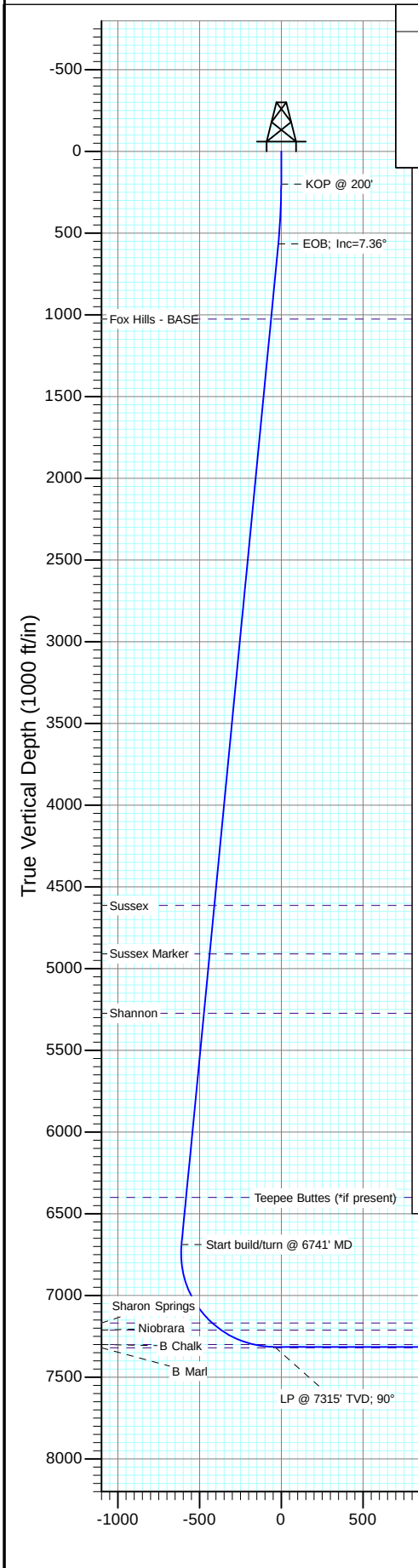
encana

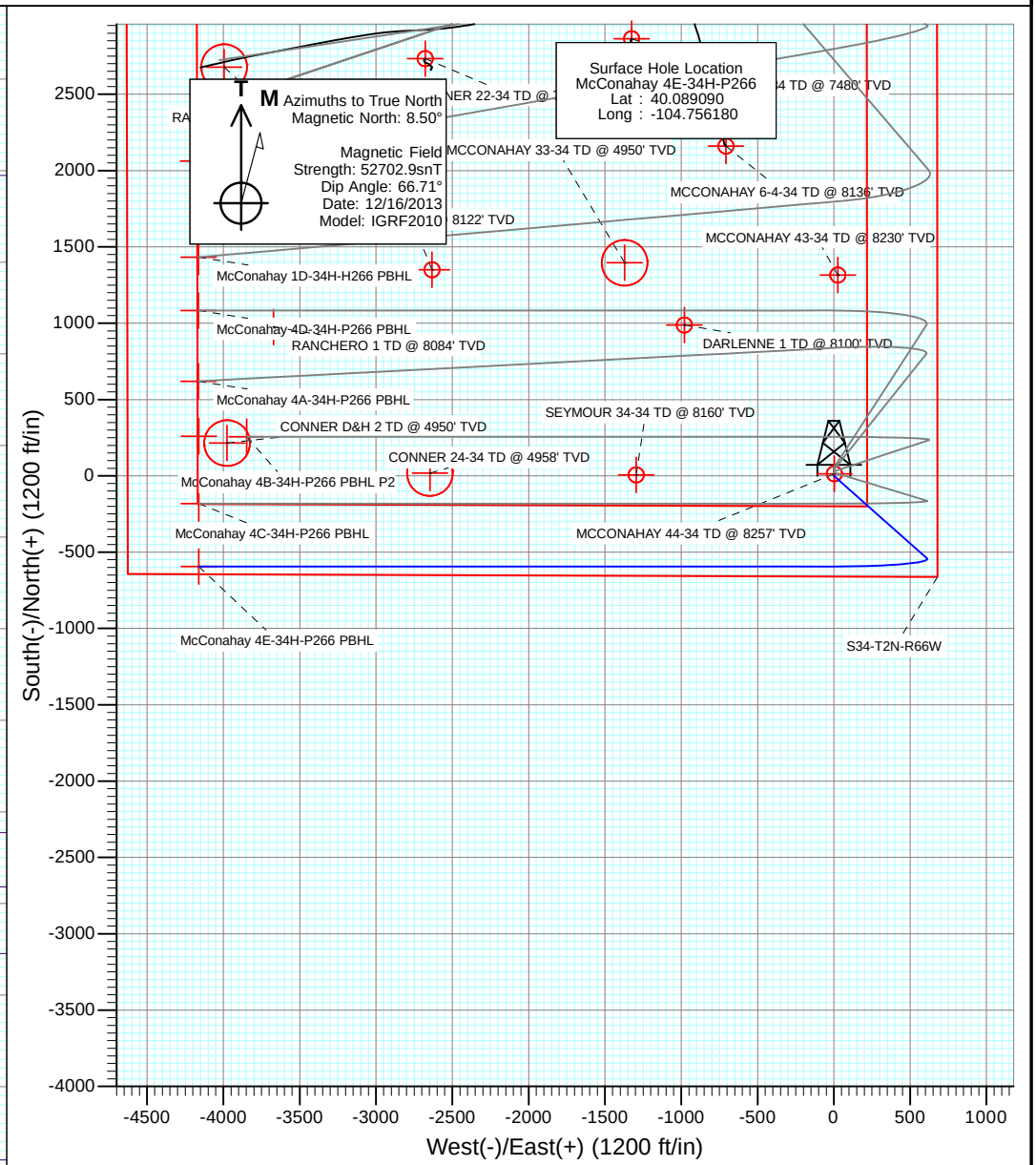
Project: DJ Wattenberg
Site: S34-T2N-R66W (McConahay)
Well: McConahay 4E-34H-P266
Wellbore: Hz
Design: Plan #1

CATHEDRAL

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	568.0	7.36	131.52	567.0	-15.6	17.7	2.00	131.52	-17.7	
4	6741.2	7.36	131.52	6689.4	-539.8	609.8	0.00	0.00	-609.8	
5	7696.3	90.00	270.00	7315.0	-593.4	39.5	10.00	138.24	-39.5	
6	11896.3	90.00	270.00	7315.0	-593.4	-4160.5	0.00	0.00	4160.5	McConahay 4E-34H-P266 PBHL





DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
McConahay 4E-34H-P266 PBHL	-593.4	-4160.5	1275547.23	3203960.17	40.087460	-104.771050

TD at 11896.3
McConahay 4E-34H-P266 PBHL

Plan #1
McConahay 4E-34H-P266
13xxx; LR
WELL @ 5101.0ft (Original Well Elev)
Ground Elevation @ 5076.0
North American Datum 1983
Well McConahay 4E-34H-P266, True North

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site:	S34-T2N-R66W (McConahay)	**North Reference:**	True
Well:	McConahay 4E-34H-P266	**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	S34-T2N-R66W (McConahay)				
Site Position:		**Northing:**	1,280,109.37 ft	**Latitude:**	40.099880
From:	Lat/Long	**Easting:**	3,208,491.04 ft	**Longitude:**	-104.754720
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.48 °

