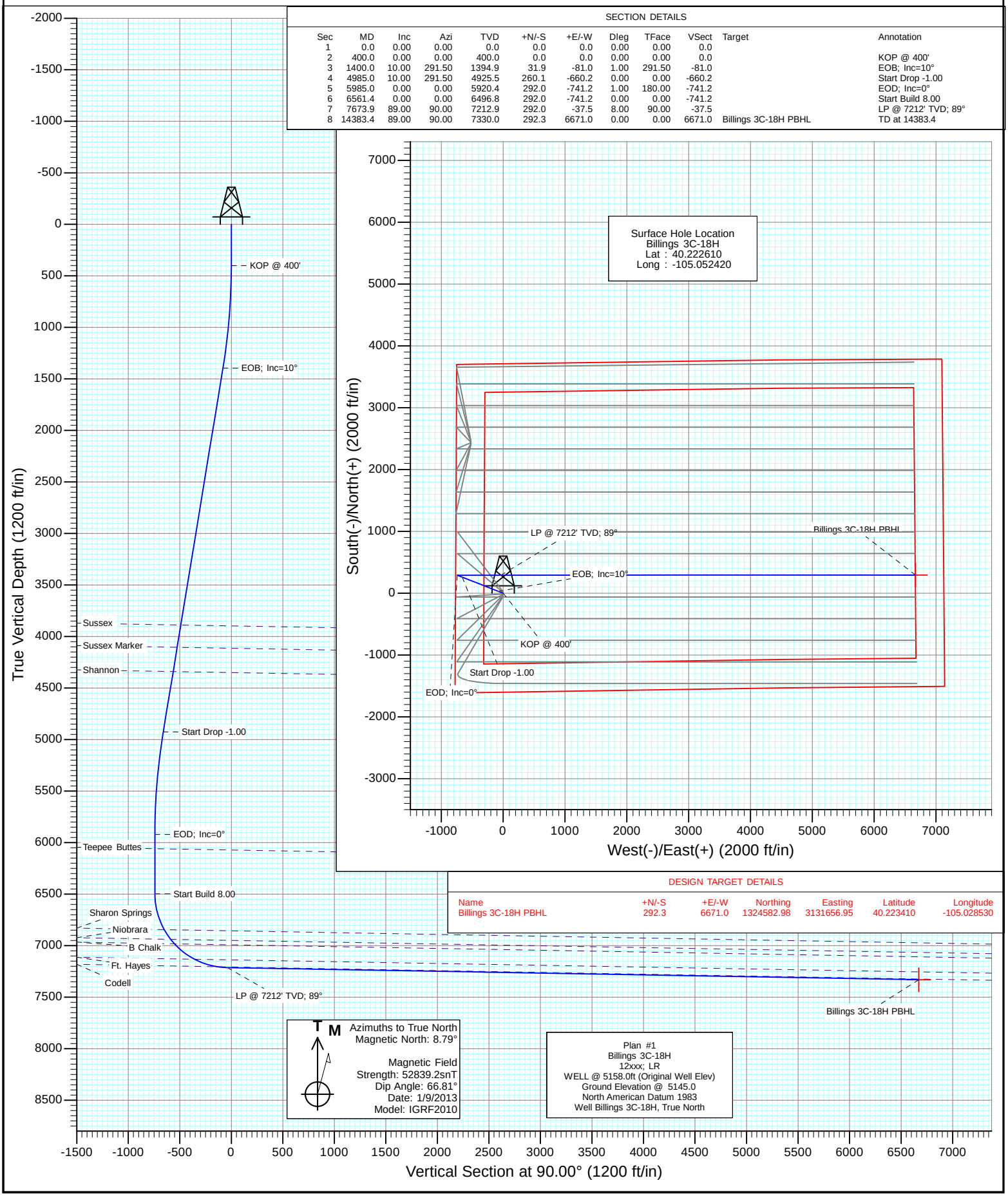
Project: DJ Wattenberg
Site: S18-T3N-R68W (Billings)
Well: Billings 3C-18H
Wellbore: Hz
Design: Plan #1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0		KOP @ 400'
3	1400.0	10.00	291.50	1394.9	31.9	-81.0	1.00	291.50	-81.0		EOB; Inc=10°
4	4985.0	10.00	291.50	4925.5	260.1	-660.2	0.00	0.00	-660.2		Start Drop -1.00
5	5985.0	0.00	0.00	5920.4	292.0	-741.2	1.00	180.00	-741.2		EOD; Inc=0°
6	6561.4	0.00	0.00	6496.8	292.0	-741.2	0.00	0.00	-741.2		Start Build 8.00
7	7673.9	89.00	90.00	7212.9	292.0	-37.5	8.00	90.00	-37.5		LP @ 7212' TVD; 89°
8	14383.4	89.00	90.00	7330.0	292.3	6671.0	0.00	0.00	6671.0	Billings 3C-18H PBHL	TD at 14383.4



DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Billings 3C-18H PBHL	292.3	6671.0	1324582.98	3131656.95	40.223410	-105.028530

Azimuths to True North
Magnetic North: 8.79°

Magnetic Field
Strength: 52839.2snT
Dip Angle: 66.81°
Date: 1/9/2013
Model: IGRF2010

Plan #1
Billings 3C-18H
12xxx; LR
WELL @ 5158.0ft (Original Well Elev)
Ground Elevation @ 5145.0
North American Datum 1983
Well Billings 3C-18H, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site:	S18-T3N-R68W (Billings)	**North Reference:**	True
Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings)

Site Position:		**Northing:**	1,326,724.18 ft	**Latitude:**	40.229390
From:	Lat/Long	**Easting:**	3,124,452.97 ft	**Longitude:**	-105.054290
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.29 °

Well Billings 3C-18H

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,324,256.98 ft	**Latitude:**	40.222610
	+E/-W	0.0 ft	**Easting:**	3,124,987.56 ft	**Longitude:**	-105.052420
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,145.0 ft

