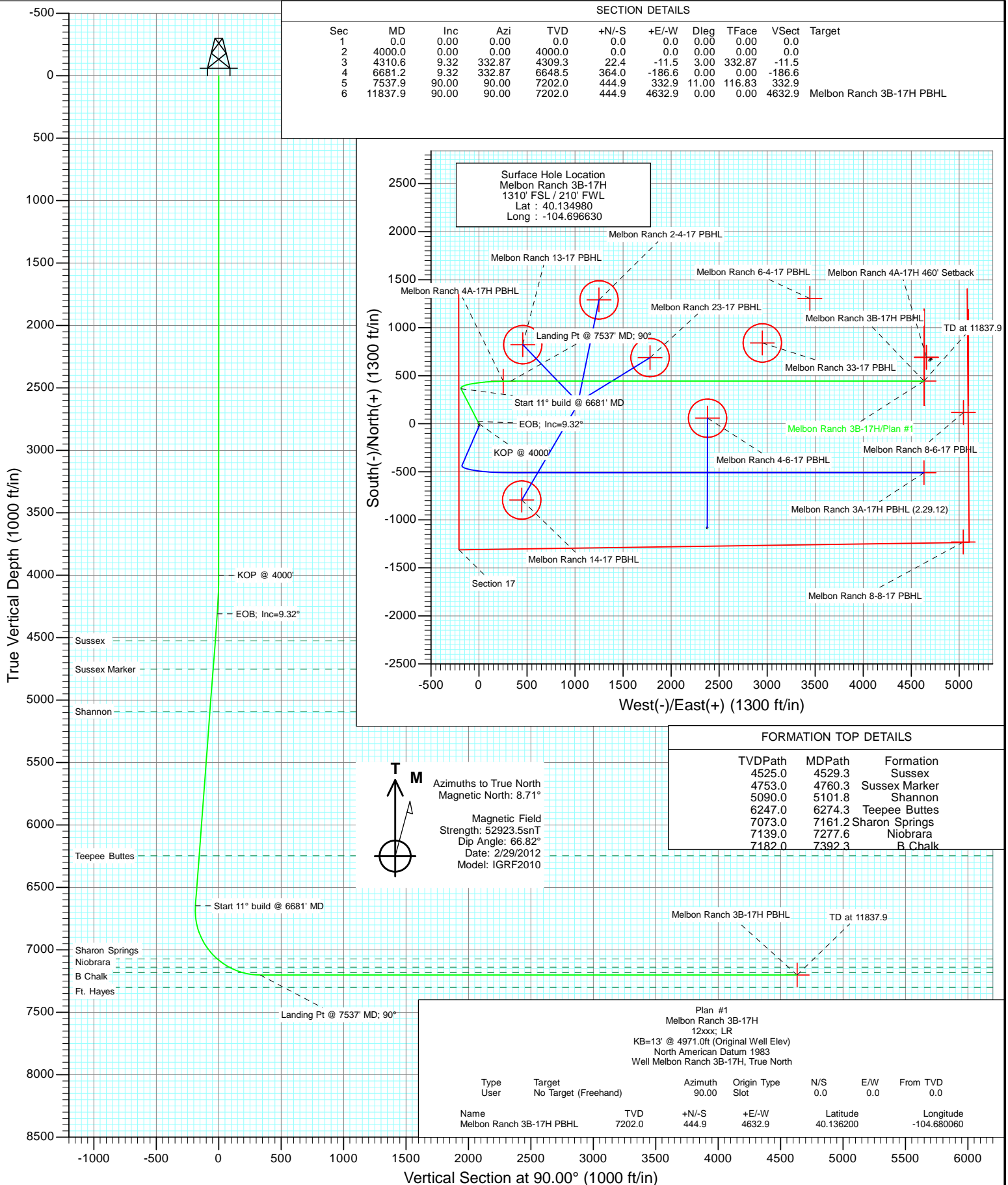




Project: DJ Wattenberg
Site: NESE S17-T2N-R65W (Melbon Ranch)
Well: Melbon Ranch 3B-17H
Wellbore: Hz
Design: Plan #1



Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Melbon Ranch 3B-17H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site:	NESE S17-T2N-R65W (Melbon Ranch)	North Reference:	True
Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		NESE S17-T2N-R65W (Melbon Ranch)			
Site Position:		Northing:	1,293,771.71 ft	Latitude:	40.136880
From:	Lat/Long	Easting:	3,229,276.43 ft	Longitude:	-104.679970
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.53 °

