

Well Name: **North Rinn 2-6-9 (Vert.)**

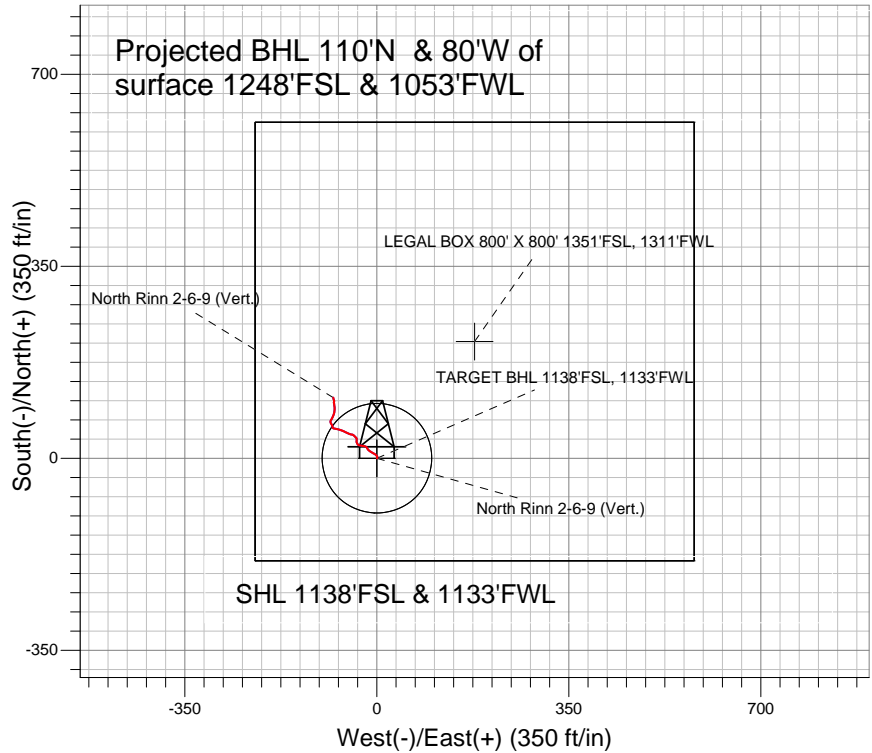
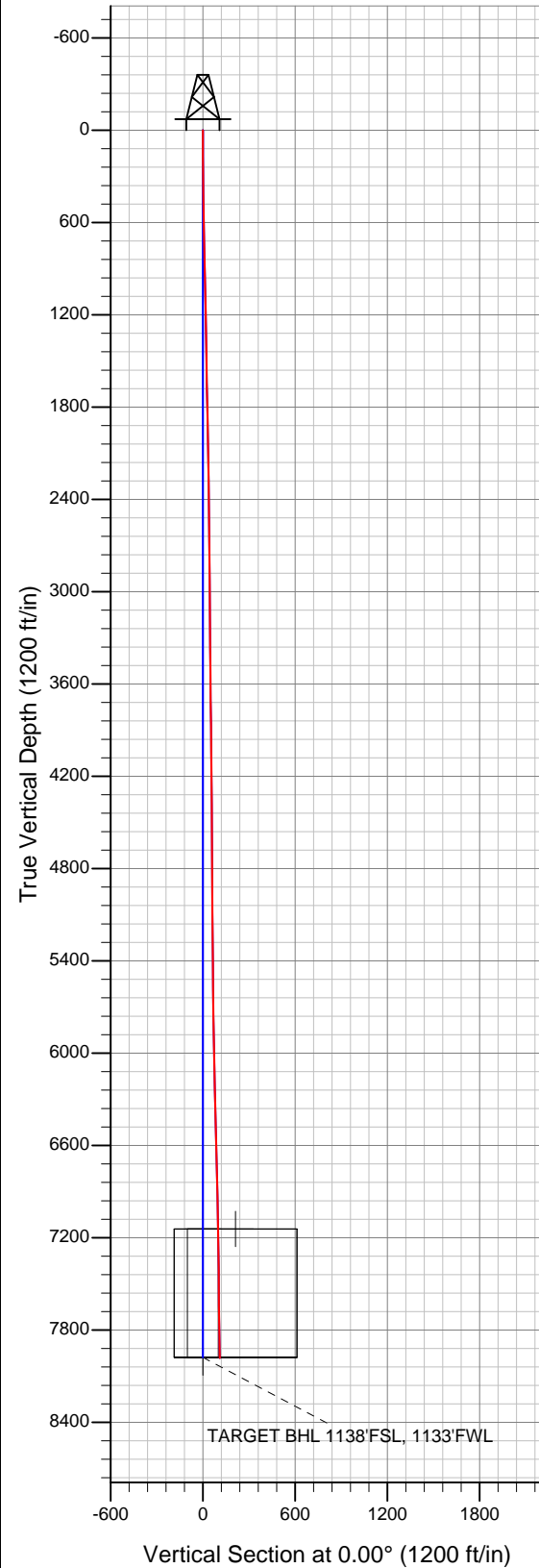
Surface Location: North Rinn 2-4-9 Pad Sec.9-T2N-R68W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4866.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1297539.01	3135990.44	40.149115	-105.013520	

