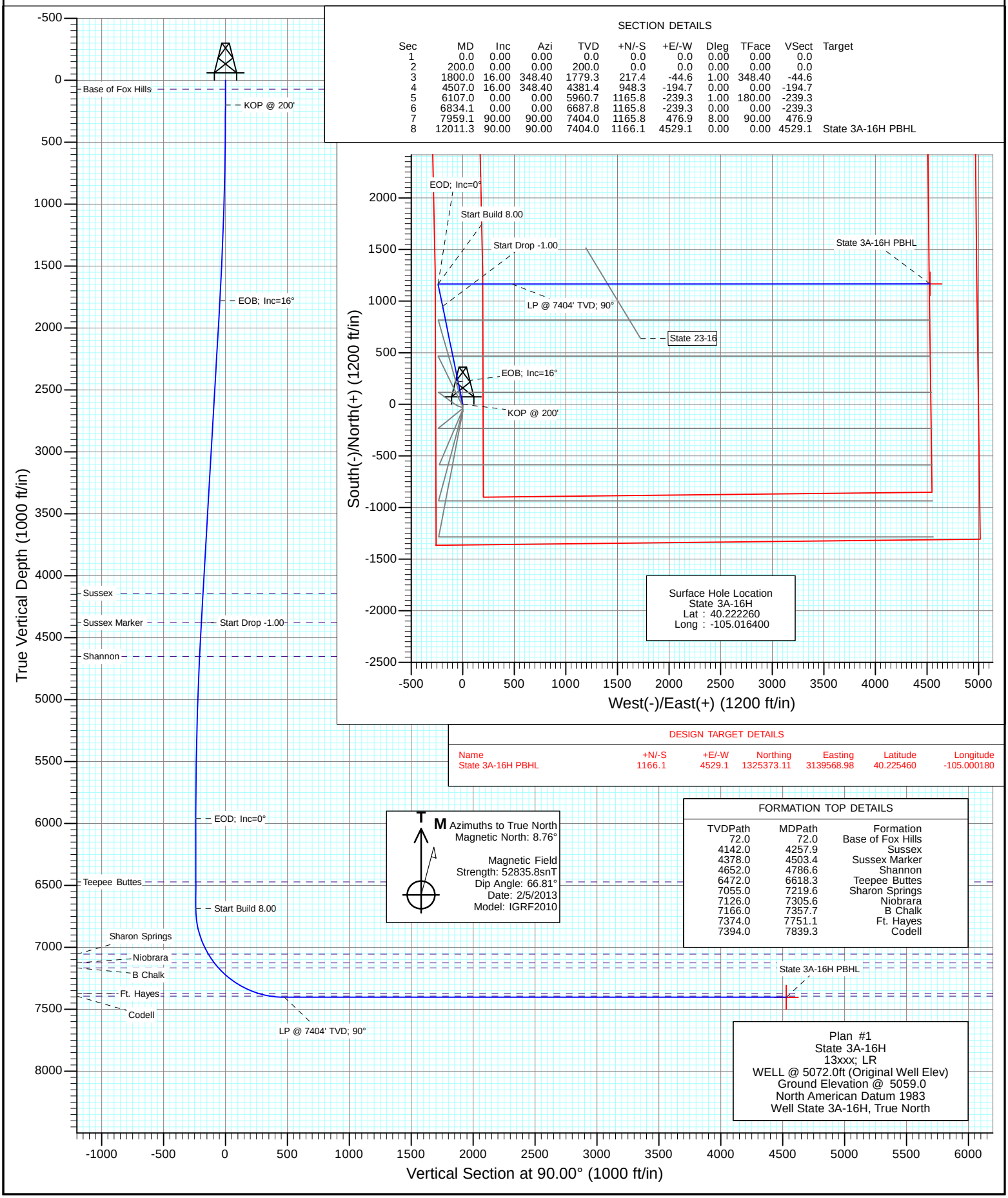
Project: DJ Wattenberg
Site: S16-T3N-R68W (State)
Well: State 3A-16H
Wellbore: Hz
Design: Plan #1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1800.0	16.00	348.40	1779.3	217.4	-44.6	1.00	348.40	-44.6	
4	4507.0	16.00	348.40	4381.4	948.3	-194.7	0.00	0.00	-194.7	
5	6107.0	0.00	0.00	5960.7	1165.8	-239.3	1.00	180.00	-239.3	
6	6834.1	0.00	0.00	6687.8	1165.8	-239.3	0.00	0.00	-239.3	
7	7959.1	90.00	90.00	7404.0	1165.8	476.9	8.00	90.00	476.9	
8	12011.3	90.00	90.00	7404.0	1166.1	4529.1	0.00	0.00	4529.1	State 3A-16H PBHL



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
State 3A-16H PBHL	1166.1	4529.1	1325373.11	3139568.98	40.225460	-105.000180

T M Azimuths to True North
Magnetic North: 8.76°

Magnetic Field
Strength: 52835.8snT
Dip Angle: 66.81°
Date: 2/5/2013
Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
72.0	72.0	Base of Fox Hills
4142.0	4257.9	Sussex
4378.0	4503.4	Sussex Marker
4652.0	4786.6	Shannon
6472.0	6618.3	Teepee Buttes
7055.0	7219.6	Sharon Springs
7126.0	7305.6	Niobrara
7166.0	7357.7	B Chalk
7374.0	7751.1	Ft. Hayes
7394.0	7839.3	Codell

Plan #1
State 3A-16H
13xxx; LR
WELL @ 5072.0ft (Original Well Elev)
Ground Elevation @ 5059.0
North American Datum 1983
Well State 3A-16H, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State 3A-16H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site:	S16-T3N-R68W (State)	**North Reference:**	True
Well:	State 3A-16H	**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 S16-T3N-R68W (State)

Site Position:		**Northing:**	1,326,575.12 ft	**Latitude:**	40.228760
From:	Lat/Long	**Easting:**	3,139,542.66 ft	**Longitude:**	-105.000250
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.32 °

Well State 3A-16H

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,324,182.29 ft	**Latitude:**	40.222260
	+E/-W	0.0 ft	**Easting:**	3,135,046.33 ft	**Longitude:**	-105.016400
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,059.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/5/2013	8.76	66.81	52,836