Well	McConahay 4E-34H-P266				
Well Position	**+N/-S** 0.0 ft	**Northing:**	1,276,175.52 ft	**Latitude:**	40.089090
	+E/-W 0.0 ft	**Easting:**	3,208,115.60 ft	**Longitude:**	-104.756180
Position Uncertainty	0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,076.0 ft

Wellbore	Hz			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	12/16/2013	8.50	66.71	52,703

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	270.00

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	
568.0	7.36	131.52	567.0	-15.6	17.7	2.00	2.00	0.00	131.52	
6,741.2	7.36	131.52	6,689.4	-539.8	609.8	0.00	0.00	0.00	0.00	
7,696.3	90.00	270.00	7,315.0	-593.4	39.5	10.00	8.65	14.50	138.24	
11,896.3	90.00	270.00	7,315.0	-593.4	-4,160.5	0.00	0.00	0.00	0.00	McConahay 4E-34H-F

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site:	S34-T2N-R66W (McConahay)	**North Reference:**	True
Well:	McConahay 4E-34H-P266	**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	KOP @ 200'
300.0	2.00	131.52	300.0	-1.2	1.3	-1.3	2.00	2.00	
400.0	4.00	131.52	399.8	-4.6	5.2	-5.2	2.00	2.00	
500.0	6.00	131.52	499.5	-10.4	11.8	-11.8	2.00	2.00	
568.0	7.36	131.52	567.0	-15.6	17.7	-17.7	2.00	2.00	EOB; Inc=7.36°
600.0	7.36	131.52	598.7	-18.4	20.7	-20.7	0.00	0.00	
700.0	7.36	131.52	697.9	-26.9	30.3	-30.3	0.00	0.00	
800.0	7.36	131.52	797.1	-35.3	39.9	-39.9	0.00	0.00	
900.0	7.36	131.52	896.3	-43.8	49.5	-49.5	0.00	0.00	
1,000.0	7.36	131.52	995.4	-52.3	59.1	-59.1	0.00	0.00	
1,030.8	7.36	131.52	1,026.0	-54.9	62.1	-62.1	0.00	0.00	Fox Hills - BASE
1,100.0	7.36	131.52	1,094.6	-60.8	68.7	-68.7	0.00	0.00	
1,200.0	7.36	131.52	1,193.8	-69.3	78.3	-78.3	0.00	0.00	
1,300.0	7.36	131.52	1,293.0	-77.8	87.9	-87.9	0.00	0.00	
1,400.0	7.36	131.52	1,392.1	-86.3	97.5	-97.5	0.00	0.00	
1,500.0	7.36	131.52	1,491.3	-94.8	107.1	-107.1	0.00	0.00	
1,600.0	7.36	131.52	1,590.5	-103.3	116.7	-116.7	0.00	0.00	
1,700.0	7.36	131.52	1,689.7	-111.8	126.2	-126.2	0.00	0.00	
1,800.0	7.36	131.52	1,788.8	-120.3	135.8	-135.8	0.00	0.00	
1,900.0	7.36	131.52	1,888.0	-128.8	145.4	-145.4	0.00	0.00	
2,000.0	7.36	131.52	1,987.2	-137.2	155.0	-155.0	0.00	0.00	
2,100.0	7.36	131.52	2,086.4	-145.7	164.6	-164.6	0.00	0.00	
2,200.0	7.36	131.52	2,185.5	-154.2	174.2	-174.2	0.00	0.00	
2,300.0	7.36	131.52	2,284.7	-162.7	183.8	-183.8	0.00	0.00	
2,400.0	7.36	131.52	2,383.9	-171.2	193.4	-193.4	0.00	0.00	
2,500.0	7.36	131.52	2,483.1	-179.7	203.0	-203.0	0.00	0.00	
2,600.0	7.36	131.52	2,582.2	-188.2	212.6	-212.6	0.00	0.00	
2,700.0	7.36	131.52	2,681.4	-196.7	222.2	-222.2	0.00	0.00	
2,800.0	7.36	131.52	2,780.6	-205.2	231.8	-231.8	0.00	0.00	
2,900.0	7.36	131.52	2,879.8	-213.7	241.3	-241.3	0.00	0.00	
3,000.0	7.36	131.52	2,979.0	-222.2	250.9	-250.9	0.00	0.00	
3,100.0	7.36	131.52	3,078.1	-230.7	260.5	-260.5	0.00	0.00	
3,200.0	7.36	131.52	3,177.3	-239.1	270.1	-270.1	0.00	0.00	
3,300.0	7.36	131.52	3,276.5	-247.6	279.7	-279.7	0.00	0.00	
3,400.0	7.36	131.52	3,375.7	-256.1	289.3	-289.3	0.00	0.00	
3,500.0	7.36	131.52	3,474.8	-264.6	298.9	-298.9	0.00	0.00	
3,600.0	7.36	131.52	3,574.0	-273.1	308.5	-308.5	0.00	0.00	
3,700.0	7.36	131.52	3,673.2	-281.6	318.1	-318.1	0.00	0.00	
3,800.0	7.36	131.52	3,772.4	-290.1	327.7	-327.7	0.00	0.00	
3,900.0	7.36	131.52	3,871.5	-298.6	337.3	-337.3	0.00	0.00	
4,000.0	7.36	131.52	3,970.7	-307.1	346.8	-346.8	0.00	0.00	
4,100.0	7.36	131.52	4,069.9	-315.6	356.4	-356.4	0.00	0.00	
4,200.0	7.36	131.52	4,169.1	-324.1	366.0	-366.0	0.00	0.00	
4,300.0	7.36	131.52	4,268.2	-332.6	375.6	-375.6	0.00	0.00	
4,400.0	7.36	131.52	4,367.4	-341.0	385.2	-385.2	0.00	0.00	
4,500.0	7.36	131.52	4,466.6	-349.5	394.8	-394.8	0.00	0.00	
4,600.0	7.36	131.52	4,565.8	-358.0	404.4	-404.4	0.00	0.00	
4,648.6	7.36	131.52	4,614.0	-362.2	409.1	-409.1	0.00	0.00	Sussex
4,700.0	7.36	131.52	4,664.9	-366.5	414.0	-414.0	0.00	0.00	
4,800.0	7.36	131.52	4,764.1	-375.0	423.6	-423.6	0.00	0.00	

