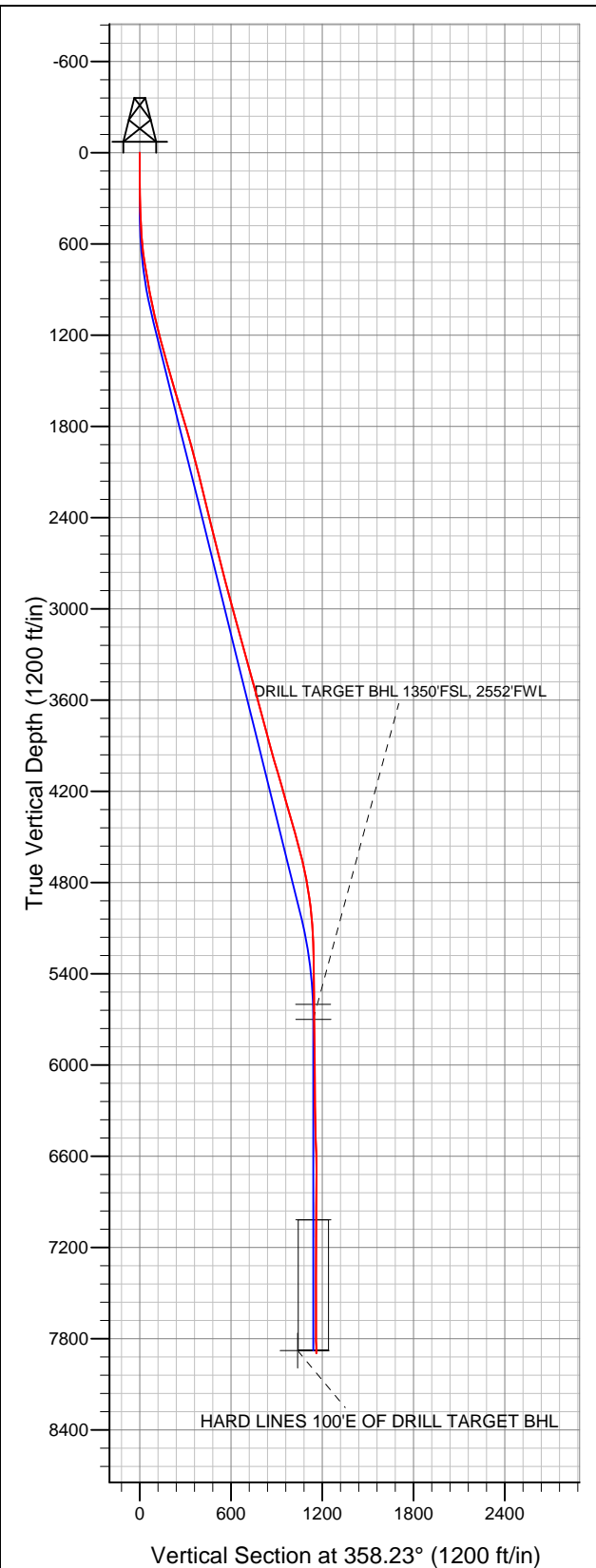




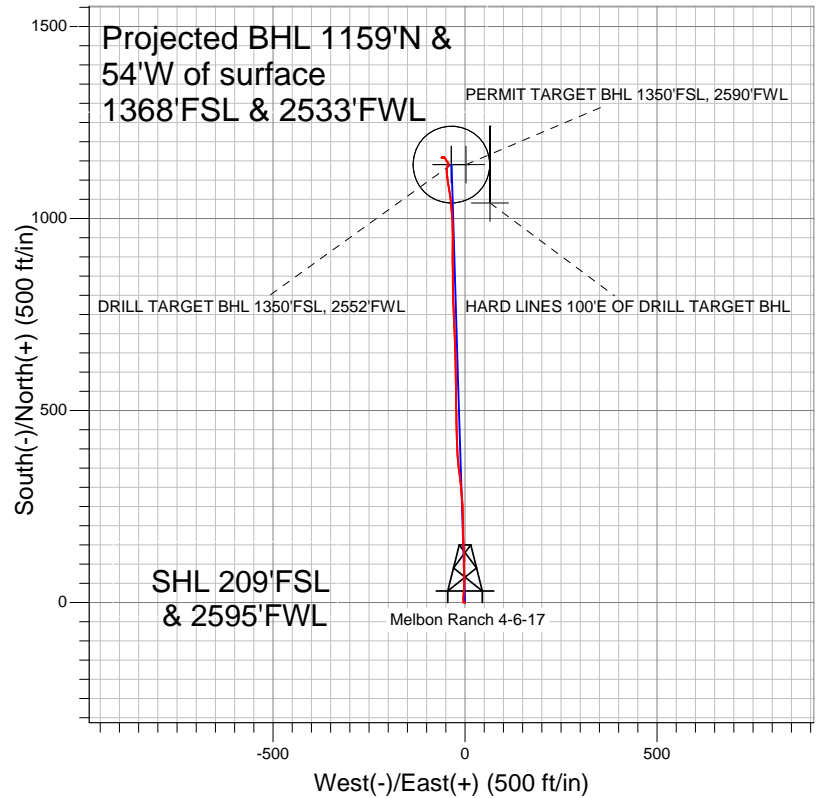
# Well Name: Melbon Ranch 4-6-17

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

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1291974.15	3227004.85	40.132010	-104.688130	
Original Well Elev			WELL @ 4930.0ft (Original Well Elev)			



## EnCana Oil & Gas Weld County CO



### LEGEND

- Survey #1
- ✕ Melbon Ranch 4-6-17, Wellbore #1, Plan #1 (3-21-12) R V0
- Wellbore #1

## Final Survey Plot

Projected Final Survey -  
 8040'MD & 7896'TVD @ 1160'VS  
 1.00 deg Inc 79.00 deg AZ

Project: SEC.17-T2N-R65W  
 Site: Melbon Ranch 2-8-17 Pad Sec.17-T2N-R65W  
 Well: Melbon Ranch 4-6-17  
 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 4-6-17**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**29 March, 2012**

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Melbon Ranch 4-6-17
<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 4-6-17	<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	Latitude:	40.132010
From:	Lat/Long	Easting:	3,226,985.28ft	Longitude:	-104.688200
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	Melbon Ranch 4-6-17					
Well Position	+N/-S	0.0 ft	Northing:	1,291,974.15 ft	Latitude:	40.132010