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.0	16.00	348.40	1,779.3	217.4	-44.6	1.00	1.00	0.00	348.40	
4,507.0	16.00	348.40	4,381.4	948.3	-194.7	0.00	0.00	0.00	0.00	
6,107.0	0.00	0.00	5,960.7	1,165.8	-239.3	1.00	-1.00	0.00	180.00	
6,834.1	0.00	0.00	6,687.8	1,165.8	-239.3	0.00	0.00	0.00	0.00	
7,959.1	90.00	90.00	7,404.0	1,165.8	476.9	8.00	8.00	0.00	90.00	
12,011.3	90.00	90.00	7,404.0	1,166.1	4,529.1	0.00	0.00	0.00	0.00	State 3A-16H PBHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State 3A-16H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site:	S16-T3N-R68W (State)	**North Reference:**	True
Well:	State 3A-16H	**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	
72.0	0.00	0.00	72.0	0.0	0.0	0.0	0.00	0.00	Base of Fox Hills
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	KOP @ 200'
300.0	1.00	348.40	300.0	0.9	-0.2	-0.2	1.00	1.00	
400.0	2.00	348.40	400.0	3.4	-0.7	-0.7	1.00	1.00	
500.0	3.00	348.40	499.9	7.7	-1.6	-1.6	1.00	1.00	
600.0	4.00	348.40	599.7	13.7	-2.8	-2.8	1.00	1.00	
700.0	5.00	348.40	699.4	21.4	-4.4	-4.4	1.00	1.00	
800.0	6.00	348.40	798.9	30.7	-6.3	-6.3	1.00	1.00	
900.0	7.00	348.40	898.3	41.8	-8.6	-8.6	1.00	1.00	
1,000.0	8.00	348.40	997.4	54.6	-11.2	-11.2	1.00	1.00	
1,100.0	9.00	348.40	1,096.3	69.1	-14.2	-14.2	1.00	1.00	
1,200.0	10.00	348.40	1,194.9	85.3	-17.5	-17.5	1.00	1.00	
1,300.0	11.00	348.40	1,293.3	103.1	-21.2	-21.2	1.00	1.00	
1,400.0	12.00	348.40	1,391.2	122.6	-25.2	-25.2	1.00	1.00	
1,500.0	13.00	348.40	1,488.9	143.8	-29.5	-29.5	1.00	1.00	
1,600.0	14.00	348.40	1,586.1	166.7	-34.2	-34.2	1.00	1.00	
1,700.0	15.00	348.40	1,682.9	191.2	-39.3	-39.3	1.00	1.00	
1,800.0	16.00	348.40	1,779.3	217.4	-44.6	-44.6	1.00	1.00	EOB; Inc=16°
1,900.0	16.00	348.40	1,875.4	244.4	-50.2	-50.2	0.00	0.00	
2,000.0	16.00	348.40	1,971.5	271.4	-55.7	-55.7	0.00	0.00	
2,100.0	16.00	348.40	2,067.7	298.4	-61.3	-61.3	0.00	0.00	
2,200.0	16.00	348.40	2,163.8	325.4	-66.8	-66.8	0.00	0.00	
2,300.0	16.00	348.40	2,259.9	352.4	-72.3	-72.3	0.00	0.00	
2,400.0	16.00	348.40	2,356.0	379.4	-77.9	-77.9	0.00	0.00	
2,500.0	16.00	348.40	2,452.2	406.4	-83.4	-83.4	0.00	0.00	
2,600.0	16.00	348.40	2,548.3	433.4	-89.0	-89.0	0.00	0.00	
2,700.0	16.00	348.40	2,644.4	460.4	-94.5	-94.5	0.00	0.00	
2,800.0	16.00	348.40	2,740.5	487.4	-100.1	-100.1	0.00	0.00	
2,900.0	16.00	348.40	2,836.7	514.4	-105.6	-105.6	0.00	0.00	
3,000.0	16.00	348.40	2,932.8	541.4	-111.1	-111.1	0.00	0.00	
3,100.0	16.00	348.40	3,028.9	568.4	-116.7	-116.7	0.00	0.00	
3,200.0	16.00	348.40	3,125.1	595.4	-122.2	-122.2	0.00	0.00	
3,300.0	16.00	348.40	3,221.2	622.4	-127.8	-127.8	0.00	0.00	
3,400.0	16.00	348.40	3,317.3	649.4	-133.3	-133.3	0.00	0.00	
3,500.0	16.00	348.40	3,413.4	676.4	-138.9	-138.9	0.00	0.00	
3,600.0	16.00	348.40	3,509.6	703.4	-144.4	-144.4	0.00	0.00	
3,700.0	16.00	348.40	3,605.7	730.4	-149.9	-149.9	0.00	0.00	
3,800.0	16.00	348.40	3,701.8	757.4	-155.5	-155.5	0.00	0.00	
3,900.0	16.00	348.40	3,797.9	784.4	-161.0	-161.0	0.00	0.00	
4,000.0	16.00	348.40	3,894.1	811.4	-166.6	-166.6	0.00	0.00	
4,100.0	16.00	348.40	3,990.2	838.4	-172.1	-172.1	0.00	0.00	
4,200.0	16.00	348.40	4,086.3	865.4	-177.6	-177.6	0.00	0.00	
4,257.9	16.00	348.40	4,142.0	881.1	-180.9	-180.9	0.00	0.00	Sussex
4,300.0	16.00	348.40	4,182.4	892.4	-183.2	-183.2	0.00	0.00	
4,400.0	16.00	348.40	4,278.6	919.4	-188.7	-188.7	0.00	0.00	
4,500.0	16.00	348.40	4,374.7	946.4	-194.3	-194.3	0.00	0.00	
4,503.4	16.00	348.40	4,378.0	947.4	-194.5	-194.5	0.00	0.00	Sussex Marker
4,507.0	16.00	348.40	4,381.4	948.3	-194.7	-194.7	0.00	0.00	Start Drop -1.00
4,600.0	15.07	348.40	4,471.0	972.7	-199.7	-199.7	1.00	-1.00	
4,700.0	14.07	348.40	4,567.8	997.4	-204.7	-204.7	1.00	-1.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site:	S16-T3N-R68W (State)	**North Reference:**	True
Well:	State 3A-16H	**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
4,786.6	13.20	348.40	4,652.0	1,017.4	-208.8	-208.8	1.00	-1.00	Shannon
4,800.0	13.07	348.40	4,665.0	1,020.4	-209.4	-209.4	1.00	-1.00	
4,900.0	12.07	348.40	4,762.6	1,041.7	-213.8	-213.8	1.00	-1.00	
5,000.0	11.07	348.40	4,860.6	1,061.3	-217.9	-217.9	1.00	-1.00	
5,100.0	10.07	348.40	4,958.9	1,079.3	-221.5	-221.5	1.00	-1.00	
5,200.0	9.07	348.40	5,057.5	1,095.6	-224.9	-224.9	1.00	-1.00	
5,300.0	8.07	348.40	5,156.4	1,110.2	-227.9	-227.9	1.00	-1.00	
5,400.0	7.07	348.40	5,255.5	1,123.1	-230.5	-230.5	1.00	-1.00	
5,500.0	6.07	348.40	5,354.8	1,134.3	-232.8	-232.8	1.00	-1.00	
5,600.0	5.07	348.40	5,454.4	1,143.8	-234.8	-234.8	1.00	-1.00	
5,700.0	4.07	348.40	5,554.0	1,151.6	-236.4	-236.4	1.00	-1.00	
5,800.0	3.07	348.40	5,653.9	1,157.7	-237.6	-237.6	1.00	-1.00	
5,900.0	2.07	348.40	5,753.8	1,162.1	-238.5	-238.5	1.00	-1.00	
6,000.0	1.07	348.40	5,853.7	1,164.8	-239.1	-239.1	1.00	-1.00	
6,100.0	0.07	348.40	5,953.7	1,165.7	-239.3	-239.3	1.00	-1.00	
6,107.0	0.00	0.00	5,960.7	1,165.8	-239.3	-239.3	1.00	-1.00	EOD; Inc=0°
6,200.0	0.00	0.00	6,053.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,300.0	0.00	0.00	6,153.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,400.0	0.00	0.00	6,253.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,500.0	0.00	0.00	6,353.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,600.0	0.00	0.00	6,453.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,618.3	0.00	0.00	6,472.0	1,165.8	-239.3	-239.3	0.00	0.00	Teepee Buttes
6,700.0	0.00	0.00	6,553.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,800.0	0.00	0.00	6,653.7	1,165.8	-239.3	-239.3	0.00	0.00	
6,834.1	0.00	0.00	6,687.8	1,165.8	-239.3	-239.3	0.00	0.00	Start Build 8.00
6,900.0	5.27	90.00	6,753.6	1,165.8	-236.3	-236.3	8.00	8.00	
7,000.0	13.27	90.00	6,852.2	1,165.8	-220.2	-220.2	8.00	8.00	
7,100.0	21.27	90.00	6,947.6	1,165.8	-190.5	-190.5	8.00	8.00	
7,200.0	29.27	90.00	7,038.0	1,165.8	-147.8	-147.8	8.00	8.00	
7,219.6	30.84	90.00	7,055.0	1,165.8	-138.0	-138.0	8.00	8.00	Sharon Springs
7,300.0	37.27	90.00	7,121.5	1,165.8	-93.0	-93.0	8.00	8.00	
7,305.6	37.72	90.00	7,126.0	1,165.8	-89.6	-89.6	8.00	8.00	Niobrara
7,357.7	41.89	90.00	7,166.0	1,165.8	-56.3	-56.3	8.00	8.00	B Chalk
7,400.0	45.27	90.00	7,196.6	1,165.8	-27.1	-27.1	8.00	8.00	
7,500.0	53.27	90.00	7,261.8	1,165.8	48.6	48.6	8.00	8.00	
7,600.0	61.27	90.00	7,315.8	1,165.8	132.7	132.7	8.00	8.00	
7,700.0	69.27	90.00	7,357.6	1,165.8	223.4	223.4	8.00	8.00	
7,751.1	73.36	90.00	7,374.0	1,165.8	271.8	271.8	8.00	8.00	Ft. Hayes
7,800.0	77.27	90.00	7,386.4	1,165.8	319.1	319.1	8.00	8.00	
7,839.3	80.41	90.00	7,394.0	1,165.8	357.6	357.6	8.00	8.00	Codell
7,900.0	85.27	90.00	7,401.6	1,165.8	417.9	417.9	8.00	8.00	
7,959.1	90.00	90.00	7,404.0	1,165.8	476.9	476.9	8.00	8.00	LP @ 7404' TVD; 90°
8,000.0	90.00	90.00	7,404.0	1,165.8	517.8	517.8	0.00	0.00	
8,100.0	90.00	90.00	7,404.0	1,165.8	617.8	617.8	0.00	0.00	
8,200.0	90.00	90.00	7,404.0	1,165.8	717.8	717.8	0.00	0.00	
8,300.0	90.00	90.00	7,404.0	1,165.8	817.8	817.8	0.00	0.00	
8,400.0	90.00	90.00	7,404.0	1,165.8	917.8	917.8	0.00	0.00	
8,500.0	90.00	90.00	7,404.0	1,165.9	1,017.8	1,017.8	0.00	0.00	
8,600.0	90.00	90.00	7,404.0	1,165.9	1,117.8	1,117.8	0.00	0.00	
8,700.0	90.00	90.00	7,404.0	1,165.9	1,217.8	1,217.8	0.00	0.00	
8,800.0	90.00	90.00	7,404.0	1,165.9	1,317.8	1,317.8	0.00	0.00	
8,900.0	90.00	90.00	7,404.0	1,165.9	1,417.8	1,417.8	0.00	0.00	