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Site:	S34-T2N-R66W (McConahay)	**North Reference:**	True
Well:	McConahay 4E-34H-P266	**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	7.36	131.52	4,863.3	-383.5	433.2	-433.2	0.00	0.00	
4,947.1	7.36	131.52	4,910.0	-387.5	437.7	-437.7	0.00	0.00	Sussex Marker
5,000.0	7.36	131.52	4,962.5	-392.0	442.8	-442.8	0.00	0.00	
5,100.0	7.36	131.52	5,061.7	-400.5	452.3	-452.3	0.00	0.00	
5,200.0	7.36	131.52	5,160.8	-409.0	461.9	-461.9	0.00	0.00	
5,300.0	7.36	131.52	5,260.0	-417.5	471.5	-471.5	0.00	0.00	
5,314.1	7.36	131.52	5,274.0	-418.7	472.9	-472.9	0.00	0.00	Shannon
5,400.0	7.36	131.52	5,359.2	-426.0	481.1	-481.1	0.00	0.00	
5,500.0	7.36	131.52	5,458.4	-434.4	490.7	-490.7	0.00	0.00	
5,600.0	7.36	131.52	5,557.5	-442.9	500.3	-500.3	0.00	0.00	
5,700.0	7.36	131.52	5,656.7	-451.4	509.9	-509.9	0.00	0.00	
5,800.0	7.36	131.52	5,755.9	-459.9	519.5	-519.5	0.00	0.00	
5,900.0	7.36	131.52	5,855.1	-468.4	529.1	-529.1	0.00	0.00	
6,000.0	7.36	131.52	5,954.2	-476.9	538.7	-538.7	0.00	0.00	
6,100.0	7.36	131.52	6,053.4	-485.4	548.3	-548.3	0.00	0.00	
6,200.0	7.36	131.52	6,152.6	-493.9	557.9	-557.9	0.00	0.00	
6,300.0	7.36	131.52	6,251.8	-502.4	567.4	-567.4	0.00	0.00	
6,400.0	7.36	131.52	6,350.9	-510.9	577.0	-577.0	0.00	0.00	
6,449.5	7.36	131.52	6,400.0	-515.1	581.8	-581.8	0.00	0.00	Teepee Buttes (*if present)
6,500.0	7.36	131.52	6,450.1	-519.4	586.6	-586.6	0.00	0.00	
6,600.0	7.36	131.52	6,549.3	-527.9	596.2	-596.2	0.00	0.00	
6,700.0	7.36	131.52	6,648.5	-536.3	605.8	-605.8	0.00	0.00	
6,741.2	7.36	131.52	6,689.4	-539.8	609.8	-609.8	0.00	0.00	Start build/turn @ 6741' MD
6,800.0	4.91	184.34	6,747.8	-544.9	612.4	-612.4	10.00	-4.17	
6,900.0	11.46	245.01	6,846.9	-553.3	603.0	-603.0	10.00	6.55	
7,000.0	20.93	257.06	6,942.9	-561.6	576.6	-576.6	10.00	9.47	
7,100.0	30.73	261.72	7,032.8	-569.3	533.8	-533.8	10.00	9.80	
7,200.0	40.62	264.27	7,113.9	-576.2	476.0	-476.0	10.00	9.89	
7,277.2	48.28	265.62	7,169.0	-580.9	422.1	-422.1	10.00	9.93	Sharon Springs
7,300.0	50.54	265.96	7,183.8	-582.2	404.9	-404.9	10.00	9.94	
7,346.7	55.19	266.59	7,212.0	-584.6	367.7	-367.7	10.00	9.94	Niobrara
7,400.0	60.49	267.22	7,240.4	-587.0	322.7	-322.7	10.00	9.95	
7,500.0	70.45	268.26	7,281.8	-590.6	231.9	-231.9	10.00	9.96	
7,564.7	76.89	268.86	7,300.0	-592.1	169.9	-169.9	10.00	9.96	B Chalk
7,600.0	80.41	269.17	7,307.0	-592.7	135.3	-135.3	10.00	9.96	
7,696.3	90.00	270.00	7,315.0	-593.4	39.5	-39.5	10.00	9.96	LP @ 7315' TVD; 90°
7,700.0	90.00	270.00	7,315.0	-593.4	35.7	-35.7	0.00	0.00	
7,800.0	90.00	270.00	7,315.0	-593.4	-64.3	64.3	0.00	0.00	
7,900.0	90.00	270.00	7,315.0	-593.4	-164.3	164.3	0.00	0.00	
8,000.0	90.00	270.00	7,315.0	-593.4	-264.3	264.3	0.00	0.00	
8,100.0	90.00	270.00	7,315.0	-593.4	-364.3	364.3	0.00	0.00	
8,200.0	90.00	270.00	7,315.0	-593.4	-464.3	464.3	0.00	0.00	
8,300.0	90.00	270.00	7,315.0	-593.4	-564.3	564.3	0.00	0.00	
8,400.0	90.00	270.00	7,315.0	-593.4	-664.3	664.3	0.00	0.00	
8,500.0	90.00	270.00	7,315.0	-593.4	-764.3	764.3	0.00	0.00	
8,600.0	90.00	270.00	7,315.0	-593.4	-864.3	864.3	0.00	0.00	
8,700.0	90.00	270.00	7,315.0	-593.4	-964.3	964.3	0.00	0.00	
8,800.0	90.00	270.00	7,315.0	-593.4	-1,064.3	1,064.3	0.00	0.00	
8,900.0	90.00	270.00	7,315.0	-593.4	-1,164.3	1,164.3	0.00	0.00	
9,000.0	90.00	270.00	7,315.0	-593.4	-1,264.3	1,264.3	0.00	0.00	
9,100.0	90.00	270.00	7,315.0	-593.4	-1,364.3	1,364.3	0.00	0.00	
9,200.0	90.00	270.00	7,315.0	-593.4	-1,464.3	1,464.3	0.00	0.00	

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Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site:	S34-T2N-R66W (McConahay)	**North Reference:**	True
Well:	McConahay 4E-34H-P266	**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
9,300.0	90.00	270.00	7,315.0	-593.4	-1,564.3	1,564.3	0.00	0.00	
9,400.0	90.00	270.00	7,315.0	-593.4	-1,664.3	1,664.3	0.00	0.00	
9,500.0	90.00	270.00	7,315.0	-593.4	-1,764.3	1,764.3	0.00	0.00	
9,600.0	90.00	270.00	7,315.0	-593.4	-1,864.3	1,864.3	0.00	0.00	
9,700.0	90.00	270.00	7,315.0	-593.4	-1,964.3	1,964.3	0.00	0.00	
9,800.0	90.00	270.00	7,315.0	-593.4	-2,064.3	2,064.3	0.00	0.00	
9,900.0	90.00	270.00	7,315.0	-593.4	-2,164.3	2,164.3	0.00	0.00	
10,000.0	90.00	270.00	7,315.0	-593.4	-2,264.3	2,264.3	0.00	0.00	
10,100.0	90.00	270.00	7,315.0	-593.4	-2,364.3	2,364.3	0.00	0.00	
10,200.0	90.00	270.00	7,315.0	-593.4	-2,464.3	2,464.3	0.00	0.00	
10,300.0	90.00	270.00	7,315.0	-593.4	-2,564.3	2,564.3	0.00	0.00	
10,400.0	90.00	270.00	7,315.0	-593.4	-2,664.3	2,664.3	0.00	0.00	
10,500.0	90.00	270.00	7,315.0	-593.4	-2,764.3	2,764.3	0.00	0.00	
10,600.0	90.00	270.00	7,315.0	-593.4	-2,864.3	2,864.3	0.00	0.00	
10,700.0	90.00	270.00	7,315.0	-593.4	-2,964.3	2,964.3	0.00	0.00	
10,800.0	90.00	270.00	7,315.0	-593.4	-3,064.3	3,064.3	0.00	0.00	
10,900.0	90.00	270.00	7,315.0	-593.4	-3,164.3	3,164.3	0.00	0.00	
11,000.0	90.00	270.00	7,315.0	-593.4	-3,264.3	3,264.3	0.00	0.00	
11,100.0	90.00	270.00	7,315.0	-593.4	-3,364.3	3,364.3	0.00	0.00	
11,200.0	90.00	270.00	7,315.0	-593.4	-3,464.3	3,464.3	0.00	0.00	
11,300.0	90.00	270.00	7,315.0	-593.4	-3,564.3	3,564.3	0.00	0.00	
11,400.0	90.00	270.00	7,315.0	-593.4	-3,664.3	3,664.3	0.00	0.00	
11,500.0	90.00	270.00	7,315.0	-593.4	-3,764.3	3,764.3	0.00	0.00	
11,600.0	90.00	270.00	7,315.0	-593.4	-3,864.3	3,864.3	0.00	0.00	
11,700.0	90.00	270.00	7,315.0	-593.4	-3,964.3	3,964.3	0.00	0.00	
11,800.0	90.00	270.00	7,315.0	-593.4	-4,064.3	4,064.3	0.00	0.00	
11,896.3	90.00	270.00	7,315.0	-593.4	-4,160.5	4,160.5	0.00	0.00	TD at 11896.3 - McConahay 4E-34H-P266 PBH