Original Well Elev WELL @ 4879.0ft (Original Well Elev)

## EnCana Oil & Gas Weld County CO



### LEGEND

- North Rinn 2-6-9 (Vert.), Wellbore #1, Plan #2 (7-10-13)R V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7984'MD & 7982'TVD @  
110' VS 1.10 deg Inc  
357.20 deg AZ

Project: SEC.9-T2N-R68W  
Site: North Rinn 2-4-9 Pad Sec.9-T2N-R68W  
Well: North Rinn 2-6-9 (Vert.)  
Plan: Wellbore #1



## **Directional**

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

**SEC.9-T2N-R68W**

**North Rinn 2-4-9 Pad Sec.9-T2N-R68W**

**North Rinn 2-6-9 (Vert.)**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**16 July, 2013**



<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well North Rinn 2-6-9 (Vert.)
<b>Project:</b>	SEC.9-T2N-R68W	<b>TVD Reference:</b>	WELL @ 4879.0ft (Original Well Elev)
<b>Site:</b>	North Rinn 2-4-9 Pad Sec.9-T2N-R68W	<b>MD Reference:</b>	WELL @ 4879.0ft (Original Well Elev)
<b>Well:</b>	North Rinn 2-6-9 (Vert.)	<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.9-T2N-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		North Rinn 2-4-9 Pad Sec.9-T2N-R68W			
Site Position:		Northing:	1,297,580.91 ft	Latitude:	40.149230
From:	Lat/Long	Easting:	3,135,990.21 ft	Longitude:	-105.013520
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.31 °

Well	North Rinn 2-6-9 (Vert.)					
Well Position	+N/-S	0.0 ft	Northing:	1,297,539.01 ft	Latitude:	40.149115
	+E/-W	0.0 ft	Easting:	3,135,990.44 ft	Longitude:	-105.013520
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,866.0 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	7/10/2013	8.71	66.74	52,765

<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>	
	7,979.0	0.0	0.0	0.00	

<b>Survey Program</b>	<b>Date</b>	7/16/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
77.0	7,984.0	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	
77.0	0.50	26.10	77.0	0.3	0.1	0.3	0.65	0.65	0.00	
167.0	0.50	11.90	167.0	1.0	0.4	1.0	0.14	0.00	-15.78	
257.0	0.60	9.40	257.0	1.9	0.6	1.9	0.11	0.11	-2.78	
348.0	0.80	336.00	348.0	2.9	0.4	2.9	0.49	0.22	-36.70	
438.0	1.10	325.50	438.0	4.2	-0.4	4.2	0.38	0.33	-11.67	
529.0	1.20	316.50	529.0	5.6	-1.5	5.6	0.23	0.11	-9.89	
620.0	1.30	306.10	619.9	6.9	-3.0	6.9	0.27	0.11	-11.43	
711.0	1.60	296.80	710.9	8.1	-5.0	8.1	0.42	0.33	-10.22	
752.0	1.80	303.50	751.9	8.7	-6.0	8.7	0.69	0.49	16.34	
956.0	2.60	299.30	955.7	12.8	-12.7	12.8	0.40	0.39	-2.06	
1,127.0	2.40	336.60	1,126.6	17.9	-17.5	17.9	0.94	-0.12	21.81	
1,299.0	2.60	278.90	1,298.4	21.9	-22.8	21.9	1.41	0.12	-33.55	