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Site:	S16-T3N-R68W (State)	**North Reference:**	True
Well:	State 3A-16H	**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
9,000.0	90.00	90.00	7,404.0	1,165.9	1,517.8	1,517.8	0.00	0.00	
9,100.0	90.00	90.00	7,404.0	1,165.9	1,617.8	1,617.8	0.00	0.00	
9,200.0	90.00	90.00	7,404.0	1,165.9	1,717.8	1,717.8	0.00	0.00	
9,300.0	90.00	90.00	7,404.0	1,165.9	1,817.8	1,817.8	0.00	0.00	
9,400.0	90.00	90.00	7,404.0	1,165.9	1,917.8	1,917.8	0.00	0.00	
9,500.0	90.00	90.00	7,404.0	1,165.9	2,017.8	2,017.8	0.00	0.00	
9,600.0	90.00	90.00	7,404.0	1,165.9	2,117.8	2,117.8	0.00	0.00	
9,700.0	90.00	90.00	7,404.0	1,165.9	2,217.8	2,217.8	0.00	0.00	
9,800.0	90.00	90.00	7,404.0	1,166.0	2,317.8	2,317.8	0.00	0.00	
9,900.0	90.00	90.00	7,404.0	1,166.0	2,417.8	2,417.8	0.00	0.00	
10,000.0	90.00	90.00	7,404.0	1,166.0	2,517.8	2,517.8	0.00	0.00	
10,100.0	90.00	90.00	7,404.0	1,166.0	2,617.8	2,617.8	0.00	0.00	
10,200.0	90.00	90.00	7,404.0	1,166.0	2,717.8	2,717.8	0.00	0.00	
10,300.0	90.00	90.00	7,404.0	1,166.0	2,817.8	2,817.8	0.00	0.00	
10,400.0	90.00	90.00	7,404.0	1,166.0	2,917.8	2,917.8	0.00	0.00	
10,500.0	90.00	90.00	7,404.0	1,166.0	3,017.8	3,017.8	0.00	0.00	
10,600.0	90.00	90.00	7,404.0	1,166.0	3,117.8	3,117.8	0.00	0.00	
10,700.0	90.00	90.00	7,404.0	1,166.0	3,217.8	3,217.8	0.00	0.00	
10,800.0	90.00	90.00	7,404.0	1,166.0	3,317.8	3,317.8	0.00	0.00	
10,900.0	90.00	90.00	7,404.0	1,166.0	3,417.8	3,417.8	0.00	0.00	
11,000.0	90.00	90.00	7,404.0	1,166.1	3,517.8	3,517.8	0.00	0.00	
11,100.0	90.00	90.00	7,404.0	1,166.1	3,617.8	3,617.8	0.00	0.00	
11,200.0	90.00	90.00	7,404.0	1,166.1	3,717.8	3,717.8	0.00	0.00	
11,300.0	90.00	90.00	7,404.0	1,166.1	3,817.8	3,817.8	0.00	0.00	
11,400.0	90.00	90.00	7,404.0	1,166.1	3,917.8	3,917.8	0.00	0.00	
11,500.0	90.00	90.00	7,404.0	1,166.1	4,017.8	4,017.8	0.00	0.00	
11,600.0	90.00	90.00	7,404.0	1,166.1	4,117.8	4,117.8	0.00	0.00	
11,700.0	90.00	90.00	7,404.0	1,166.1	4,217.8	4,217.8	0.00	0.00	
11,800.0	90.00	90.00	7,404.0	1,166.1	4,317.8	4,317.8	0.00	0.00	
11,900.0	90.00	90.00	7,404.0	1,166.1	4,417.8	4,417.8	0.00	0.00	
12,000.0	90.00	90.00	7,404.0	1,166.1	4,517.8	4,517.8	0.00	0.00	
12,011.3	90.00	90.00	7,404.0	1,166.1	4,529.1	4,529.1	0.00	0.00	TD at 12011.3 - State 3A-16H PBHL

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
State 3A-16H PBHL - plan hits target center - Point	0.00	0.00	7,404.0	1,166.1	4,529.1	1,325,373.11	3,139,568.98	40.225460	-105.000180

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well State 3A-16H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site:	S16-T3N-R68W (State)	**North Reference:**	True
Well:	State 3A-16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
72.0	72.0	Base of Fox Hills			
4,257.9	4,142.0	Sussex			
4,503.4	4,378.0	Sussex Marker			
4,786.6	4,652.0	Shannon			
6,618.3	6,472.0	Teepee Buttes			
7,219.6	7,055.0	Sharon Springs			
7,305.6	7,126.0	Niobrara			
7,357.7	7,166.0	B Chalk			
7,751.1	7,374.0	Ft. Hayes			
7,839.3	7,394.0	Codell			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
1,800.0	1,779.3	217.4	-44.6	EOB; Inc=16°
4,507.0	4,381.4	948.3	-194.7	Start Drop -1.00
6,107.0	5,960.7	1,165.8	-239.3	EOD; Inc=0°
6,834.1	6,687.8	1,165.8	-239.3	Start Build 8.00
7,959.1	7,404.0	1,165.8	476.9	LP @ 7404' TVD; 90°
12,011.3	7,404.0	1,166.1	4,529.1	TD at 12011.3

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S16-T3N-R68W (State)
State 3A-16H
Hz
Plan #1

Anticollision Report

05 February, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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** 2/5/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,010.6	Plan #1 (Hz)	MWD	Geolink MWD