Well	Melbon Ranch 3B-17H					
Well Position	+N/-S	0.0 ft	Northing:	1,293,036.96 ft	Latitude:	40.134980
	+E/-W	0.0 ft	Easting:	3,224,624.90 ft	Longitude:	-104.696630
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,958.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/29/2012	8.71	66.82	52,924

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	90.00	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,310.6	9.32	332.87	4,309.3	22.4	-11.5	3.00	3.00	0.00	332.87	
6,681.2	9.32	332.87	6,648.5	364.0	-186.6	0.00	0.00	0.00	0.00	
7,537.9	90.00	90.00	7,202.0	444.9	332.9	11.00	9.42	13.67	116.83	
11,837.9	90.00	90.00	7,202.0	444.9	4,632.9	0.00	0.00	0.00	0.00	Melbon Ranch 3B-17I

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Melbon Ranch 3B-17H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site:	NESE S17-T2N-R65W (Melbon Ranch)	North Reference:	True
Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 4000'
4,100.0	3.00	332.87	4,100.0	2.3	-1.2	-1.2	3.00	3.00	
4,200.0	6.00	332.87	4,199.6	9.3	-4.8	-4.8	3.00	3.00	
4,300.0	9.00	332.87	4,298.8	20.9	-10.7	-10.7	3.00	3.00	
4,310.6	9.32	332.87	4,309.3	22.4	-11.5	-11.5	3.00	3.00	EOB; Inc=9.32°
4,400.0	9.32	332.87	4,397.5	35.3	-18.1	-18.1	0.00	0.00	
4,500.0	9.32	332.87	4,496.1	49.7	-25.5	-25.5	0.00	0.00	
4,529.3	9.32	332.87	4,525.0	53.9	-27.6	-27.6	0.00	0.00	Sussex
4,600.0	9.32	332.87	4,594.8	64.1	-32.9	-32.9	0.00	0.00	
4,700.0	9.32	332.87	4,693.5	78.5	-40.3	-40.3	0.00	0.00	
4,760.3	9.32	332.87	4,753.0	87.2	-44.7	-44.7	0.00	0.00	Sussex Marker
4,800.0	9.32	332.87	4,792.2	93.0	-47.6	-47.6	0.00	0.00	