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<b>Well:</b>	North Rinn 2-6-9 (Vert.)	<b>North Reference:</b>	True
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<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)
1,470.0	2.60	280.10	1,469.3	23.1	-30.5	23.1	0.03	0.00	0.70
1,642.0	1.50	328.50	1,641.2	25.7	-35.5	25.7	1.14	-0.64	28.14
1,813.0	1.30	346.40	1,812.1	29.5	-37.1	29.5	0.28	-0.12	10.47
1,985.0	1.20	18.00	1,984.1	33.1	-37.0	33.1	0.40	-0.06	18.37
2,156.0	0.70	328.50	2,155.1	35.7	-37.0	35.7	0.54	-0.29	-28.95
2,328.0	1.40	320.70	2,327.0	38.3	-38.9	38.3	0.41	0.41	-4.53
2,499.0	1.60	310.40	2,498.0	41.4	-42.0	41.4	0.20	0.12	-6.02
2,671.0	0.50	270.60	2,669.9	43.0	-44.6	43.0	0.73	-0.64	-23.14
2,842.0	1.20	281.00	2,840.9	43.3	-47.1	43.3	0.42	0.41	6.08
3,014.0	1.00	298.10	3,012.9	44.4	-50.2	44.4	0.22	-0.12	9.94
3,185.0	1.30	287.20	3,183.9	45.7	-53.4	45.7	0.22	0.18	-6.37
3,357.0	1.50	301.70	3,355.8	47.4	-57.2	47.4	0.24	0.12	8.43
3,528.0	1.50	290.70	3,526.7	49.4	-61.1	49.4	0.17	0.00	-6.43
3,699.0	2.00	291.10	3,697.7	51.3	-66.0	51.3	0.29	0.29	0.23
3,871.0	1.90	283.30	3,869.6	53.0	-71.6	53.0	0.16	-0.06	-4.53
4,042.0	2.10	279.70	4,040.5	54.2	-77.4	54.2	0.14	0.12	-2.11
4,214.0	0.60	355.70	4,212.4	55.6	-80.6	55.6	1.19	-0.87	44.19
4,385.0	0.80	340.10	4,383.4	57.6	-81.1	57.6	0.16	0.12	-9.12
4,557.0	0.50	343.20	4,555.4	59.5	-81.7	59.5	0.18	-0.17	1.80
4,728.0	0.30	333.60	4,726.4	60.6	-82.1	60.6	0.12	-0.12	-5.61
4,900.0	0.30	337.10	4,898.4	61.4	-82.5	61.4	0.01	0.00	2.03
5,071.0	0.40	320.40	5,069.4	62.3	-83.1	62.3	0.08	0.06	-9.77
5,243.0	0.60	328.10	5,241.4	63.5	-83.9	63.5	0.12	0.12	4.48
5,414.0	0.60	345.50	5,412.4	65.1	-84.6	65.1	0.11	0.00	10.18
5,586.0	0.60	6.30	5,584.4	66.9	-84.7	66.9	0.13	0.00	12.09
5,757.0	0.70	30.20	5,755.3	68.7	-84.1	68.7	0.17	0.06	13.98
5,928.0	1.10	31.40	5,926.3	71.0	-82.7	71.0	0.23	0.23	0.70
6,100.0	1.50	24.50	6,098.3	74.4	-81.0	74.4	0.25	0.23	-4.01
6,271.0	1.50	21.30	6,269.2	78.6	-79.2	78.6	0.05	0.00	-1.87
6,443.0	1.80	12.20	6,441.1	83.3	-77.8	83.3	0.23	0.17	-5.29
6,614.0	1.60	3.80	6,612.1	88.3	-77.1	88.3	0.19	-0.12	-4.91
6,786.0	1.30	351.70	6,784.0	92.6	-77.2	92.6	0.25	-0.17	-7.03
6,957.0	1.30	351.60	6,955.0	96.5	-77.8	96.5	0.00	0.00	-0.06
7,129.0	0.80	347.60	7,126.9	99.6	-78.3	99.6	0.29	-0.29	-2.33
7,143.5	0.77	348.65	7,141.4	99.8	-78.4	99.8	0.22	-0.19	7.24
<b>TARGET CIRCLE 1140'FSL, 1133'FWL</b>									
7,146.1	0.77	348.84	7,144.0	99.8	-78.4	99.8	0.22	-0.19	7.55
<b>LEGAL BOX 800' X 800' 1351'FSL, 1311'FWL</b>									
7,300.0	0.50	7.10	7,297.9	101.5	-78.5	101.5	0.22	-0.17	11.86
7,472.0	0.60	13.60	7,469.9	103.1	-78.2	103.1	0.07	0.06	3.78
7,643.0	0.70	353.10	7,640.9	105.0	-78.1	105.0	0.15	0.06	-11.99
7,815.0	1.00	337.10	7,812.9	107.4	-78.8	107.4	0.22	0.17	-9.30
7,940.0	1.10	350.60	7,937.9	109.6	-79.4	109.6	0.21	0.08	10.80
7,978.9	1.10	356.43	7,976.7	110.4	-79.5	110.4	0.29	0.00	15.00
<b>TARGET BHL 1138'FSL, 1133'FWL</b>									
7,984.0	1.10	357.20	7,981.9	110.5	-79.5	110.5	0.29	0.01	14.98

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