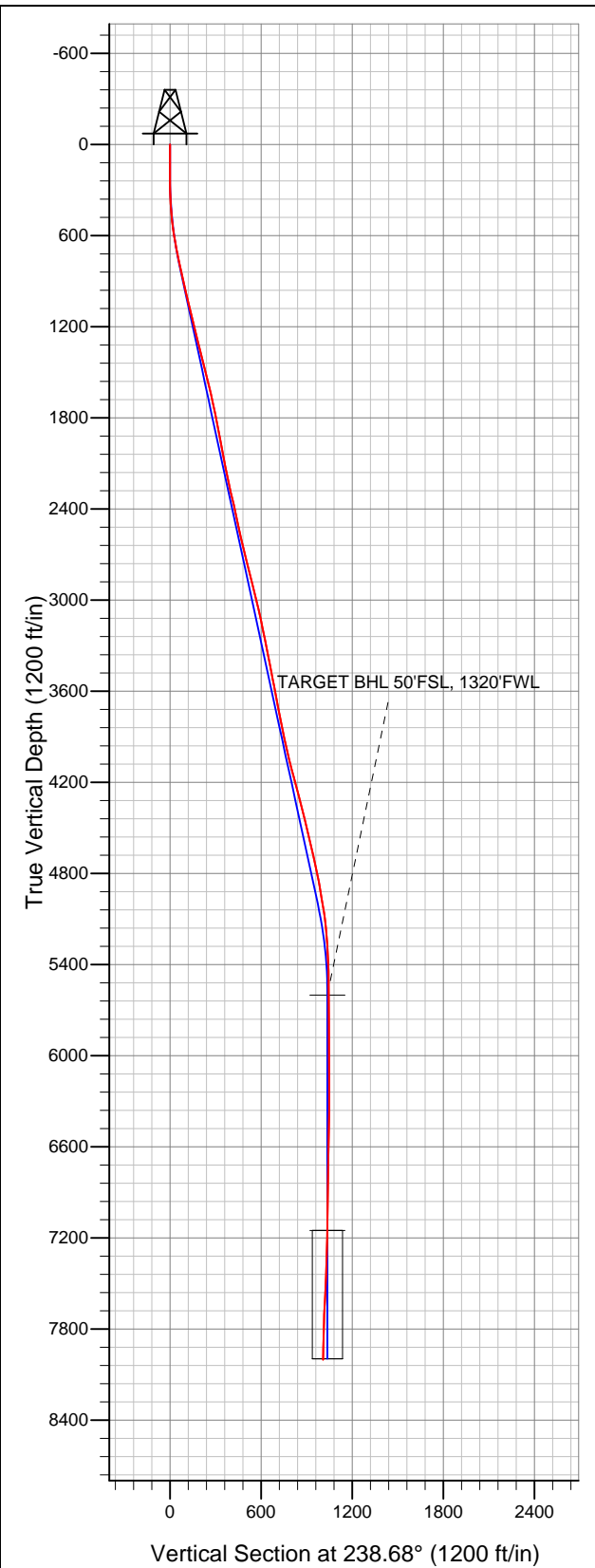


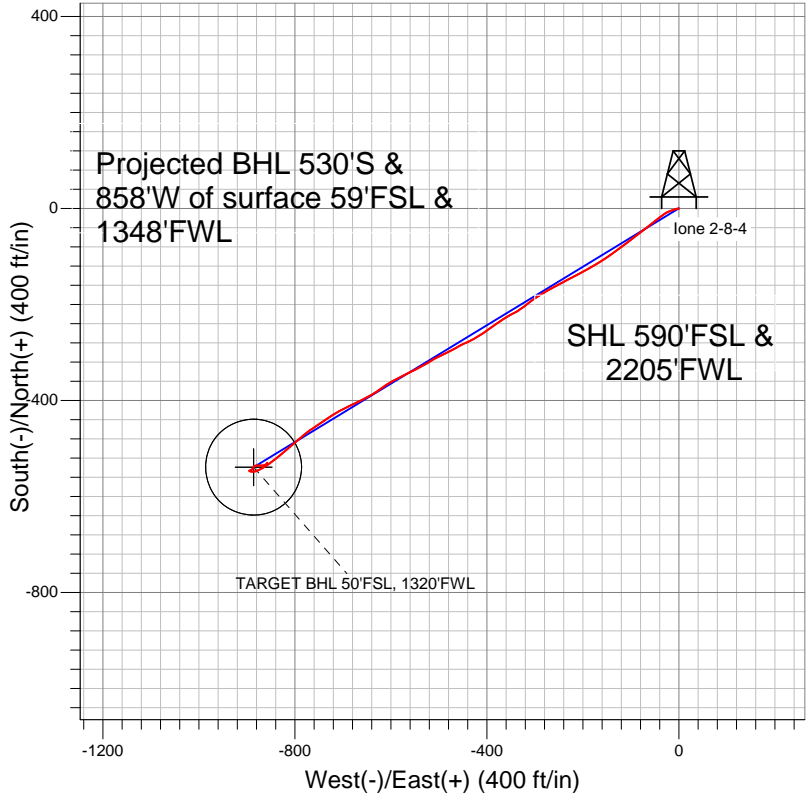
**Well Name: lone 2-8-4**

Surface Location: lone 4-8-4 Pad Sec.4-T2N-R66W  
North American Datum 1983 US State Plane 1983Colorado Northern Zone  
Ground Elevation: 4927.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1302467.81	3200177.20	40.161450	-104.783770	
Original Well Elev			WELL @ 4939.0ft (Original Well Elev)			



**EnCana Oil & Gas Weld County CO**



- LEGEND**
- Wellbore #1
  - lone 2-8-4, Wellbore #1, Plan #1 (5-17-12) V0
  - Survey #1

**Final Survey Plot**

Projected Final Survey -  
8115'MD & 8001'TVD @ 1008'VS  
1.10 deg Inc 33.20 deg AZ

Project: SEC.4-T2N-R66W  
Site: lone 4-8-4 Pad Sec.4-T2N-R66W  
Well: lone 2-8-4  
Plan: Wellbore #1



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

**SEC.4-T2N-R66W**

**lone 4-8-4 Pad Sec.4-T2N-R66W**

**lone 2-8-4**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**04 June, 2012**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well lone 2-8-4
<b>Project:</b>	SEC.4-T2N-R66W	<b>TVD Reference:</b>	WELL @ 4939.0ft (Original Well Elev)
<b>Site:</b>	lone 4-8-4 Pad Sec.4-T2N-R66W	<b>MD Reference:</b>	WELL @ 4939.0ft (Original Well Elev)
<b>Well:</b>	lone 2-8-4	<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.4-T2N-R66W, 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

<b>Site</b>	lone 4-8-4 Pad Sec.4-T2N-R66W		
<b>Site Position:</b>		<b>Northing:</b>	1,302,478.74 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,200,177.11 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40.161480
		<b>Longitude:</b>	-104.783770
		<b>Grid Convergence:</b>	0.46 °

<b>Well</b>	lone 2-8-4		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			ft
			<b>Latitude:</b>
			40.161450
			<b>Longitude:</b>
			-104.783770
			<b>Ground Level:</b>
			4,927.0 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	5/17/2012	8.73	66.82	52,906