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
McConahay 4E-34H-P2(- plan hits target center - Point	0.00	0.00	7,315.0	-593.4	-4,160.5	1,275,547.23	3,203,960.17	40.087460	-104.771050

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Project:	DJ Wattenberg	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site:	S34-T2N-R66W (McConahay)	**North Reference:**	True
Well:	McConahay 4E-34H-P266	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,030.8	1,026.0	Fox Hills - BASE			
4,648.6	4,614.0	Sussex			
4,947.1	4,910.0	Sussex Marker			
5,314.1	5,274.0	Shannon			
6,449.5	6,400.0	Teepee Buttes (*if present)			
7,277.2	7,169.0	Sharon Springs			
7,346.7	7,212.0	Niobrara			
7,564.7	7,300.0	B Chalk			

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'
568.0	567.0	-15.6	17.7	EOB; Inc=7.36°
6,741.2	6,689.4	-539.8	609.8	Start build/turn @ 6741' MD
7,696.3	7,315.0	-593.4	39.5	LP @ 7315' TVD; 90°
11,896.3	7,315.0	-593.4	-4,160.5	TD at 11896.3

EnCana Oil & Gas (USA) Inc

DJ Wattenberg
S34-T2N-R66W (McConahay)
McConahay 4E-34H-P266
Hz
Plan #1

Anticollision Report

16 December, 2013

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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** 12/16/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	11,896.3	Plan #1 (Hz)	Geolink MWD	Geolink MWD

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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

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
S34-T2N-R66W (McConahay)						
CONNER 11-34 (EXISTING) - MACEY & MERSHON WE						Out of range
CONNER 21-34 (EXISTING) - FOUNDATION WELL - NO						Out of range
CONNER 22-34 (EXISTING) - ENCANA WELL - GYRO						Out of range
CONNER 23-34 (EXISTING) - ENCANA WELL - NO SUR						Out of range
CONNER 24-34 (EXISTING) - FOUNDATION WELL - NO						Out of range
CONNER D&H 2 (EXISTING) - MARINER WELL - NO S						Out of range
DARLENNE 1 (EXISTING) - ENCANA WELL - NO SURV						Out of range
ERICA 1 (EXISTING) - GREAT WESTERN WELL - NO S						Out of range
MCCONAHAY 1 (EXISTING) - ENCANA WELL - GYRO						Out of range
McConahay 1A-34H - Hz - Hz						Out of range
McConahay 1A-34H - Hz - Plan #1 12/100						Out of range
McConahay 1A-34H - Hz - Plan #2 8/100						Out of range
McConahay 1A-34H - Hz - Plan #3A						Out of range
McConahay 1A-34H - Hz - Plan #3B						Out of range
McConahay 1A-34H - Hz - Plan #3C						Out of range
McConahay 1A-34H - Hz - Plan #3D						Out of range
McConahay 1A-34H - Hz - Plan #4						Out of range
McConahay 1A-34H - Hz - Plan #5						Out of range
McConahay 1A-34H - Hz - Plan #6						Out of range
McConahay 1A-34H - Hz - Plan #7						Out of range
McConahay 1B-34H-H266 - Hz - Plan #1						Out of range
McConahay 1B-34H-H266 - Hz - Plan #2						Out of range
McConahay 1B-34H-H266 - Hz - Plan #3						Out of range
McConahay 1B-34H-H266 - Hz - Plan #4						Out of range
McConahay 1C-34H-H266 - Hz - Plan #1						Out of range
McConahay 1D-34H-H266 - Hz - Plan #1						Out of range
McConahay 1E-34H-H266 - Hz - Plan #1						Out of range
MCCONAHAY 31-34 (EXISTING) - ENCANA WELL - GY						Out of range
MCCONAHAY 31-34 (EXISTING) MRP - MACHII-ROSS						Out of range
MCCONAHAY 33-34 (EXISTING) - FOUNDATION WELL						Out of range
MCCONAHAY 41-34 (EXISTING) - ENCANA WELL - GY						Out of range
MCCONAHAY 43-34 (EXISTING) - ENCANA WELL - NO						Out of range
MCCONAHAY 44-34 (EXISTING) - ENCANA WELL - NO	200.0	176.0	14.2	13.6	23.244	CC, ES
MCCONAHAY 44-34 (EXISTING) - ENCANA WELL - NO	400.0	375.8	18.6	17.2	14.047	SF
McConahay 4A-34H-P266 - Hz - Plan #2	200.0	200.0	40.1	39.5	65.583	CC, ES
McConahay 4A-34H-P266 - Hz - Plan #2	500.0	497.5	57.0	55.3	33.590	SF
McConahay 4B-34H-P266 - Hz - Plan #3	200.0	200.0	29.1	28.5	47.693	CC, ES
McConahay 4B-34H-P266 - Hz - Plan #3	4,400.0	4,372.0	496.8	476.3	24.327	SF
McConahay 4C-34H-P266 - Hz - Plan #2	200.0	200.0	21.9	21.2	35.773	CC, ES
McConahay 4C-34H-P266 - Hz - Plan #2	11,896.3	12,098.5	468.6	273.3	2.399	SF
McConahay 4D-34H-P266 - Hz - Plan #1	200.0	190.0	51.0	50.4	83.012	CC, ES
McConahay 4D-34H-P266 - Hz - Plan #1	600.0	580.2	91.3	89.2	42.955	SF
MCCONAHAY 6-4-34 (EXISTING) - ENCANA WELL - SU						Out of range
RANCHERO 1 (EXISTING) - ENCANA WELL - NO SUR						Out of range
RANCHERO 12-34 (EXISTING) - MACHII-ROSS WELL						Out of range
RANCHERO 32-34 (EXISTING) - ENCANA WELL - GYR						Out of range
SEYMOUR 34-34 (EXISTING) - ENCANA WELL - NO SU						Out of range

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 McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - MCCONAHAY 44-34 (EXISTING) - ENCANA WELL - NO SURVEYS

