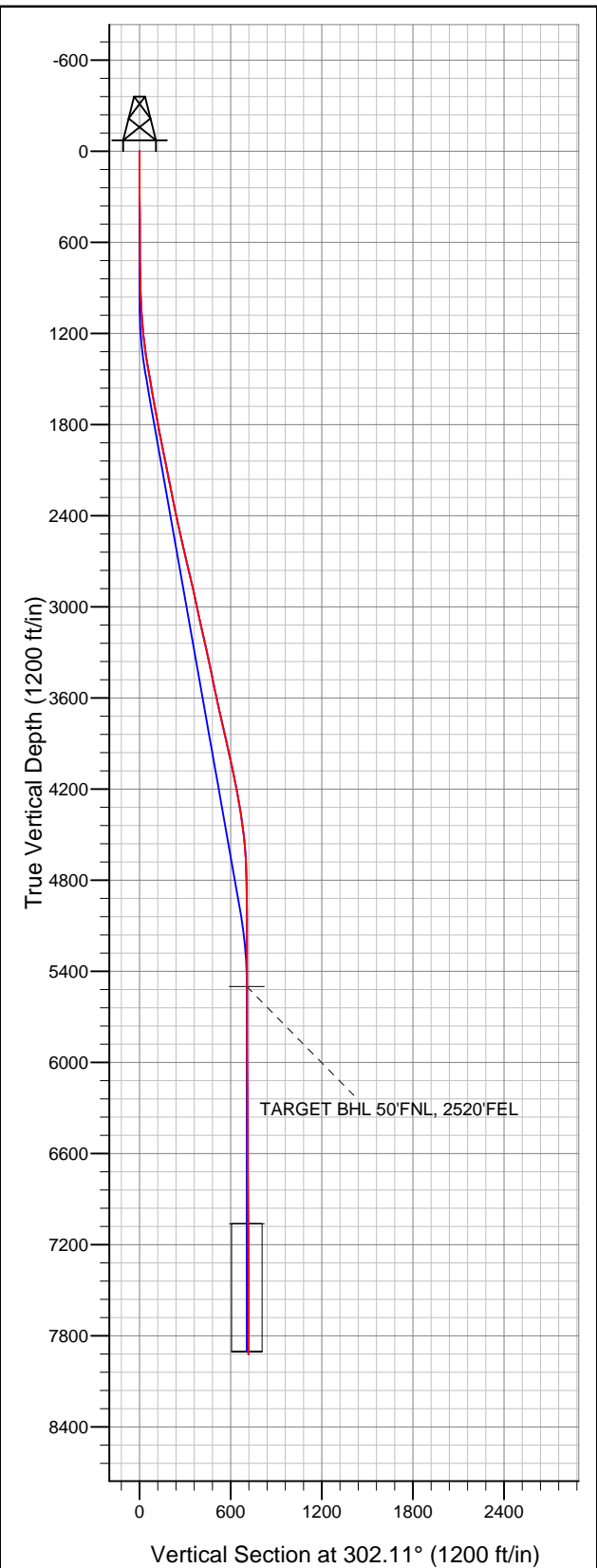


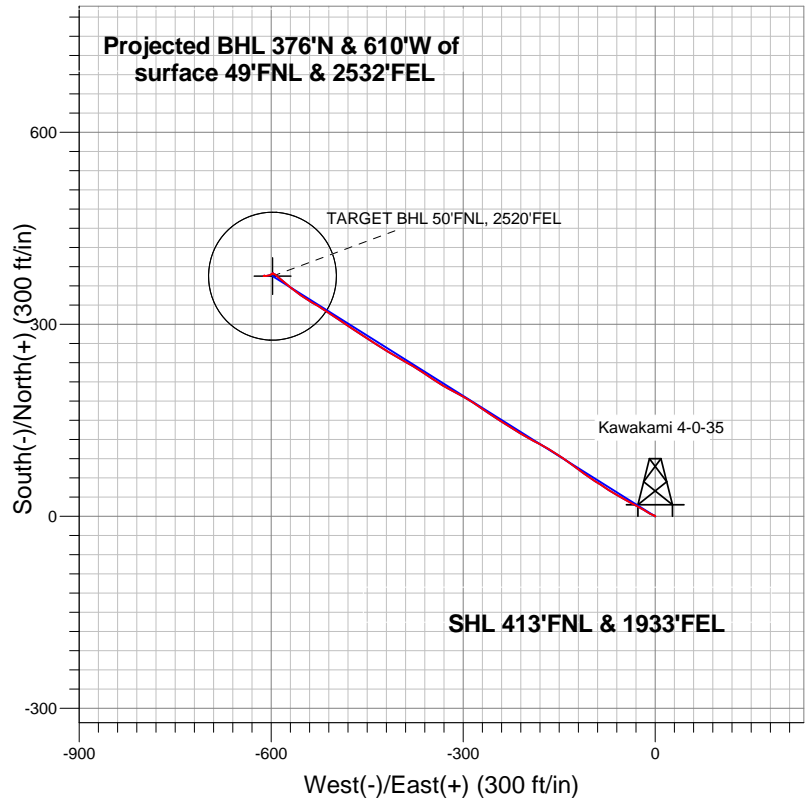


# Well Name: Kawakami 4-0-35

Surface Location: Kawakami 4-0-35 Pad Sec.35-T3N-R67W  
North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
Ground Elevation: 4816.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1311930.33 3179998.59 40.187850 -104.855720  
Original Well Elev WELL @ 4829.0ft (Original Well Elev)



## EnCana Oil & Gas Weld County CO



### LEGEND

- ◆ Kawakami 4-0-35, Wellbore #1, Plan #1 (1-16-13) V0
- Wellbore #1
- Survey #1

## Final Survey Plot

Projected Final Survey -  
7990'MD & 7921'TVD @ 716'VS  
0.5 deg Inc 70.00 deg AZ

Project: SEC.35-T3N-R67W  
Site: Kawakami 4-0-35 Pad Sec.35-T3N-R67W  
Well: Kawakami 4-0-35  
Plan: Wellbore #1



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

**SEC.35-T3N-R67W**

**Kawakami 4-0-35 Pad Sec.35-T3N-R67W**

**Kawakami 4-0-35**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**31 January, 2013**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Kawakami 4-0-35
<b>Project:</b>	SEC.35-T3N-R67W	<b>TVD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Site:</b>	Kawakami 4-0-35 Pad Sec.35-T3N-R67W	<b>MD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Well:</b>	Kawakami 4-0-35	<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.35-T3N-R67W, 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	Kawakami 4-0-35 Pad Sec.35-T3N-R67W				