Wellbore Hz

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/9/2013	8.79	66.81	52,839

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,400.0	10.00	291.50	1,394.9	31.9	-81.0	1.00	1.00	0.00	291.50	
4,985.0	10.00	291.50	4,925.5	260.1	-660.2	0.00	0.00	0.00	0.00	
5,985.0	0.00	0.00	5,920.4	292.0	-741.2	1.00	-1.00	0.00	180.00	
6,561.4	0.00	0.00	6,496.8	292.0	-741.2	0.00	0.00	0.00	0.00	
7,673.9	89.00	90.00	7,212.9	292.0	-37.5	8.00	8.00	0.00	90.00	
14,383.4	89.00	90.00	7,330.0	292.3	6,671.0	0.00	0.00	0.00	0.00	Billings 3C-18H PBHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site:	S18-T3N-R68W (Billings)	**North Reference:**	True
Well:	Billings 3C-18H	**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	KOP @ 400'
500.0	1.00	291.50	500.0	0.3	-0.8	-0.8	1.00	1.00	
600.0	2.00	291.50	600.0	1.3	-3.2	-3.2	1.00	1.00	
700.0	3.00	291.50	699.9	2.9	-7.3	-7.3	1.00	1.00	
800.0	4.00	291.50	799.7	5.1	-13.0	-13.0	1.00	1.00	
900.0	5.00	291.50	899.4	8.0	-20.3	-20.3	1.00	1.00	
1,000.0	6.00	291.50	998.9	11.5	-29.2	-29.2	1.00	1.00	
1,100.0	7.00	291.50	1,098.3	15.7	-39.7	-39.7	1.00	1.00	
1,200.0	8.00	291.50	1,197.4	20.4	-51.9	-51.9	1.00	1.00	
1,300.0	9.00	291.50	1,296.3	25.9	-65.6	-65.6	1.00	1.00	
1,400.0	10.00	291.50	1,394.9	31.9	-81.0	-81.0	1.00	1.00	EOB; Inc=10°
1,500.0	10.00	291.50	1,493.4	38.3	-97.1	-97.1	0.00	0.00	
1,600.0	10.00	291.50	1,591.9	44.6	-113.3	-113.3	0.00	0.00	
1,700.0	10.00	291.50	1,690.4	51.0	-129.5	-129.5	0.00	0.00	
1,800.0	10.00	291.50	1,788.9	57.4	-145.6	-145.6	0.00	0.00	
1,900.0	10.00	291.50	1,887.3	63.7	-161.8	-161.8	0.00	0.00	
2,000.0	10.00	291.50	1,985.8	70.1	-177.9	-177.9	0.00	0.00	
2,100.0	10.00	291.50	2,084.3	76.5	-194.1	-194.1	0.00	0.00	
2,200.0	10.00	291.50	2,182.8	82.8	-210.2	-210.2	0.00	0.00	
2,300.0	10.00	291.50	2,281.3	89.2	-226.4	-226.4	0.00	0.00	
2,400.0	10.00	291.50	2,379.7	95.5	-242.6	-242.6	0.00	0.00	
2,500.0	10.00	291.50	2,478.2	101.9	-258.7	-258.7	0.00	0.00	
2,600.0	10.00	291.50	2,576.7	108.3	-274.9	-274.9	0.00	0.00	
2,700.0	10.00	291.50	2,675.2	114.6	-291.0	-291.0	0.00	0.00	
2,800.0	10.00	291.50	2,773.7	121.0	-307.2	-307.2	0.00	0.00	
2,900.0	10.00	291.50	2,872.1	127.4	-323.3	-323.3	0.00	0.00	
3,000.0	10.00	291.50	2,970.6	133.7	-339.5	-339.5	0.00	0.00	
3,100.0	10.00	291.50	3,069.1	140.1	-355.6	-355.6	0.00	0.00	
3,200.0	10.00	291.50	3,167.6	146.5	-371.8	-371.8	0.00	0.00	
3,300.0	10.00	291.50	3,266.1	152.8	-388.0	-388.0	0.00	0.00	
3,400.0	10.00	291.50	3,364.5	159.2	-404.1	-404.1	0.00	0.00	
3,500.0	10.00	291.50	3,463.0	165.6	-420.3	-420.3	0.00	0.00	
3,600.0	10.00	291.50	3,561.5	171.9	-436.4	-436.4	0.00	0.00	
3,700.0	10.00	291.50	3,660.0	178.3	-452.6	-452.6	0.00	0.00	
3,800.0	10.00	291.50	3,758.5	184.6	-468.7	-468.7	0.00	0.00	
3,900.0	10.00	291.50	3,857.0	191.0	-484.9	-484.9	0.00	0.00	
3,932.0	10.00	291.50	3,888.4	193.0	-490.1	-490.1	0.00	0.00	Sussex
4,000.0	10.00	291.50	3,955.4	197.4	-501.1	-501.1	0.00	0.00	
4,100.0	10.00	291.50	4,053.9	203.7	-517.2	-517.2	0.00	0.00	
4,151.7	10.00	291.50	4,104.8	207.0	-525.6	-525.6	0.00	0.00	Sussex Marker
4,200.0	10.00	291.50	4,152.4	210.1	-533.4	-533.4	0.00	0.00	
4,300.0	10.00	291.50	4,250.9	216.5	-549.5	-549.5	0.00	0.00	
4,390.7	10.00	291.50	4,340.2	222.2	-564.2	-564.2	0.00	0.00	Shannon
4,400.0	10.00	291.50	4,349.4	222.8	-565.7	-565.7	0.00	0.00	
4,500.0	10.00	291.50	4,447.8	229.2	-581.8	-581.8	0.00	0.00	
4,600.0	10.00	291.50	4,546.3	235.6	-598.0	-598.0	0.00	0.00	
4,700.0	10.00	291.50	4,644.8	241.9	-614.2	-614.2	0.00	0.00	
4,800.0	10.00	291.50	4,743.3	248.3	-630.3	-630.3	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site:	S18-T3N-R68W (Billings)	**North Reference:**	True
Well:	Billings 3C-18H	**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	10.00	291.50	4,841.8	254.7	-646.5	-646.5	0.00	0.00	
4,985.0	10.00	291.50	4,925.5	260.1	-660.2	-660.2	0.00	0.00	Start Drop -1.00
5,000.0	9.85	291.50	4,940.2	261.0	-662.6	-662.6	1.00	-1.00	
5,100.0	8.85	291.50	5,038.9	267.0	-677.7	-677.7	1.00	-1.00	
5,200.0	7.85	291.50	5,137.9	272.3	-691.2	-691.2	1.00	-1.00	
5,300.0	6.85	291.50	5,237.0	277.0	-703.1	-703.1	1.00	-1.00	
5,400.0	5.85	291.50	5,336.4	281.0	-713.4	-713.4	1.00	-1.00	
5,500.0	4.85	291.50	5,436.0	284.4	-722.1	-722.1	1.00	-1.00	
5,600.0	3.85	291.50	5,535.7	287.2	-729.2	-729.2	1.00	-1.00	
5,700.0	2.85	291.50	5,635.5	289.4	-734.6	-734.6	1.00	-1.00	
5,800.0	1.85	291.50	5,735.4	290.9	-738.4	-738.4	1.00	-1.00	
5,900.0	0.85	291.50	5,835.4	291.7	-740.6	-740.6	1.00	-1.00	
5,985.0	0.00	0.00	5,920.4	292.0	-741.2	-741.2	1.00	-1.00	EOD; Inc=0°
6,000.0	0.00	0.00	5,935.4	292.0	-741.2	-741.2	0.00	0.00	
6,100.0	0.00	0.00	6,035.4	292.0	-741.2	-741.2	0.00	0.00	
6,123.7	0.00	0.00	6,059.1	292.0	-741.2	-741.2	0.00	0.00	Teepee Buttes
6,200.0	0.00	0.00	6,135.4	292.0	-741.2	-741.2	0.00	0.00	
6,300.0	0.00	0.00	6,235.4	292.0	-741.2	-741.2	0.00	0.00	
6,400.0	0.00	0.00	6,335.4	292.0	-741.2	-741.2	0.00	0.00	
6,500.0	0.00	0.00	6,435.4	292.0	-741.2	-741.2	0.00	0.00	
6,561.4	0.00	0.00	6,496.8	292.0	-741.2	-741.2	0.00	0.00	Start Build 8.00
6,600.0	3.09	90.00	6,535.4	292.0	-740.1	-740.1	8.00	8.00	
6,700.0	11.09	90.00	6,634.5	292.0	-727.8	-727.8	8.00	8.00	
6,800.0	19.09	90.00	6,731.0	292.0	-701.8	-701.8	8.00	8.00	
6,900.0	27.09	90.00	6,822.9	292.0	-662.6	-662.6	8.00	8.00	
6,924.6	29.05	90.00	6,844.6	292.0	-651.1	-651.1	8.00	8.00	Sharon Springs
7,000.0	35.09	90.00	6,908.5	292.0	-611.0	-611.0	8.00	8.00	
7,037.7	38.10	90.00	6,938.7	292.0	-588.6	-588.6	8.00	8.00	Niobrara
7,095.0	42.69	90.00	6,982.4	292.0	-551.5	-551.5	8.00	8.00	B Chalk
7,100.0	43.09	90.00	6,986.1	292.0	-548.0	-548.0	8.00	8.00	
7,200.0	51.09	90.00	7,054.1	292.0	-474.9	-474.9	8.00	8.00	
7,300.0	59.09	90.00	7,111.3	292.0	-392.9	-392.9	8.00	8.00	
7,342.0	62.45	90.00	7,131.8	292.0	-356.3	-356.3	8.00	8.00	Ft. Hayes
7,400.0	67.09	90.00	7,156.5	292.0	-303.8	-303.8	8.00	8.00	
7,500.0	75.09	90.00	7,188.9	292.0	-209.3	-209.3	8.00	8.00	
7,576.9	81.24	90.00	7,204.7	292.0	-134.1	-134.1	8.00	8.00	Codell
7,600.0	83.09	90.00	7,207.8	292.0	-111.2	-111.2	8.00	8.00	
7,673.9	89.00	90.00	7,212.9	292.0	-37.5	-37.5	8.00	8.00	LP @ 7212' TVD; 89°
7,700.0	89.00	90.00	7,213.4	292.0	-11.4	-11.4	0.00	0.00	
7,800.0	89.00	90.00	7,215.1	292.0	88.6	88.6	0.00	0.00	
7,900.0	89.00	90.00	7,216.8	292.0	188.6	188.6	0.00	0.00	
8,000.0	89.00	90.00	7,218.6	292.0	288.5	288.5	0.00	0.00	
8,100.0	89.00	90.00	7,220.3	292.0	388.5	388.5	0.00	0.00	
8,200.0	89.00	90.00	7,222.1	292.0	488.5	488.5	0.00	0.00	
8,300.0	89.00	90.00	7,223.8	292.0	588.5	588.5	0.00	0.00	
8,400.0	89.00	90.00	7,225.6	292.0	688.5	688.5	0.00	0.00	
8,500.0	89.00	90.00	7,227.3	292.0	788.5	788.5	0.00	0.00	
8,600.0	89.00	90.00	7,229.1	292.0	888.5	888.5	0.00	0.00	
8,700.0	89.00	90.00	7,230.8	292.0	988.4	988.4	0.00	0.00	
8,800.0	89.00	90.00	7,232.6	292.1	1,088.4	1,088.4	0.00	0.00	
8,900.0	89.00	90.00	7,234.3	292.1	1,188.4	1,188.4	0.00	0.00	
9,000.0	89.00	90.00	7,236.0	292.1	1,288.4	1,288.4	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site:	S18-T3N-R68W (Billings)	**North Reference:**	True
Well:	Billings 3C-18H	**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
9,100.0	89.00	90.00	7,237.8	292.1	1,388.4	1,388.4	0.00	0.00	
9,200.0	89.00	90.00	7,239.5	292.1	1,488.4	1,488.4	0.00	0.00	
9,300.0	89.00	90.00	7,241.3	292.1	1,588.3	1,588.3	0.00	0.00	
9,400.0	89.00	90.00	7,243.0	292.1	1,688.3	1,688.3	0.00	0.00	
9,500.0	89.00	90.00	7,244.8	292.1	1,788.3	1,788.3	0.00	0.00	
9,600.0	89.00	90.00	7,246.5	292.1	1,888.3	1,888.3	0.00	0.00	
9,700.0	89.00	90.00	7,248.3	292.1	1,988.3	1,988.3	0.00	0.00	
9,800.0	89.00	90.00	7,250.0	292.1	2,088.3	2,088.3	0.00	0.00	
9,900.0	89.00	90.00	7,251.8	292.1	2,188.3	2,188.3	0.00	0.00	
10,000.0	89.00	90.00	7,253.5	292.1	2,288.2	2,288.2	0.00	0.00	
10,100.0	89.00	90.00	7,255.2	292.1	2,388.2	2,388.2	0.00	0.00	
10,200.0	89.00	90.00	7,257.0	292.1	2,488.2	2,488.2	0.00	0.00	
10,300.0	89.00	90.00	7,258.7	292.1	2,588.2	2,588.2	0.00	0.00	
10,400.0	89.00	90.00	7,260.5	292.1	2,688.2	2,688.2	0.00	0.00	
10,500.0	89.00	90.00	7,262.2	292.1	2,788.2	2,788.2	0.00	0.00	
10,600.0	89.00	90.00	7,264.0	292.1	2,888.1	2,888.1	0.00	0.00	
10,700.0	89.00	90.00	7,265.7	292.1	2,988.1	2,988.1	0.00	0.00	
10,800.0	89.00	90.00	7,267.5	292.2	3,088.1	3,088.1	0.00	0.00	
10,900.0	89.00	90.00	7,269.2	292.2	3,188.1	3,188.1	0.00	0.00	
11,000.0	89.00	90.00	7,271.0	292.2	3,288.1	3,288.1	0.00	0.00	
11,100.0	89.00	90.00	7,272.7	292.2	3,388.1	3,388.1	0.00	0.00	
11,200.0	89.00	90.00	7,274.4	292.2	3,488.1	3,488.1	0.00	0.00	
11,300.0	89.00	90.00	7,276.2	292.2	3,588.0	3,588.0	0.00	0.00	
11,400.0	89.00	90.00	7,277.9	292.2	3,688.0	3,688.0	0.00	0.00	
11,500.0	89.00	90.00	7,279.7	292.2	3,788.0	3,788.0	0.00	0.00	
11,600.0	89.00	90.00	7,281.4	292.2	3,888.0	3,888.0	0.00	0.00	
11,700.0	89.00	90.00	7,283.2	292.2	3,988.0	3,988.0	0.00	0.00	
11,800.0	89.00	90.00	7,284.9	292.2	4,088.0	4,088.0	0.00	0.00	
11,900.0	89.00	90.00	7,286.7	292.2	4,187.9	4,187.9	0.00	0.00	
12,000.0	89.00	90.00	7,288.4	292.2	4,287.9	4,287.9	0.00	0.00	
12,100.0	89.00	90.00	7,290.1	292.2	4,387.9	4,387.9	0.00	0.00	
12,200.0	89.00	90.00	7,291.9	292.2	4,487.9	4,487.9	0.00	0.00	
12,300.0	89.00	90.00	7,293.6	292.2	4,587.9	4,587.9	0.00	0.00	
12,400.0	89.00	90.00	7,295.4	292.2	4,687.9	4,687.9	0.00	0.00	
12,500.0	89.00	90.00	7,297.1	292.2	4,787.9	4,787.9	0.00	0.00	
12,600.0	89.00	90.00	7,298.9	292.2	4,887.8	4,887.8	0.00	0.00	
12,700.0	89.00	90.00	7,300.6	292.3	4,987.8	4,987.8	0.00	0.00	
12,800.0	89.00	90.00	7,302.4	292.3	5,087.8	5,087.8	0.00	0.00	
12,900.0	89.00	90.00	7,304.1	292.3	5,187.8	5,187.8	0.00	0.00	
13,000.0	89.00	90.00	7,305.9	292.3	5,287.8	5,287.8	0.00	0.00	
13,100.0	89.00	90.00	7,307.6	292.3	5,387.8	5,387.8	0.00	0.00	
13,200.0	89.00	90.00	7,309.3	292.3	5,487.7	5,487.7	0.00	0.00	
13,300.0	89.00	90.00	7,311.1	292.3	5,587.7	5,587.7	0.00	0.00	
13,400.0	89.00	90.00	7,312.8	292.3	5,687.7	5,687.7	0.00	0.00	
13,500.0	89.00	90.00	7,314.6	292.3	5,787.7	5,787.7	0.00	0.00	
13,600.0	89.00	90.00	7,316.3	292.3	5,887.7	5,887.7	0.00	0.00	
13,700.0	89.00	90.00	7,318.1	292.3	5,987.7	5,987.7	0.00	0.00	
13,800.0	89.00	90.00	7,319.8	292.3	6,087.7	6,087.7	0.00	0.00	
13,900.0	89.00	90.00	7,321.6	292.3	6,187.6	6,187.6	0.00	0.00	
14,000.0	89.00	90.00	7,323.3	292.3	6,287.6	6,287.6	0.00	0.00	
14,100.0	89.00	90.00	7,325.1	292.3	6,387.6	6,387.6	0.00	0.00	
14,200.0	89.00	90.00	7,326.8	292.3	6,487.6	6,487.6	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site:	S18-T3N-R68W (Billings)	**North Reference:**	True
Well:	Billings 3C-18H	**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
14,300.0	89.00	90.00	7,328.5	292.3	6,587.6	6,587.6	0.00	0.00	
14,383.4	89.00	90.00	7,330.0	292.3	6,671.0	6,671.0	0.00	0.00	TD at 14383.4 - Billings 3C-18H 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
Billings 3C-18H PBHL - plan hits target center - Point	0.00	0.00	7,330.0	292.3	6,671.0	1,324,582.98	3,131,656.95	40.223410	-105.028530

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,932.0	3,897.0	Sussex		1.00	90.00
4,151.7	4,114.0	Sussex Marker		1.00	90.00
4,390.7	4,350.0	Shannon		1.00	90.00
6,123.7	6,072.0	Teepee Buttes		1.00	90.00
6,924.6	6,856.0	Sharon Springs		1.00	90.00
7,037.7	6,949.0	Niobrara		1.00	90.00
7,095.0	6,992.0	B Chalk		1.00	90.00
7,342.0	7,138.0	Ft. Hayes		1.00	90.00
7,576.9	7,207.0	Codell		1.00	90.00

