

Well Name: **Bearden 0-6-6**

Surface Location: Bearden 2-8-6 Pad Sec.6-T1N-R68W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4978.0

+N/-S +E/-W  
0.0 0.0

Northing  
1271153.80

Easting  
3125962.93

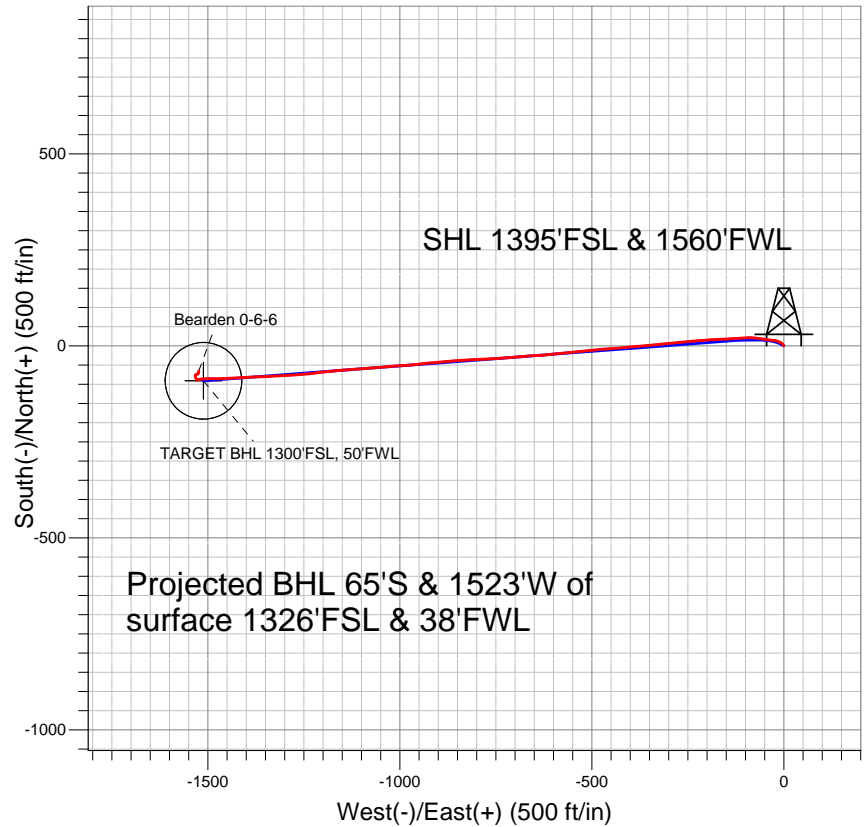
Latitude  
40.076830

Longitude  
-105.049870

Slot

Original Well Elev WELL @ 4991.0ft (Original Well Elev)