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S16-T3N-R68W (State)						
State 23-16 - Existing - Existing						Out of range
State 3B-16H - Hz - Plan #1	200.0	200.0	10.9	10.3	16.742	CC, ES
State 3B-16H - Hz - Plan #1	12,011.3	11,721.7	414.8	219.7	2.127	SF
State 3C-16H - Hz - Plan #1	200.0	200.0	21.9	21.2	33.484	CC, ES
State 3C-16H - Hz - Plan #1	600.0	599.7	35.6	33.6	17.412	SF
State 3D-16H - Hz - Plan #1	200.0	200.0	29.1	28.5	44.646	CC, ES
State 3D-16H - Hz - Plan #1	700.0	699.2	49.7	47.2	19.907	SF
State 3E-16H - Hz - Plan #1	200.0	200.0	40.1	39.4	61.388	CC, ES
State 3E-16H - Hz - Plan #1	600.0	597.8	58.7	56.7	28.592	SF
State 3F-16H - Hz - Plan #1	200.0	200.0	51.0	50.3	78.130	CC, ES
State 3F-16H - Hz - Plan #1	600.0	597.6	67.9	65.8	33.191	SF
State 3G-16H - Hz - Plan #1	200.0	200.0	61.9	61.3	94.873	CC, ES
State 3G-16H - Hz - Plan #1	700.0	693.3	96.5	94.1	40.441	SF
State 3H-16H - Hz - Plan #1	200.0	200.0	69.2	68.6	106.034	CC, ES
State 3H-16H - Hz - Plan #1	700.0	690.6	111.6	109.2	46.841	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3B-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-10.9	0.0	10.9				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-10.9	0.0	10.9	10.6	0.30	35.986	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-10.9	0.0	10.9	10.3	0.65	16.742	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-169.25	-10.9	0.0	11.8	10.8	1.00	11.764	
400.0	400.0	400.0	400.0	0.7	0.7	-171.20	-10.9	0.0	14.4	13.0	1.35	10.636	
500.0	499.9	500.2	500.2	0.9	0.9	-172.70	-10.1	-0.2	17.8	16.1	1.70	10.492	
600.0	599.7	600.4	600.4	1.1	1.0	-173.35	-7.6	-1.0	21.3	19.3	2.05	10.409	
700.0	699.4	700.8	700.6	1.3	1.2	-173.51	-3.3	-2.2	24.8	22.4	2.40	10.356	
800.0	798.9	801.2	800.9	1.5	1.4	-173.36	2.6	-3.9	28.4	25.6	2.75	10.320	
900.0	898.3	901.6	901.0	1.8	1.6	-173.00	10.2	-6.0	31.9	28.8	3.10	10.294	
1,000.0	997.4	1,002.1	1,001.0	2.0	1.8	-172.50	19.5	-8.7	35.4	32.0	3.45	10.272	
1,100.0	1,096.3	1,102.7	1,101.0	2.3	2.1	-171.89	30.4	-11.9	39.0	35.2	3.80	10.251	
1,200.0	1,194.9	1,203.4	1,200.7	2.7	2.4	-171.20	43.1	-15.5	42.6	38.4	4.16	10.229	
1,300.0	1,293.3	1,304.0	1,300.3	3.0	2.6	-170.45	57.5	-19.6	46.2	41.7	4.53	10.203	
1,400.0	1,391.2	1,404.8	1,399.7	3.4	3.0	-169.66	73.5	-24.2	49.8	44.9	4.90	10.170	
1,500.0	1,488.9	1,505.6	1,498.8	3.8	3.3	-168.83	91.3	-29.3	53.5	48.2	5.28	10.127	
1,600.0	1,586.1	1,606.4	1,597.5	4.2	3.7	-167.97	110.7	-34.9	57.2	51.5	5.67	10.074	
1,700.0	1,682.9	1,706.3	1,695.2	4.7	4.0	-167.37	130.7	-40.6	61.8	55.8	6.07	10.184	
1,800.0	1,779.3	1,806.1	1,792.8	5.2	4.4	-167.18	150.6	-46.3	68.2	61.7	6.46	10.552	
1,900.0	1,875.4	1,905.8	1,890.4	5.7	4.8	-167.18	170.5	-52.0	75.4	68.5	6.86	10.990	
2,000.0	1,971.5	2,005.6	1,988.0	6.2	5.2	-167.19	190.5	-57.8	82.6	75.4	7.26	11.378	
2,100.0	2,067.7	2,105.3	2,085.5	6.6	5.6	-167.19	210.4	-63.5	89.8	82.2	7.66	11.724	
2,200.0	2,163.8	2,205.1	2,183.1	7.1	6.0	-167.19	230.4	-69.2	97.0	89.0	8.06	12.034	
2,300.0	2,259.9	2,304.8	2,280.6	7.7	6.3	-167.20	250.3	-74.9	104.3	95.8	8.47	12.314	
2,400.0	2,356.0	2,404.5	2,378.2	8.2	6.7	-167.20	270.2	-80.6	111.5	102.6	8.87	12.567	
2,500.0	2,452.2	2,504.3	2,475.8	8.7	7.1	-167.20	290.2	-86.3	118.7	109.4	9.27	12.797	
2,600.0	2,548.3	2,604.0	2,573.3	9.2	7.5	-167.20	310.1	-92.0	125.9	116.2	9.68	13.008	
2,700.0	2,644.4	2,703.7	2,670.9	9.7	7.9	-167.20	330.0	-97.8	133.1	123.0	10.08	13.201	
2,800.0	2,740.5	2,803.5	2,768.4	10.2	8.3	-167.20	350.0	-103.5	140.3	129.8	10.49	13.378	
2,900.0	2,836.7	2,903.2	2,866.0	10.7	8.7	-167.20	369.9	-109.2	147.5	136.6	10.89	13.542	
3,000.0	2,932.8	3,003.0	2,963.6	11.2	9.1	-167.20	389.8	-114.9	154.7	143.4	11.30	13.694	
3,100.0	3,028.9	3,102.7	3,061.1	11.7	9.5	-167.21	409.8	-120.6	162.0	150.3	11.71	13.835	
3,200.0	3,125.1	3,202.4	3,158.7	12.2	9.9	-167.21	429.7	-126.3	169.2	157.1	12.11	13.966	
3,300.0	3,221.2	3,302.2	3,256.2	12.7	10.3	-167.21	449.6	-132.1	176.4	163.9	12.52	14.088	
3,400.0	3,317.3	3,401.9	3,353.8	13.2	10.7	-167.21	469.6	-137.8	183.6	170.7	12.93	14.203	
3,500.0	3,413.4	3,501.7	3,451.4	13.7	11.1	-167.21	489.5	-143.5	190.8	177.5	13.33	14.310	
3,600.0	3,509.6	3,601.4	3,548.9	14.2	11.5	-167.21	509.4	-149.2	198.0	184.3	13.74	14.411	
3,700.0	3,605.7	3,701.1	3,646.5	14.7	11.9	-167.21	529.4	-154.9	205.2	191.1	14.15	14.505	
3,800.0	3,701.8	3,800.9	3,744.0	15.3	12.3	-167.21	549.3	-160.6	212.4	197.9	14.56	14.595	
3,900.0	3,797.9	3,900.6	3,841.6	15.8	12.7	-167.21	569.2	-166.4	219.7	204.7	14.96	14.679	
4,000.0	3,894.1	4,000.4	3,939.2	16.3	13.1	-167.21	589.2	-172.1	226.9	211.5	15.37	14.759	
4,100.0	3,990.2	4,100.1	4,036.7	16.8	13.5	-167.21	609.1	-177.8	234.1	218.3	15.78	14.834	
4,200.0	4,086.3	4,199.8	4,134.3	17.3	13.9	-167.21	629.0	-183.5	241.3	225.1	16.19	14.906	
4,300.0	4,182.4	4,299.6	4,231.8	17.8	14.3	-167.21	649.0	-189.2	248.5	231.9	16.60	14.974	
4,400.0	4,278.6	4,399.3	4,329.4	18.3	14.7	-167.21	668.9	-194.9	255.7	238.7	17.01	15.038	
4,500.0	4,374.7	4,499.1	4,427.0	18.8	15.1	-167.21	688.8	-200.7	262.9	245.5	17.41	15.100	
4,600.0	4,471.0	4,596.2	4,522.0	19.3	15.5	-167.21	707.9	-206.1	269.7	251.9	17.83	15.130	
4,700.0	4,567.8	4,691.6	4,615.7	19.8	15.8	-167.23	725.3	-211.1	276.3	258.1	18.22	15.161	
4,800.0	4,665.0	4,787.0	4,709.6	20.2	16.1	-167.26	741.2	-215.7	282.7	264.1	18.61	15.196	
4,900.0	4,762.6	4,882.2	4,803.7	20.6	16.4	-167.31	755.6	-219.8	289.1	270.1	18.98	15.235	
5,000.0	4,860.6	4,977.4	4,897.9	21.0	16.7	-167.38	768.4	-223.5	295.3	276.0	19.33	15.278	
5,100.0	4,958.9	5,072.5	4,992.3	21.3	17.0	-167.46	779.8	-226.7	301.4	281.8	19.67	15.324	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3B-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