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
400.0	400.0	0.0	0.0	KOP @ 400'
1,400.0	1,394.9	31.9	-81.0	EOB; Inc=10°
4,985.0	4,925.5	260.1	-660.2	Start Drop -1.00
5,985.0	5,920.4	292.0	-741.2	EOD; Inc=0°
6,561.4	6,496.8	292.0	-741.2	Start Build 8.00
7,673.9	7,212.9	292.0	-37.5	LP @ 7212' TVD; 89°
14,383.4	7,330.0	292.3	6,671.0	TD at 14383.4

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S18-T3N-R68W (Billings)
Billings 3C-18H
Hz
Plan #1

Anticollision Report

09 January, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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** 1/9/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	14,382.5	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
S18-T3N-R68W (Billings)						
Billings 2A-18H - Hz - Plan #1						Out of range
Billings 2B-18H - HZ - Plan #1						Out of range
Billings 2C-18H - HZ - Plan #1						Out of range
Billings 2D-18H - Hz - Plan #1						Out of range
Billings 2E-18H - HZ - Plan #1						Out of range
Billings 2F-18H - HZ - Plan #1						Out of range
Billings 2G-18H - Hz - Plan #1						Out of range
Billings 2H-18H - Hz - Plan #1						Out of range
Billings 3A-18H - Hz - Plan #1	166.3	167.3	21.9	21.3	40.705	CC
Billings 3A-18H - Hz - Plan #1	200.0	201.0	21.9	21.2	33.395	ES
Billings 3A-18H - Hz - Plan #1	800.0	797.9	42.1	39.3	15.035	SF
Billings 3B-18H - Hz - Plan #1	300.0	300.0	10.9	9.9	10.909	CC
Billings 3B-18H - Hz - Plan #1	14,383.4	14,387.3	350.2	4.7	1.014	Level 2, ES, SF
Billings 3D-18H - Hz - Plan #1	400.0	400.0	10.9	9.6	8.093	CC
Billings 3D-18H - Hz - Plan #1	14,383.4	14,381.3	353.4	7.3	1.021	Level 2, ES, SF
Billings 3E-18H - Hz - Plan #1	400.0	400.0	18.2	16.9	13.483	CC, ES
Billings 3E-18H - Hz - Plan #1	700.0	699.4	24.7	22.3	10.224	SF
Billings 3F-18H - Hz - Plan #1	400.0	400.0	29.1	27.8	21.573	CC, ES
Billings 3F-18H - Hz - Plan #1	600.0	598.3	35.3	33.3	17.164	SF
Billings 3G-18H - Hz - Plan #1	340.0	341.0	40.1	38.9	35.053	CC, ES
Billings 3G-18H - Hz - Plan #1	500.0	498.2	45.3	43.6	26.605	SF
Billings 3H-18H - Hz - Plan #1	200.0	200.0	51.0	50.3	78.130	CC, ES
Billings 3H-18H - Hz - Plan #1	600.0	591.5	76.6	74.6	37.157	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3A-18H - 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	1.0	1.0	0.0	0.0	0.00	21.9	0.0	21.9				
100.0	100.0	101.0	101.0	0.2	0.2	0.00	21.9	0.0	21.9	21.6	0.31	71.561	
166.3	166.3	167.3	167.3	0.3	0.3	0.00	21.9	0.0	21.9	21.3	0.54	40.705	CC
200.0	200.0	201.0	201.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.65	33.395	ES
300.0	300.0	300.7	300.7	0.5	0.5	-1.36	22.6	-0.5	22.6	21.6	1.00	22.482	
400.0	400.0	400.3	400.3	0.7	0.7	-4.91	24.6	-2.1	24.7	23.4	1.36	18.230	
500.0	500.0	500.0	499.9	0.9	0.9	60.40	28.1	-4.8	28.1	26.4	1.71	16.474	
600.0	600.0	599.3	599.0	1.0	1.1	59.13	32.9	-8.4	32.1	30.1	2.06	15.592	
700.0	699.9	698.7	698.0	1.2	1.3	59.21	39.1	-13.1	36.8	34.4	2.42	15.182	
800.0	799.7	797.9	796.8	1.4	1.5	60.19	46.7	-18.9	42.1	39.3	2.80	15.035	SF
900.0	899.4	897.1	895.3	1.6	1.8	61.71	55.6	-25.6	48.1	44.9	3.20	15.037	
1,000.0	998.9	996.1	993.5	1.8	2.0	63.55	65.8	-33.4	54.8	51.2	3.63	15.118	
1,100.0	1,098.3	1,094.9	1,091.3	2.1	2.3	65.53	77.4	-42.2	62.3	58.2	4.09	15.235	
1,200.0	1,197.4	1,193.6	1,188.7	2.3	2.6	67.55	90.3	-52.0	70.5	65.9	4.59	15.358	
1,300.0	1,296.3	1,292.2	1,285.6	2.6	3.0	69.52	104.5	-62.8	79.5	74.4	5.14	15.473	
1,400.0	1,394.9	1,390.5	1,382.0	2.9	3.4	71.41	120.0	-74.6	89.4	83.6	5.74	15.569	
1,500.0	1,493.4	1,488.7	1,477.8	3.3	3.8	72.81	136.7	-87.4	100.3	94.0	6.37	15.755	
1,600.0	1,591.9	1,586.6	1,573.1	3.6	4.2	73.36	154.8	-101.1	112.6	105.6	7.00	16.074	
1,700.0	1,690.4	1,684.2	1,667.6	3.9	4.6	73.27	174.0	-115.7	126.0	118.4	7.64	16.499	
1,800.0	1,788.9	1,782.9	1,763.0	4.3	5.1	72.89	194.3	-131.2	140.3	132.1	8.28	16.959	
1,900.0	1,887.3	1,881.9	1,858.6	4.6	5.5	72.58	214.7	-146.7	154.6	145.7	8.92	17.346	
2,000.0	1,985.8	1,980.8	1,954.2	4.9	6.0	72.32	235.1	-162.2	169.0	159.4	9.56	17.674	
2,100.0	2,084.3	2,079.8	2,049.8	5.3	6.5	72.10	255.5	-177.7	183.3	173.1	10.21	17.957	
2,200.0	2,182.8	2,178.8	2,145.4	5.6	7.0	71.91	275.9	-193.2	197.6	186.7	10.86	18.202	
2,300.0	2,281.3	2,277.7	2,241.0	6.0	7.4	71.75	296.3	-208.7	211.9	200.4	11.51	18.416	
2,400.0	2,379.7	2,376.7	2,336.6	6.3	7.9	71.61	316.7	-224.2	226.2	214.1	12.16	18.605	
2,500.0	2,478.2	2,475.7	2,432.1	6.7	8.4	71.48	337.1	-239.7	240.6	227.8	12.81	18.773	
2,600.0	2,576.7	2,574.6	2,527.7	7.0	8.9	71.37	357.5	-255.2	254.9	241.4	13.47	18.923	
2,700.0	2,675.2	2,673.6	2,623.3	7.4	9.3	71.27	377.8	-270.7	269.2	255.1	14.13	19.057	
2,800.0	2,773.7	2,772.6	2,718.9	7.7	9.8	71.18	398.2	-286.2	283.6	268.8	14.78	19.179	
2,900.0	2,872.1	2,871.5	2,814.5	8.1	10.3	71.10	418.6	-301.7	297.9	282.4	15.44	19.289	
3,000.0	2,970.6	2,970.5	2,910.1	8.4	10.8	71.03	439.0	-317.2	312.2	296.1	16.10	19.390	
3,100.0	3,069.1	3,069.5	3,005.7	8.8	11.3	70.96	459.4	-332.7	326.5	309.8	16.76	19.482	
3,200.0	3,167.6	3,168.4	3,101.3	9.1	11.7	70.90	479.8	-348.2	340.9	323.4	17.42	19.566	
3,300.0	3,266.1	3,267.4	3,196.9	9.5	12.2	70.85	500.2	-363.7	355.2	337.1	18.08	19.644	
3,400.0	3,364.5	3,366.4	3,292.5	9.8	12.7	70.79	520.6	-379.2	369.5	350.8	18.74	19.715	
3,500.0	3,463.0	3,465.3	3,388.1	10.2	13.2	70.75	541.0	-394.7	383.9	364.5	19.40	19.782	
3,600.0	3,561.5	3,564.3	3,483.7	10.5	13.7	70.70	561.3	-410.2	398.2	378.1	20.07	19.844	
3,700.0	3,660.0	3,663.3	3,579.3	10.9	14.1	70.66	581.7	-425.7	412.5	391.8	20.73	19.901	
3,800.0	3,758.5	3,762.2	3,674.9	11.2	14.6	70.62	602.1	-441.2	426.8	405.5	21.39	19.955	
3,900.0	3,857.0	3,861.2	3,770.5	11.6	15.1	70.59	622.5	-456.7	441.2	419.1	22.05	20.006	
4,000.0	3,955.4	3,960.2	3,866.1	11.9	15.6	70.55	642.9	-472.3	455.5	432.8	22.72	20.053	
4,100.0	4,053.9	4,059.1	3,961.7	12.3	16.1	70.52	663.3	-487.8	469.8	446.5	23.38	20.097	
4,200.0	4,152.4	4,158.1	4,057.3	12.6	16.6	70.49	683.7	-503.3	484.2	460.1	24.04	20.139	
4,300.0	4,250.9	4,257.1	4,152.9	13.0	17.0	70.46	704.1	-518.8	498.5	473.8	24.71	20.178	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3B-18H - 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	0.00	10.9	0.0	10.9				
100.0	100.0	100.0	100.0	0.2	0.2	0.00	10.9	0.0	10.9	10.6	0.30	35.986	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	10.9	0.0	10.9	10.3	0.65	16.742	
300.0	300.0	300.0	300.0	0.5	0.5	0.00	10.9	0.0	10.9	9.9	1.00	10.909	CC
400.0	400.0	399.9	399.9	0.7	0.7	-3.30	11.5	-0.7	11.5	10.2	1.35	8.521	
500.0	500.0	499.7	499.7	0.9	0.9	60.37	13.2	-2.6	13.0	11.3	1.70	7.640	
600.0	600.0	599.5	599.4	1.0	1.0	58.05	16.0	-6.0	15.0	12.9	2.06	7.286	
700.0	699.9	699.2	698.9	1.2	1.2	57.57	20.0	-10.6	17.4	15.0	2.42	7.193	
800.0	799.7	798.9	798.3	1.4	1.4	58.30	25.0	-16.5	20.3	17.5	2.80	7.241	
900.0	899.4	898.6	897.5	1.6	1.7	59.76	31.2	-23.8	23.6	20.4	3.20	7.366	
1,000.0	998.9	998.2	996.5	1.8	1.9	61.60	38.5	-32.3	27.3	23.7	3.63	7.532	
1,100.0	1,098.3	1,097.7	1,095.2	2.1	2.2	63.62	46.9	-42.2	31.5	27.4	4.09	7.712	
1,200.0	1,197.4	1,197.2	1,193.5	2.3	2.5	65.66	56.5	-53.3	36.3	31.7	4.59	7.892	
1,300.0	1,296.3	1,296.6	1,291.6	2.6	2.8	67.64	67.1	-65.7	41.5	36.3	5.15	8.060	
1,400.0	1,394.9	1,395.9	1,389.3	2.9	3.1	69.52	78.8	-79.5	47.3	41.5	5.75	8.211	
1,500.0	1,493.4	1,495.2	1,486.5	3.3	3.5	70.45	91.6	-94.4	53.8	47.5	6.38	8.435	
1,600.0	1,591.9	1,594.9	1,584.1	3.6	3.9	70.48	105.1	-110.2	61.0	54.0	7.01	8.706	
1,700.0	1,690.4	1,694.6	1,681.6	3.9	4.3	70.50	118.5	-126.0	68.2	60.5	7.64	8.923	
1,800.0	1,788.9	1,794.4	1,779.2	4.3	4.7	70.51	132.0	-141.7	75.4	67.1	8.28	9.099	
1,900.0	1,887.3	1,894.1	1,876.7	4.6	5.0	70.53	145.5	-157.5	82.5	73.6	8.93	9.245	
2,000.0	1,985.8	1,993.8	1,974.3	4.9	5.4	70.54	158.9	-173.3	89.7	80.1	9.58	9.367	
2,100.0	2,084.3	2,093.6	2,071.9	5.3	5.8	70.55	172.4	-189.1	96.9	86.6	10.23	9.471	
2,200.0	2,182.8	2,193.3	2,169.4	5.6	6.2	70.56	185.9	-204.8	104.0	93.2	10.88	9.559	
2,300.0	2,281.3	2,293.1	2,267.0	6.0	6.6	70.56	199.3	-220.6	111.2	99.7	11.54	9.636	
2,400.0	2,379.7	2,392.8	2,364.6	6.3	7.0	70.57	212.8	-236.4	118.4	106.2	12.20	9.703	
2,500.0	2,478.2	2,492.6	2,462.1	6.7	7.4	70.58	226.3	-252.1	125.6	112.7	12.86	9.762	
2,600.0	2,576.7	2,592.3	2,559.7	7.0	7.8	70.58	239.7	-267.9	132.7	119.2	13.53	9.814	