## EnCana Oil & Gas Weld County CO



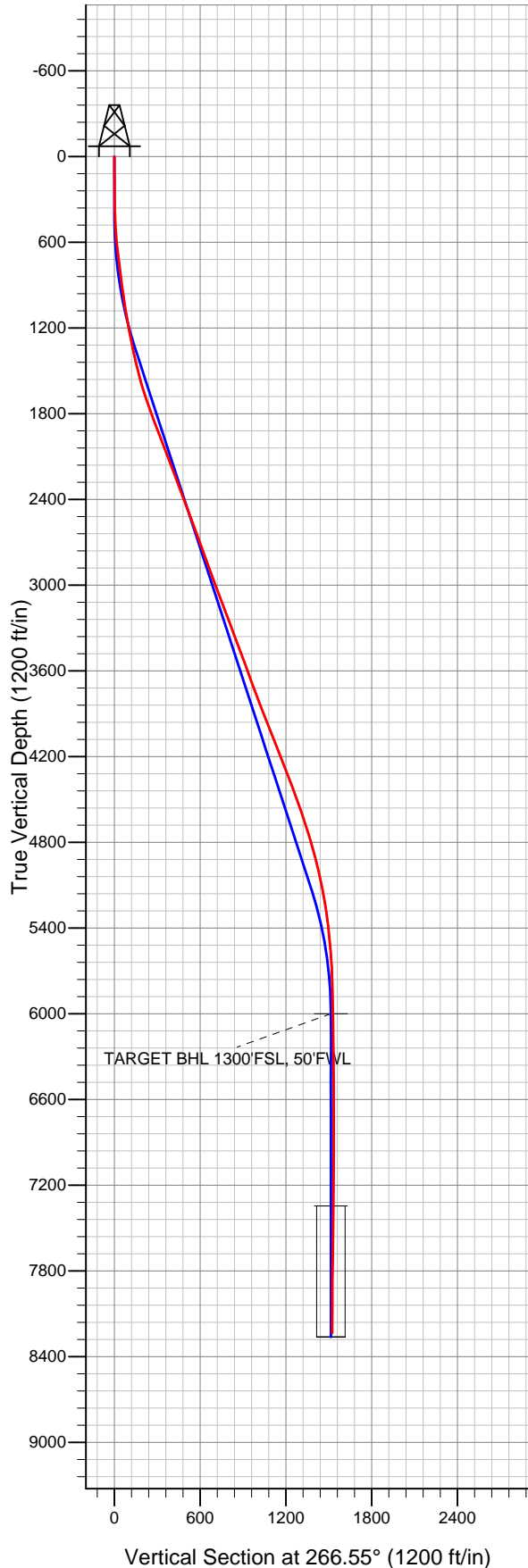
### LEGEND

- Bearden 0-6-6, Wellbore #1, Plan #1 (2-13-13) R V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
8478'MD & 8234'TVD @ 1523'VS  
0.8 deg Inc 353.6 deg AZ

Project: SEC.6-T1N-R68W  
Site: Bearden 2-8-6 Pad Sec.6-T1N-R68W  
Well: Bearden 0-6-6  
Plan: Wellbore #1





## **Directional**

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

**SEC.6-T1N-R68W**

**Bearden 2-8-6 Pad Sec.6-T1N-R68W**

**Bearden 0-6-6**

**Wellbore #1**

**Survey: Survey #1**

### **Standard Survey Report**

**20 February, 2013**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Bearden 0-6-6
<b>Project:</b>	SEC.6-T1N-R68W	<b>TVD Reference:</b>	WELL @ 4991.0ft (Original Well Elev)
<b>Site:</b>	Bearden 2-8-6 Pad Sec.6-T1N-R68W	<b>MD Reference:</b>	WELL @ 4991.0ft (Original Well Elev)
<b>Well:</b>	Bearden 0-6-6	<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.6-T1N-R68W, Weld 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	Bearden 2-8-6 Pad Sec.6-T1N-R68W				
Site Position:		Northing:	1,271,131.87 ft	Latitude:	40.076770
From:	Lat/Long	Easting:	3,125,946.25 ft	Longitude:	-105.049930
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.29 °

Well	Bearden 0-6-6					
Well Position	+N/-S	0.0 ft	Northing:	1,271,153.80 ft	Latitude:	40.076830
	+E/-W	0.0 ft	Easting:	3,125,962.93 ft	Longitude:	-105.049870
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,978.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/13/2013	8.76	66.69	52,754