Offset Site Error: 0.0 ft

Survey Program: 8257-Geolink 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	13.63	13.8	3.4	27.9				
100.0	100.0	76.0	76.0	0.1	0.1	13.63	13.8	3.4	14.2	14.0	0.26	54.007	
200.0	200.0	176.0	176.0	0.3	0.3	13.63	13.8	3.4	14.2	13.6	0.61	23.244	CC, ES
300.0	300.0	276.0	276.0	0.5	0.5	-123.72	13.8	3.4	15.1	14.2	0.96	15.698	
400.0	399.8	375.8	375.8	0.7	0.7	-137.22	13.8	3.4	18.6	17.2	1.32	14.047	SF
500.0	499.5	475.5	475.5	0.9	0.8	-150.48	13.8	3.4	25.7	24.0	1.68	15.317	
600.0	598.7	574.7	574.7	1.2	1.0	-159.73	13.8	3.4	36.6	34.6	2.02	18.110	
700.0	697.9	673.9	673.9	1.4	1.2	-164.94	13.8	3.4	48.8	46.5	2.37	20.636	
800.0	797.1	773.1	773.1	1.7	1.3	-168.05	13.8	3.4	61.3	58.6	2.71	22.607	
900.0	896.3	872.3	872.3	2.0	1.5	-170.11	13.8	3.4	73.9	70.8	3.06	24.169	
1,000.0	995.4	971.4	971.4	2.3	1.7	-171.57	13.8	3.4	86.5	83.1	3.40	25.432	
1,100.0	1,094.6	1,070.6	1,070.6	2.5	1.9	-172.65	13.8	3.4	99.2	95.5	3.75	26.471	
1,200.0	1,193.8	1,169.8	1,169.8	2.8	2.0	-173.49	13.8	3.4	111.9	107.8	4.09	27.340	
1,300.0	1,293.0	1,269.0	1,269.0	3.1	2.2	-174.16	13.8	3.4	124.7	120.2	4.44	28.077	
1,400.0	1,392.1	1,368.1	1,368.1	3.4	2.4	-174.70	13.8	3.4	137.4	132.6	4.79	28.709	
1,500.0	1,491.3	1,467.3	1,467.3	3.7	2.6	-175.15	13.8	3.4	150.2	145.1	5.13	29.258	
1,600.0	1,590.5	1,566.5	1,566.5	3.9	2.7	-175.53	13.8	3.4	163.0	157.5	5.48	29.738	
1,700.0	1,689.7	1,665.7	1,665.7	4.2	2.9	-175.86	13.8	3.4	175.7	169.9	5.83	30.162	
1,800.0	1,788.8	1,764.8	1,764.8	4.5	3.1	-176.14	13.8	3.4	188.5	182.3	6.17	30.538	
1,900.0	1,888.0	1,864.0	1,864.0	4.8	3.3	-176.38	13.8	3.4	201.3	194.8	6.52	30.875	
2,000.0	1,987.2	1,963.2	1,963.2	5.1	3.4	-176.60	13.8	3.4	214.1	207.2	6.87	31.179	
2,100.0	2,086.4	2,062.4	2,062.4	5.4	3.6	-176.79	13.8	3.4	226.9	219.7	7.21	31.453	
2,200.0	2,185.5	2,161.5	2,161.5	5.6	3.8	-176.96	13.8	3.4	239.7	232.1	7.56	31.703	
2,300.0	2,284.7	2,260.7	2,260.7	5.9	3.9	-177.12	13.8	3.4	252.5	244.5	7.91	31.930	
2,400.0	2,383.9	2,359.9	2,359.9	6.2	4.1	-177.26	13.8	3.4	265.2	257.0	8.25	32.139	
2,500.0	2,483.1	2,459.1	2,459.1	6.5	4.3	-177.38	13.8	3.4	278.0	269.4	8.60	32.331	
2,600.0	2,582.2	2,558.2	2,558.2	6.8	4.5	-177.50	13.8	3.4	290.8	281.9	8.95	32.508	
2,700.0	2,681.4	2,657.4	2,657.4	7.1	4.6	-177.60	13.8	3.4	303.6	294.3	9.29	32.672	
2,800.0	2,780.6	2,756.6	2,756.6	7.4	4.8	-177.70	13.8	3.4	316.4	306.8	9.64	32.824	
2,900.0	2,879.8	2,855.8	2,855.8	7.6	5.0	-177.79	13.8	3.4	329.2	319.3	9.99	32.966	
3,000.0	2,979.0	2,955.0	2,955.0	7.9	5.2	-177.87	13.8	3.4	342.0	331.7	10.33	33.098	
3,100.0	3,078.1	3,054.1	3,054.1	8.2	5.3	-177.95	13.8	3.4	354.8	344.2	10.68	33.222	
3,200.0	3,177.3	3,153.3	3,153.3	8.5	5.5	-178.02	13.8	3.4	367.6	356.6	11.03	33.337	
3,300.0	3,276.5	3,252.5	3,252.5	8.8	5.7	-178.09	13.8	3.4	380.4	369.1	11.37	33.446	
3,400.0	3,375.7	3,351.7	3,351.7	9.1	5.8	-178.15	13.8	3.4	393.2	381.5	11.72	33.549	
3,500.0	3,474.8	3,450.8	3,450.8	9.3	6.0	-178.21	13.8	3.4	406.1	394.0	12.07	33.645	
3,600.0	3,574.0	3,550.0	3,550.0	9.6	6.2	-178.26	13.8	3.4	418.9	406.4	12.42	33.736	
3,700.0	3,673.2	3,649.2	3,649.2	9.9	6.4	-178.31	13.8	3.4	431.7	418.9	12.76	33.823	
3,800.0	3,772.4	3,748.4	3,748.4	10.2	6.5	-178.36	13.8	3.4	444.5	431.4	13.11	33.904	
3,900.0	3,871.5	3,847.5	3,847.5	10.5	6.7	-178.41	13.8	3.4	457.3	443.8	13.46	33.982	
4,000.0	3,970.7	3,946.7	3,946.7	10.8	6.9	-178.45	13.8	3.4	470.1	456.3	13.80	34.055	
4,100.0	4,069.9	4,045.9	4,045.9	11.0	7.1	-178.49	13.8	3.4	482.9	468.7	14.15	34.125	
4,200.0	4,169.1	4,145.1	4,145.1	11.3	7.2	-178.53	13.8	3.4	495.7	481.2	14.50	34.192	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4A-34H-P266 - Hz - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	40.1	0.0	40.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	40.1	0.0	40.1	39.8	0.26	153.026	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	40.1	0.0	40.1	39.5	0.61	65.583	CC, ES
300.0	300.0	299.4	299.4	0.5	0.5	-132.53	40.7	0.5	41.9	40.9	0.96	43.593	
400.0	399.8	398.7	398.6	0.7	0.7	-135.09	42.8	2.1	47.5	46.2	1.32	35.950	
500.0	499.5	497.5	497.4	0.9	0.8	-138.21	46.1	4.8	57.0	55.3	1.70	33.590	SF
600.0	598.7	595.8	595.5	1.2	1.0	-141.10	50.7	8.5	70.3	68.2	2.09	33.692	
700.0	697.9	693.8	693.2	1.4	1.3	-142.59	56.7	13.3	85.4	82.9	2.49	34.335	
800.0	797.1	791.4	790.4	1.7	1.5	-142.89	63.9	19.0	101.6	98.7	2.90	35.011	
900.0	896.3	888.7	887.1	2.0	1.7	-142.48	72.4	25.8	119.0	115.6	3.33	35.677	
1,000.0	995.4	985.6	983.1	2.3	2.0	-141.65	82.1	33.5	137.4	133.6	3.78	36.331	
1,100.0	1,094.6	1,082.1	1,078.6	2.5	2.3	-140.55	93.0	42.3	156.9	152.7	4.24	37.002	
1,200.0	1,193.8	1,180.0	1,175.4	2.8	2.6	-139.51	104.7	51.6	177.0	172.3	4.71	37.589	
1,300.0	1,293.0	1,277.9	1,272.1	3.1	2.9	-138.68	116.4	60.9	197.2	192.0	5.18	38.067	
1,400.0	1,392.1	1,375.8	1,368.9	3.4	3.2	-138.00	128.1	70.2	217.3	211.7	5.65	38.462	
1,500.0	1,491.3	1,473.7	1,465.7	3.7	3.5	-137.43	139.7	79.5	237.5	231.4	6.12	38.794	
1,600.0	1,590.5	1,571.6	1,562.4	3.9	3.8	-136.96	151.4	88.9	257.7	251.1	6.60	39.077	
1,700.0	1,689.7	1,669.6	1,659.2	4.2	4.1	-136.55	163.1	98.2	278.0	270.9	7.07	39.321	
1,800.0	1,788.8	1,767.5	1,756.0	4.5	4.4	-136.20	174.8	107.5	298.2	290.7	7.54	39.534	
1,900.0	1,888.0	1,865.4	1,852.7	4.8	4.7	-135.90	186.4	116.8	318.5	310.4	8.02	39.722	
2,000.0	1,987.2	1,963.3	1,949.5	5.1	5.0	-135.63	198.1	126.1	338.7	330.2	8.49	39.888	
2,100.0	2,086.4	2,061.2	2,046.3	5.4	5.3	-135.39	209.8	135.5	359.0	350.0	8.97	40.036	
2,200.0	2,185.5	2,159.1	2,143.0	5.6	5.6	-135.17	221.5	144.8	379.2	369.8	9.44	40.169	
2,300.0	2,284.7	2,257.0	2,239.8	5.9	5.9	-134.98	233.2	154.1	399.5	389.6	9.92	40.289	
2,400.0	2,383.9	2,355.0	2,336.6	6.2	6.2	-134.81	244.8	163.4	419.8	409.4	10.39	40.398	
2,500.0	2,483.1	2,452.9	2,433.3	6.5	6.5	-134.65	256.5	172.7	440.1	429.2	10.87	40.498	
2,600.0	2,582.2	2,550.8	2,530.1	6.8	6.9	-134.51	268.2	182.1	460.4	449.0	11.34	40.589	
2,700.0	2,681.4	2,648.7	2,626.9	7.1	7.2	-134.38	279.9	191.4	480.6	468.8	11.82	40.672	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4B-34H-P266 - Hz - Plan #3