2,700.0	2,675.2	2,692.0	2,657.2	7.4	8.2	70.59	253.2	-283.7	139.9	125.7	14.19	9.861	
2,800.0	2,773.7	2,791.8	2,754.8	7.7	8.6	70.59	266.7	-299.4	147.1	132.2	14.85	9.903	
2,900.0	2,872.1	2,891.5	2,852.4	8.1	9.0	70.59	280.1	-315.2	154.3	138.7	15.52	9.940	
3,000.0	2,970.6	2,991.3	2,949.9	8.4	9.4	70.60	293.6	-331.0	161.4	145.2	16.19	9.974	
3,100.0	3,069.1	3,091.0	3,047.5	8.8	9.8	70.60	307.1	-346.7	168.6	151.8	16.85	10.005	
3,200.0	3,167.6	3,190.8	3,145.1	9.1	10.2	70.60	320.5	-362.5	175.8	158.3	17.52	10.033	
3,300.0	3,266.1	3,290.5	3,242.6	9.5	10.6	70.61	334.0	-378.3	183.0	164.8	18.19	10.059	
3,400.0	3,364.5	3,390.2	3,340.2	9.8	11.0	70.61	347.5	-394.0	190.1	171.3	18.86	10.083	
3,500.0	3,463.0	3,490.0	3,437.7	10.2	11.4	70.61	360.9	-409.8	197.3	177.8	19.53	10.105	
3,600.0	3,561.5	3,589.7	3,535.3	10.5	11.8	70.61	374.4	-425.6	204.5	184.3	20.19	10.125	
3,700.0	3,660.0	3,689.5	3,632.9	10.9	12.2	70.61	387.9	-441.4	211.6	190.8	20.86	10.144	
3,800.0	3,758.5	3,789.2	3,730.4	11.2	12.6	70.62	401.3	-457.1	218.8	197.3	21.53	10.161	
3,900.0	3,857.0	3,889.0	3,828.0	11.6	13.0	70.62	414.8	-472.9	226.0	203.8	22.20	10.178	
4,000.0	3,955.4	3,988.7	3,925.6	11.9	13.4	70.62	428.3	-488.7	233.2	210.3	22.88	10.193	
4,100.0	4,053.9	4,088.4	4,023.1	12.3	13.9	70.62	441.8	-504.4	240.3	216.8	23.55	10.207	
4,200.0	4,152.4	4,188.2	4,120.7	12.6	14.3	70.62	455.2	-520.2	247.5	223.3	24.22	10.220	
4,300.0	4,250.9	4,287.9	4,218.2	13.0	14.7	70.62	468.7	-536.0	254.7	229.8	24.89	10.233	
4,400.0	4,349.4	4,387.7	4,315.8	13.3	15.1	70.63	482.2	-551.7	261.9	236.3	25.56	10.245	
4,500.0	4,447.8	4,487.4	4,413.4	13.7	15.5	70.63	495.6	-567.5	269.0	242.8	26.23	10.256	
4,600.0	4,546.3	4,587.2	4,510.9	14.0	15.9	70.63	509.1	-583.3	276.2	249.3	26.90	10.266	
4,700.0	4,644.8	4,686.9	4,608.5	14.4	16.3	70.63	522.6	-599.0	283.4	255.8	27.58	10.276	
4,800.0	4,743.3	4,786.6	4,706.1	14.7	16.7	70.63	536.0	-614.8	290.6	262.3	28.25	10.286	
4,900.0	4,841.8	4,886.4	4,803.6	15.1	17.1	70.63	549.5	-630.6	297.7	268.8	28.92	10.295	
5,000.0	4,940.2	4,986.8	4,901.9	15.4	17.5	70.64	563.0	-646.4	304.9	275.3	29.59	10.302	
5,100.0	5,038.9	5,090.0	5,003.1	15.7	17.9	70.70	576.1	-661.8	311.6	281.4	30.23	10.308	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3B-18H - 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	5,137.9	5,193.3	5,104.8	16.0	18.2	70.70	588.0	-675.7	317.9	287.1	30.82	10.315	
5,300.0	5,237.0	5,296.7	5,206.8	16.3	18.6	70.66	598.8	-688.3	323.6	292.2	31.35	10.322	
5,400.0	5,336.4	5,400.3	5,309.3	16.6	18.9	70.58	608.3	-699.5	328.7	296.9	31.82	10.330	
5,500.0	5,436.0	5,503.9	5,412.1	16.8	19.1	70.45	616.7	-709.2	333.3	301.1	32.25	10.337	
5,600.0	5,535.7	5,607.6	5,515.2	17.0	19.4	70.28	623.8	-717.6	337.4	304.8	32.62	10.345	
5,700.0	5,635.5	5,711.3	5,618.6	17.1	19.6	70.08	629.8	-724.6	341.0	308.0	32.94	10.352	
5,800.0	5,735.4	5,815.2	5,722.2	17.3	19.8	69.83	634.5	-730.1	344.0	310.8	33.21	10.359	
5,900.0	5,835.4	5,919.1	5,826.0	17.4	19.9	69.54	638.0	-734.2	346.5	313.0	33.42	10.366	
6,000.0	5,935.4	6,023.1	5,929.9	17.5	20.1	0.71	640.3	-736.9	348.4	321.7	26.69	13.054	
6,100.0	6,035.4	6,127.1	6,033.9	17.6	20.2	0.50	641.3	-738.1	349.4	322.4	27.04	12.924	
6,200.0	6,135.4	6,228.6	6,135.4	17.7	20.3	0.49	641.4	-738.2	349.5	322.2	27.32	12.791	
6,300.0	6,235.4	6,328.6	6,235.4	17.8	20.4	0.49	641.4	-738.2	349.5	321.9	27.60	12.661	
6,400.0	6,335.4	6,428.6	6,335.4	17.9	20.5	0.49	641.4	-738.2	349.5	321.6	27.89	12.532	
6,500.0	6,435.4	6,528.6	6,435.4	18.1	20.6	0.49	641.4	-738.2	349.5	321.3	28.17	12.405	
6,600.0	6,535.4	6,628.3	6,535.0	18.1	20.6	-89.30	641.4	-735.9	349.5	314.6	34.87	10.023	
6,700.0	6,634.5	6,727.5	6,633.1	18.1	20.5	-88.89	641.4	-721.2	349.5	314.8	34.74	10.062	
6,800.0	6,731.0	6,826.4	6,727.8	17.8	20.3	-88.49	641.4	-693.2	349.6	315.3	34.24	10.209	
6,900.0	6,822.9	6,924.9	6,817.5	17.4	19.9	-88.13	641.4	-652.6	349.7	316.2	33.43	10.461	
7,000.0	6,908.5	7,023.2	6,900.6	16.9	19.4	-87.80	641.4	-600.2	349.7	317.4	32.35	10.811	
7,100.0	6,986.1	7,121.2	6,975.5	16.3	18.9	-87.51	641.4	-537.1	349.8	318.7	31.14	11.235	
7,200.0	7,054.1	7,219.0	7,041.0	15.7	18.4	-87.27	641.5	-464.6	349.9	319.9	29.95	11.680	
7,300.0	7,111.3	7,316.7	7,095.9	15.2	18.0	-87.09	641.5	-384.0	349.9	320.9	29.03	12.055	
7,400.0	7,156.5	7,414.2	7,139.3	14.9	17.6	-86.96	641.5	-296.7	350.0	321.4	28.60	12.236	
7,500.0	7,188.9	7,511.6	7,170.5	14.7	17.4	-86.88	641.5	-204.5	350.0	321.1	28.89	12.116	
7,600.0	7,207.8	7,609.0	7,188.8	15.0	17.3	-86.87	641.5	-108.9	350.0	320.0	29.98	11.674	
7,692.3	7,214.5	7,699.3	7,194.3	15.9	17.5	-86.68	641.5	-18.8	350.1	318.4	31.68	11.050	
7,700.0	7,213.4	7,707.1	7,194.4	15.9	17.6	-86.90	641.5	-11.1	350.0	318.2	31.85	10.989	
7,800.0	7,215.1	7,807.1	7,196.2	17.3	18.5	-86.90	641.5	88.9	350.0	315.7	34.35	10.190	
7,900.0	7,216.8	7,907.1	7,197.9	18.8	19.9	-86.90	641.5	188.9	350.0	312.7	37.33	9.375	
8,000.0	7,218.6	8,007.1	7,199.7	20.5	21.5	-86.90	641.5	288.8	350.0	309.3	40.70	8.599	
8,100.0	7,220.3	8,107.1	7,201.4	22.4	23.3	-86.90	641.5	388.8	350.0	305.6	44.37	7.889	
8,200.0	7,222.1	8,207.1	7,203.1	24.3	25.2	-86.90	641.5	488.8	350.0	301.8	48.26	7.253	
8,300.0	7,223.8	8,307.1	7,204.9	26.4	27.2	-86.90	641.5	588.8	350.0	297.7	52.33	6.689	
8,400.0	7,225.6	8,407.1	7,206.6	28.5	29.3	-86.90	641.5	688.8	350.0	293.5	56.54	6.191	
8,500.0	7,227.3	8,507.1	7,208.4	30.6	31.4	-86.90	641.6	788.8	350.0	289.2	60.86	5.752	
8,600.0	7,229.1	8,607.1	7,210.1	32.8	33.6	-86.90	641.6	888.8	350.0	284.8	65.27	5.363	
8,700.0	7,230.8	8,707.1	7,211.9	35.1	35.8	-86.90	641.6	988.7	350.0	280.3	69.75	5.019	
8,800.0	7,232.6	8,807.1	7,213.6	37.3	38.0	-86.90	641.6	1,088.7	350.0	275.8	74.28	4.712	
8,900.0	7,234.3	8,907.1	7,215.4	39.6	40.3	-86.90	641.6	1,188.7	350.0	271.2	78.87	4.438	
9,000.0	7,236.0	9,007.1	7,217.1	41.9	42.6	-86.90	641.6	1,288.7	350.0	266.6	83.49	4.192	
9,100.0	7,237.8	9,107.1	7,218.8	44.3	44.9	-86.90	641.6	1,388.7	350.1	261.9	88.16	3.971	
9,200.0	7,239.5	9,207.1	7,220.6	46.6	47.2	-86.90	641.6	1,488.7	350.1	257.2	92.84	3.770	
9,300.0	7,241.3	9,307.1	7,222.3	49.0	49.5	-86.90	641.6	1,588.6	350.1	252.5	97.56	3.588	
9,400.0	7,243.0	9,407.1	7,224.1	51.3	51.9	-86.90	641.6	1,688.6	350.1	247.8	102.29	3.422	
9,500.0	7,244.8	9,507.1	7,225.8	53.7	54.2	-86.90	641.6	1,788.6	350.1	243.0	107.05	3.270	
9,600.0	7,246.5	9,607.1	7,227.6	56.1	56.6	-86.90	641.6	1,888.6	350.1	238.2	111.82	3.131	
9,700.0	7,248.3	9,707.1	7,229.3	58.5	59.0	-86.90	641.7	1,988.6	350.1	233.5	116.60	3.002	
9,800.0	7,250.0	9,807.1	7,231.1	60.9	61.4	-86.90	641.7	2,088.6	350.1	228.7	121.40	2.884	
9,900.0	7,251.8	9,907.1	7,232.8	63.3	63.7	-86.90	641.7	2,188.6	350.1	223.9	126.21	2.774	
10,000.0	7,253.5	10,007.1	7,234.6	65.7	66.1	-86.90	641.7	2,288.5	350.1	219.1	131.03	2.672	
10,100.0	7,255.2	10,107.1	7,236.3	68.1	68.5	-86.90	641.7	2,388.5	350.1	214.2	135.85	2.577	
10,200.0	7,257.0	10,207.1	7,238.0	70.5	71.0	-86.90	641.7	2,488.5	350.1	209.4	140.69	2.488	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3B-18H - 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	7,258.7	10,307.1	7,239.8	73.0	73.4	-86.90	641.7	2,588.5	350.1	204.6	145.53	2.406	
10,400.0	7,260.5	10,407.1	7,241.5	75.4	75.8	-86.90	641.7	2,688.5	350.1	199.7	150.38	2.328	
10,500.0	7,262.2	10,507.1	7,243.3	77.8	78.2	-86.90	641.7	2,788.5	350.1	194.9	155.23	2.255	
10,600.0	7,264.0	10,607.1	7,245.0	80.2	80.6	-86.90	641.7	2,888.4	350.1	190.0	160.09	2.187	
10,700.0	7,265.7	10,707.1	7,246.8	82.7	83.0	-86.90	641.7	2,988.4	350.1	185.1	164.96	2.122	
10,800.0	7,267.5	10,807.1	7,248.5	85.1	85.5	-86.90	641.7	3,088.4	350.1	180.3	169.82	2.062	
10,900.0	7,269.2	10,907.1	7,250.3	87.6	87.9	-86.90	641.8	3,188.4	350.1	175.4	174.70	2.004	
11,000.0	7,271.0	11,007.1	7,252.0	90.0	90.3	-86.90	641.8	3,288.4	350.1	170.5	179.57	1.950	
11,100.0	7,272.7	11,107.1	7,253.8	92.4	92.8	-86.90	641.8	3,388.4	350.1	165.7	184.45	1.898	
11,200.0	7,274.4	11,207.1	7,255.5	94.9	95.2	-86.90	641.8	3,488.4	350.1	160.8	189.34	1.849	
11,300.0	7,276.2	11,307.1	7,257.2	97.3	97.6	-86.90	641.8	3,588.3	350.1	155.9	194.22	1.803	
11,400.0	7,277.9	11,407.1	7,259.0	99.8	100.1	-86.90	641.8	3,688.3	350.1	151.0	199.11	1.758	