	+E/-W	0.0 ft	Easting:	3,227,004.85 ft	Longitude:	-104.688130
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,918.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/21/2012	8.70	66.82	52,917

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 (°)	
	5,700.0	0.0	0.0	358.23	

Survey Program		Date	3/29/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
94.0	8,040.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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)
Survey	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	94.0	1.20	250.90	94.0	-0.3	-0.9	-0.3	1.28	1.28	0.00
	185.0	1.30	281.30	185.0	-0.4	-2.8	-0.3	0.73	0.11	33.41
	277.0	1.40	343.10	277.0	0.8	-4.2	1.0	1.51	0.11	67.17
	368.0	1.40	13.50	367.9	3.0	-4.3	3.1	0.81	0.00	33.41
	460.0	2.40	355.20	459.9	6.0	-4.2	6.1	1.26	1.09	-19.89
	552.0	4.30	0.90	551.7	11.4	-4.3	11.5	2.09	2.07	6.20
	643.0	7.00	6.80	642.3	20.3	-3.6	20.4	3.03	2.97	6.48
	737.0	9.40	2.80	735.3	33.6	-2.5	33.7	2.62	2.55	-4.26
	845.0	10.10	359.80	841.7	51.9	-2.1	52.0	0.80	0.65	-2.78
	923.0	10.70	359.60	918.5	66.0	-2.2	66.0	0.77	0.77	-0.26
	1,017.0	11.60	357.70	1,010.7	84.2	-2.6	84.2	1.03	0.96	-2.02
	1,111.0	12.90	3.40	1,102.5	104.1	-2.4	104.1	1.89	1.38	6.06