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	266.55	

<b>Survey Program</b>	<b>Date</b>	2/20/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
46.0	8,478.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
46.0	0.20	324.80	46.0	0.1	0.0	0.0	0.43	0.43	0.00	
106.0	0.40	333.10	106.0	0.3	-0.2	0.2	0.34	0.33	13.83	
166.0	0.70	322.50	166.0	0.8	-0.5	0.5	0.53	0.50	-17.67	
226.0	1.00	340.80	226.0	1.6	-0.9	0.8	0.67	0.50	30.50	
286.0	1.30	332.70	286.0	2.7	-1.4	1.2	0.57	0.50	-13.50	
344.0	1.80	317.40	344.0	4.0	-2.3	2.1	1.11	0.86	-26.38	
404.0	2.50	311.50	403.9	5.5	-3.9	3.6	1.22	1.17	-9.83	
465.0	3.50	305.80	464.8	7.5	-6.4	6.0	1.71	1.64	-9.34	
526.0	4.60	296.90	525.7	9.7	-10.1	9.5	2.07	1.80	-14.59	
586.0	5.90	289.70	585.4	11.8	-15.2	14.4	2.42	2.17	-12.00	
647.0	6.60	281.40	646.1	13.6	-21.6	20.7	1.87	1.15	-13.61	
710.0	7.30	276.30	708.6	14.7	-29.1	28.2	1.48	1.11	-8.10	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Bearden 0-6-6
<b>Project:</b>	SEC.6-T1N-R68W	<b>TVD Reference:</b>	WELL @ 4991.0ft (Original Well Elev)
<b>Site:</b>	Bearden 2-8-6 Pad Sec.6-T1N-R68W	<b>MD Reference:</b>	WELL @ 4991.0ft (Original Well Elev)
<b>Well:</b>	Bearden 0-6-6	<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)
826.0	7.40	276.00	823.6	16.3	-43.9	42.8	0.09	0.09	-0.26
912.0	7.70	280.20	908.9	17.9	-55.0	53.9	0.73	0.35	4.88
997.0	8.50	278.40	993.1	19.8	-66.9	65.5	0.99	0.94	-2.12
1,083.0	9.70	272.40	1,078.0	21.1	-80.4	79.0	1.78	1.40	-6.98
1,168.0	10.20	266.60	1,161.7	20.9	-95.0	93.6	1.32	0.59	-6.82
1,254.0	10.90	266.50	1,246.2	20.0	-110.8	109.4	0.81	0.81	-0.12
1,340.0	11.40	267.20	1,330.6	19.1	-127.4	126.0	0.60	0.58	0.81
1,425.0	12.80	267.20	1,413.7	18.2	-145.2	143.8	1.65	1.65	0.00
1,511.0	14.20	267.20	1,497.3	17.2	-165.2	163.9	1.63	1.63	0.00
1,596.0	16.10	266.50	1,579.4	16.0	-187.4	186.1	2.25	2.24	-0.82
1,682.0	17.90	266.10	1,661.6	14.3	-212.5	211.2	2.10	2.09	-0.47
1,769.0	19.10	263.80	1,744.1	11.9	-240.0	238.8	1.61	1.38	-2.64
1,855.0	20.50	264.40	1,825.0	8.9	-269.0	267.9	1.64	1.63	0.70
1,941.0	20.90	265.60	1,905.5	6.3	-299.2	298.3	0.68	0.47	1.40
2,027.0	20.90	264.40	1,985.8	3.6	-329.8	329.0	0.50	0.00	-1.40
2,112.0	21.20	264.40	2,065.2	0.6	-360.2	359.5	0.35	0.35	0.00
2,198.0	20.90	265.40	2,145.4	-2.1	-390.9	390.4	0.54	-0.35	1.16
2,284.0	20.70	264.70	2,225.8	-4.8	-421.4	420.9	0.37	-0.23	-0.81
2,369.0	20.40	265.80	2,305.4	-7.2	-451.1	450.7	0.58	-0.35	1.29
2,455.0	20.50	265.10	2,386.0	-9.6	-481.1	480.8	0.31	0.12	-0.81
2,541.0	20.40	264.90	2,466.6	-12.2	-511.0	510.8	0.14	-0.12	-0.23
2,627.0	20.80	264.20	2,547.1	-15.1	-541.1	541.0	0.55	0.47	-0.81
2,712.0	20.40	262.80	2,626.6	-18.5	-570.8	570.9	0.75	-0.47	-1.65
2,798.0	20.10	264.00	2,707.3	-21.9	-600.4	600.6	0.60	-0.35	1.40
2,884.0	19.90	267.00	2,788.1	-24.2	-629.7	630.0	1.22	-0.23	3.49
2,970.0	19.10	266.80	2,869.2	-25.8	-658.4	658.7	0.93	-0.93	-0.23
3,055.0	20.70	263.70	2,949.1	-28.2	-687.2	687.6	2.25	1.88	-3.65
3,141.0	20.80	265.90	3,029.6	-31.0	-717.5	718.1	0.91	0.12	2.56
3,227.0	21.00	267.30	3,109.9	-32.8	-748.2	748.8	0.63	0.23	1.63
3,313.0	20.30	267.20	3,190.4	-34.2	-778.4	779.1	0.81	-0.81	-0.12
3,398.0	20.40	267.20	3,270.1	-35.7	-808.0	808.7	0.12	0.12	0.00
3,484.0	20.30	266.80	3,350.7	-37.3	-837.8	838.6	0.20	-0.12	-0.47
3,570.0	20.40	265.40	3,431.3	-39.3	-867.7	868.5	0.58	0.12	-1.63
3,655.0	20.70	263.70	3,510.9	-42.1	-897.4	898.3	0.79	0.35	-2.00
3,741.0	20.60	264.20	3,591.4	-45.3	-927.5	928.6	0.24	-0.12	0.58
3,827.0	20.30	263.50	3,672.0	-48.5	-957.4	958.6	0.45	-0.35	-0.81
3,913.0	20.40	266.50	3,752.6	-51.1	-987.2	988.5	1.22	0.12	3.49
3,998.0	20.60	265.90	3,832.2	-53.1	-1,016.9	1,018.2	0.34	0.24	-0.71
4,084.0	20.80	264.90	3,912.7	-55.6	-1,047.2	1,048.6	0.47	0.23	-1.16
4,170.0	21.50	265.80	3,992.9	-58.1	-1,078.1	1,079.7	0.90	0.81	1.05
4,256.0	22.30	265.80	4,072.7	-60.4	-1,110.1	1,111.7	0.93	0.93	0.00
4,341.0	21.70	265.90	4,151.5	-62.7	-1,141.9	1,143.6	0.71	-0.71	0.12
4,427.0	20.80	263.50	4,231.6	-65.6	-1,172.9	1,174.7	1.46	-1.05	-2.79
4,513.0	20.70	263.30	4,312.1	-69.1	-1,203.2	1,205.1	0.14	-0.12	-0.23
4,599.0	21.00	264.90	4,392.4	-72.2	-1,233.6	1,235.7	0.75	0.35	1.86
4,684.0	20.70	265.80	4,471.9	-74.7	-1,263.8	1,266.0	0.52	-0.35	1.06
4,770.0	19.40	265.90	4,552.7	-76.8	-1,293.2	1,295.4	1.51	-1.51	0.12
4,856.0	19.00	267.20	4,633.9	-78.5	-1,321.4	1,323.7	0.68	-0.47	1.51
4,941.0	17.60	267.50	4,714.6	-79.8	-1,348.1	1,350.4	1.65	-1.65	0.35
5,027.0	16.10	267.50	4,796.9	-80.8	-1,373.0	1,375.3	1.74	-1.74	0.00
5,113.0	14.90	268.20	4,879.7	-81.7	-1,395.9	1,398.3	1.41	-1.40	0.81
5,199.0	13.30	265.80	4,963.1	-82.8	-1,416.8	1,419.3	1.98	-1.86	-2.79
5,284.0	12.10	266.50	5,046.1	-84.0	-1,435.5	1,437.9	1.42	-1.41	0.82
5,370.0	10.80	267.20	5,130.4	-85.0	-1,452.5	1,455.0	1.52	-1.51	0.81