11,500.0	7,279.7	11,507.1	7,260.7	102.2	102.5	-86.90	641.8	3,788.3	350.1	146.1	204.00	1.716	
11,600.0	7,281.4	11,607.1	7,262.5	104.7	105.0	-86.90	641.8	3,888.3	350.1	141.2	208.89	1.676	
11,700.0	7,283.2	11,707.1	7,264.2	107.1	107.4	-86.90	641.8	3,988.3	350.1	136.3	213.79	1.638	
11,800.0	7,284.9	11,807.1	7,266.0	109.6	109.8	-86.90	641.8	4,088.3	350.1	131.5	218.69	1.601	
11,900.0	7,286.7	11,907.1	7,267.7	112.0	112.3	-86.90	641.8	4,188.2	350.1	126.6	223.59	1.566	
12,000.0	7,288.4	12,007.1	7,269.5	114.5	114.7	-86.90	641.8	4,288.2	350.1	121.7	228.49	1.532	
12,100.0	7,290.1	12,107.1	7,271.2	116.9	117.2	-86.90	641.9	4,388.2	350.2	116.8	233.39	1.500	
12,200.0	7,291.9	12,207.1	7,273.0	119.4	119.6	-86.90	641.9	4,488.2	350.2	111.9	238.30	1.469	Level 3
12,300.0	7,293.6	12,307.1	7,274.7	121.8	122.1	-86.90	641.9	4,588.2	350.2	107.0	243.20	1.440	Level 3
12,400.0	7,295.4	12,407.1	7,276.4	124.3	124.5	-86.90	641.9	4,688.2	350.2	102.1	248.11	1.411	Level 3
12,500.0	7,297.1	12,507.1	7,278.2	126.7	127.0	-86.90	641.9	4,788.2	350.2	97.1	253.02	1.384	Level 3
12,600.0	7,298.9	12,607.1	7,279.9	129.2	129.5	-86.90	641.9	4,888.1	350.2	92.2	257.93	1.358	Level 3
12,700.0	7,300.6	12,707.1	7,281.7	131.7	131.9	-86.90	641.9	4,988.1	350.2	87.3	262.84	1.332	Level 3
12,800.0	7,302.4	12,807.1	7,283.4	134.1	134.4	-86.90	641.9	5,088.1	350.2	82.4	267.75	1.308	Level 3
12,900.0	7,304.1	12,907.1	7,285.2	136.6	136.8	-86.90	641.9	5,188.1	350.2	77.5	272.66	1.284	Level 3
13,000.0	7,305.9	13,007.1	7,286.9	139.0	139.3	-86.90	641.9	5,288.1	350.2	72.6	277.58	1.262	Level 3
13,100.0	7,307.6	13,107.1	7,288.7	141.5	141.7	-86.90	641.9	5,388.1	350.2	67.7	282.49	1.240	Level 2
13,200.0	7,309.3	13,207.1	7,290.4	144.0	144.2	-86.90	641.9	5,488.1	350.2	62.8	287.41	1.218	Level 2
13,300.0	7,311.1	13,307.1	7,292.1	146.4	146.6	-86.90	642.0	5,588.0	350.2	57.9	292.32	1.198	Level 2
13,400.0	7,312.8	13,407.1	7,293.9	148.9	149.1	-86.90	642.0	5,688.0	350.2	53.0	297.24	1.178	Level 2
13,500.0	7,314.6	13,507.1	7,295.6	151.3	151.6	-86.90	642.0	5,788.0	350.2	48.0	302.16	1.159	Level 2
13,600.0	7,316.3	13,607.1	7,297.4	153.8	154.0	-86.90	642.0	5,888.0	350.2	43.1	307.08	1.140	Level 2
13,700.0	7,318.1	13,707.1	7,299.1	156.3	156.5	-86.90	642.0	5,988.0	350.2	38.2	312.00	1.122	Level 2
13,800.0	7,319.8	13,807.1	7,300.9	158.7	158.9	-86.90	642.0	6,088.0	350.2	33.3	316.92	1.105	Level 2
13,900.0	7,321.6	13,907.1	7,302.6	161.2	161.4	-86.90	642.0	6,187.9	350.2	28.4	321.84	1.088	Level 2
14,000.0	7,323.3	14,007.1	7,304.4	163.7	163.9	-86.90	642.0	6,287.9	350.2	23.5	326.76	1.072	Level 2
14,100.0	7,325.1	14,107.1	7,306.1	166.1	166.3	-86.90	642.0	6,387.9	350.2	18.5	331.68	1.056	Level 2
14,200.0	7,326.8	14,207.1	7,307.9	168.6	168.8	-86.90	642.0	6,487.9	350.2	13.6	336.61	1.040	Level 2
14,300.0	7,328.5	14,307.1	7,309.6	171.0	171.2	-86.90	642.0	6,587.9	350.2	8.7	341.53	1.025	Level 2
14,348.8	7,329.4	14,355.8	7,310.5	172.3	172.4	-86.90	642.0	6,636.7	350.2	6.3	343.93	1.018	Level 2
14,383.4	7,330.0	14,387.3	7,311.0	173.1	173.2	-86.90	642.0	6,668.1	350.2	4.7	345.56	1.014	Level 2, ES, SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3D-18H - 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	36.000	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-10.9	0.0	10.9	10.3	0.65	16.749	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-10.9	0.0	10.9	9.9	1.00	10.913	
400.0	400.0	400.0	400.0	0.7	0.7	180.00	-10.9	0.0	10.9	9.6	1.35	8.093	CC
500.0	500.0	500.0	500.0	0.9	0.8	-115.62	-10.9	0.0	11.3	9.6	1.70	6.635	
600.0	600.0	600.0	600.0	1.0	1.0	-122.45	-11.0	-0.9	12.5	10.4	2.05	6.091	
700.0	699.9	700.0	700.0	1.2	1.2	-126.70	-11.2	-3.5	14.6	12.1	2.41	6.042	
800.0	799.7	800.0	799.9	1.4	1.4	-128.73	-11.5	-7.8	17.4	14.6	2.78	6.251	
900.0	899.4	900.0	899.7	1.6	1.6	-129.20	-11.9	-13.9	20.9	17.7	3.16	6.599	
1,000.0	998.9	1,000.0	999.4	1.8	1.8	-128.73	-12.4	-21.8	25.1	21.5	3.57	7.019	
1,100.0	1,098.3	1,100.0	1,098.9	2.1	2.0	-127.75	-13.1	-31.3	29.9	25.9	4.01	7.471	
1,200.0	1,197.4	1,200.0	1,198.3	2.3	2.2	-126.52	-13.8	-42.6	35.5	31.0	4.48	7.926	
1,300.0	1,296.3	1,299.9	1,297.3	2.6	2.5	-125.21	-14.7	-55.6	41.8	36.8	5.00	8.366	
1,400.0	1,394.9	1,399.8	1,396.1	2.9	2.8	-123.89	-15.7	-70.3	48.8	43.3	5.56	8.780	
1,500.0	1,493.4	1,499.6	1,494.6	3.3	3.1	-121.93	-16.8	-86.8	56.1	49.9	6.17	9.089	
1,600.0	1,591.9	1,599.3	1,592.8	3.6	3.4	-119.64	-18.0	-104.1	63.3	56.5	6.81	9.303	
1,700.0	1,690.4	1,699.1	1,691.0	3.9	3.7	-117.82	-19.2	-121.3	70.7	63.2	7.46	9.477	
1,800.0	1,788.9	1,798.8	1,789.2	4.3	4.1	-116.34	-20.4	-138.6	78.1	69.9	8.11	9.620	
1,900.0	1,887.3	1,898.5	1,887.3	4.6	4.4	-115.12	-21.6	-155.9	85.5	76.7	8.78	9.740	
2,000.0	1,985.8	1,998.2	1,985.5	4.9	4.7	-114.09	-22.7	-173.2	92.9	83.5	9.44	9.842	
2,100.0	2,084.3	2,097.9	2,083.7	5.3	5.1	-113.22	-23.9	-190.4	100.4	90.3	10.12	9.929	
2,200.0	2,182.8	2,197.6	2,181.9	5.6	5.4	-112.46	-25.1	-207.7	107.9	97.2	10.79	10.004	
2,300.0	2,281.3	2,297.3	2,280.1	6.0	5.7	-111.81	-26.3	-225.0	115.5	104.0	11.47	10.070	
2,400.0	2,379.7	2,397.0	2,378.3	6.3	6.1	-111.24	-27.4	-242.2	123.0	110.9	12.14	10.128	
2,500.0	2,478.2	2,496.7	2,476.5	6.7	6.4	-110.73	-28.6	-259.5	130.5	117.7	12.82	10.180	
2,600.0	2,576.7	2,596.4	2,574.7	7.0	6.8	-110.28	-29.8	-276.8	138.1	124.6	13.51	10.226	
2,700.0	2,675.2	2,696.1	2,672.9	7.4	7.1	-109.87	-31.0	-294.1	145.7	131.5	14.19	10.267	
2,800.0	2,773.7	2,795.8	2,771.1	7.7	7.5	-109.51	-32.2	-311.3	153.2	138.4	14.87	10.304	
2,900.0	2,872.1	2,895.6	2,869.3	8.1	7.8	-109.17	-33.3	-328.6	160.8	145.3	15.56	10.338	
3,000.0	2,970.6	2,995.3	2,967.5	8.4	8.2	-108.87	-34.5	-345.9	168.4	152.2	16.24	10.369	
3,100.0	3,069.1	3,095.0	3,065.7	8.8	8.5	-108.60	-35.7	-363.2	176.0	159.1	16.93	10.397	
3,200.0	3,167.6	3,194.7	3,163.9	9.1	8.9	-108.35	-36.9	-380.4	183.6	166.0	17.61	10.423	
3,300.0	3,266.1	3,294.4	3,262.1	9.5	9.2	-108.11	-38.0	-397.7	191.2	172.9	18.30	10.447	
3,400.0	3,364.5	3,394.1	3,360.3	9.8	9.5	-107.90	-39.2	-415.0	198.8	179.8	18.99	10.469	
3,500.0	3,463.0	3,493.8	3,458.4	10.2	9.9	-107.70	-40.4	-432.3	206.4	186.7	19.67	10.489	
3,600.0	3,561.5	3,593.5	3,556.6	10.5	10.2	-107.52	-41.6	-449.5	214.0	193.6	20.36	10.508	
3,700.0	3,660.0	3,693.2	3,654.8	10.9	10.6	-107.34	-42.8	-466.8	221.6	200.5	21.05	10.526	
3,800.0	3,758.5	3,792.9	3,753.0	11.2	10.9	-107.18	-43.9	-484.1	229.2	207.4	21.74	10.542	
3,900.0	3,857.0	3,892.6	3,851.2	11.6	11.3	-107.03	-45.1	-501.4	236.8	214.3	22.43	10.558	
4,000.0	3,955.4	3,992.4	3,949.4	11.9	11.6	-106.89	-46.3	-518.6	244.4	221.3	23.11	10.572	
4,100.0	4,053.9	4,092.1	4,047.6	12.3	12.0	-106.76	-47.5	-535.9	252.0	228.2	23.80	10.586	
4,200.0	4,152.4	4,191.8	4,145.8	12.6	12.3	-106.63	-48.6	-553.2	259.6	235.1	24.49	10.599	
4,300.0	4,250.9	4,291.5	4,244.0	13.0	12.7	-106.52	-49.8	-570.5	267.2	242.0	25.18	10.611	
4,400.0	4,349.4	4,391.2	4,342.2	13.3	13.0	-106.41	-51.0	-587.7	274.8	248.9	25.87	10.622	
4,500.0	4,447.8	4,490.9	4,440.4	13.7	13.4	-106.30	-52.2	-605.0	282.4	255.9	26.56	10.633	
4,600.0	4,546.3	4,590.6	4,538.6	14.0	13.7	-106.20	-53.4	-622.3	290.0	262.8	27.25	10.643	
4,700.0	4,644.8	4,690.3	4,636.8	14.4	14.1	-106.11	-54.5	-639.6	297.6	269.7	27.94	10.653	
4,800.0	4,743.3	4,790.0	4,735.0	14.7	14.4	-106.02	-55.7	-656.8	305.3	276.6	28.63	10.662	
4,900.0	4,841.8	4,890.6	4,834.2	15.1	14.8	-106.09	-56.8	-673.4	312.7	283.4	29.29	10.676	
5,000.0	4,940.2	4,991.2	4,933.6	15.4	15.1	-106.48	-57.8	-688.2	320.0	290.0	29.93	10.691	
5,100.0	5,038.9	5,091.7	5,033.3	15.7	15.4	-107.03	-58.7	-701.3	326.6	296.1	30.50	10.707	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3D-18H - 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	5,137.9	5,192.3	5,133.3	16.0	15.6	-107.56	-59.5	-712.6	332.5	301.5	31.03	10.716	
5,300.0	5,237.0	5,292.9	5,233.4	16.3	15.8	-108.08	-60.2	-722.2	337.7	306.2	31.50	10.719	
5,400.0	5,336.4	5,393.5	5,333.7	16.6	16.0	-108.59	-60.7	-730.0	342.1	310.2	31.93	10.716	
5,500.0	5,436.0	5,494.0	5,434.0	16.8	16.2	-109.10	-61.1	-736.0	345.8	313.5	32.30	10.707	
5,600.0	5,535.7	5,594.6	5,534.5	17.0	16.4	-109.61	-61.4	-740.3	348.8	316.2	32.63	10.691	
5,700.0	5,635.5	5,695.1	5,635.0	17.1	16.5	-110.12	-61.6	-742.9	351.0	318.1	32.90	10.670	