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Melbon Ranch 4-6-17
<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 4-6-17	<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	14.90	356.60	1,192.8	126.4	-2.5	126.4	2.77	2.15	-7.31	
1,298.0	15.70	356.60	1,283.5	151.2	-3.9	151.2	0.85	0.85	0.00	
1,392.0	15.40	359.80	1,374.0	176.3	-4.7	176.4	0.97	-0.32	3.40	
1,485.0	16.10	359.20	1,463.6	201.6	-5.0	201.6	0.77	0.75	-0.65	
1,579.0	16.20	358.30	1,553.8	227.7	-5.5	227.8	0.29	0.11	-0.96	
1,673.0	16.70	356.70	1,644.0	254.3	-6.7	254.4	0.72	0.53	-1.70	
1,766.0	17.00	355.30	1,733.0	281.2	-8.6	281.3	0.54	0.32	-1.51	
1,860.0	16.40	353.80	1,823.0	308.1	-11.1	308.3	0.79	-0.64	-1.60	
1,954.0	15.60	352.70	1,913.4	333.8	-14.2	334.1	0.91	-0.85	-1.17	
2,047.0	14.40	354.00	2,003.2	357.7	-17.0	358.1	1.34	-1.29	1.40	
2,141.0	14.30	355.80	2,094.3	380.9	-19.0	381.3	0.49	-0.11	1.91	
2,235.0	13.30	356.80	2,185.6	403.3	-20.5	403.7	1.09	-1.06	1.06	
2,328.0	14.10	0.70	2,275.9	425.3	-21.0	425.8	1.31	0.86	4.19	
2,422.0	14.30	356.70	2,367.1	448.3	-21.5	448.8	1.07	0.21	-4.26	
2,516.0	13.80	359.60	2,458.3	471.1	-22.2	471.6	0.92	-0.53	3.09	
2,609.0	13.60	359.20	2,548.6	493.2	-22.5	493.6	0.24	-0.22	-0.43	
2,703.0	14.60	357.50	2,639.8	516.1	-23.1	516.5	1.15	1.06	-1.81	
2,797.0	14.30	359.50	2,730.8	539.5	-23.8	540.0	0.62	-0.32	2.13	
2,890.0	14.60	0.50	2,820.9	562.7	-23.8	563.2	0.42	0.32	1.08	
2,984.0	15.00	0.40	2,911.7	586.7	-23.6	587.2	0.43	0.43	-0.11	
3,078.0	15.30	359.00	3,002.5	611.3	-23.7	611.7	0.50	0.32	-1.49	
3,171.0	15.50	357.70	3,092.1	636.0	-24.4	636.4	0.43	0.22	-1.40	
3,265.0	15.00	356.30	3,182.8	660.7	-25.7	661.1	0.66	-0.53	-1.49	
3,359.0	15.30	358.50	3,273.6	685.2	-26.8	685.7	0.69	0.32	2.34	
3,452.0	15.80	358.00	3,363.2	710.1	-27.6	710.6	0.56	0.54	-0.54	
3,546.0	15.00	357.80	3,453.8	735.1	-28.5	735.6	0.85	-0.85	-0.21	
3,640.0	15.50	356.80	3,544.5	759.8	-29.7	760.3	0.60	0.53	-1.06	
3,733.0	15.30	359.20	3,634.1	784.4	-30.5	785.0	0.72	-0.22	2.58	
3,827.0	15.40	359.10	3,724.8	809.3	-30.9	809.9	0.11	0.11	-0.11	
3,920.0	14.60	358.40	3,814.6	833.4	-31.4	834.0	0.88	-0.86	-0.75	
4,014.0	15.40	0.90	3,905.4	857.7	-31.5	858.3	1.09	0.85	2.66	
4,108.0	15.70	358.10	3,996.0	882.9	-31.8	883.5	0.86	0.32	-2.98	
4,201.0	16.60	359.70	4,085.3	908.8	-32.3	909.3	1.08	0.97	1.72	
4,295.0	16.20	1.30	4,175.5	935.3	-32.0	935.8	0.64	-0.43	1.70	
4,389.0	15.30	359.00	4,265.9	960.8	-31.9	961.3	1.17	-0.96	-2.45	
4,482.0	15.50	358.30	4,355.6	985.5	-32.5	986.0	0.29	0.22	-0.75	
4,576.0	16.40	355.30	4,446.0	1,011.3	-34.0	1,011.8	1.30	0.96	-3.19	
4,670.0	15.60	355.10	4,536.3	1,037.1	-36.2	1,037.7	0.85	-0.85	-0.21	
4,763.0	13.70	352.10	4,626.3	1,060.5	-38.7	1,061.2	2.20	-2.04	-3.23	
4,857.0	12.20	350.30	4,717.9	1,081.3	-41.9	1,082.1	1.65	-1.60	-1.91	
4,951.0	10.30	350.10	4,810.1	1,099.3	-45.1	1,100.2	2.02	-2.02	-0.21	
5,044.0	7.90	354.30	4,901.9	1,113.9	-47.1	1,114.8	2.68	-2.58	4.52	
5,138.0	6.10	4.00	4,995.2	1,125.3	-47.4	1,126.2	2.28	-1.91	10.32	
5,232.0	4.30	17.30	5,088.9	1,133.7	-46.0	1,134.5	2.29	-1.91	14.15	
5,325.0	2.50	27.40	5,181.7	1,138.8	-44.1	1,139.6	2.03	-1.94	10.86	
5,419.0	0.80	8.80	5,275.6	1,141.3	-43.0	1,142.0	1.87	-1.81	-19.79	
5,513.0	0.70	342.10	5,369.6	1,142.5	-43.1	1,143.2	0.38	-0.11	-28.40	
5,606.0	0.70	356.30	5,462.6	1,143.6	-43.3	1,144.4	0.19	0.00	15.27	
5,700.0	0.60	339.70	5,556.6	1,144.6	-43.5	1,145.4	0.23	-0.11	-17.66	
5,743.1	0.64	334.53	5,599.7	1,145.0	-43.7	1,145.8	0.16	0.10	-11.99	
PERMIT TARGET BHL 1350'FSL, 2590'FWL										
5,794.0	0.70	329.30	5,650.6	1,145.6	-44.0	1,146.4	0.16	0.11	-10.28	
5,843.3	0.64	321.10	5,699.9	1,146.0	-44.3	1,146.8	0.23	-0.12	-16.65	
DRILL TARGET BHL 1350'FSL, 2552'FWL										