<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>
	5,600.0	0.0	0.0	238.68

<b>Survey Program</b>	<b>Date</b>	6/4/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
132.0	8,115.0	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	
132.0	0.10	140.40	132.0	-0.1	0.1	0.0	0.08	0.08	0.00	
223.0	0.20	246.20	223.0	-0.2	0.0	0.1	0.27	0.11	116.26	
315.0	1.80	264.70	315.0	-0.4	-1.6	1.6	1.75	1.74	20.11	
407.0	3.80	254.80	406.9	-1.3	-6.0	5.8	2.23	2.17	-10.76	
498.0	6.30	251.80	497.5	-3.7	-13.6	13.6	2.76	2.75	-3.30	
590.0	9.10	242.50	588.7	-8.6	-24.9	25.8	3.32	3.04	-10.11	
681.0	10.60	231.80	678.3	-17.1	-37.9	41.2	2.59	1.65	-11.76	
773.0	12.30	231.80	768.5	-28.4	-52.2	59.4	1.85	1.85	0.00	
786.0	12.60	231.40	781.2	-30.2	-54.4	62.2	2.40	2.31	-3.08	
850.0	12.60	231.40	843.7	-38.9	-65.3	76.0	0.00	0.00	0.00	
889.0	12.60	232.50	881.7	-44.1	-72.0	84.5	0.62	0.00	2.82	
976.0	12.90	234.10	966.6	-55.6	-87.4	103.6	0.53	0.34	1.84	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Ione 2-8-4
<b>Project:</b>	SEC.4-T2N-R66W	<b>TVD Reference:</b>	WELL @ 4939.0ft (Original Well Elev)
<b>Site:</b>	Ione 4-8-4 Pad Sec.4-T2N-R66W	<b>MD Reference:</b>	WELL @ 4939.0ft (Original Well Elev)
<b>Well:</b>	Ione 2-8-4	<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)	
1,063.0	13.90	232.00	1,051.2	-67.7	-103.5	123.6	1.28	1.15	-2.41	
1,151.0	13.70	231.60	1,136.7	-80.7	-120.0	144.5	0.25	-0.23	-0.45	
1,238.0	13.60	234.60	1,221.2	-93.0	-136.4	164.9	0.82	-0.11	3.45	
1,325.0	14.20	237.20	1,305.7	-104.7	-153.7	185.8	1.00	0.69	2.99	
1,413.0	13.80	238.50	1,391.0	-116.1	-171.7	207.1	0.58	-0.45	1.48	
1,500.0	14.20	241.30	1,475.5	-126.6	-190.0	228.1	0.90	0.46	3.22	
1,587.0	14.40	242.20	1,559.8	-136.8	-208.9	249.5	0.34	0.23	1.03	
1,675.0	13.10	242.30	1,645.2	-146.5	-227.4	270.4	1.48	-1.48	0.11	
1,762.0	11.60	243.00	1,730.2	-155.1	-243.9	289.0	1.73	-1.72	0.80	
1,849.0	10.80	240.20	1,815.6	-163.1	-258.8	305.9	1.11	-0.92	-3.22	
1,936.0	11.50	240.90	1,900.9	-171.4	-273.4	322.7	0.82	0.80	0.80	
2,024.0	10.60	239.90	1,987.3	-179.7	-288.1	339.5	1.05	-1.02	-1.14	
2,111.0	10.50	234.60	2,072.8	-188.3	-301.5	355.4	1.12	-0.11	-6.09	
2,198.0	11.70	230.60	2,158.2	-198.5	-314.8	372.1	1.64	1.38	-4.60	
2,286.0	12.00	235.80	2,244.3	-209.3	-329.2	390.0	1.26	0.34	5.91	
2,373.0	14.10	241.30	2,329.1	-219.5	-346.0	409.7	2.80	2.41	6.32	
2,460.0	12.30	239.70	2,413.8	-229.2	-363.3	429.5	2.11	-2.07	-1.84	
2,548.0	12.00	233.70	2,499.8	-239.4	-378.8	448.0	1.47	-0.34	-6.82	
2,635.0	13.40	233.90	2,584.7	-250.7	-394.2	467.1	1.61	1.61	0.23	
2,722.0	12.60	236.40	2,669.4	-261.9	-410.3	486.6	1.12	-0.92	2.87	
2,809.0	14.70	244.30	2,754.0	-271.9	-428.1	507.1	3.22	2.41	9.08	
2,897.0	14.40	243.00	2,839.2	-281.7	-447.9	529.1	0.50	-0.34	-1.48	
2,984.0	13.20	240.40	2,923.7	-291.5	-466.2	549.8	1.55	-1.38	-2.99	
3,071.0	13.60	244.60	3,008.3	-300.8	-484.1	569.9	1.21	0.46	4.83	
3,159.0	13.00	242.70	3,093.9	-309.8	-502.2	590.1	0.84	-0.68	-2.16	
3,246.0	11.80	240.40	3,178.9	-318.7	-518.6	608.7	1.49	-1.38	-2.64	
3,333.0	11.50	238.30	3,264.1	-327.6	-533.8	626.3	0.60	-0.34	-2.41	
3,421.0	10.90	244.50	3,350.4	-335.8	-548.7	643.3	1.53	-0.68	7.05	
3,508.0	11.10	243.70	3,435.8	-343.1	-563.7	659.9	0.29	0.23	-0.92	
3,595.0	11.80	242.30	3,521.1	-350.9	-579.1	677.1	0.87	0.80	-1.61	