5,200.0	5,057.5	5,167.4	5,086.7	21.7	17.2	-167.56	789.6	-229.5	307.4	287.4	20.00	15.374	
5,300.0	5,156.4	5,262.4	5,181.2	22.0	17.4	-167.68	797.9	-231.9	313.3	293.0	20.31	15.426	
5,400.0	5,255.5	5,357.2	5,275.8	22.2	17.6	-167.81	804.7	-233.9	319.1	298.5	20.61	15.480	
5,500.0	5,354.8	5,451.9	5,370.3	22.5	17.7	-167.94	809.9	-235.4	324.7	303.8	20.90	15.536	
5,600.0	5,454.4	5,546.6	5,464.9	22.7	17.9	-168.10	813.7	-236.5	330.2	309.1	21.18	15.593	
5,700.0	5,554.0	5,641.1	5,559.4	22.9	18.0	-168.26	816.0	-237.1	335.7	314.2	21.45	15.651	
5,800.0	5,653.9	5,735.6	5,653.9	23.0	18.1	-168.44	816.8	-237.3	340.9	319.2	21.70	15.708	
5,900.0	5,753.8	5,835.4	5,753.8	23.2	18.2	-168.59	816.8	-237.3	345.3	323.4	21.97	15.719	
6,000.0	5,853.7	5,935.4	5,853.7	23.3	18.3	-168.69	816.8	-237.3	348.0	325.8	22.25	15.645	
6,100.0	5,953.7	6,035.4	5,953.7	23.4	18.4	-168.72	816.8	-237.3	349.0	326.5	22.53	15.491	
6,200.0	6,053.7	6,135.4	6,053.7	23.4	18.5	179.68	816.8	-237.3	349.0	307.9	41.08	8.496	
6,300.0	6,153.7	6,235.4	6,153.7	23.5	18.6	179.68	816.8	-237.3	349.0	307.7	41.27	8.457	
6,400.0	6,253.7	6,335.4	6,253.7	23.6	18.7	179.68	816.8	-237.3	349.0	307.5	41.45	8.419	
6,500.0	6,353.7	6,435.4	6,353.7	23.7	18.8	179.68	816.8	-237.3	349.0	307.4	41.64	8.380	
6,600.0	6,453.7	6,535.4	6,453.7	23.8	18.9	179.68	816.8	-237.3	349.0	307.2	41.84	8.342	
6,617.9	6,471.6	6,553.2	6,471.5	23.8	18.9	179.67	816.8	-237.3	349.0	307.1	41.87	8.335	
6,700.0	6,553.7	6,634.7	6,552.8	23.8	18.9	178.79	816.8	-231.9	349.1	306.9	42.13	8.286	
6,800.0	6,653.7	6,730.7	6,647.0	23.9	19.0	175.82	816.8	-213.8	350.0	307.4	42.58	8.220	
6,900.0	6,753.6	6,821.4	6,733.0	24.0	19.0	81.41	816.8	-185.2	353.3	329.5	23.83	14.826	
7,000.0	6,852.2	6,908.9	6,812.0	24.0	19.0	77.11	816.8	-147.6	358.7	334.7	24.04	14.921	
7,100.0	6,947.6	6,994.0	6,883.8	24.0	19.0	73.16	816.8	-102.0	365.7	341.0	24.65	14.834	
7,200.0	7,038.0	7,077.1	6,948.2	24.0	19.0	69.63	816.7	-49.6	373.5	348.0	25.52	14.635	
7,300.0	7,121.5	7,158.4	7,004.9	24.1	19.1	66.55	816.7	8.5	381.7	355.3	26.42	14.452	
7,400.0	7,196.6	7,238.2	7,053.9	24.1	19.3	63.92	816.7	71.5	389.8	362.5	27.29	14.281	
7,500.0	7,261.8	7,317.0	7,095.0	24.2	19.5	61.76	816.7	138.6	397.2	369.1	28.09	14.138	
7,600.0	7,315.8	7,400.0	7,130.2	24.5	19.9	59.96	816.7	213.8	403.6	374.7	28.90	13.964	
7,700.0	7,357.6	7,471.9	7,153.4	24.8	20.4	58.76	816.7	281.8	408.6	379.0	29.64	13.788	
7,800.0	7,386.4	7,550.0	7,170.7	25.4	21.1	57.91	816.7	358.0	412.2	381.6	30.58	13.477	
7,900.0	7,401.6	7,624.9	7,179.5	26.1	21.9	57.49	816.7	432.3	414.0	382.3	31.73	13.046	
8,000.0	7,404.0	7,710.4	7,181.0	27.1	23.1	57.43	816.7	517.8	414.2	380.4	33.86	12.235	
8,100.0	7,404.0	7,810.4	7,181.0	28.2	24.6	57.43	816.7	617.8	414.3	377.1	37.19	11.139	
8,200.0	7,404.0	7,910.4	7,181.0	29.6	26.3	57.43	816.7	717.8	414.3	373.6	40.68	10.184	
8,300.0	7,404.0	8,010.4	7,181.0	31.1	28.2	57.43	816.7	817.8	414.3	370.0	44.29	9.354	
8,400.0	7,404.0	8,110.4	7,181.0	32.8	30.2	57.43	816.7	917.8	414.3	366.3	47.99	8.633	
8,500.0	7,404.0	8,210.4	7,181.0	34.6	32.2	57.44	816.7	1,017.8	414.3	362.6	51.76	8.004	
8,600.0	7,404.0	8,310.4	7,181.0	36.5	34.3	57.44	816.7	1,117.8	414.3	358.7	55.59	7.453	
8,700.0	7,404.0	8,410.4	7,181.0	38.5	36.5	57.44	816.7	1,217.8	414.3	354.9	59.47	6.967	
8,800.0	7,404.0	8,510.4	7,181.0	40.6	38.7	57.44	816.7	1,317.8	414.4	351.0	63.39	6.537	
8,900.0	7,404.0	8,610.4	7,181.0	42.7	40.9	57.44	816.6	1,417.8	414.4	347.0	67.33	6.154	
9,000.0	7,404.0	8,710.4	7,181.0	44.9	43.2	57.44	816.6	1,517.8	414.4	343.1	71.31	5.811	
9,100.0	7,404.0	8,810.4	7,181.0	47.1	45.5	57.44	816.6	1,617.8	414.4	339.1	75.30	5.503	
9,200.0	7,404.0	8,910.4	7,181.0	49.3	47.8	57.44	816.6	1,717.8	414.4	335.1	79.32	5.225	
9,300.0	7,404.0	9,010.4	7,181.0	51.5	50.1	57.45	816.6	1,817.8	414.4	331.1	83.35	4.972	
9,400.0	7,404.0	9,110.4	7,181.0	53.8	52.5	57.45	816.6	1,917.8	414.4	327.0	87.39	4.742	
9,500.0	7,404.0	9,210.4	7,181.0	56.1	54.8	57.45	816.6	2,017.8	414.4	323.0	91.45	4.532	
9,600.0	7,404.0	9,310.4	7,181.0	58.4	57.2	57.45	816.6	2,117.8	414.5	318.9	95.52	4.339	
9,700.0	7,404.0	9,410.4	7,181.0	60.7	59.6	57.45	816.6	2,217.8	414.5	314.9	99.59	4.162	
9,800.0	7,404.0	9,510.4	7,181.0	63.1	61.9	57.45	816.6	2,317.8	414.5	310.8	103.68	3.998	
9,900.0	7,404.0	9,610.4	7,181.0	65.4	64.3	57.45	816.6	2,417.8	414.5	306.7	107.77	3.846	
10,000.0	7,404.0	9,710.4	7,181.0	67.8	66.7	57.45	816.6	2,517.8	414.5	302.6	111.87	3.705	
10,100.0	7,404.0	9,810.4	7,181.0	70.1	69.1	57.45	816.6	2,617.8	414.5	298.5	115.97	3.574	
10,200.0	7,404.0	9,910.4	7,181.0	72.5	71.5	57.46	816.6	2,717.8	414.5	294.4	120.08	3.452	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3B-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
10,300.0	7,404.0	10,010.4	7,181.0	74.9	73.9	57.46	816.5	2,817.8	414.5	290.3	124.20	3.338	
10,400.0	7,404.0	10,110.4	7,181.0	77.3	76.4	57.46	816.5	2,917.8	414.6	286.2	128.31	3.231	
10,500.0	7,404.0	10,210.4	7,181.0	79.6	78.8	57.46	816.5	3,017.8	414.6	282.1	132.44	3.130	
10,600.0	7,404.0	10,310.4	7,181.0	82.0	81.2	57.46	816.5	3,117.8	414.6	278.0	136.56	3.036	
10,700.0	7,404.0	10,410.4	7,181.0	84.4	83.6	57.46	816.5	3,217.8	414.6	273.9	140.69	2.947	
10,800.0	7,404.0	10,510.4	7,181.0	86.8	86.0	57.46	816.5	3,317.8	414.6	269.8	144.82	2.863	
10,900.0	7,404.0	10,610.4	7,181.0	89.3	88.5	57.46	816.5	3,417.8	414.6	265.7	148.96	2.783	
11,000.0	7,404.0	10,710.4	7,181.0	91.7	90.9	57.46	816.5	3,517.8	414.6	261.5	153.10	2.708	
11,100.0	7,404.0	10,810.4	7,181.0	94.1	93.3	57.47	816.5	3,617.8	414.6	257.4	157.24	2.637	
11,200.0	7,404.0	10,910.4	7,181.0	96.5	95.8	57.47	816.5	3,717.8	414.7	253.3	161.38	2.570	