Site Position:		Northing:	1,311,930.33ft	Latitude:	40.187850
From:	Lat/Long	Easting:	3,179,998.59ft	Longitude:	-104.855720
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.42 °

Well	Kawakami 4-0-35					
Well Position	+N/-S	0.0 ft	Northing:	1,311,930.33 ft	Latitude:	40.187850
	+E/-W	0.0 ft	Easting:	3,179,998.59 ft	Longitude:	-104.855720
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,816.0 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	1/16/2013	8.68	66.81	52,843

<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	302.11	

<b>Survey Program</b>	<b>Date</b>	1/31/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
109.0	7,990.0	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	
109.0	0.01	298.70	109.0	0.0	0.0	0.0	0.01	0.01	0.00	
199.0	0.10	295.40	199.0	0.0	-0.1	0.1	0.10	0.10	-3.67	
289.0	0.10	331.70	289.0	0.1	-0.2	0.2	0.07	0.00	40.33	
380.0	0.40	344.80	380.0	0.5	-0.3	0.5	0.33	0.33	14.40	
471.0	0.30	306.80	471.0	1.0	-0.6	1.0	0.27	-0.11	-41.76	
562.0	0.50	297.80	562.0	1.3	-1.1	1.6	0.23	0.22	-9.89	
654.0	0.30	243.50	654.0	1.4	-1.7	2.2	0.44	-0.22	-59.02	
753.0	0.70	304.30	753.0	1.6	-2.4	2.9	0.62	0.40	61.41	
808.0	0.90	293.00	808.0	2.0	-3.1	3.7	0.46	0.36	-20.55	
827.0	0.50	272.90	827.0	2.0	-3.3	3.9	2.44	-2.11	-105.79	
913.0	1.60	297.30	913.0	2.6	-4.8	5.4	1.35	1.28	28.37	
998.0	2.70	294.70	997.9	4.0	-7.6	8.6	1.30	1.29	-3.06	