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	29.1	0.0	29.1	28.9	0.26	111.283	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	29.1	0.0	29.1	28.5	0.61	47.693	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-133.97	29.1	0.0	30.3	29.4	0.96	31.525	
400.0	399.8	399.7	399.7	0.7	0.7	-138.81	29.4	0.8	34.3	33.0	1.32	26.011	
500.0	499.5	499.3	499.3	0.9	0.8	-143.12	30.2	3.3	41.5	39.8	1.69	24.587	
600.0	598.7	598.7	598.6	1.2	1.0	-146.25	31.6	7.4	51.7	49.6	2.07	24.991	
700.0	697.9	698.0	697.7	1.4	1.2	-147.22	33.5	13.1	62.7	60.2	2.47	25.440	
800.0	797.1	797.4	796.7	1.7	1.4	-146.54	35.9	20.5	73.8	70.9	2.88	25.592	
900.0	896.3	896.6	895.5	2.0	1.6	-144.88	38.8	29.5	85.1	81.7	3.33	25.530	
1,000.0	995.4	995.9	994.2	2.3	1.9	-142.92	42.2	39.6	96.5	92.7	3.80	25.412	
1,100.0	1,094.6	1,095.2	1,093.0	2.5	2.1	-141.35	45.5	49.7	108.0	103.7	4.27	25.299	
1,200.0	1,193.8	1,194.5	1,191.7	2.8	2.4	-140.08	48.8	59.8	119.6	114.8	4.75	25.196	
1,300.0	1,293.0	1,293.8	1,290.4	3.1	2.6	-139.04	52.1	70.0	131.2	126.0	5.23	25.106	
1,400.0	1,392.1	1,393.1	1,389.1	3.4	2.9	-138.17	55.5	80.1	142.9	137.2	5.71	25.026	
1,500.0	1,491.3	1,492.4	1,487.9	3.7	3.1	-137.43	58.8	90.2	154.6	148.4	6.19	24.956	
1,600.0	1,590.5	1,591.7	1,586.6	3.9	3.4	-136.79	62.1	100.4	166.3	159.6	6.68	24.895	
1,700.0	1,689.7	1,691.0	1,685.3	4.2	3.6	-136.24	65.5	110.5	178.0	170.8	7.17	24.840	
1,800.0	1,788.8	1,790.3	1,784.0	4.5	3.9	-135.75	68.8	120.6	189.7	182.1	7.65	24.792	
1,900.0	1,888.0	1,889.6	1,882.7	4.8	4.1	-135.33	72.1	130.8	201.5	193.4	8.14	24.749	
2,000.0	1,987.2	1,988.9	1,981.5	5.1	4.4	-134.95	75.5	140.9	213.3	204.6	8.63	24.710	
2,100.0	2,086.4	2,088.2	2,080.2	5.4	4.6	-134.60	78.8	151.0	225.0	215.9	9.12	24.675	
2,200.0	2,185.5	2,187.4	2,178.9	5.6	4.9	-134.30	82.1	161.1	236.8	227.2	9.61	24.644	
2,300.0	2,284.7	2,286.7	2,277.6	5.9	5.1	-134.02	85.5	171.3	248.6	238.5	10.10	24.615	
2,400.0	2,383.9	2,386.0	2,376.3	6.2	5.4	-133.77	88.8	181.4	260.4	249.8	10.59	24.589	
2,500.0	2,483.1	2,485.3	2,475.1	6.5	5.6	-133.54	92.1	191.5	272.2	261.1	11.08	24.565	
2,600.0	2,582.2	2,584.6	2,573.8	6.8	5.9	-133.32	95.5	201.7	284.0	272.4	11.57	24.543	
2,700.0	2,681.4	2,683.9	2,672.5	7.1	6.1	-133.13	98.8	211.8	295.8	283.7	12.06	24.523	
2,800.0	2,780.6	2,783.2	2,771.2	7.4	6.4	-132.95	102.1	221.9	307.6	295.0	12.55	24.504	
2,900.0	2,879.8	2,882.5	2,870.0	7.6	6.6	-132.78	105.5	232.1	319.4	306.4	13.04	24.487	
3,000.0	2,979.0	2,981.8	2,968.7	7.9	6.9	-132.63	108.8	242.2	331.2	317.7	13.54	24.471	
3,100.0	3,078.1	3,081.1	3,067.4	8.2	7.1	-132.49	112.1	252.3	343.0	329.0	14.03	24.456	
3,200.0	3,177.3	3,180.4	3,166.1	8.5	7.4	-132.35	115.4	262.4	354.9	340.3	14.52	24.442	
3,300.0	3,276.5	3,279.7	3,264.8	8.8	7.7	-132.22	118.8	272.6	366.7	351.7	15.01	24.429	
3,400.0	3,375.7	3,379.0	3,363.6	9.1	7.9	-132.11	122.1	282.7	378.5	363.0	15.50	24.417	
3,500.0	3,474.8	3,478.3	3,462.3	9.3	8.2	-132.00	125.4	292.8	390.3	374.3	15.99	24.405	
3,600.0	3,574.0	3,577.6	3,561.0	9.6	8.4	-131.89	128.8	303.0	402.1	385.6	16.48	24.395	
3,700.0	3,673.2	3,676.9	3,659.7	9.9	8.7	-131.79	132.1	313.1	414.0	397.0	16.98	24.384	
3,800.0	3,772.4	3,776.2	3,758.5	10.2	8.9	-131.70	135.4	323.2	425.8	408.3	17.47	24.375	
3,900.0	3,871.5	3,875.5	3,857.2	10.5	9.2	-131.61	138.8	333.4	437.6	419.6	17.96	24.366	
4,000.0	3,970.7	3,974.8	3,955.9	10.8	9.4	-131.53	142.1	343.5	449.4	431.0	18.45	24.357	
4,100.0	4,069.9	4,074.1	4,054.6	11.0	9.7	-131.45	145.4	353.6	461.3	442.3	18.94	24.349	
4,200.0	4,169.1	4,173.4	4,153.3	11.3	9.9	-131.38	148.8	363.8	473.1	453.7	19.44	24.341	
4,300.0	4,268.2	4,272.7	4,252.1	11.6	10.2	-131.30	152.1	373.9	484.9	465.0	19.93	24.334	
4,400.0	4,367.4	4,372.0	4,350.8	11.9	10.4	-131.24	155.4	384.0	496.8	476.3	20.42	24.327	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4C-34H-P266 - Hz - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	21.9	0.0	21.9				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	21.9	0.0	21.9	21.6	0.26	83.470	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.61	35.773	CC, ES
300.0	300.0	300.0	300.0	0.5	0.5	-134.75	21.9	0.0	23.0	22.1	0.96	23.965	
