999.0	581.8	1,156.1	1.41	-1.38	0.74	
3,866.0	20.00	148.10	3,658.3	-1,026.2	598.5	1,187.9	0.21	-0.11	-0.54	
3,961.0	21.10	151.10	3,747.3	-1,055.0	615.4	1,221.3	1.60	1.16	3.16	
4,056.0	21.50	148.30	3,835.8	-1,084.7	632.8	1,255.8	1.15	0.42	-2.95	
4,150.0	21.40	147.90	3,923.3	-1,113.9	651.0	1,290.1	0.19	-0.11	-0.43	
4,244.0	21.40	150.70	4,010.8	-1,143.4	668.5	1,324.4	1.09	0.00	2.98	
4,337.0	21.40	148.50	4,097.4	-1,172.7	685.6	1,358.4	0.86	0.00	-2.37	
4,430.0	21.80	147.00	4,183.8	-1,201.6	703.9	1,392.6	0.73	0.43	-1.61	
4,524.0	21.90	147.70	4,271.1	-1,231.1	722.8	1,427.5	0.30	0.11	0.74	
4,617.0	22.40	150.90	4,357.2	-1,261.2	740.7	1,462.6	1.40	0.54	3.44	
4,711.0	23.10	152.30	4,443.9	-1,293.2	757.9	1,498.9	0.94	0.74	1.49	
4,804.0	23.30	147.00	4,529.4	-1,324.8	776.4	1,535.5	2.25	0.22	-5.70	
4,898.0	20.40	144.00	4,616.6	-1,353.6	796.2	1,570.4	3.30	-3.09	-3.19	
4,991.0	18.60	144.20	4,704.3	-1,378.8	814.4	1,601.3	1.94	-1.94	0.22	
5,085.0	18.10	148.60	4,793.5	-1,403.4	830.8	1,630.9	1.57	-0.53	4.68	
5,179.0	17.60	150.90	4,883.0	-1,428.3	845.3	1,659.7	0.92	-0.53	2.45	
5,272.0	16.50	150.40	4,971.9	-1,452.0	858.7	1,686.9	1.19	-1.18	-0.54	
5,366.0	14.60	148.80	5,062.5	-1,473.8	871.4	1,712.1	2.07	-2.02	-1.70	
5,459.0	12.60	154.80	5,152.9	-1,493.0	881.8	1,733.9	2.63	-2.15	6.45	
5,553.0	11.30	161.30	5,244.8	-1,511.0	889.1	1,753.2	1.99	-1.38	6.91	
5,646.0	9.60	161.60	5,336.3	-1,527.0	894.5	1,769.6	1.83	-1.83	0.32	
5,740.0	8.60	152.00	5,429.1	-1,540.6	900.3	1,784.3	1.93	-1.06	-10.21	
5,833.0	6.50	144.90	5,521.3	-1,551.1	906.6	1,796.5	2.47	-2.26	-7.63	
5,927.0	3.80	143.50	5,614.9	-1,557.9	911.5	1,804.9	2.88	-2.87	-1.49	
6,020.0	1.20	150.90	5,707.8	-1,561.3	913.8	1,809.0	2.81	-2.80	7.96	
6,114.0	0.40	166.60	5,801.8	-1,562.4	914.3	1,810.3	0.87	-0.85	16.70	

Company:	EnCana Oil & Gas Broomfield County, CO	Local Co-ordinate Reference:	Well Bury Crandell 8-4-23
Project:	SEC.23-T1N-R68W	TVD Reference:	WELL @ 5126.0ft (Original Well Elev)
Site:	Bury Crandell 6-0-23 Pad Sec.23-T1N-R68W	MD Reference:	WELL @ 5126.0ft (Original Well Elev)
Well:	Bury Crandell 8-4-23	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)
6,207.0	0.30	224.70	5,894.8	-1,562.9	914.2	1,810.6	0.38	-0.11	62.47