<b>Company:</b>	EnCana Oil & Gas Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Melbon Ranch 4-6-17
<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 4-6-17	<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)	
5,887.0	0.60	312.60	5,743.6	1,146.4	-44.6	1,147.2	0.23	-0.09	-19.43	
5,981.0	0.80	328.20	5,837.6	1,147.3	-45.3	1,148.1	0.29	0.21	16.60	
6,075.0	0.90	302.80	5,931.6	1,148.2	-46.3	1,149.1	0.41	0.11	-27.02	
6,168.0	0.70	307.50	6,024.6	1,149.0	-47.4	1,149.9	0.23	-0.22	5.05	
6,262.0	0.70	335.10	6,118.6	1,149.8	-48.1	1,150.8	0.36	0.00	29.36	
6,356.0	0.30	23.00	6,212.6	1,150.6	-48.2	1,151.5	0.58	-0.43	50.96	
6,450.0	0.70	329.80	6,306.6	1,151.3	-48.4	1,152.2	0.61	0.43	-56.60	
6,544.0	1.80	330.70	6,400.5	1,153.1	-49.4	1,154.1	1.17	1.17	0.96	
6,638.0	2.60	327.70	6,494.5	1,156.2	-51.3	1,157.2	0.86	0.85	-3.19	
6,732.0	2.50	317.20	6,588.4	1,159.5	-53.8	1,160.6	0.51	-0.11	-11.17	
6,827.0	2.50	254.60	6,683.3	1,160.4	-57.2	1,161.7	2.73	0.00	-65.89	
6,921.0	0.80	203.80	6,777.3	1,159.3	-59.4	1,160.6	2.22	-1.81	-54.04	
7,015.0	0.40	247.20	6,871.3	1,158.6	-60.0	1,159.9	0.62	-0.43	46.17	
7,110.0	0.30	229.90	6,966.3	1,158.3	-60.5	1,159.6	0.15	-0.11	-18.21	
7,161.7	0.30	229.13	7,018.0	1,158.1	-60.7	1,159.4	0.01	0.00	-1.49	
TARGET CIRCLE 1350'FSL & 2552'FWL										
7,204.0	0.30	228.50	7,060.3	1,158.0	-60.9	1,159.3	0.01	0.00	-1.49	
7,298.0	0.10	166.60	7,154.3	1,157.7	-61.0	1,159.1	0.28	-0.21	-65.85	
7,392.0	0.20	75.90	7,248.3	1,157.7	-60.9	1,159.0	0.24	0.11	-96.49	
7,487.0	0.40	67.90	7,343.3	1,157.8	-60.4	1,159.2	0.21	0.21	-8.42	
7,581.0	0.50	83.50	7,437.3	1,158.0	-59.7	1,159.3	0.17	0.11	16.60	
7,675.0	0.50	80.50	7,531.3	1,158.1	-58.9	1,159.4	0.03	0.00	-3.19	
7,770.0	0.80	78.70	7,626.2	1,158.3	-57.8	1,159.6	0.32	0.32	-1.89	
7,864.0	0.60	104.40	7,720.2	1,158.3	-56.7	1,159.5	0.39	-0.21	27.34	
7,958.0	1.00	77.70	7,814.2	1,158.4	-55.4	1,159.5	0.57	0.43	-28.40	
7,995.0	1.00	79.00	7,851.2	1,158.5	-54.8	1,159.7	0.06	0.00	3.51	
8,023.4	1.00	79.00	7,879.6	1,158.6	-54.3	1,159.7	0.00	0.00	0.00	
HARD LINES 100'E OF DRILL TARGET BHL										
8,040.0	1.00	79.00	7,896.2	1,158.7	-54.0	1,159.8	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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