400.0	399.8	399.8	399.8	0.7	0.7	-142.62	21.9	0.0	27.0	25.7	1.32	20.493	
500.0	499.5	499.8	499.8	0.9	0.8	-150.25	21.6	0.8	33.8	32.1	1.67	20.196	
600.0	598.7	599.7	599.7	1.2	1.0	-155.36	20.8	3.3	42.9	40.9	2.03	21.107	
700.0	697.9	699.9	699.8	1.4	1.2	-157.63	19.6	7.5	51.8	49.4	2.40	21.593	
800.0	797.1	800.3	799.9	1.7	1.4	-158.04	17.8	13.4	59.5	56.7	2.77	21.452	
900.0	896.3	900.8	900.2	2.0	1.6	-157.24	15.5	20.9	66.0	62.8	3.16	20.860	
1,000.0	995.4	1,001.3	1,000.2	2.3	1.8	-155.55	12.7	30.1	71.4	67.8	3.58	19.958	
1,100.0	1,094.6	1,101.2	1,099.5	2.5	2.0	-153.75	9.8	39.9	76.4	72.4	4.00	19.095	
1,200.0	1,193.8	1,201.0	1,198.9	2.8	2.3	-152.17	6.8	49.6	81.5	77.1	4.44	18.373	
1,300.0	1,293.0	1,300.8	1,298.2	3.1	2.5	-150.79	3.8	59.4	86.6	81.8	4.88	17.762	
1,400.0	1,392.1	1,400.7	1,397.5	3.4	2.8	-149.55	0.9	69.1	91.8	86.5	5.33	17.240	
1,500.0	1,491.3	1,500.5	1,496.8	3.7	3.0	-148.45	-2.1	78.8	97.1	91.3	5.78	16.791	
1,600.0	1,590.5	1,600.4	1,596.2	3.9	3.2	-147.47	-5.0	88.6	102.3	96.1	6.24	16.400	
1,700.0	1,689.7	1,700.2	1,695.5	4.2	3.5	-146.58	-8.0	98.3	107.6	100.9	6.70	16.058	
1,800.0	1,788.8	1,800.1	1,794.8	4.5	3.7	-145.77	-10.9	108.1	113.0	105.8	7.17	15.756	
1,900.0	1,888.0	1,899.9	1,894.1	4.8	4.0	-145.03	-13.9	117.8	118.3	110.7	7.64	15.489	
2,000.0	1,987.2	1,999.8	1,993.5	5.1	4.2	-144.36	-16.8	127.6	123.7	115.6	8.11	15.250	
2,100.0	2,086.4	2,099.6	2,092.8	5.4	4.5	-143.75	-19.8	137.3	129.0	120.5	8.58	15.036	
2,200.0	2,185.5	2,199.5	2,192.1	5.6	4.7	-143.18	-22.7	147.0	134.4	125.4	9.06	14.843	
2,300.0	2,284.7	2,299.3	2,291.4	5.9	5.0	-142.66	-25.7	156.8	139.8	130.3	9.53	14.668	
2,400.0	2,383.9	2,399.2	2,390.8	6.2	5.2	-142.18	-28.7	166.5	145.2	135.2	10.01	14.509	
2,500.0	2,483.1	2,499.0	2,490.1	6.5	5.4	-141.73	-31.6	176.3	150.7	140.2	10.49	14.364	
2,600.0	2,582.2	2,598.8	2,589.4	6.8	5.7	-141.31	-34.6	186.0	156.1	145.1	10.97	14.231	
2,700.0	2,681.4	2,698.7	2,688.7	7.1	5.9	-140.92	-37.5	195.7	161.5	150.1	11.45	14.109	
2,800.0	2,780.6	2,798.5	2,788.1	7.4	6.2	-140.56	-40.5	205.5	167.0	155.0	11.93	13.996	
2,900.0	2,879.8	2,898.4	2,887.4	7.6	6.4	-140.22	-43.4	215.2	172.4	160.0	12.41	13.892	
3,000.0	2,979.0	2,998.2	2,986.7	7.9	6.7	-139.90	-46.4	225.0	177.9	165.0	12.89	13.795	
3,100.0	3,078.1	3,098.1	3,086.1	8.2	6.9	-139.60	-49.3	234.7	183.3	169.9	13.38	13.706	
3,200.0	3,177.3	3,197.9	3,185.4	8.5	7.2	-139.32	-52.3	244.4	188.8	174.9	13.86	13.622	
3,300.0	3,276.5	3,297.8	3,284.7	8.8	7.4	-139.05	-55.2	254.2	194.3	179.9	14.34	13.544	
3,400.0	3,375.7	3,397.6	3,384.0	9.1	7.7	-138.79	-58.2	263.9	199.7	184.9	14.83	13.470	
3,500.0	3,474.8	3,497.5	3,483.4	9.3	7.9	-138.56	-61.2	273.7	205.2	189.9	15.31	13.402	
3,600.0	3,574.0	3,597.3	3,582.7	9.6	8.2	-138.33	-64.1	283.4	210.7	194.9	15.80	13.337	
3,700.0	3,673.2	3,697.2	3,682.0	9.9	8.4	-138.11	-67.1	293.1	216.2	199.9	16.28	13.276	
3,800.0	3,772.4	3,797.0	3,781.3	10.2	8.7	-137.91	-70.0	302.9	221.7	204.9	16.77	13.219	
3,900.0	3,871.5	3,896.8	3,880.7	10.5	8.9	-137.71	-73.0	312.6	227.1	209.9	17.25	13.165	
4,000.0	3,970.7	3,996.7	3,980.0	10.8	9.2	-137.53	-75.9	322.4	232.6	214.9	17.74	13.114	
4,100.0	4,069.9	4,096.5	4,079.3	11.0	9.4	-137.35	-78.9	332.1	238.1	219.9	18.23	13.066	
4,200.0	4,169.1	4,196.4	4,178.6	11.3	9.7	-137.18	-81.8	341.8	243.6	224.9	18.71	13.020	
4,300.0	4,268.2	4,296.2	4,278.0	11.6	9.9	-137.02	-84.8	351.6	249.1	229.9	19.20	12.976	
4,400.0	4,367.4	4,396.1	4,377.3	11.9	10.2	-136.87	-87.7	361.3	254.6	234.9	19.69	12.934	
4,500.0	4,466.6	4,495.9	4,476.6	12.2	10.4	-136.72	-90.7	371.1	260.1	239.9	20.17	12.895	
4,600.0	4,565.8	4,595.8	4,575.9	12.5	10.7	-136.58	-93.6	380.8	265.6	245.0	20.66	12.857	
4,700.0	4,664.9	4,695.6	4,675.3	12.8	10.9	-136.44	-96.6	390.5	271.1	250.0	21.15	12.821	
4,800.0	4,764.1	4,795.5	4,774.6	13.0	11.2	-136.31	-99.6	400.3	276.6	255.0	21.63	12.787	
4,900.0	4,863.3	4,895.3	4,873.9	13.3	11.4	-136.18	-102.5	410.0	282.1	260.0	22.12	12.754	
5,000.0	4,962.5	4,995.2	4,973.3	13.6	11.7	-136.06	-105.5	419.8	287.6	265.0	22.61	12.723	
5,100.0	5,061.7	5,095.0	5,072.6	13.9	11.9	-135.95	-108.4	429.5	293.2	270.1	23.10	12.693	

