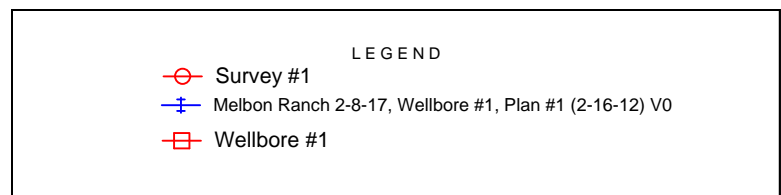
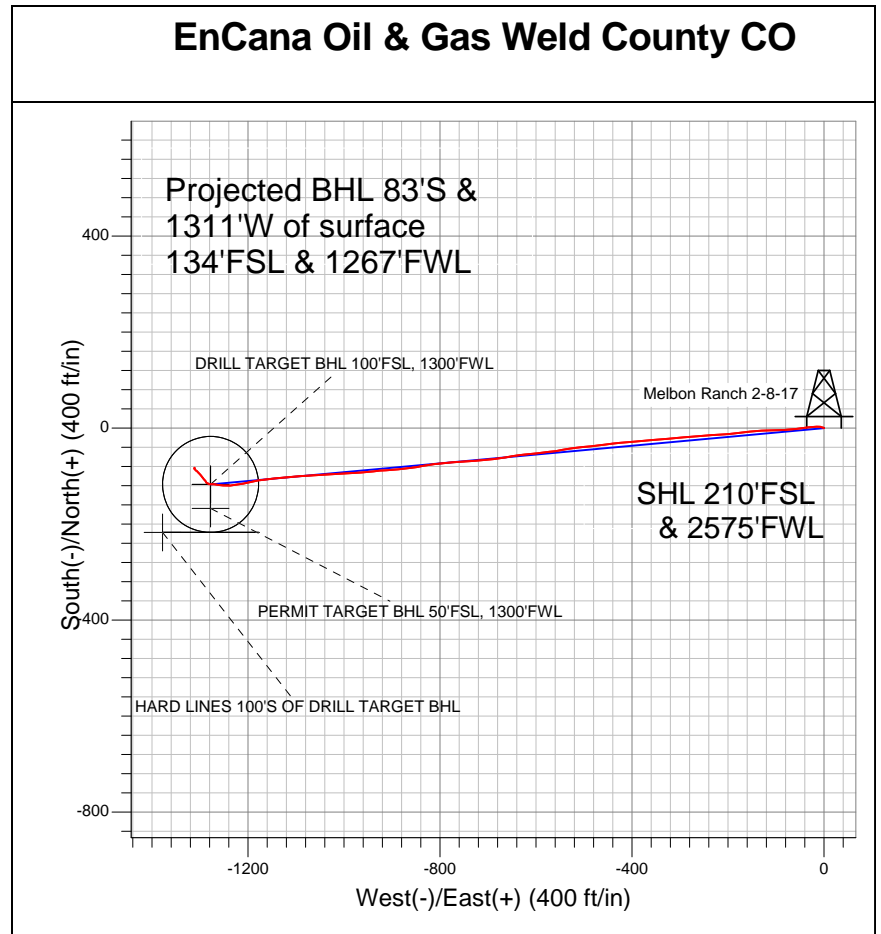
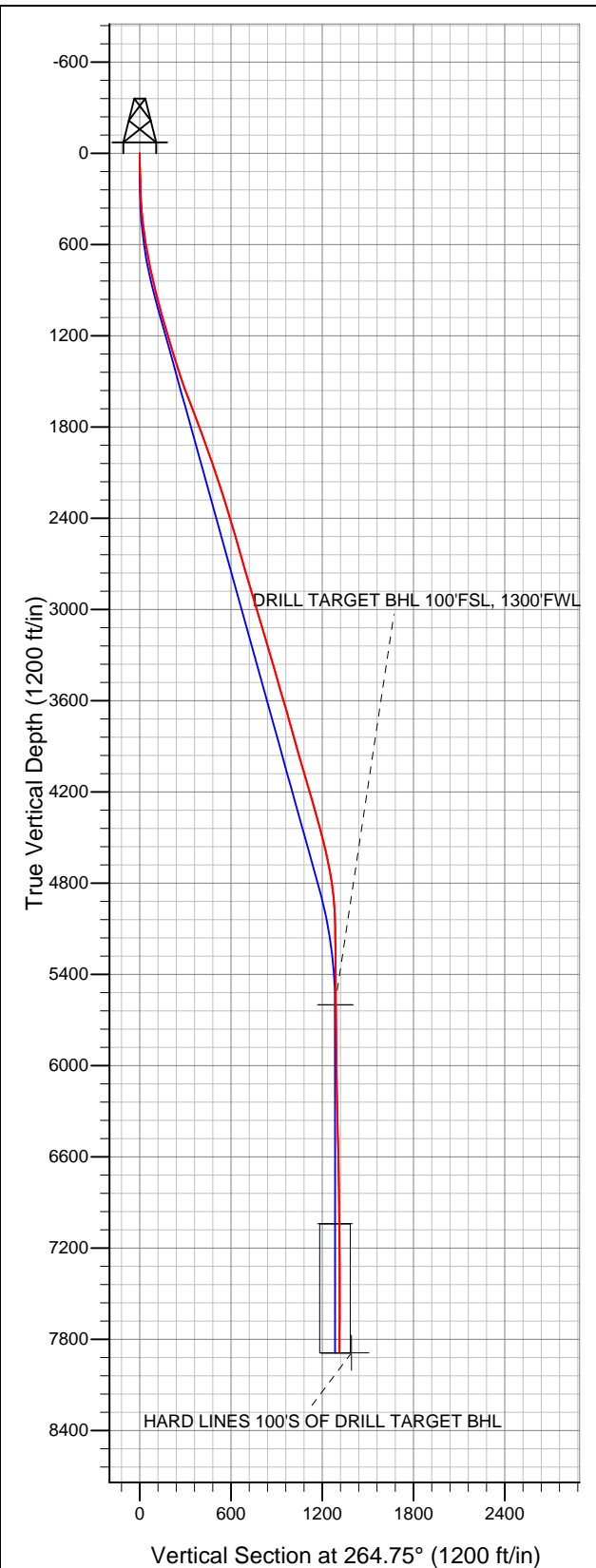