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<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)
5,456.0	9.90	270.00	5,215.0	-85.4	-1,468.0	1,470.4	1.20	-1.05	3.26
5,542.0	7.90	268.90	5,299.9	-85.5	-1,481.3	1,483.7	2.33	-2.33	-1.28
5,627.0	7.30	270.30	5,384.2	-85.6	-1,492.5	1,495.0	0.74	-0.71	1.65
5,713.0	5.30	267.90	5,469.6	-85.7	-1,501.9	1,504.4	2.35	-2.33	-2.79
5,799.0	4.40	268.80	5,555.3	-85.9	-1,509.2	1,511.7	1.05	-1.05	1.05
5,884.0	3.50	265.40	5,640.1	-86.2	-1,515.1	1,517.5	1.09	-1.06	-4.00
5,970.0	2.30	257.00	5,726.0	-86.8	-1,519.4	1,521.8	1.48	-1.40	-9.77
6,056.0	1.80	260.10	5,812.0	-87.4	-1,522.4	1,524.9	0.60	-0.58	3.60
6,227.0	1.10	236.60	5,982.9	-88.8	-1,526.4	1,529.0	0.53	-0.41	-13.74
6,243.9	1.02	241.47	5,999.8	-88.9	-1,526.7	1,529.2	0.73	-0.50	28.85
TARGET BHL 1300'FSL, 50'FWL									
6,399.0	0.90	313.90	6,154.9	-88.7	-1,528.7	1,531.3	0.73	-0.07	46.69
6,570.0	1.10	342.60	6,325.9	-86.2	-1,530.2	1,532.6	0.31	0.12	16.78
6,742.0	0.90	336.80	6,497.8	-83.4	-1,531.2	1,533.5	0.13	-0.12	-3.37
6,913.0	0.50	354.90	6,668.8	-81.5	-1,531.8	1,533.9	0.26	-0.23	10.58
7,085.0	0.40	348.60	6,840.8	-80.1	-1,532.0	1,534.1	0.06	-0.06	-3.66
7,256.0	1.10	340.10	7,011.8	-78.0	-1,532.7	1,534.6	0.41	0.41	-4.97
7,428.0	1.00	63.80	7,183.8	-75.8	-1,531.9	1,533.7	0.82	-0.06	48.66
7,589.4	1.28	59.88	7,345.2	-74.2	-1,529.1	1,530.8	0.18	0.18	-2.43
TARGET CIRCLE 1300'FSL & 50'FWL									
7,599.0	1.30	59.70	7,354.8	-74.1	-1,528.9	1,530.6	0.18	0.18	-1.87
7,771.0	0.50	139.60	7,526.7	-73.7	-1,526.7	1,528.4	0.76	-0.47	46.45
7,942.0	0.80	41.80	7,697.7	-73.4	-1,525.4	1,527.1	0.58	0.18	-57.19
8,114.0	1.10	21.40	7,869.7	-71.0	-1,524.0	1,525.5	0.26	0.17	-11.86
8,285.0	0.90	10.00	8,040.7	-68.1	-1,523.2	1,524.5	0.16	-0.12	-6.67
8,435.0	0.80	353.60	8,190.7	-65.9	-1,523.1	1,524.3	0.17	-0.07	-10.93
8,478.0	0.80	353.60	8,233.7	-65.3	-1,523.2	1,524.4	0.00	0.00	0.00

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