3,682.0	10.80	243.40	3,606.4	-358.7	-594.2	694.1	1.18	-1.15	1.26	
3,770.0	10.70	235.80	3,692.9	-367.0	-608.3	710.5	1.61	-0.11	-8.64	
3,857.0	10.60	234.30	3,778.4	-376.2	-621.5	726.5	0.34	-0.11	-1.72	
3,944.0	12.00	239.20	3,863.7	-385.5	-635.8	743.5	1.95	1.61	5.63	
4,032.0	12.10	240.90	3,949.8	-394.7	-651.7	761.9	0.42	0.11	1.93	
4,119.0	13.90	245.50	4,034.5	-403.4	-669.2	781.4	2.38	2.07	5.29	
4,206.0	15.60	243.60	4,118.7	-413.0	-689.2	803.4	2.03	1.95	-2.18	
4,294.0	14.60	240.80	4,203.6	-423.7	-709.5	826.3	1.41	-1.14	-3.18	
4,381.0	14.20	236.40	4,287.9	-434.9	-727.9	847.9	1.34	-0.46	-5.06	
4,468.0	14.00	235.70	4,372.3	-446.7	-745.5	869.1	0.30	-0.23	-0.80	
4,555.0	14.70	235.10	4,456.5	-459.0	-763.2	890.6	0.82	0.80	-0.69	
4,643.0	13.60	231.30	4,541.9	-471.8	-780.5	912.0	1.64	-1.25	-4.32	
4,730.0	12.00	229.50	4,626.7	-484.1	-795.3	931.1	1.90	-1.84	-2.07	
4,817.0	13.10	230.90	4,711.6	-496.2	-809.9	949.8	1.31	1.26	1.61	
4,905.0	12.50	229.00	4,797.4	-508.7	-824.8	969.1	0.83	-0.68	-2.16	
4,992.0	10.00	227.90	4,882.8	-520.0	-837.5	985.8	2.88	-2.87	-1.26	
5,079.0	9.30	235.50	4,968.5	-529.0	-848.9	1,000.2	1.67	-0.80	8.74	
5,167.0	8.40	239.50	5,055.5	-536.3	-860.3	1,013.7	1.24	-1.02	4.55	
5,254.0	6.60	239.50	5,141.7	-542.1	-870.1	1,025.1	2.07	-2.07	0.00	
5,341.0	4.80	246.00	5,228.3	-546.1	-877.7	1,033.7	2.19	-2.07	7.47	
5,428.0	3.30	256.10	5,315.1	-548.2	-883.5	1,039.7	1.90	-1.72	11.61	
5,516.0	1.40	275.00	5,403.0	-548.7	-887.0	1,043.0	2.30	-2.16	21.48	
5,603.0	1.30	277.50	5,490.0	-548.5	-889.0	1,044.6	0.13	-0.11	2.87	
5,713.0	0.73	283.27	5,600.0	-548.2	-891.0	1,046.1	0.53	-0.52	5.24	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Ione 2-8-4
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<b>Site:</b>	Ione 4-8-4 Pad Sec.4-T2N-R66W	<b>MD Reference:</b>	WELL @ 4939.0ft (Original Well Elev)
<b>Well:</b>	Ione 2-8-4	<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)
<b>TARGET BHL 50'FSL, 1320'FWL</b>									
5,778.0	0.40	294.40	5,665.0	-548.0	-891.6	1,046.5	0.53	-0.50	17.12
5,952.0	0.60	285.30	5,839.0	-547.5	-893.0	1,047.5	0.12	0.11	-5.23
6,127.0	0.40	306.00	6,014.0	-546.9	-894.4	1,048.3	0.15	-0.11	11.83
6,301.0	0.20	244.60	6,188.0	-546.7	-895.1	1,048.9	0.20	-0.11	-35.29
6,476.0	0.20	86.20	6,363.0	-546.8	-895.1	1,048.9	0.22	0.00	-90.51
6,651.0	1.30	64.30	6,537.9	-545.9	-893.0	1,046.6	0.64	0.63	-12.51
6,825.0	1.40	54.30	6,711.9	-543.8	-889.5	1,042.6	0.15	0.06	-5.75
7,000.0	0.80	53.70	6,886.9	-541.8	-886.8	1,039.2	0.34	-0.34	-0.34
7,174.0	1.10	4.90	7,060.8	-539.4	-885.7	1,037.0	0.48	0.17	-28.05
7,264.2	0.94	23.07	7,151.0	-537.9	-885.3	1,035.9	0.40	-0.18	20.16
<b>TARGET CIRCLE 50'FSL &amp; 1320'FWL</b>									
7,349.0	0.90	44.10	7,235.8	-536.8	-884.6	1,034.7	0.40	-0.05	24.78
7,524.0	2.80	90.30	7,410.7	-535.8	-879.3	1,029.7	1.30	1.09	26.40
7,698.0	3.60	90.00	7,584.4	-535.8	-869.6	1,021.4	0.46	0.46	-0.17
7,873.0	2.00	53.55	7,759.2	-534.0	-861.7	1,013.7	1.32	-0.91	-20.83
8,047.0	1.10	35.10	7,933.2	-530.8	-858.3	1,009.1	0.58	-0.52	-10.60
8,065.0	1.10	33.20	7,951.2	-530.6	-858.1	1,008.8	0.20	0.00	-10.56
8,115.0	1.10	33.20	8,001.2	-529.8	-857.6	1,008.0	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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