# Well Name: Melbon Ranch 2-8-17

Surface Location: Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4918.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1291973.98	3226985.28	40.132010	-104.688200	
		Original Well Elev	WELL @ 4930.0ft (Original Well Elev)			



## Final Survey Plot

Projected Final Survey -  
 8064'MD & 7882'TVD @ 1313'VS  
 0.20 deg Inc 204.00 deg AZ

Project: SEC.17-T2N-R65W  
 Site: Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W  
 Well: Melbon Ranch 2-8-17  
 Plan: Wellbore #1



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

**SEC.17-T2N-R65W**

**Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W**

**Melbon Ranch 2-8-17**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**19 March, 2012**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Melbon Ranch 2-8-17
<b>Project:</b>	SEC.17-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4930.0ft (Original Well Elev)
<b>Site:</b>	Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W	<b>MD Reference:</b>	WELL @ 4930.0ft (Original Well Elev)
<b>Well:</b>	Melbon Ranch 2-8-17	<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.17-T2N-R65W, 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		Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W			
Site Position:		Northing:		1,291,973.98ft	
From:	Lat/Long	Easting:		3,226,985.28ft	
Position Uncertainty:		Slot Radius:		Grid Convergence:	
0.0 ft		"		40.132010 -104.688200 0.52 °	

<b>Well</b>	Melbon Ranch 2-8-17				
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b>	1,291,973.98 ft	<b>Latitude:</b> 40.132010
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b>	3,226,985.28 ft	<b>Longitude:</b> -104.688200
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,918.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/16/2012	8.71	66.82	52,927