11,300.0	7,404.0	11,010.4	7,181.0	98.9	98.2	57.47	816.5	3,817.8	414.7	249.2	165.52	2.505	
11,400.0	7,404.0	11,110.4	7,181.0	101.4	100.7	57.47	816.5	3,917.8	414.7	245.0	169.67	2.444	
11,500.0	7,404.0	11,210.4	7,181.0	103.8	103.1	57.47	816.5	4,017.8	414.7	240.9	173.81	2.386	
11,600.0	7,404.0	11,310.4	7,181.0	106.2	105.5	57.47	816.5	4,117.8	414.7	236.7	177.96	2.330	
11,700.0	7,404.0	11,410.4	7,181.0	108.6	108.0	57.47	816.4	4,217.8	414.7	232.6	182.11	2.277	
11,800.0	7,404.0	11,510.4	7,181.0	111.1	110.4	57.47	816.4	4,317.8	414.7	228.5	186.26	2.227	
11,900.0	7,404.0	11,610.4	7,181.0	113.5	112.9	57.47	816.4	4,417.8	414.7	224.3	190.42	2.178	
12,000.0	7,404.0	11,710.4	7,181.0	115.9	115.3	57.48	816.4	4,517.8	414.8	220.2	194.57	2.132	
12,011.3	7,404.0	11,721.7	7,181.0	116.2	115.6	57.48	816.4	4,529.1	414.8	219.7	195.04	2.127	SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3C-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-21.9	0.0	21.9				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-21.9	0.0	21.9	21.6	0.30	71.972	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-21.9	0.0	21.9	21.2	0.65	33.484	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-168.84	-21.9	0.0	22.7	21.7	1.00	22.673	
400.0	400.0	400.0	400.0	0.7	0.7	-169.98	-21.9	0.0	25.3	23.9	1.35	18.722	
500.0	499.9	499.9	499.9	0.9	0.8	-171.45	-21.9	0.0	29.6	27.9	1.70	17.417	
600.0	599.7	599.7	599.7	1.1	1.0	-172.90	-21.9	0.0	35.6	33.6	2.05	17.412	SF
700.0	699.4	700.1	700.1	1.3	1.2	-173.77	-21.1	-0.4	42.6	40.2	2.40	17.796	
800.0	798.9	800.6	800.5	1.5	1.4	-173.90	-18.7	-1.5	49.7	47.0	2.74	18.115	
900.0	898.3	901.2	901.1	1.8	1.6	-173.56	-14.7	-3.5	56.9	53.8	3.09	18.387	
1,000.0	997.4	1,001.9	1,001.6	2.0	1.8	-172.91	-9.2	-6.2	64.1	60.7	3.44	18.621	
1,100.0	1,096.3	1,102.7	1,102.1	2.3	2.0	-172.04	-2.0	-9.7	71.5	67.7	3.80	18.822	
1,200.0	1,194.9	1,203.7	1,202.6	2.7	2.2	-171.02	6.7	-13.9	79.0	74.9	4.16	18.991	
1,300.0	1,293.3	1,304.7	1,302.9	3.0	2.4	-169.89	17.0	-19.0	86.6	82.1	4.53	19.127	
1,400.0	1,391.2	1,405.8	1,403.2	3.4	2.7	-168.69	29.0	-24.8	94.4	89.5	4.91	19.226	
1,500.0	1,488.9	1,507.1	1,503.3	3.8	3.0	-167.42	42.5	-31.4	102.3	97.0	5.31	19.283	
1,600.0	1,586.1	1,608.2	1,603.0	4.2	3.3	-166.12	57.7	-38.8	110.5	104.7	5.72	19.296	
1,700.0	1,682.9	1,707.8	1,701.1	4.7	3.6	-165.06	73.2	-46.4	119.6	113.5	6.15	19.452	
1,800.0	1,779.3	1,807.2	1,799.0	5.2	3.9	-164.34	88.7	-53.9	130.5	124.0	6.58	19.832	
1,900.0	1,875.4	1,906.5	1,896.8	5.7	4.2	-163.86	104.2	-61.5	142.3	135.2	7.03	20.243	
2,000.0	1,971.5	2,005.8	1,994.6	6.2	4.5	-163.45	119.7	-69.0	154.0	146.5	7.48	20.592	
2,100.0	2,067.7	2,105.1	2,092.3	6.6	4.9	-163.10	135.2	-76.6	165.8	157.8	7.94	20.888	
2,200.0	2,163.8	2,204.4	2,190.1	7.1	5.2	-162.80	150.7	-84.2	177.5	169.1	8.40	21.143	
2,300.0	2,259.9	2,303.7	2,287.9	7.7	5.5	-162.53	166.2	-91.7	189.3	180.4	8.86	21.364	
2,400.0	2,356.0	2,403.0	2,385.7	8.2	5.9	-162.30	181.7	-99.3	201.1	191.7	9.33	21.556	
2,500.0	2,452.2	2,502.3	2,483.5	8.7	6.2	-162.09	197.2	-106.8	212.9	203.1	9.80	21.725	
2,600.0	2,548.3	2,601.6	2,581.3	9.2	6.5	-161.90	212.7	-114.4	224.6	214.4	10.27	21.873	
2,700.0	2,644.4	2,700.9	2,679.1	9.7	6.9	-161.73	228.2	-122.0	236.4	225.7	10.74	22.005	
2,800.0	2,740.5	2,800.2	2,776.9	10.2	7.2	-161.58	243.7	-129.5	248.2	237.0	11.22	22.122	
2,900.0	2,836.7	2,899.5	2,874.7	10.7	7.5	-161.44	259.2	-137.1	260.0	248.3	11.70	22.227	
3,000.0	2,932.8	2,998.8	2,972.5	11.2	7.9	-161.32	274.7	-144.6	271.7	259.6	12.17	22.322	
3,100.0	3,028.9	3,098.1	3,070.3	11.7	8.2	-161.20	290.2	-152.2	283.5	270.9	12.65	22.407	
3,200.0	3,125.1	3,197.4	3,168.1	12.2	8.6	-161.09	305.7	-159.8	295.3	282.2	13.13	22.484	
3,300.0	3,221.2	3,296.7	3,265.9	12.7	8.9	-160.99	321.2	-167.3	307.1	293.5	13.62	22.554	
3,400.0	3,317.3	3,396.0	3,363.7	13.2	9.3	-160.90	336.7	-174.9	318.9	304.8	14.10	22.619	
3,500.0	3,413.4	3,495.3	3,461.4	13.7	9.6	-160.82	352.2	-182.4	330.7	316.1	14.58	22.677	
3,600.0	3,509.6	3,594.6	3,559.2	14.2	9.9	-160.74	367.7	-190.0	342.5	327.4	15.07	22.731	
3,700.0	3,605.7	3,693.9	3,657.0	14.7	10.3	-160.67	383.2	-197.6	354.2	338.7	15.55	22.781	
3,800.0	3,701.8	3,790.0	3,751.7	15.3	10.6	-160.63	397.9	-204.7	366.3	350.3	16.02	22.869	
3,900.0	3,797.9	3,884.0	3,844.6	15.8	10.9	-160.71	411.0	-211.1	379.6	363.2	16.45	23.085	
4,000.0	3,894.1	3,977.6	3,937.3	16.3	11.2	-160.91	422.7	-216.8	394.3	377.5	16.84	23.420	
4,100.0	3,990.2	4,070.8	4,029.8	16.8	11.4	-161.22	433.0	-221.9	410.4	393.2	17.20	23.865	
4,200.0	4,086.3	4,163.5	4,122.0	17.3	11.6	-161.61	441.9	-226.2	427.8	410.3	17.52	24.414	
4,300.0	4,182.4	4,255.7	4,213.8	17.8	11.8	-162.08	449.4	-229.9	446.6	428.8	17.82	25.059	
4,400.0	4,278.6	4,347.4	4,305.2	18.3	12.0	-162.60	455.6	-232.9	466.7	448.6	18.09	25.796	
4,500.0	4,374.7	4,438.4	4,396.0	18.8	12.2	-163.17	460.4	-235.2	488.2	469.9	18.34	26.618	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3D-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-29.1	0.0	29.1	28.8	0.30	95.963	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-29.1	0.0	29.1	28.5	0.65	44.646	CC, ES
300.0	300.0	300.1	300.1	0.5	0.5	-167.08	-29.0	-0.9	29.9	28.9	1.00	29.770	
400.0	400.0	400.1	400.1	0.7	0.7	-163.49	-28.5	-3.4	32.1	30.7	1.36	23.630	
500.0	499.9	500.0	499.9	0.9	0.9	-158.53	-27.8	-7.7	36.0	34.3	1.72	20.919	
600.0	599.7	599.7	599.4	1.1	1.1	-153.20	-26.7	-13.7	41.8	39.7	2.10	19.930	
700.0	699.4	699.2	698.6	1.3	1.3	-148.25	-25.4	-21.4	49.7	47.2	2.50	19.907	SF
800.0	798.9	799.3	798.2	1.5	1.5	-144.07	-23.1	-30.5	59.0	56.1	2.92	20.205	
900.0	898.3	899.3	897.7	1.8	1.8	-140.69	-19.4	-40.4	69.0	65.7	3.37	20.457	