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site:	NESE S17-T2N-R65W (Melbon Ranch)	North Reference:	True
Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,900.0	9.32	332.87	4,890.9	107.4	-55.0	-55.0	0.00	0.00	
5,000.0	9.32	332.87	4,989.5	121.8	-62.4	-62.4	0.00	0.00	
5,100.0	9.32	332.87	5,088.2	136.2	-69.8	-69.8	0.00	0.00	
5,101.8	9.32	332.87	5,090.0	136.4	-69.9	-69.9	0.00	0.00	Shannon
5,200.0	9.32	332.87	5,186.9	150.6	-77.2	-77.2	0.00	0.00	
5,300.0	9.32	332.87	5,285.6	165.0	-84.6	-84.6	0.00	0.00	
5,400.0	9.32	332.87	5,384.3	179.4	-91.9	-91.9	0.00	0.00	
5,500.0	9.32	332.87	5,482.9	193.8	-99.3	-99.3	0.00	0.00	
5,600.0	9.32	332.87	5,581.6	208.2	-106.7	-106.7	0.00	0.00	
5,700.0	9.32	332.87	5,680.3	222.6	-114.1	-114.1	0.00	0.00	
5,800.0	9.32	332.87	5,779.0	237.1	-121.5	-121.5	0.00	0.00	
5,900.0	9.32	332.87	5,877.7	251.5	-128.9	-128.9	0.00	0.00	
6,000.0	9.32	332.87	5,976.3	265.9	-136.3	-136.3	0.00	0.00	
6,100.0	9.32	332.87	6,075.0	280.3	-143.6	-143.6	0.00	0.00	
6,200.0	9.32	332.87	6,173.7	294.7	-151.0	-151.0	0.00	0.00	
6,274.3	9.32	332.87	6,247.0	305.4	-156.5	-156.5	0.00	0.00	Teepee Buttes
6,300.0	9.32	332.87	6,272.4	309.1	-158.4	-158.4	0.00	0.00	
6,400.0	9.32	332.87	6,371.1	323.5	-165.8	-165.8	0.00	0.00	
6,500.0	9.32	332.87	6,469.7	337.9	-173.2	-173.2	0.00	0.00	
6,600.0	9.32	332.87	6,568.4	352.3	-180.6	-180.6	0.00	0.00	
6,681.2	9.32	332.87	6,648.5	364.0	-186.6	-186.6	0.00	0.00	Start 11° build @ 6681' MD
6,700.0	8.58	345.33	6,667.1	366.8	-187.6	-187.6	11.00	-3.91	
6,800.0	12.10	47.09	6,765.8	381.2	-181.8	-181.8	11.00	3.52	
6,900.0	21.44	68.17	6,861.5	395.1	-157.1	-157.1	11.00	9.33	
7,000.0	31.83	76.39	6,950.8	408.2	-114.4	-114.4	11.00	10.39	
7,100.0	42.50	80.83	7,030.4	419.8	-55.2	-55.2	11.00	10.67	
7,161.2	49.09	82.73	7,073.0	426.0	-11.8	-11.8	11.00	10.77	Sharon Springs
7,200.0	53.29	83.75	7,097.3	429.6	18.2	18.2	11.00	10.81	
7,277.6	61.70	85.49	7,139.0	435.7	83.3	83.3	11.00	10.84	Niobrara
7,300.0	64.13	85.94	7,149.2	437.2	103.2	103.2	11.00	10.85	
7,392.3	74.16	87.63	7,182.0	441.9	189.2	189.2	11.00	10.87	B Chalk
7,400.0	75.00	87.76	7,184.1	442.2	196.6	196.6	11.00	10.88	
7,500.0	85.88	89.40	7,200.6	444.7	295.0	295.0	11.00	10.88	
7,537.9	90.00	90.00	7,202.0	444.9	332.9	332.9	11.00	10.88	Landing Pt @ 7537' MD; 90°
7,600.0	90.00	90.00	7,202.0	444.9	395.0	395.0	0.00	0.00	
7,700.0	90.00	90.00	7,202.0	444.9	495.0	495.0	0.00	0.00	
7,800.0	90.00	90.00	7,202.0	444.9	595.0	595.0	0.00	0.00	
7,900.0	90.00	90.00	7,202.0	444.9	695.0	695.0	0.00	0.00	
8,000.0	90.00	90.00	7,202.0	444.9	795.0	795.0	0.00	0.00	
8,100.0	90.00	90.00	7,202.0	444.9	895.0	895.0	0.00	0.00	
8,200.0	90.00	90.00	7,202.0	444.9	995.0	995.0	0.00	0.00	
8,300.0	90.00	90.00	7,202.0	444.9	1,095.0	1,095.0	0.00	0.00	
8,400.0	90.00	90.00	7,202.0	444.9	1,195.0	1,195.0	0.00	0.00	
8,500.0	90.00	90.00	7,202.0	444.9	1,295.0	1,295.0	0.00	0.00	
8,600.0	90.00	90.00	7,202.0	444.9	1,395.0	1,395.0	0.00	0.00	
8,700.0	90.00	90.00	7,202.0	444.9	1,495.0	1,495.0	0.00	0.00	
8,800.0	90.00	90.00	7,202.0	444.9	1,595.0	1,595.0	0.00	0.00	
8,900.0	90.00	90.00	7,202.0	444.9	1,695.0	1,695.0	0.00	0.00	
9,000.0	90.00	90.00	7,202.0	444.9	1,795.0	1,795.0	0.00	0.00	
9,100.0	90.00	90.00	7,202.0	444.9	1,895.0	1,895.0	0.00	0.00	
9,200.0	90.00	90.00	7,202.0	444.9	1,995.0	1,995.0	0.00	0.00	
9,300.0	90.00	90.00	7,202.0	444.9	2,095.0	2,095.0	0.00	0.00	