5,800.0	5,735.4	5,795.6	5,735.4	17.3	16.6	-110.64	-61.6	-743.7	352.5	319.4	33.13	10.641	
5,900.0	5,835.4	5,895.5	5,835.4	17.4	16.7	-111.00	-61.6	-743.7	353.4	320.0	33.34	10.598	
6,000.0	5,935.4	5,995.5	5,935.4	17.5	16.8	-179.60	-61.6	-743.7	353.6	331.6	22.03	16.048	
6,100.0	6,035.4	6,095.5	6,035.4	17.6	16.9	-179.60	-61.6	-743.7	353.6	331.2	22.37	15.810	
6,200.0	6,135.4	6,195.5	6,135.4	17.7	17.0	-179.60	-61.6	-743.7	353.6	330.9	22.70	15.579	
6,300.0	6,235.4	6,295.5	6,235.4	17.8	17.1	-179.60	-61.6	-743.7	353.6	330.6	23.03	15.353	
6,400.0	6,335.4	6,395.5	6,335.4	17.9	17.3	-179.60	-61.6	-743.7	353.6	330.2	23.36	15.134	
6,500.0	6,435.4	6,495.5	6,435.4	18.1	17.4	-179.60	-61.6	-743.7	353.6	329.9	23.70	14.921	
6,600.0	6,535.4	6,595.7	6,535.5	18.1	17.5	90.40	-61.6	-742.6	353.6	318.8	34.84	10.150	
6,700.0	6,634.5	6,696.0	6,635.0	18.1	17.4	90.39	-61.6	-730.2	353.6	318.9	34.65	10.204	
6,800.0	6,731.0	6,796.3	6,731.8	17.8	17.1	90.37	-61.6	-704.0	353.6	319.5	34.11	10.365	
6,900.0	6,822.9	6,896.6	6,823.9	17.4	16.7	90.35	-61.6	-664.5	353.6	320.3	33.26	10.631	
7,000.0	6,908.5	6,996.9	6,909.6	16.9	16.1	90.32	-61.6	-612.6	353.6	321.4	32.16	10.993	
7,100.0	6,986.1	7,097.2	6,987.2	16.3	15.5	90.28	-61.6	-549.3	353.6	322.7	30.94	11.429	
7,200.0	7,054.1	7,197.4	7,055.2	15.7	14.9	90.24	-61.6	-475.8	353.6	323.8	29.76	11.882	
7,300.0	7,111.3	7,297.6	7,112.3	15.2	14.4	90.19	-61.6	-393.5	353.6	324.7	28.85	12.257	
7,400.0	7,156.5	7,397.7	7,157.3	14.9	14.2	90.14	-61.6	-304.1	353.6	325.1	28.45	12.430	
7,500.0	7,188.9	7,497.8	7,189.4	14.7	14.4	90.08	-61.6	-209.4	353.6	324.8	28.76	12.294	
7,600.0	7,207.8	7,597.9	7,208.0	15.0	14.9	90.03	-61.6	-111.2	353.6	323.7	29.89	11.831	
7,700.0	7,213.4	7,697.9	7,213.3	15.9	15.9	89.98	-61.6	-11.4	353.6	321.8	31.77	11.130	
7,800.0	7,215.1	7,797.9	7,215.0	17.3	17.1	89.98	-61.6	88.6	353.6	319.3	34.27	10.318	
7,900.0	7,216.8	7,897.9	7,216.8	18.8	18.6	89.98	-61.6	188.6	353.6	316.3	37.26	9.489	
8,000.0	7,218.6	7,997.9	7,218.5	20.5	20.3	89.98	-61.5	288.6	353.6	312.9	40.63	8.701	
8,100.0	7,220.3	8,097.9	7,220.2	22.4	22.1	89.98	-61.5	388.6	353.6	309.2	44.31	7.980	
8,200.0	7,222.1	8,197.9	7,222.0	24.3	24.1	89.98	-61.5	488.5	353.6	305.3	48.21	7.334	
8,300.0	7,223.8	8,297.9	7,223.7	26.4	26.1	89.98	-61.5	588.5	353.5	301.3	52.29	6.762	
8,400.0	7,225.6	8,397.9	7,225.5	28.5	28.2	89.98	-61.5	688.5	353.5	297.0	56.50	6.257	
8,500.0	7,227.3	8,497.9	7,227.2	30.6	30.4	89.98	-61.5	788.5	353.5	292.7	60.83	5.812	
8,600.0	7,229.1	8,597.9	7,229.0	32.8	32.6	89.98	-61.5	888.5	353.5	288.3	65.25	5.419	
8,700.0	7,230.8	8,697.9	7,230.7	35.1	34.8	89.98	-61.5	988.5	353.5	283.8	69.73	5.070	
8,800.0	7,232.6	8,797.9	7,232.5	37.3	37.1	89.98	-61.5	1,088.5	353.5	279.3	74.28	4.760	
8,900.0	7,234.3	8,897.9	7,234.2	39.6	39.4	89.98	-61.5	1,188.4	353.5	274.7	78.87	4.482	
9,000.0	7,236.0	8,997.9	7,235.9	41.9	41.7	89.98	-61.5	1,288.4	353.5	270.0	83.51	4.233	
9,100.0	7,237.8	9,097.9	7,237.7	44.3	44.1	89.98	-61.5	1,388.4	353.5	265.3	88.18	4.009	
9,200.0	7,239.5	9,197.9	7,239.4	46.6	46.4	89.98	-61.4	1,488.4	353.5	260.6	92.87	3.806	
9,300.0	7,241.3	9,297.9	7,241.2	49.0	48.8	89.98	-61.4	1,588.4	353.5	255.9	97.60	3.622	
9,400.0	7,243.0	9,397.9	7,242.9	51.3	51.1	89.98	-61.4	1,688.4	353.5	251.2	102.34	3.454	
9,500.0	7,244.8	9,497.9	7,244.7	53.7	53.5	89.98	-61.4	1,788.3	353.5	246.4	107.10	3.301	
9,600.0	7,246.5	9,597.9	7,246.4	56.1	55.9	89.98	-61.4	1,888.3	353.5	241.6	111.88	3.160	
9,700.0	7,248.3	9,697.9	7,248.2	58.5	58.3	89.98	-61.4	1,988.3	353.5	236.8	116.67	3.030	
9,800.0	7,250.0	9,797.9	7,249.9	60.9	60.7	89.98	-61.4	2,088.3	353.5	232.0	121.48	2.910	
9,900.0	7,251.8	9,897.9	7,251.7	63.3	63.1	89.98	-61.4	2,188.3	353.5	227.2	126.29	2.799	
10,000.0	7,253.5	9,997.9	7,253.4	65.7	65.5	89.98	-61.4	2,288.3	353.5	222.4	131.12	2.696	
10,100.0	7,255.2	10,097.9	7,255.1	68.1	67.9	89.98	-61.4	2,388.3	353.5	217.5	135.95	2.600	
10,200.0	7,257.0	10,197.9	7,256.9	70.5	70.4	89.98	-61.4	2,488.2	353.5	212.7	140.80	2.511	
10,300.0	7,258.7	10,297.9	7,258.6	73.0	72.8	89.98	-61.4	2,588.2	353.5	207.8	145.64	2.427	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3D-18H - 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
10,400.0	7,260.5	10,397.9	7,260.4	75.4	75.2	89.98	-61.3	2,688.2	353.5	203.0	150.50	2.349	
10,500.0	7,262.2	10,497.9	7,262.1	77.8	77.7	89.98	-61.3	2,788.2	353.5	198.1	155.36	2.275	
10,600.0	7,264.0	10,597.9	7,263.9	80.2	80.1	89.98	-61.3	2,888.2	353.5	193.2	160.23	2.206	
10,700.0	7,265.7	10,697.9	7,265.6	82.7	82.5	89.98	-61.3	2,988.2	353.5	188.4	165.10	2.141	
10,800.0	7,267.5	10,797.9	7,267.4	85.1	85.0	89.98	-61.3	3,088.1	353.5	183.5	169.98	2.080	
10,900.0	7,269.2	10,897.9	7,269.1	87.6	87.4	89.98	-61.3	3,188.1	353.5	178.6	174.86	2.021	
11,000.0	7,271.0	10,997.9	7,270.9	90.0	89.8	89.98	-61.3	3,288.1	353.5	173.7	179.74	1.967	
11,100.0	7,272.7	11,097.9	7,272.6	92.4	92.3	89.98	-61.3	3,388.1	353.5	168.8	184.63	1.914	
11,200.0	7,274.4	11,197.9	7,274.3	94.9	94.7	89.98	-61.3	3,488.1	353.5	163.9	189.52	1.865	
11,300.0	7,276.2	11,297.9	7,276.1	97.3	97.2	89.98	-61.3	3,588.1	353.5	159.0	194.41	1.818	
11,400.0	7,277.9	11,397.9	7,277.8	99.8	99.6	89.98	-61.3	3,688.1	353.5	154.1	199.31	1.773	
11,500.0	7,279.7	11,497.9	7,279.6	102.2	102.1	89.98	-61.3	3,788.0	353.4	149.2	204.21	1.731	
11,600.0	7,281.4	11,597.9	7,281.3	104.7	104.5	89.98	-61.2	3,888.0	353.4	144.3	209.11	1.690	
11,700.0	7,283.2	11,697.9	7,283.1	107.1	107.0	89.98	-61.2	3,988.0	353.4	139.4	214.01	1.652	
11,800.0	7,284.9	11,797.9	7,284.8	109.6	109.4	89.98	-61.2	4,088.0	353.4	134.5	218.91	1.615	
11,900.0	7,286.7	11,897.9	7,286.6	112.0	111.9	89.98	-61.2	4,188.0	353.4	129.6	223.82	1.579	
12,000.0	7,288.4	11,997.9	7,288.3	114.5	114.3	89.98	-61.2	4,288.0	353.4	124.7	228.73	1.545	
12,100.0	7,290.1	12,097.9	7,290.1	116.9	116.8	89.98	-61.2	4,387.9	353.4	119.8	233.64	1.513	
12,200.0	7,291.9	12,197.9	7,291.8	119.4	119.2	89.98	-61.2	4,487.9	353.4	114.9	238.55	1.482	Level 3
12,300.0	7,293.6	12,297.9	7,293.5	121.8	121.7	89.98	-61.2	4,587.9	353.4	110.0	243.46	1.452	Level 3
12,400.0	7,295.4	12,397.9	7,295.3	124.3	124.2	89.98	-61.2	4,687.9	353.4	105.0	248.38	1.423	Level 3
12,500.0	7,297.1	12,497.9	7,297.0	126.7	126.6	89.98	-61.2	4,787.9	353.4	100.1	253.30	1.395	Level 3
12,600.0	7,298.9	12,597.9	7,298.8	129.2	129.1	89.98	-61.2	4,887.9	353.4	95.2	258.21	1.369	Level 3
12,700.0	7,300.6	12,697.9	7,300.5	131.7	131.5	89.98	-61.2	4,987.9	353.4	90.3	263.13	1.343	Level 3
12,800.0	7,302.4	12,797.9	7,302.3	134.1	134.0	89.98	-61.2	5,087.8	353.4	85.4	268.05	1.318	Level 3
12,900.0	7,304.1	12,897.9	7,304.0	136.6	136.5	89.98	-61.1	5,187.8	353.4	80.4	272.97	1.295	Level 3
13,000.0	7,305.9	12,997.9	7,305.8	139.0	138.9	89.98	-61.1	5,287.8	353.4	75.5	277.89	1.272	Level 3
13,100.0	7,307.6	13,097.9	7,307.5	141.5	141.4	89.98	-61.1	5,387.8	353.4	70.6	282.81	1.250	Level 2
13,200.0	7,309.3	13,197.9	7,309.2	144.0	143.8	89.98	-61.1	5,487.8	353.4	65.7	287.74	1.228	Level 2
13,300.0	7,311.1	13,297.9	7,311.0	146.4	146.3	89.98	-61.1	5,587.8	353.4	60.7	292.66	1.208	Level 2
13,400.0	7,312.8	13,397.9	7,312.7	148.9	148.8	89.98	-61.1	5,687.8	353.4	55.8	297.59	1.188	Level 2
13,500.0	7,314.6	13,497.9	7,314.5	151.3	151.2	89.98	-61.1	5,787.7	353.4	50.9	302.51	1.168	Level 2
13,600.0	7,316.3	13,597.9	7,316.2	153.8	153.7	89.98	-61.1	5,887.7	353.4	45.9	307.44	1.149	Level 2
13,700.0	7,318.1	13,697.9	7,318.0	156.3	156.2	89.98	-61.1	5,987.7	353.4	41.0	312.36	1.131	Level 2
13,800.0	7,319.8	13,797.9	7,319.7	158.7	158.6	89.98	-61.1	6,087.7	353.4	36.1	317.29	1.114	Level 2
13,900.0	7,321.6	13,897.9	7,321.5	161.2	161.1	89.98	-61.1	6,187.7	353.4	31.2	322.22	1.097	Level 2
14,000.0	7,323.3	13,997.9	7,323.2	163.7	163.5	89.98	-61.1	6,287.7	353.4	26.2	327.15	1.080	Level 2
14,100.0	7,325.1	14,097.9	7,325.0	166.1	166.0	89.98	-61.0	6,387.6	353.4	21.3	332.08	1.064	Level 2
14,200.0	7,326.8	14,197.9	7,326.7	168.6	168.5	89.98	-61.0	6,487.6	353.4	16.4	337.01	1.049	Level 2
14,300.0	7,328.5	14,297.9	7,328.4	171.0	170.9	89.98	-61.0	6,587.6	353.4	11.4	341.94	1.033	Level 2
14,383.4	7,330.0	14,381.3	7,329.9	173.1	173.0	89.98	-61.0	6,671.0	353.4	7.3	346.05	1.021	Level 2, ES, SF