1,000.0	997.4	999.3	996.9	2.0	2.0	-137.87	-14.2	-51.3	79.7	75.8	3.86	20.638	
1,100.0	1,096.3	1,099.2	1,095.9	2.3	2.3	-135.47	-7.6	-63.1	91.0	86.6	4.39	20.742	
1,200.0	1,194.9	1,199.2	1,194.7	2.7	2.6	-133.39	0.5	-75.9	102.9	98.0	4.95	20.773	
1,300.0	1,293.3	1,299.0	1,293.2	3.0	2.9	-131.57	10.1	-89.5	115.4	109.9	5.57	20.744	
1,400.0	1,391.2	1,398.1	1,390.7	3.4	3.2	-130.37	20.2	-103.4	128.9	122.7	6.20	20.800	
1,500.0	1,488.9	1,497.0	1,488.1	3.8	3.6	-129.91	30.3	-117.3	143.5	136.7	6.85	20.959	
1,600.0	1,586.1	1,595.7	1,585.4	4.2	3.9	-130.00	40.4	-131.2	159.3	151.8	7.51	21.200	
1,700.0	1,682.9	1,694.3	1,682.4	4.7	4.2	-130.48	50.4	-145.0	176.1	167.9	8.19	21.513	
1,800.0	1,779.3	1,792.6	1,779.3	5.2	4.6	-131.23	60.5	-158.8	194.1	185.3	8.87	21.891	
1,900.0	1,875.4	1,890.8	1,876.0	5.7	4.9	-132.21	70.4	-172.5	212.7	203.2	9.54	22.298	
2,000.0	1,971.5	1,988.8	1,972.8	6.2	5.2	-133.40	79.4	-184.9	231.4	221.3	10.17	22.756	
2,100.0	2,067.7	2,086.6	2,069.7	6.6	5.5	-134.80	87.4	-196.0	250.3	239.6	10.76	23.272	
2,200.0	2,163.8	2,184.2	2,166.5	7.1	5.7	-136.36	94.5	-205.7	269.5	258.2	11.30	23.857	
2,300.0	2,259.9	2,281.5	2,263.2	7.7	6.0	-138.04	100.6	-214.1	289.0	277.2	11.79	24.521	
2,400.0	2,356.0	2,378.4	2,359.7	8.2	6.2	-139.80	105.6	-221.1	309.0	296.7	12.23	25.272	
2,500.0	2,452.2	2,474.8	2,455.9	8.7	6.4	-141.64	109.8	-226.7	329.5	316.9	12.62	26.117	
2,600.0	2,548.3	2,570.8	2,551.8	9.2	6.6	-143.51	112.9	-231.0	350.6	337.7	12.96	27.062	
2,700.0	2,644.4	2,666.3	2,647.2	9.7	6.7	-145.42	115.1	-234.0	372.5	359.2	13.25	28.111	
2,800.0	2,740.5	2,761.2	2,742.1	10.2	6.8	-147.32	116.3	-235.8	395.1	381.6	13.50	29.268	
2,900.0	2,836.7	2,855.8	2,836.7	10.7	7.0	-149.23	116.7	-236.2	418.7	404.9	13.72	30.523	
3,000.0	2,932.8	2,952.0	2,932.8	11.2	7.1	-151.04	116.7	-236.2	442.8	428.9	13.92	31.805	
3,100.0	3,028.9	3,048.1	3,028.9	11.7	7.2	-152.66	116.7	-236.2	467.3	453.2	14.13	33.067	
3,200.0	3,125.1	3,144.2	3,125.1	12.2	7.3	-154.13	116.7	-236.2	492.1	477.8	14.35	34.302	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3E-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-40.1	0.0	40.1				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-40.1	0.0	40.1	39.8	0.30	131.949	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-40.1	0.0	40.1	39.4	0.65	61.388	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-168.64	-40.1	0.0	40.9	39.9	1.00	40.855	
400.0	400.0	399.5	399.5	0.7	0.7	-168.43	-40.6	-0.7	44.0	42.7	1.35	32.614	
500.0	499.9	498.8	498.7	0.9	0.9	-167.11	-42.2	-2.7	50.0	48.3	1.70	29.380	
600.0	599.7	597.8	597.6	1.1	1.0	-165.20	-44.9	-6.0	58.7	56.7	2.05	28.592	SF
700.0	699.4	696.3	696.0	1.3	1.2	-163.16	-48.7	-10.6	70.4	68.0	2.41	29.175	
800.0	798.9	794.2	793.6	1.5	1.4	-161.25	-53.5	-16.6	85.0	82.2	2.78	30.585	
900.0	898.3	891.5	890.5	1.8	1.7	-159.57	-59.3	-23.7	102.5	99.4	3.15	32.510	
1,000.0	997.4	987.9	986.3	2.0	1.9	-158.13	-66.0	-32.1	122.9	119.4	3.54	34.755	
1,100.0	1,096.3	1,083.4	1,081.0	2.3	2.1	-156.92	-73.7	-41.6	146.2	142.3	3.93	37.193	
1,200.0	1,194.9	1,177.9	1,174.5	2.7	2.4	-155.90	-82.3	-52.2	172.3	168.0	4.34	39.738	
1,300.0	1,293.3	1,271.2	1,266.6	3.0	2.7	-155.03	-91.8	-63.8	201.3	196.5	4.75	42.331	
1,400.0	1,391.2	1,365.4	1,359.3	3.4	3.0	-154.33	-102.0	-76.5	232.6	227.4	5.18	44.878	
1,500.0	1,488.9	1,459.8	1,452.3	3.8	3.3	-153.91	-112.3	-89.2	265.6	259.9	5.62	47.241	
1,600.0	1,586.1	1,553.7	1,544.7	4.2	3.6	-153.70	-122.6	-101.9	300.0	293.9	6.07	49.454	
1,700.0	1,682.9	1,647.0	1,636.7	4.7	4.0	-153.63	-132.8	-114.5	335.8	329.3	6.52	51.545	
1,800.0	1,779.3	1,739.8	1,728.0	5.2	4.3	-153.66	-142.9	-127.0	373.2	366.2	6.97	53.535	
1,900.0	1,875.4	1,832.2	1,819.1	5.7	4.6	-153.88	-153.0	-139.5	411.2	403.8	7.44	55.258	
2,000.0	1,971.5	1,924.7	1,910.1	6.2	4.9	-154.07	-163.1	-151.9	449.3	441.4	7.92	56.759	
2,100.0	2,067.7	2,017.2	2,001.2	6.6	5.2	-154.23	-173.2	-164.4	487.4	479.0	8.39	58.078	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3F-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-51.0	0.0	51.0				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-51.0	0.0	51.0	50.7	0.30	167.935	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-51.0	0.0	51.0	50.3	0.65	78.130	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-168.59	-51.0	0.0	51.9	50.9	1.00	51.764	
400.0	400.0	400.0	400.0	0.7	0.7	-169.13	-51.0	0.0	54.4	53.1	1.35	40.295	
500.0	499.9	498.9	498.9	0.9	0.8	-169.58	-51.8	-0.3	59.5	57.8	1.70	35.047	
600.0	599.7	597.6	597.5	1.1	1.0	-169.60	-54.1	-1.3	67.9	65.8	2.04	33.191	SF
700.0	699.4	695.8	695.6	1.3	1.2	-169.33	-58.0	-3.0	79.5	77.1	2.39	33.240	
800.0	798.9	793.3	793.0	1.5	1.4	-168.90	-63.4	-5.3	94.4	91.6	2.74	34.460	
900.0	898.3	890.0	889.4	1.8	1.6	-168.41	-70.3	-8.2	112.5	109.4	3.09	36.447	
1,000.0	997.4	985.8	984.8	2.0	1.8	-167.92	-78.5	-11.7	133.8	130.3	3.43	38.956	
1,100.0	1,096.3	1,080.6	1,079.0	2.3	2.0	-167.46	-88.2	-15.8	158.2	154.4	3.78	41.832	
1,200.0	1,194.9	1,174.1	1,171.7	2.7	2.3	-167.03	-99.1	-20.4	185.8	181.7	4.13	44.969	
1,300.0	1,293.3	1,266.2	1,262.9	3.0	2.5	-166.64	-111.2	-25.5	216.5	212.0	4.48	48.294	
1,400.0	1,391.2	1,357.0	1,352.5	3.4	2.8	-166.28	-124.4	-31.2	250.1	245.3	4.83	51.753	
1,500.0	1,488.9	1,446.1	1,440.3	3.8	3.1	-165.96	-138.7	-37.2	286.8	281.6	5.18	55.307	
1,600.0	1,586.1	1,533.6	1,526.2	4.2	3.4	-165.66	-153.9	-43.7	326.3	320.8	5.54	58.926	
1,700.0	1,682.9	1,620.5	1,611.3	4.7	3.7	-165.38	-170.2	-50.6	368.6	362.7	5.89	62.562	
1,800.0	1,779.3	1,710.2	1,699.0	5.2	4.1	-165.17	-187.3	-57.9	412.9	406.6	6.25	66.015	
1,900.0	1,875.4	1,799.5	1,786.3	5.7	4.4	-165.13	-204.4	-65.1	457.8	451.2	6.63	69.030	