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	264.75

Survey Program		Date	3/19/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
93.0	8,064.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey	Wellbore Data									
	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)
Survey Data	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	93.0	1.20	303.80	93.0	0.5	-0.8	0.8	1.29	1.29	0.00
	184.0	1.80	285.90	184.0	1.5	-3.0	2.8	0.83	0.66	-19.67
	277.0	3.20	282.50	276.9	2.4	-6.9	6.7	1.51	1.51	-3.66
	368.0	4.50	270.10	367.7	3.0	-13.0	12.6	1.69	1.43	-13.63
	459.0	6.10	265.40	458.3	2.6	-21.4	21.0	1.82	1.76	-5.16
	550.0	7.50	263.50	548.6	1.5	-32.1	31.8	1.56	1.54	-2.09
	642.0	9.60	262.50	639.6	-0.1	-45.6	45.5	2.29	2.28	-1.09
	736.0	11.50	263.70	732.0	-2.2	-62.7	62.7	2.03	2.02	1.28
	830.0	13.70	267.40	823.7	-3.7	-83.2	83.2	2.49	2.34	3.94
	923.0	15.20	268.40	913.8	-4.6	-106.4	106.3	1.64	1.61	1.08
	1,016.0	14.30	266.60	1,003.7	-5.6	-130.0	130.0	1.09	-0.97	-1.94
	1,110.0	15.70	265.20	1,094.5	-7.3	-154.3	154.3	1.54	1.49	-1.49