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3E-18H - 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	-18.2	0.0	18.2				
100.0	100.0	100.0	100.0	0.2	0.2	-180.00	-18.2	0.0	18.2	17.9	0.30	59.977	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-18.2	0.0	18.2	17.6	0.65	27.904	
300.0	300.0	300.0	300.0	0.5	0.5	-180.00	-18.2	0.0	18.2	17.2	1.00	18.181	
400.0	400.0	400.0	400.0	0.7	0.7	-180.00	-18.2	0.0	18.2	16.9	1.35	13.483	CC, ES
500.0	500.0	499.8	499.8	0.9	0.9	-111.62	-18.6	-0.8	18.9	17.2	1.70	11.137	
600.0	600.0	599.7	599.6	1.0	1.0	-111.91	-19.8	-3.1	21.1	19.1	2.06	10.274	
700.0	699.9	699.4	699.3	1.2	1.2	-112.29	-21.9	-6.9	24.7	22.3	2.42	10.224	SF
800.0	799.7	799.1	798.8	1.4	1.4	-112.65	-24.7	-12.3	29.8	27.0	2.80	10.646	
900.0	899.4	898.6	898.0	1.6	1.6	-112.96	-28.3	-19.2	36.3	33.1	3.20	11.346	
1,000.0	998.9	998.0	996.9	1.8	1.8	-113.21	-32.7	-27.6	44.3	40.7	3.63	12.199	
1,100.0	1,098.3	1,097.2	1,095.5	2.1	2.1	-113.39	-37.9	-37.5	53.7	49.6	4.09	13.125	
1,200.0	1,197.4	1,196.2	1,193.6	2.3	2.3	-113.51	-43.9	-48.9	64.5	59.9	4.58	14.068	
1,300.0	1,296.3	1,294.9	1,291.2	2.6	2.6	-113.60	-50.6	-61.7	76.8	71.6	5.12	14.993	
1,400.0	1,394.9	1,393.3	1,388.4	2.9	2.9	-113.64	-58.1	-76.0	90.4	84.7	5.69	15.877	
1,500.0	1,493.4	1,492.2	1,485.8	3.3	3.2	-113.73	-66.1	-91.3	104.8	98.5	6.29	16.670	
1,600.0	1,591.9	1,591.2	1,583.2	3.6	3.6	-113.80	-74.1	-106.5	119.3	112.4	6.89	17.300	
1,700.0	1,690.4	1,690.2	1,680.7	3.9	3.9	-113.85	-82.1	-121.7	133.7	126.2	7.51	17.808	
1,800.0	1,788.9	1,789.1	1,778.1	4.3	4.2	-113.89	-90.1	-136.9	148.1	140.0	8.13	18.226	
1,900.0	1,887.3	1,888.1	1,875.6	4.6	4.6	-113.92	-98.1	-152.1	162.5	153.8	8.75	18.575	
2,000.0	1,985.8	1,987.0	1,973.0	4.9	4.9	-113.95	-106.1	-167.3	176.9	167.6	9.38	18.868	
2,100.0	2,084.3	2,086.0	2,070.5	5.3	5.2	-113.98	-114.0	-182.5	191.3	181.3	10.01	19.119	
2,200.0	2,182.8	2,184.9	2,167.9	5.6	5.6	-114.00	-122.0	-197.7	205.8	195.1	10.64	19.336	
2,300.0	2,281.3	2,283.9	2,265.4	6.0	5.9	-114.01	-130.0	-213.0	220.2	208.9	11.28	19.524	
2,400.0	2,379.7	2,382.8	2,362.8	6.3	6.3	-114.03	-138.0	-228.2	234.6	222.7	11.92	19.689	
2,500.0	2,478.2	2,481.8	2,460.3	6.7	6.6	-114.04	-146.0	-243.4	249.0	236.5	12.55	19.835	
2,600.0	2,576.7	2,580.8	2,557.7	7.0	6.9	-114.06	-154.0	-258.6	263.4	250.2	13.20	19.965	
2,700.0	2,675.2	2,679.7	2,655.2	7.4	7.3	-114.07	-162.0	-273.8	277.9	264.0	13.84	20.081	
2,800.0	2,773.7	2,778.7	2,752.6	7.7	7.6	-114.08	-170.0	-289.0	292.3	277.8	14.48	20.185	
2,900.0	2,872.1	2,877.6	2,850.1	8.1	8.0	-114.09	-177.9	-304.2	306.7	291.6	15.12	20.279	
3,000.0	2,970.6	2,976.6	2,947.5	8.4	8.3	-114.09	-185.9	-319.5	321.1	305.4	15.77	20.365	
3,100.0	3,069.1	3,075.5	3,045.0	8.8	8.7	-114.10	-193.9	-334.7	335.5	319.1	16.41	20.443	
3,200.0	3,167.6	3,174.5	3,142.5	9.1	9.0	-114.11	-201.9	-349.9	350.0	332.9	17.06	20.514	
3,300.0	3,266.1	3,273.4	3,239.9	9.5	9.4	-114.12	-209.9	-365.1	364.4	346.7	17.71	20.580	
3,400.0	3,364.5	3,372.4	3,337.4	9.8	9.7	-114.12	-217.9	-380.3	378.8	360.4	18.35	20.641	
3,500.0	3,463.0	3,471.3	3,434.8	10.2	10.0	-114.13	-225.9	-395.5	393.2	374.2	19.00	20.696	
3,600.0	3,561.5	3,570.3	3,532.3	10.5	10.4	-114.13	-233.9	-410.7	407.6	388.0	19.65	20.748	
3,700.0	3,660.0	3,669.3	3,629.7	10.9	10.7	-114.14	-241.8	-426.0	422.1	401.8	20.29	20.796	
3,800.0	3,758.5	3,768.2	3,727.2	11.2	11.1	-114.14	-249.8	-441.2	436.5	415.5	20.94	20.841	
3,900.0	3,857.0	3,867.2	3,824.6	11.6	11.4	-114.14	-257.8	-456.4	450.9	429.3	21.59	20.883	
4,000.0	3,955.4	3,966.1	3,922.1	11.9	11.8	-114.15	-265.8	-471.6	465.3	443.1	22.24	20.922	
4,100.0	4,053.9	4,065.1	4,019.5	12.3	12.1	-114.15	-273.8	-486.8	479.7	456.8	22.89	20.959	
4,200.0	4,152.4	4,164.0	4,117.0	12.6	12.5	-114.16	-281.8	-502.0	494.2	470.6	23.54	20.994	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3F-18H - 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	
300.0	300.0	300.0	300.0	0.5	0.5	180.00	-29.1	0.0	29.1	28.1	1.00	29.090	
400.0	400.0	400.0	400.0	0.7	0.7	180.00	-29.1	0.0	29.1	27.8	1.35	21.573	CC, ES
500.0	500.0	499.3	499.2	0.9	0.9	-110.70	-30.3	-1.2	30.7	29.0	1.70	18.044	
600.0	600.0	598.3	598.2	1.0	1.0	-108.70	-33.9	-4.9	35.3	33.3	2.06	17.164	SF
700.0	699.9	697.0	696.5	1.2	1.2	-106.33	-39.9	-11.0	43.1	40.6	2.43	17.740	
800.0	799.7	795.1	793.9	1.4	1.5	-104.14	-48.2	-19.4	54.0	51.2	2.82	19.155	
900.0	899.4	892.5	890.0	1.6	1.8	-102.35	-58.7	-30.2	68.0	64.8	3.23	21.039	
1,000.0	998.9	988.9	984.7	1.8	2.1	-100.93	-71.3	-43.1	85.2	81.5	3.68	23.158	
1,100.0	1,098.3	1,085.3	1,078.8	2.1	2.5	-99.87	-86.1	-58.1	105.2	101.0	4.15	25.338	
1,200.0	1,197.4	1,183.1	1,174.1	2.3	2.9	-99.70	-101.5	-73.8	126.0	121.4	4.66	27.040	
1,300.0	1,296.3	1,280.8	1,269.3	2.6	3.3	-100.19	-116.8	-89.6	147.2	142.0	5.21	28.265	
1,400.0	1,394.9	1,378.4	1,364.4	2.9	3.7	-101.10	-132.2	-105.2	168.7	162.9	5.79	29.122	
1,500.0	1,493.4	1,476.0	1,459.5	3.3	4.1	-102.24	-147.6	-120.9	190.4	184.0	6.40	29.754	
1,600.0	1,591.9	1,573.5	1,554.5	3.6	4.5	-103.14	-162.9	-136.6	212.2	205.1	7.01	30.245	
1,700.0	1,690.4	1,671.1	1,649.6	3.9	4.9	-103.87	-178.3	-152.3	234.0	226.3	7.64	30.634	
1,800.0	1,788.9	1,768.6	1,744.6	4.3	5.3	-104.48	-193.6	-168.0	255.8	247.6	8.27	30.949	
1,900.0	1,887.3	1,866.2	1,839.7	4.6	5.7	-105.00	-209.0	-183.6	277.7	268.8	8.90	31.206	
2,000.0	1,985.8	1,963.7	1,934.7	4.9	6.1	-105.44	-224.3	-199.3	299.6	290.0	9.53	31.421	
2,100.0	2,084.3	2,061.3	2,029.8	5.3	6.6	-105.81	-239.7	-215.0	321.5	311.3	10.17	31.602	
2,200.0	2,182.8	2,158.8	2,124.8	5.6	7.0	-106.14	-255.0	-230.7	343.4	332.6	10.81	31.757	
2,300.0	2,281.3	2,256.4	2,219.9	6.0	7.4	-106.43	-270.4	-246.3	365.3	353.9	11.46	31.890	
2,400.0	2,379.7	2,353.9	2,314.9	6.3	7.8	-106.69	-285.7	-262.0	387.2	375.1	12.10	32.005	
2,500.0	2,478.2	2,451.5	2,410.0	6.7	8.2	-106.92	-301.1	-277.7	409.2	396.4	12.74	32.107	
2,600.0	2,576.7	2,549.0	2,505.0	7.0	8.7	-107.13	-316.4	-293.4	431.1	417.7	13.39	32.196	
2,700.0	2,675.2	2,646.6	2,600.1	7.4	9.1	-107.32	-331.8	-309.1	453.1	439.0	14.04	32.275	
2,800.0	2,773.7	2,744.1	2,695.1	7.7	9.5	-107.49	-347.2	-324.7	475.0	460.3	14.69	32.346	
2,900.0	2,872.1	2,841.7	2,790.2	8.1	9.9	-107.64	-362.5	-340.4	497.0	481.6	15.33	32.410	