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

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3G-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-61.9	0.0	61.9				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-61.9	0.0	61.9	61.6	0.30	203.922	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-61.9	0.0	61.9	61.3	0.65	94.873	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-168.56	-61.9	0.0	62.8	61.8	1.00	62.673	
400.0	400.0	398.9	398.9	0.7	0.7	-168.80	-62.8	-0.2	66.2	64.8	1.35	49.069	
500.0	499.9	497.5	497.4	0.9	0.9	-168.91	-65.2	-0.9	73.0	71.3	1.70	43.030	
600.0	599.7	595.7	595.5	1.1	1.0	-168.91	-69.3	-2.0	83.1	81.0	2.04	40.693	
700.0	699.4	693.3	693.0	1.3	1.2	-168.82	-75.0	-3.5	96.5	94.1	2.39	40.441	SF
800.0	798.9	790.2	789.6	1.5	1.4	-168.69	-82.2	-5.4	113.3	110.6	2.73	41.474	
900.0	898.3	886.1	885.1	1.8	1.6	-168.54	-90.9	-7.8	133.3	130.3	3.08	43.352	
1,000.0	997.4	981.1	979.5	2.0	1.9	-168.38	-101.0	-10.5	156.6	153.2	3.42	45.812	
1,100.0	1,096.3	1,074.8	1,072.5	2.3	2.1	-168.22	-112.5	-13.5	183.1	179.4	3.76	48.686	
1,200.0	1,194.9	1,167.3	1,163.9	2.7	2.4	-168.07	-125.2	-17.0	212.7	208.6	4.10	51.863	
1,300.0	1,293.3	1,258.2	1,253.8	3.0	2.7	-167.92	-139.1	-20.7	245.5	241.0	4.44	55.265	
1,400.0	1,391.2	1,347.6	1,341.8	3.4	3.0	-167.78	-154.2	-24.7	281.2	276.4	4.78	58.836	
1,500.0	1,488.9	1,435.4	1,428.0	3.8	3.3	-167.65	-170.2	-29.0	319.9	314.8	5.12	62.536	
1,600.0	1,586.1	1,522.7	1,513.4	4.2	3.6	-167.52	-187.4	-33.6	361.5	356.1	5.45	66.300	
1,700.0	1,682.9	1,612.7	1,601.5	4.7	3.9	-167.44	-205.5	-38.5	405.0	399.2	5.79	69.894	
1,800.0	1,779.3	1,702.0	1,688.8	5.2	4.3	-167.39	-223.4	-43.3	450.0	443.9	6.14	73.349	
1,900.0	1,875.4	1,790.9	1,775.8	5.7	4.6	-167.47	-241.3	-48.1	495.8	489.3	6.49	76.364	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 S16-T3N-R68W (State) - State 3H-16H - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-69.2	0.0	69.2				
100.0	100.0	100.0	100.0	0.2	0.2	180.00	-69.2	0.0	69.2	68.9	0.30	227.912	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-69.2	0.0	69.2	68.6	0.65	106.034	CC, ES
300.0	300.0	298.8	298.8	0.5	0.5	-168.41	-70.1	-0.2	70.9	69.9	1.00	70.937	
400.0	400.0	397.4	397.4	0.7	0.7	-168.43	-72.6	-0.6	76.0	74.7	1.35	56.462	
500.0	499.9	495.7	495.6	0.9	0.9	-168.45	-76.7	-1.4	84.5	82.8	1.69	49.932	
600.0	599.7	593.5	593.2	1.1	1.1	-168.48	-82.5	-2.5	96.4	94.3	2.04	47.292	
700.0	699.4	690.6	690.0	1.3	1.3	-168.50	-89.8	-4.0	111.6	109.2	2.38	46.841	SF
800.0	798.9	786.9	785.8	1.5	1.5	-168.51	-98.7	-5.7	130.1	127.4	2.73	47.743	
900.0	898.3	882.2	880.6	1.8	1.7	-168.52	-109.1	-7.6	151.9	148.9	3.07	49.537	
1,000.0	997.4	976.3	974.0	2.0	2.0	-168.51	-120.8	-9.9	177.0	173.6	3.41	51.947	
1,100.0	1,096.3	1,069.2	1,065.9	2.3	2.2	-168.50	-133.8	-12.4	205.2	201.5	3.74	54.800	
1,200.0	1,194.9	1,160.7	1,156.2	2.7	2.5	-168.48	-148.1	-15.1	236.6	232.5	4.08	57.979	
1,300.0	1,293.3	1,250.7	1,244.8	3.0	2.8	-168.46	-163.6	-18.1	271.1	266.7	4.41	61.404	
1,400.0	1,391.2	1,339.0	1,331.5	3.4	3.2	-168.43	-180.0	-21.2	308.5	303.8	4.75	65.017	
1,500.0	1,488.9	1,425.6	1,416.3	3.8	3.5	-168.39	-197.5	-24.6	349.0	343.9	5.07	68.777	
1,600.0	1,586.1	1,510.3	1,498.9	4.2	3.8	-168.34	-215.7	-28.1	392.3	386.9	5.40	72.651	
1,700.0	1,682.9	1,593.2	1,579.5	4.7	4.2	-168.29	-234.7	-31.7	438.4	432.7	5.72	76.613	
1,800.0	1,779.3	1,674.0	1,657.8	5.2	4.6	-168.24	-254.4	-35.5	487.3	481.3	6.04	80.642	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well State 3A-16H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Reference Site:	S16-T3N-R68W (State)	**MD Reference:**	WELL @ 5072.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	State 3A-16H	**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 Depths are relative to WELL @ 5072.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: State 3A-16H
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.31°