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Melbon Ranch 2-8-17
<b>Project:</b>	SEC.17-T2N-R65W	<b>TVD Reference:</b>	WELL @ 4930.0ft (Original Well Elev)
<b>Site:</b>	Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W	<b>MD Reference:</b>	WELL @ 4930.0ft (Original Well Elev)
<b>Well:</b>	Melbon Ranch 2-8-17	<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)	
1,204.0	15.80	261.70	1,185.0	-10.3	-179.6	179.8	1.02	0.11	-3.72	
1,297.0	17.40	266.40	1,274.1	-13.0	-206.0	206.3	2.24	1.72	5.05	
1,391.0	17.60	266.10	1,363.8	-14.8	-234.2	234.6	0.23	0.21	-0.32	
1,485.0	17.70	265.40	1,453.4	-16.9	-262.7	263.1	0.25	0.11	-0.74	
1,578.0	19.90	264.60	1,541.4	-19.5	-292.5	293.1	2.38	2.37	-0.86	
1,672.0	20.70	265.30	1,629.5	-22.4	-325.0	325.7	0.89	0.85	0.74	
1,766.0	21.40	265.70	1,717.3	-25.1	-358.6	359.4	0.76	0.74	0.43	
1,859.0	20.80	264.50	1,804.0	-27.9	-392.0	392.9	0.79	-0.65	-1.29	
1,953.0	19.50	265.40	1,892.3	-30.8	-424.3	425.3	1.42	-1.38	0.96	
2,047.0	19.00	262.00	1,981.0	-34.2	-455.0	456.3	1.31	-0.53	-3.62	
2,140.0	19.50	264.40	2,068.8	-37.8	-485.5	486.9	1.01	0.54	2.58	
2,234.0	18.50	263.10	2,157.7	-41.1	-515.9	517.5	1.16	-1.06	-1.38	
2,328.0	17.60	259.70	2,247.1	-45.4	-544.7	546.6	1.47	-0.96	-3.62	
2,421.0	16.50	264.00	2,336.0	-49.3	-571.7	573.8	1.80	-1.18	4.62	
2,515.0	16.60	262.50	2,426.1	-52.5	-598.3	600.5	0.47	0.11	-1.60	
2,609.0	17.20	264.10	2,516.0	-55.7	-625.4	627.9	0.81	0.64	1.70	
2,702.0	15.90	260.90	2,605.2	-59.1	-651.7	654.3	1.71	-1.40	-3.44	
2,796.0	15.30	262.20	2,695.7	-62.8	-676.7	679.6	0.74	-0.64	1.38	
2,890.0	16.00	262.60	2,786.2	-66.2	-701.8	704.9	0.75	0.74	0.43	
2,983.0	16.70	267.10	2,875.5	-68.5	-727.8	731.1	1.56	0.75	4.84	
3,077.0	16.90	267.50	2,965.5	-69.8	-755.0	758.2	0.25	0.21	0.43	
3,170.0	17.40	264.40	3,054.3	-71.7	-782.3	785.6	1.12	0.54	-3.33	
3,264.0	16.00	262.00	3,144.4	-74.9	-809.1	812.6	1.66	-1.49	-2.55	
3,358.0	16.70	259.00	3,234.6	-79.3	-835.2	839.0	1.17	0.74	-3.19	
3,451.0	16.00	263.90	3,323.8	-83.2	-861.1	865.1	1.66	-0.75	5.27	
3,545.0	15.80	264.50	3,414.2	-85.8	-886.7	890.8	0.28	-0.21	0.64	
3,639.0	16.00	266.20	3,504.6	-87.9	-912.4	916.6	0.54	0.21	1.81	
3,732.0	17.00	264.30	3,593.8	-90.1	-938.7	943.0	1.22	1.08	-2.04	
3,826.0	15.10	264.90	3,684.1	-92.5	-964.6	969.0	2.03	-2.02	0.64	
3,920.0	16.30	268.10	3,774.6	-94.0	-990.0	994.4	1.57	1.28	3.40	
4,013.0	15.60	266.20	3,864.0	-95.3	-1,015.5	1,019.9	0.94	-0.75	-2.04	
4,107.0	16.00	265.20	3,954.5	-97.2	-1,041.0	1,045.5	0.51	0.43	-1.06	
4,201.0	16.70	268.30	4,044.7	-98.7	-1,067.4	1,072.0	1.19	0.74	3.30	
4,294.0	16.10	265.40	4,133.9	-100.1	-1,093.6	1,098.2	1.09	-0.65	-3.12	
4,388.0	15.80	265.30	4,224.3	-102.2	-1,119.4	1,124.0	0.32	-0.32	-0.11	
4,482.0	15.30	262.70	4,314.8	-104.9	-1,144.4	1,149.2	0.91	-0.53	-2.77	
4,575.0	16.40	263.10	4,404.3	-108.0	-1,169.6	1,174.6	1.19	1.18	0.43	
4,669.0	14.30	257.40	4,495.0	-112.1	-1,194.1	1,199.4	2.75	-2.23	-6.06	
4,763.0	12.70	258.30	4,586.4	-116.8	-1,215.6	1,221.2	1.72	-1.70	0.96	
4,856.0	11.80	265.90	4,677.2	-119.5	-1,235.1	1,240.8	1.98	-0.97	8.17	
4,950.0	9.30	276.10	4,769.7	-119.4	-1,252.2	1,257.9	3.31	-2.66	10.85	
5,044.0	6.70	279.00	4,862.7	-117.7	-1,265.2	1,270.7	2.80	-2.77	3.09	
5,137.0	4.10	268.30	4,955.3	-117.0	-1,273.9	1,279.2	2.99	-2.80	-11.51	
5,231.0	1.70	269.00	5,049.2	-117.1	-1,278.6	1,284.0	2.55	-2.55	0.74	
5,325.0	0.20	240.00	5,143.2	-117.2	-1,280.2	1,285.5	1.63	-1.60	-30.85	
5,418.0	0.60	311.60	5,236.2	-117.0	-1,280.7	1,286.0	0.61	0.43	76.99	
5,512.0	0.40	251.00	5,330.2	-116.7	-1,281.3	1,286.7	0.57	-0.21	-64.47	
5,606.0	0.70	316.80	5,424.2	-116.4	-1,282.1	1,287.3	0.69	0.32	70.00	
5,699.0	0.80	306.00	5,517.2	-115.6	-1,283.0	1,288.2	0.19	0.11	-11.61	
5,781.5	0.45	295.19	5,599.7	-115.2	-1,283.7	1,288.9	0.45	-0.43	-13.10	
PERMIT TARGET BHL 50'FSL, 1300'FWL										
5,781.8	0.45	295.19	5,600.0	-115.2	-1,283.7	1,288.9	0.00	0.00	0.00	
DRILL TARGET BHL 100'FSL, 1300'FWL										
5,793.0	0.40	292.20	5,611.1	-115.1	-1,283.8	1,288.9	0.46	-0.42	-26.73	