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 Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3G-18H - 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	1.0	1.0	0.0	0.0	-180.00	-40.1	0.0	40.1				
100.0	100.0	101.0	101.0	0.2	0.2	-180.00	-40.1	0.0	40.1	39.8	0.31	131.195	
200.0	200.0	201.0	201.0	0.3	0.3	-180.00	-40.1	0.0	40.1	39.4	0.65	61.225	
300.0	300.0	301.0	301.0	0.5	0.5	-180.00	-40.1	0.0	40.1	39.1	1.00	39.929	
340.0	340.0	341.0	341.0	0.6	0.6	-180.00	-40.1	0.0	40.1	38.9	1.14	35.053	CC, ES
400.0	400.0	400.0	400.0	0.7	0.7	-179.47	-40.6	-0.4	40.6	39.3	1.35	30.068	
500.0	500.0	498.2	498.0	0.9	0.9	-108.28	-44.8	-3.3	45.3	43.6	1.70	26.605	SF
600.0	600.0	595.5	594.8	1.0	1.1	-105.18	-53.0	-9.0	54.9	52.8	2.06	26.642	
700.0	699.9	691.6	689.8	1.2	1.4	-102.49	-65.0	-17.5	69.6	67.1	2.43	28.580	
800.0	799.7	786.1	782.3	1.4	1.7	-100.44	-80.7	-28.4	89.1	86.3	2.82	31.568	
900.0	899.4	881.9	875.4	1.6	2.1	-99.12	-99.5	-41.6	112.4	109.1	3.23	34.801	
1,000.0	998.9	979.1	969.6	1.8	2.5	-98.86	-118.7	-55.1	136.2	132.5	3.66	37.175	
1,100.0	1,098.3	1,076.1	1,063.8	2.1	3.0	-99.23	-138.0	-68.5	160.3	156.1	4.13	38.836	
1,200.0	1,197.4	1,173.0	1,157.8	2.3	3.4	-100.00	-157.2	-82.0	184.6	180.0	4.62	39.944	
1,300.0	1,296.3	1,269.8	1,251.7	2.6	3.8	-101.00	-176.3	-95.4	209.4	204.2	5.15	40.629	
1,400.0	1,394.9	1,366.5	1,345.5	2.9	4.3	-102.16	-195.5	-108.8	234.6	228.9	5.72	40.998	
1,500.0	1,493.4	1,463.0	1,439.2	3.3	4.7	-103.50	-214.6	-122.2	260.1	253.8	6.31	41.193	
1,600.0	1,591.9	1,559.5	1,532.8	3.6	5.1	-104.60	-233.8	-135.6	285.7	278.8	6.91	41.320	
1,700.0	1,690.4	1,656.1	1,626.5	3.9	5.6	-105.52	-252.9	-149.0	311.3	303.8	7.52	41.404	
1,800.0	1,788.9	1,752.6	1,720.2	4.3	6.0	-106.30	-272.0	-162.4	337.1	329.0	8.13	41.460	
1,900.0	1,887.3	1,849.1	1,813.8	4.6	6.4	-106.96	-291.2	-175.8	362.9	354.1	8.74	41.496	
2,000.0	1,985.8	1,945.7	1,907.5	4.9	6.9	-107.54	-310.3	-189.2	388.7	379.3	9.36	41.520	
2,100.0	2,084.3	2,042.2	2,001.2	5.3	7.3	-108.05	-329.4	-202.6	414.6	404.6	9.98	41.535	
2,200.0	2,182.8	2,138.8	2,094.9	5.6	7.8	-108.50	-348.5	-216.0	440.5	429.9	10.60	41.543	
2,300.0	2,281.3	2,235.3	2,188.5	6.0	8.2	-108.90	-367.7	-229.4	466.4	455.2	11.23	41.547	
2,400.0	2,379.7	2,331.8	2,282.2	6.3	8.7	-109.25	-386.8	-242.8	492.3	480.5	11.85	41.548	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 S18-T3N-R68W (Billings) - Billings 3H-18H - 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	298.4	298.4	0.5	0.5	-179.07	-52.5	-0.9	52.5	51.5	1.00	52.460	
400.0	400.0	396.7	396.5	0.7	0.7	-176.57	-56.8	-3.4	57.0	55.7	1.36	42.070	
500.0	500.0	494.4	493.9	0.9	0.9	-105.35	-64.0	-7.6	65.0	63.3	1.70	38.167	
600.0	600.0	591.5	590.3	1.0	1.2	-103.49	-74.0	-13.5	76.6	74.6	2.06	37.157	SF
700.0	699.9	687.7	685.4	1.2	1.5	-102.37	-86.7	-20.9	91.8	89.4	2.43	37.756	
800.0	799.7	782.9	778.8	1.4	1.8	-101.76	-102.0	-29.9	110.4	107.6	2.81	39.228	
900.0	899.4	876.7	870.4	1.6	2.2	-101.48	-119.6	-40.2	132.4	129.2	3.22	41.170	
1,000.0	998.9	973.2	964.1	1.8	2.6	-101.57	-139.5	-51.8	156.6	152.9	3.64	42.961	
1,100.0	1,098.3	1,070.1	1,058.2	2.1	3.0	-102.12	-159.4	-63.5	181.1	177.0	4.10	44.161	
1,200.0	1,197.4	1,166.8	1,152.2	2.3	3.5	-102.97	-179.3	-75.2	206.1	201.5	4.59	44.904	
1,300.0	1,296.3	1,263.4	1,246.0	2.6	3.9	-104.00	-199.2	-86.8	231.5	226.4	5.11	45.302	
1,400.0	1,394.9	1,359.8	1,339.6	2.9	4.3	-105.16	-219.0	-98.4	257.5	251.8	5.67	45.446	
1,500.0	1,493.4	1,456.1	1,433.1	3.3	4.7	-106.50	-238.8	-110.0	283.8	277.6	6.24	45.452	
1,600.0	1,591.9	1,552.4	1,526.6	3.6	5.2	-107.61	-258.6	-121.6	310.3	303.4	6.83	45.423	
1,700.0	1,690.4	1,648.7	1,620.1	3.9	5.6	-108.54	-278.4	-133.2	336.8	329.4	7.42	45.376	
1,800.0	1,788.9	1,744.9	1,713.7	4.3	6.0	-109.34	-298.2	-144.8	363.4	355.4	8.02	45.320	
1,900.0	1,887.3	1,841.2	1,807.2	4.6	6.5	-110.03	-318.0	-156.4	390.1	381.5	8.62	45.261	
2,000.0	1,985.8	1,937.5	1,900.7	4.9	6.9	-110.63	-337.8	-168.0	416.8	407.6	9.22	45.203	
2,100.0	2,084.3	2,033.8	1,994.2	5.3	7.3	-111.16	-357.6	-179.6	443.6	433.7	9.82	45.146	
2,200.0	2,182.8	2,130.1	2,087.7	5.6	7.8	-111.63	-377.4	-191.2	470.3	459.9	10.43	45.091	
2,300.0	2,281.3	2,226.3	2,181.2	6.0	8.2	-112.05	-397.2	-202.8	497.1	486.1	11.04	45.040	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well Billings 3C-18H
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Reference Site:	S18-T3N-R68W (Billings)	**MD Reference:**	WELL @ 5158.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Billings 3C-18H	**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 @ 5158.0ft (Original Well Elev)	Coordinates are relative to: Billings 3C-18H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.29°