Planning Report

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Site:	NESE S17-T2N-R65W (Melbon Ranch)	North Reference:	True
Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,400.0	90.00	90.00	7,202.0	444.9	2,195.0	2,195.0	0.00	0.00	
9,500.0	90.00	90.00	7,202.0	444.9	2,295.0	2,295.0	0.00	0.00	
9,600.0	90.00	90.00	7,202.0	444.9	2,395.0	2,395.0	0.00	0.00	
9,700.0	90.00	90.00	7,202.0	444.9	2,495.0	2,495.0	0.00	0.00	
9,800.0	90.00	90.00	7,202.0	444.9	2,595.0	2,595.0	0.00	0.00	
9,900.0	90.00	90.00	7,202.0	444.9	2,695.0	2,695.0	0.00	0.00	
10,000.0	90.00	90.00	7,202.0	444.9	2,795.0	2,795.0	0.00	0.00	
10,100.0	90.00	90.00	7,202.0	444.9	2,895.0	2,895.0	0.00	0.00	
10,200.0	90.00	90.00	7,202.0	444.9	2,995.0	2,995.0	0.00	0.00	
10,300.0	90.00	90.00	7,202.0	444.9	3,095.0	3,095.0	0.00	0.00	
10,400.0	90.00	90.00	7,202.0	444.9	3,195.0	3,195.0	0.00	0.00	
10,500.0	90.00	90.00	7,202.0	444.9	3,295.0	3,295.0	0.00	0.00	
10,600.0	90.00	90.00	7,202.0	444.9	3,395.0	3,395.0	0.00	0.00	
10,700.0	90.00	90.00	7,202.0	444.9	3,495.0	3,495.0	0.00	0.00	
10,800.0	90.00	90.00	7,202.0	444.9	3,595.0	3,595.0	0.00	0.00	
10,900.0	90.00	90.00	7,202.0	444.9	3,695.0	3,695.0	0.00	0.00	
11,000.0	90.00	90.00	7,202.0	444.9	3,795.0	3,795.0	0.00	0.00	
11,100.0	90.00	90.00	7,202.0	444.9	3,895.0	3,895.0	0.00	0.00	
11,200.0	90.00	90.00	7,202.0	444.9	3,995.0	3,995.0	0.00	0.00	
11,300.0	90.00	90.00	7,202.0	444.9	4,095.0	4,095.0	0.00	0.00	
11,400.0	90.00	90.00	7,202.0	444.9	4,195.0	4,195.0	0.00	0.00	
11,500.0	90.00	90.00	7,202.0	444.9	4,295.0	4,295.0	0.00	0.00	
11,600.0	90.00	90.00	7,202.0	444.9	4,395.0	4,395.0	0.00	0.00	
11,700.0	90.00	90.00	7,202.0	444.9	4,495.0	4,495.0	0.00	0.00	
11,800.0	90.00	90.00	7,202.0	444.9	4,595.0	4,595.0	0.00	0.00	
11,837.9	90.00	90.00	7,202.0	444.9	4,632.9	4,632.9	0.00	0.00	TD at 11837.9 - Melbon Ranch 3B-17H PBHL

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Melbon Ranch 3B-17H F	0.00	0.00	7,202.0	444.9	4,632.9	1,293,523.78	3,229,253.56	40.136200	-104.680060
- plan hits target center									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,529.3	4,525.0	Sussex			
4,760.3	4,753.0	Sussex Marker			
5,101.8	5,090.0	Shannon			
6,274.3	6,247.0	Teepee Buttes			
7,161.2	7,073.0	Sharon Springs			
7,277.6	7,139.0	Niobrara			
7,392.3	7,182.0	B Chalk			

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Melbon Ranch 3B-17H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Project:	DJ Wattenberg	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site:	NESE S17-T2N-R65W (Melbon Ranch)	North Reference:	True
Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,000.0	4,000.0	0.0	0.0	KOP @ 4000'
4,310.6	4,309.3	22.4	-11.5	EOB; Inc=9.32°
6,681.2	6,648.5	364.0	-186.6	Start 11° build @ 6681' MD
7,537.9	7,202.0	444.9	332.9	Landing Pt @ 7537' MD; 90°
11,837.9	7,202.0	444.9	4,632.9	TD at 11837.9

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

NESE S17-T2N-R65W (Melbon Ranch)

Melbon Ranch 3B-17H

Hz

Plan #1

Anticollision Report

29 February, 2012

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Melbon Ranch 3B-17H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Reference Site:	NESE S17-T2N-R65W (Melbon Ranch)	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date	2/29/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,837.9	Plan #1 (Hz)	MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NESE S17-T2N-R65W (Melbon Ranch)						
Melbon Ranch 3A-17H - HZ - Plan #4	3,600.0	3,600.0	25.5	13.0	2.037	CC, ES, SF