**Company:** EnCana Oil & Gas Weld County CO  
**Project:** SEC.17-T2N-R65W  
**Site:** Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W  
**Well:** Melbon Ranch 2-8-17  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well Melbon Ranch 2-8-17  
**TVD Reference:** WELL @ 4930.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4930.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**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)
5,887.0	1.10	285.90	5,705.1	-114.7	-1,285.0	1,290.1	0.75	0.74	-6.70
5,980.0	0.90	325.10	5,798.1	-113.9	-1,286.2	1,291.3	0.75	-0.22	42.15
6,074.0	1.20	327.00	5,892.1	-112.5	-1,287.2	1,292.1	0.32	0.32	2.02
6,168.0	1.20	338.50	5,986.1	-110.7	-1,288.1	1,292.8	0.26	0.00	12.23
6,261.0	1.50	309.60	6,079.1	-109.1	-1,289.4	1,294.0	0.79	0.32	-31.08
6,355.0	2.00	322.70	6,173.0	-107.0	-1,291.3	1,295.7	0.68	0.53	13.94
6,449.0	2.20	321.10	6,267.0	-104.3	-1,293.5	1,297.6	0.22	0.21	-1.70
6,543.0	2.30	324.50	6,360.9	-101.3	-1,295.7	1,299.5	0.18	0.11	3.62
6,637.0	2.50	320.50	6,454.8	-98.2	-1,298.1	1,301.6	0.28	0.21	-4.26
6,732.0	2.70	312.10	6,549.7	-95.1	-1,301.1	1,304.3	0.45	0.21	-8.84
6,826.0	1.90	321.90	6,643.6	-92.4	-1,303.7	1,306.7	0.95	-0.85	10.43
6,920.0	0.60	331.40	6,737.6	-90.7	-1,304.9	1,307.7	1.40	-1.38	10.11
7,015.0	1.10	300.40	6,832.6	-89.8	-1,305.9	1,308.6	0.70	0.53	-32.63
7,109.0	0.90	292.10	6,926.6	-89.1	-1,307.4	1,310.0	0.26	-0.21	-8.83
7,203.0	1.30	321.90	7,020.6	-88.0	-1,308.7	1,311.3	0.73	0.43	31.70
7,221.6	1.22	322.34	7,039.2	-87.7	-1,309.0	1,311.5	0.43	-0.43	2.35
TARGET CIRCLE 100'FSL, 1300'FWL									
7,297.0	0.90	324.90	7,114.5	-86.5	-1,309.8	1,312.2	0.43	-0.43	3.40
7,392.0	0.40	317.90	7,209.5	-85.7	-1,310.4	1,312.8	0.53	-0.53	-7.37
7,486.0	0.60	277.40	7,303.5	-85.4	-1,311.1	1,313.5	0.42	0.21	-43.09
7,580.0	0.50	3.40	7,397.5	-84.9	-1,311.6	1,313.9	0.80	-0.11	91.49
7,675.0	0.40	314.90	7,492.5	-84.3	-1,311.8	1,314.0	0.40	-0.11	-51.05
7,769.0	0.50	31.30	7,586.5	-83.7	-1,311.8	1,314.0	0.60	0.11	81.28
7,863.0	0.40	41.10	7,680.5	-83.1	-1,311.4	1,313.5	0.13	-0.11	10.43
7,957.0	0.40	93.50	7,774.5	-82.8	-1,310.9	1,312.9	0.38	0.00	55.74
8,019.0	0.20	204.00	7,836.5	-83.0	-1,310.7	1,312.8	0.82	-0.32	178.23
8,064.0	0.20	204.00	7,881.5	-83.1	-1,310.8	1,312.9	0.00	0.00	0.00
HARD LINES 100'S OF DRILL TARGET BHL									

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