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Kawakami 4-0-35
<b>Project:</b>	SEC.35-T3N-R67W	<b>TVD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Site:</b>	Kawakami 4-0-35 Pad Sec.35-T3N-R67W	<b>MD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Well:</b>	Kawakami 4-0-35	<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)
1,084.0	4.30	303.50	1,083.7	6.6	-12.2	13.8	1.96	1.86	10.23
1,170.0	5.50	299.80	1,169.4	10.4	-18.4	21.2	1.44	1.40	-4.30
1,255.0	7.00	298.70	1,253.9	14.9	-26.5	30.4	1.77	1.76	-1.29
1,341.0	8.40	298.00	1,339.1	20.4	-36.7	41.9	1.63	1.63	-0.81
1,426.0	9.10	299.40	1,423.2	26.6	-48.0	54.8	0.86	0.82	1.65
1,512.0	9.70	298.90	1,508.0	33.5	-60.3	68.8	0.70	0.70	-0.58
1,598.0	9.80	304.50	1,592.8	41.1	-72.6	83.4	1.11	0.12	6.51
1,683.0	10.30	303.50	1,676.5	49.4	-84.9	98.2	0.62	0.59	-1.18
1,769.0	10.70	302.80	1,761.0	58.0	-98.1	113.9	0.49	0.47	-0.81
1,854.0	11.00	304.50	1,844.5	66.8	-111.4	129.9	0.52	0.35	2.00
1,940.0	11.40	307.70	1,928.9	76.7	-124.9	146.5	0.86	0.47	3.72
2,026.0	11.50	305.80	2,013.1	86.9	-138.5	163.5	0.45	0.12	-2.21
2,111.0	11.30	302.40	2,096.5	96.3	-152.4	180.3	0.82	-0.24	-4.00
2,197.0	10.80	300.70	2,180.9	104.9	-166.5	196.8	0.69	-0.58	-1.98
2,282.0	11.40	298.00	2,264.3	112.9	-180.8	213.1	0.93	0.71	-3.18
2,368.0	11.80	299.40	2,348.5	121.3	-195.9	230.4	0.57	0.47	1.63
2,454.0	12.10	301.70	2,432.7	130.3	-211.2	248.2	0.65	0.35	2.67
2,539.0	12.30	300.80	2,515.7	139.6	-226.6	266.2	0.32	0.24	-1.06
2,625.0	13.60	302.90	2,599.6	149.8	-243.0	285.4	1.61	1.51	2.44
2,710.0	13.80	304.00	2,682.1	160.9	-259.8	305.6	0.39	0.24	1.29
2,796.0	12.90	304.20	2,765.8	172.0	-276.2	325.4	1.05	-1.05	0.23
2,882.0	11.90	301.90	2,849.8	182.1	-291.7	343.9	1.30	-1.16	-2.67
2,967.0	12.50	298.00	2,932.9	191.1	-307.2	361.8	1.20	0.71	-4.59
3,053.0	12.30	299.20	3,016.9	199.9	-323.4	380.2	0.38	-0.23	1.40
3,138.0	12.80	302.40	3,099.9	209.4	-339.3	398.7	1.01	0.59	3.76
3,224.0	12.70	303.30	3,183.7	219.7	-355.2	417.7	0.26	-0.12	1.05
3,310.0	12.60	303.80	3,267.6	230.1	-370.9	436.5	0.17	-0.12	0.58
3,395.0	12.20	298.50	3,350.7	239.5	-386.5	454.7	1.42	-0.47	-6.24
3,481.0	12.00	299.60	3,434.8	248.3	-402.3	472.7	0.35	-0.23	1.28
3,566.0	11.40	301.50	3,518.0	257.0	-417.1	490.0	0.84	-0.71	2.24
3,652.0	11.90	303.30	3,602.2	266.3	-431.8	507.3	0.72	0.58	2.09
3,738.0	12.00	301.70	3,686.4	275.9	-446.8	525.1	0.40	0.12	-1.86
3,823.0	12.30	304.50	3,769.4	285.7	-461.8	543.0	0.78	0.35	3.29
3,909.0	14.10	304.30	3,853.2	296.8	-478.0	562.6	2.09	2.09	-0.23
3,994.0	13.30	302.90	3,935.8	307.9	-494.8	582.7	1.02	-0.94	-1.65
4,080.0	12.90	304.00	4,019.5	318.6	-511.0	602.2	0.55	-0.47	1.28
4,166.0	11.50	301.50	4,103.6	328.5	-526.3	620.4	1.74	-1.63	-2.91
4,251.0	9.80	300.50	4,187.1	336.6	-539.8	636.1	2.01	-2.00	-1.18
4,337.0	9.90	304.20	4,271.8	344.5	-552.2	650.8	0.74	0.12	4.30
4,422.0	8.80	307.30	4,355.7	352.5	-563.4	664.6	1.42	-1.29	3.65
4,508.0	8.00	308.40	4,440.8	360.2	-573.3	677.1	0.95	-0.93	1.28
4,594.0	6.70	313.70	4,526.1	367.4	-581.6	688.0	1.70	-1.51	6.16
4,679.0	3.90	311.00	4,610.7	372.7	-587.4	695.7	3.31	-3.29	-3.18
4,765.0	2.60	308.40	4,696.6	375.9	-591.1	700.5	1.52	-1.51	-3.02
4,850.0	1.10	303.10	4,781.5	377.5	-593.3	703.2	1.77	-1.76	-6.24
4,936.0	1.10	296.40	4,867.5	378.3	-594.8	704.9	0.15	0.00	-7.79
5,107.0	0.10	266.00	5,038.5	379.0	-596.4	706.6	0.59	-0.58	-17.78
5,278.0	0.20	242.50	5,209.5	378.9	-596.8	706.9	0.07	0.06	-13.74
5,450.0	0.30	253.70	5,381.5	378.6	-597.5	707.4	0.06	0.06	6.51
5,621.0	0.10	102.90	5,552.5	378.5	-597.8	707.5	0.23	-0.12	-88.19
5,792.0	0.40	47.90	5,723.5	378.8	-597.2	707.2	0.21	0.18	-32.16
5,963.0	0.30	2.20	5,894.5	379.7	-596.7	707.3	0.17	-0.06	-26.73
6,134.0	0.60	238.80	6,065.5	379.7	-597.5	707.9	0.47	0.18	-72.16
6,306.0	0.90	235.10	6,237.5	378.4	-599.4	708.8	0.18	0.17	-2.15