Anticollision Report

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Reference Site:	NESE S17-T2N-R65W (Melbon Ranch)	MD Reference:	KB=13' @ 4971.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Melbon Ranch 3B-17H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design NESE S17-T2N-R65W (Melbon Ranch) - Melbon Ranch 3A-17H - HZ - Plan #4													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis			
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-25.5	0.0	25.5					
100.0	100.0	100.0	100.0	0.2	0.2	-180.00	-25.5	0.0	25.5	25.2	0.30	83.967		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-25.5	0.0	25.5	24.8	0.65	39.065		
300.0	300.0	300.0	300.0	0.5	0.5	-180.00	-25.5	0.0	25.5	24.5	1.00	25.453		
400.0	400.0	400.0	400.0	0.7	0.7	-180.00	-25.5	0.0	25.5	24.1	1.35	18.876		
500.0	500.0	500.0	500.0	0.8	0.8	-180.00	-25.5	0.0	25.5	23.8	1.70	15.000		
600.0	600.0	600.0	600.0	1.0	1.0	-180.00	-25.5	0.0	25.5	23.5	2.05	12.445		
700.0	700.0	700.0	700.0	1.2	1.2	-180.00	-25.5	0.0	25.5	23.1	2.40	10.633		
800.0	800.0	800.0	800.0	1.4	1.4	-180.00	-25.5	0.0	25.5	22.8	2.75	9.282		
900.0	900.0	900.0	900.0	1.5	1.5	-180.00	-25.5	0.0	25.5	22.4	3.10	8.236		
1,000.0	1,000.0	1,000.0	1,000.0	1.7	1.7	-180.00	-25.5	0.0	25.5	22.1	3.45	7.401		
1,100.0	1,100.0	1,100.0	1,100.0	1.9	1.9	-180.00	-25.5	0.0	25.5	21.7	3.79	6.720		
1,200.0	1,200.0	1,200.0	1,200.0	2.1	2.1	-180.00	-25.5	0.0	25.5	21.4	4.14	6.154		
1,300.0	1,300.0	1,300.0	1,300.0	2.2	2.2	-180.00	-25.5	0.0	25.5	21.0	4.49	5.676		
1,400.0	1,400.0	1,400.0	1,400.0	2.4	2.4	-180.00	-25.5	0.0	25.5	20.7	4.84	5.267		
1,500.0	1,500.0	1,500.0	1,500.0	2.6	2.6	-180.00	-25.5	0.0	25.5	20.3	5.19	4.913		
1,600.0	1,600.0	1,600.0	1,600.0	2.8	2.8	-180.00	-25.5	0.0	25.5	20.0	5.54	4.603		
1,700.0	1,700.0	1,700.0	1,700.0	2.9	2.9	-180.00	-25.5	0.0	25.5	19.6	5.89	4.330		
1,800.0	1,800.0	1,800.0	1,800.0	3.1	3.1	-180.00	-25.5	0.0	25.5	19.3	6.24	4.088		
1,900.0	1,900.0	1,900.0	1,900.0	3.3	3.3	-180.00	-25.5	0.0	25.5	18.9	6.59	3.871		
2,000.0	2,000.0	2,000.0	2,000.0	3.5	3.5	-180.00	-25.5	0.0	25.5	18.6	6.94	3.676		
2,100.0	2,100.0	2,100.0	2,100.0	3.6	3.6	-180.00	-25.5	0.0	25.5	18.2	7.29	3.500		
2,200.0	2,200.0	2,200.0	2,200.0	3.8	3.8	-180.00	-25.5	0.0	25.5	17.9	7.63	3.340		
2,300.0	2,300.0	2,300.0	2,300.0	4.0	4.0	-180.00	-25.5	0.0	25.5	17.5	7.98	3.194		
2,400.0	2,400.0	2,400.0	2,400.0	4.2	4.2	-180.00	-25.5	0.0	25.5	17.2	8.33	3.060		
2,500.0	2,500.0	2,500.0	2,500.0	4.3	4.3	-180.00	-25.5	0.0	25.5	16.8	8.68	2.937		
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-180.00	-25.5	0.0	25.5	16.5	9.03	2.824		
2,700.0	2,700.0	2,700.0	2,700.0	4.7	4.7	-180.00	-25.5	0.0	25.5	16.1	9.38	2.719		
2,800.0	2,800.0	2,800.0	2,800.0	4.9	4.9	-180.00	-25.5	0.0	25.5	15.8	9.73	2.621		
2,900.0	2,900.0	2,900.0	2,900.0	5.0	5.0	-180.00	-25.5	0.0	25.5	15.4	10.08	2.530		