6,212.1	0.30	226.20	5,899.9	-1,563.0	914.2	1,810.6	0.17	0.08	29.39
DRILL TARGET BHL 2651'FNL, 75'FEL									
6,301.0	0.40	246.20	5,988.8	-1,563.2	913.8	1,810.7	0.17	0.11	22.50
6,312.1	0.40	246.20	5,999.9	-1,563.3	913.7	1,810.6	0.00	0.00	0.00
PERMIT TARGET 2680'FNL, 50'FEL									
6,395.0	0.40	247.80	6,082.8	-1,563.5	913.2	1,810.6	0.01	0.00	1.93
6,488.0	0.60	253.70	6,175.8	-1,563.8	912.4	1,810.4	0.22	0.22	6.34
6,582.0	0.60	272.00	6,269.8	-1,563.9	911.4	1,810.0	0.20	0.00	19.47
6,676.0	0.80	278.80	6,363.8	-1,563.8	910.3	1,809.3	0.23	0.21	7.23
6,770.0	0.50	295.80	6,457.8	-1,563.5	909.3	1,808.6	0.38	-0.32	18.09
6,863.0	1.20	294.50	6,550.8	-1,562.9	908.0	1,807.4	0.75	0.75	-1.40
6,957.0	1.10	284.30	6,644.7	-1,562.3	906.2	1,806.0	0.24	-0.11	-10.85
7,050.0	1.60	283.90	6,737.7	-1,561.7	904.1	1,804.4	0.54	0.54	-0.43
7,144.0	1.80	292.80	6,831.7	-1,560.8	901.5	1,802.3	0.35	0.21	9.47
7,237.0	1.90	297.30	6,924.6	-1,559.6	898.8	1,799.8	0.19	0.11	4.84
7,331.0	1.00	240	7,018.6	-1,558.0	897.4	1,797.8	1.85	-0.96	69.26
7,424.0	1.40	256.60	7,111.6	-1,557.5	896.3	1,796.8	2.07	0.43	-113.76
7,517.0	3.30	256.70	7,204.5	-1,558.4	892.6	1,795.7	2.04	2.04	0.11
7,611.0	1.60	219.10	7,298.4	-1,560.0	889.2	1,795.3	2.40	-1.81	-40.00
7,705.0	1.20	125.40	7,392.4	-1,561.6	889.1	1,796.7	2.19	-0.43	-99.68
7,799.0	2.40	133.30	7,486.4	-1,563.5	891.4	1,799.4	1.30	1.28	8.40
7,892.0	3.20	133.20	7,579.2	-1,566.6	894.7	1,803.8	0.86	0.86	-0.11
7,986.0	2.20	146.30	7,673.1	-1,569.9	897.6	1,808.1	1.24	-1.06	13.94
8,079.0	0.80	175.00	7,766.1	-1,572.1	898.6	1,810.5	1.66	-1.51	30.86
8,173.0	0.70	274.70	7,860.1	-1,572.7	898.1	1,810.8	1.22	-0.11	106.06
8,266.0	1.40	289.90	7,953.1	-1,572.2	896.5	1,809.6	0.80	0.75	16.34
8,360.0	1.50	288.00	8,047.1	-1,571.5	894.3	1,807.7	0.12	0.11	-2.02
8,454.0	2.60	282.60	8,141.0	-1,570.6	891.0	1,805.4	1.19	1.17	-5.74
8,547.0	2.80	269.20	8,233.9	-1,570.2	886.7	1,802.8	0.71	0.22	-14.41
8,641.0	2.20	263.60	8,327.8	-1,570.4	882.6	1,800.9	0.69	-0.64	-5.96
8,716.0	1.70	274.70	8,402.8	-1,570.5	880.0	1,799.6	0.83	-0.67	14.80
8,749.6	1.70	274.70	8,436.3	-1,570.4	879.0	1,799.1	0.00	0.00	0.00
HARDLINES 75'S & 75'E OF BHL									
8,762.0	1.70	274.70	8,448.7	-1,570.4	878.7	1,798.8	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____