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Kawakami 4-0-35
<b>Project:</b>	SEC.35-T3N-R67W	<b>TVD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Site:</b>	Kawakami 4-0-35 Pad Sec.35-T3N-R67W	<b>MD Reference:</b>	WELL @ 4829.0ft (Original Well Elev)
<b>Well:</b>	Kawakami 4-0-35	<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)	
6,477.0	0.60	238.70	6,408.5	377.2	-601.2	709.7	0.18	-0.18	2.11	
6,648.0	0.60	259.90	6,579.4	376.6	-602.9	710.8	0.13	0.00	12.40	
6,819.0	0.70	259.90	6,750.4	376.2	-604.8	712.2	0.06	0.06	0.00	
6,990.0	0.60	260.80	6,921.4	375.9	-606.7	713.7	0.06	-0.06	0.53	
7,162.0	0.50	266.40	7,093.4	375.7	-608.3	715.0	0.07	-0.06	3.26	
7,333.0	0.50	253.50	7,264.4	375.5	-609.8	716.1	0.07	0.00	-7.54	
7,504.0	0.30	299.10	7,435.4	375.5	-610.9	717.0	0.21	-0.12	26.67	
7,675.0	0.30	271.80	7,606.4	375.7	-611.7	717.9	0.08	0.00	-15.96	
7,846.0	0.60	81.50	7,777.4	375.8	-611.3	717.6	0.52	0.18	99.24	
7,947.0	0.50	73.10	7,878.4	376.0	-610.4	716.9	0.13	-0.10	-8.32	
7,990.0	0.50	70.00	7,921.4	376.2	-610.0	716.6	0.06	0.00	-7.21	

Checked By: _____	Approved By: _____	Date: _____
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