3,000.0	3,000.0	3,000.0	3,000.0	5.2	5.2	-180.00	-25.5	0.0	25.5	15.1	10.43	2.446		
3,100.0	3,100.0	3,100.0	3,100.0	5.4	5.4	-180.00	-25.5	0.0	25.5	14.7	10.78	2.366		
3,200.0	3,200.0	3,200.0	3,200.0	5.6	5.6	-180.00	-25.5	0.0	25.5	14.4	11.12	2.292		
3,300.0	3,300.0	3,300.0	3,300.0	5.7	5.7	-180.00	-25.5	0.0	25.5	14.0	11.47	2.222		
3,400.0	3,400.0	3,400.0	3,400.0	5.9	5.9	-180.00	-25.5	0.0	25.5	13.7	11.82	2.157		
3,500.0	3,500.0	3,500.0	3,500.0	6.1	6.1	-180.00	-25.5	0.0	25.5	13.3	12.17	2.095		
3,600.0	3,600.0	3,600.0	3,600.0	6.3	6.3	-180.00	-25.5	0.0	25.5	13.0	12.52	2.037 CC, ES, SF		
3,700.0	3,700.0	3,698.7	3,698.7	6.4	6.4	-177.91	-27.8	-1.0	27.9	15.0	12.87	2.167		
3,800.0	3,800.0	3,796.9	3,796.5	6.6	6.6	-173.38	-34.8	-4.0	35.2	22.0	13.21	2.664		
3,900.0	3,900.0	3,894.1	3,893.0	6.8	6.8	-168.99	-46.2	-9.0	47.6	34.1	13.56	3.512		
4,000.0	4,000.0	3,993.0	3,990.7	7.0	7.0	-166.00	-59.9	-14.9	62.4	48.5	13.91	4.489		
4,100.0	4,100.0	4,091.6	4,088.1	7.1	7.2	-138.00	-73.6	-20.9	79.3	65.0	14.24	5.566		
4,200.0	4,199.6	4,189.3	4,184.8	7.3	7.4	-139.29	-87.1	-26.7	100.0	85.4	14.57	6.864		
4,300.0	4,298.8	4,286.1	4,280.4	7.5	7.6	-141.50	-100.5	-32.5	124.7	109.8	14.87	8.386		
4,400.0	4,397.5	4,382.1	4,375.4	7.7	7.8	-143.98	-113.8	-38.3	152.1	136.8	15.21	9.996		
4,500.0	4,496.1	4,478.1	4,470.3	7.9	8.1	-145.74	-127.1	-44.1	179.6	164.1	15.57	11.540		
4,600.0	4,594.8	4,574.1	4,565.2	8.1	8.3	-147.04	-140.3	-49.8	207.3	191.4	15.92	13.020		
4,700.0	4,693.5	4,670.1	4,660.1	8.4	8.5	-148.03	-153.6	-55.6	235.1	218.8	16.28	14.437		
4,800.0	4,792.2	4,766.1	4,755.0	8.6	8.8	-148.81	-166.9	-61.4	262.9	246.2	16.64	15.794		
4,900.0	4,890.9	4,862.1	4,849.9	8.8	9.0	-149.44	-180.2	-67.2	290.7	273.7	17.01	17.092		
5,000.0	4,889.5	4,958.1	4,944.8	9.1	9.3	-149.97	-193.5	-72.9	318.6	301.2	17.38	18.335		
5,100.0	5,088.2	5,054.1	5,039.7	9.3	9.5	-150.40	-206.8	-78.7	346.5	328.8	17.75	19.526		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses	Total Uncertainty Axis	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)					
5,200.0	5,186.9	5,150.1	5,134.6	9.6	9.8	-150.78	-220.1	-84.5	374.4	356.3	18.12	20.667			
5,300.0	5,285.6	5,246.1	5,229.5	9.8	10.0	-151.10	-233.4	-90.2	402.3	383.8	18.49	21.761			
5,400.0	5,384.3	5,342.1	5,324.4	10.1	10.3	-151.38	-246.6	-96.0	430.3	411.4	18.86	22.811			
5,500.0	5,482.9	5,438.1	5,419.3	10.4	10.5	-151.62	-259.9	-101.8	458.2	439.0	19.24	23.819			
5,600.0	5,581.6	5,534.1	5,514.2	10.6	10.8	-151.84	-273.2	-107.5	486.2	466.5	19.61	24.786			

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Reference Wellbore	Hz	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=13' @ 4971.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Melbon Ranch 3B-17H
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.52°