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 McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4C-34H-P266 - Hz - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	5,160.8	5,194.9	5,171.9	14.2	12.1	-135.83	-111.4	439.3	298.7	275.1	23.58	12.664	
5,300.0	5,260.0	5,294.7	5,271.2	14.5	12.4	-135.73	-114.3	449.0	304.2	280.1	24.07	12.636	
5,400.0	5,359.2	5,394.5	5,370.6	14.7	12.6	-135.62	-117.3	458.7	309.7	285.1	24.56	12.610	
5,500.0	5,458.4	5,494.4	5,469.9	15.0	12.9	-135.52	-120.2	468.5	315.2	290.2	25.05	12.584	
5,600.0	5,557.5	5,594.2	5,569.2	15.3	13.1	-135.42	-123.2	478.2	320.7	295.2	25.54	12.559	
5,700.0	5,656.7	5,694.1	5,668.5	15.6	13.4	-135.33	-126.1	488.0	326.2	300.2	26.02	12.536	
5,800.0	5,755.9	5,793.9	5,767.9	15.9	13.6	-135.24	-129.1	497.7	331.8	305.2	26.51	12.513	
5,900.0	5,855.1	5,893.8	5,867.2	16.2	13.9	-135.15	-132.1	507.4	337.3	310.3	27.00	12.491	
6,000.0	5,954.2	5,993.6	5,966.5	16.4	14.1	-135.07	-135.0	517.2	342.8	315.3	27.49	12.470	
6,100.0	6,053.4	6,093.5	6,065.8	16.7	14.4	-134.98	-138.0	526.9	348.3	320.3	27.98	12.449	
6,200.0	6,152.6	6,193.3	6,165.2	17.0	14.6	-134.90	-140.9	536.7	353.8	325.4	28.47	12.430	
6,300.0	6,251.8	6,293.2	6,264.5	17.3	14.9	-134.83	-143.9	546.4	359.4	330.4	28.96	12.411	
6,400.0	6,350.9	6,393.0	6,363.8	17.6	15.1	-134.75	-146.8	556.1	364.9	335.4	29.44	12.392	
6,500.0	6,450.1	6,492.9	6,463.1	17.9	15.4	-134.68	-149.8	565.9	370.4	340.5	29.93	12.374	
6,600.0	6,549.3	6,592.7	6,562.5	18.2	15.6	-134.61	-152.7	575.6	375.9	345.5	30.42	12.357	
6,700.0	6,648.5	6,692.5	6,661.8	18.4	15.9	-134.54	-155.7	585.4	381.4	350.5	30.91	12.340	
6,800.0	6,747.8	6,792.3	6,761.0	18.7	16.1	173.09	-158.6	595.1	386.8	355.5	31.36	12.333	
6,900.0	6,846.9	6,890.2	6,858.4	18.7	16.4	115.09	-161.5	604.6	392.0	360.1	31.92	12.280	
7,000.0	6,942.9	6,986.1	6,953.9	18.6	16.6	107.51	-164.4	612.3	398.9	366.5	32.39	12.318	
7,100.0	7,032.8	7,088.7	7,056.1	18.4	16.6	107.56	-167.4	605.4	408.8	376.5	32.30	12.657	
7,200.0	7,113.9	7,199.5	7,163.2	18.0	16.4	109.53	-170.6	577.6	421.0	389.4	31.58	13.333	
7,300.0	7,183.8	7,320.2	7,271.2	17.7	16.0	112.05	-173.8	524.5	434.4	404.1	30.29	14.340	
7,400.0	7,240.4	7,451.8	7,373.6	17.3	15.4	114.56	-176.9	442.3	447.5	418.8	28.75	15.568	
7,500.0	7,281.8	7,594.5	7,460.3	17.1	14.8	116.68	-179.4	329.4	458.7	431.2	27.48	16.690	
7,600.0	7,307.0	7,746.8	7,519.0	16.9	14.7	118.08	-181.2	189.4	466.1	438.9	27.26	17.098	
7,700.0	7,315.0	7,902.2	7,539.0	17.0	15.6	118.55	-181.8	35.7	468.6	440.0	28.64	16.362	
7,800.0	7,315.0	8,002.2	7,539.0	17.7	16.7	118.55	-181.8	-64.3	468.6	438.1	30.57	15.328	
7,900.0	7,315.0	8,102.2	7,539.0	18.9	18.1	118.55	-181.8	-164.3	468.6	435.7	32.97	14.213	
8,000.0	7,315.0	8,202.2	7,539.0	20.4	19.7	118.55	-181.8	-264.3	468.6	432.9	35.74	13.113	
8,100.0	7,315.0	8,302.2	7,539.0	22.2	21.5	118.55	-181.8	-364.3	468.6	429.8	38.80	12.079	
8,200.0	7,315.0	8,402.2	7,539.0	24.1	23.4	118.55	-181.8	-464.3	468.6	426.5	42.09	11.135	
8,300.0	7,315.0	8,502.2	7,539.0	26.0	25.4	118.55	-181.8	-564.3	468.6	423.1	45.55	10.288	
8,400.0	7,315.0	8,602.2	7,539.0	28.1	27.5	118.55	-181.8	-664.3	468.6	419.5	49.16	9.533	
8,500.0	7,315.0	8,702.2	7,539.0	30.2	29.6	118.55	-181.8	-764.3	468.6	415.8	52.88	8.863	
8,600.0	7,315.0	8,802.2	7,539.0	32.3	31.8	118.55	-181.8	-864.3	468.6	411.9	56.69	8.267	
8,700.0	7,315.0	8,902.2	7,539.0	34.5	34.0	118.55	-181.8	-964.3	468.6	408.1	60.57	7.737	
8,800.0	7,315.0	9,002.2	7,539.0	36.8	36.3	118.55	-181.8	-1,064.3	468.6	404.1	64.51	7.264	
8,900.0	7,315.0	9,102.2	7,539.0	39.0	38.5	118.55	-181.8	-1,164.3	468.6	400.1	68.50	6.841	
9,000.0	7,315.0	9,202.2	7,539.0	41.3	40.8	118.55	-181.8	-1,264.3	468.6	396.1	72.54	6.461	
9,100.0	7,315.0	9,302.2	7,539.0	43.6	43.2	118.55	-181.8	-1,364.3	468.6	392.0	76.60	6.118	
9,200.0	7,315.0	9,402.2	7,539.0	45.9	45.5	118.55	-181.8	-1,464.3	468.6	387.9	80.70	5.807	
9,300.0	7,315.0	9,502.2	7,539.0	48.3	47.8	118.55	-181.8	-1,564.3	468.6	383.8	84.82	5.525	
9,400.0	7,315.0	9,602.2	7,539.0	50.6	50.2	118.55	-181.8	-1,664.3	468.6	379.7	88.97	5.267	
9,500.0	7,315.0	9,702.2	7,539.0	53.0	52.6	118.55	-181.8	-1,764.3	468.6	375.5	93.13	5.032	
9,600.0	7,315.0	9,802.2	7,539.0	55.3	55.0	118.55	-181.8	-1,864.3	468.6	371.3	97.31	4.816	
9,700.0	7,315.0	9,902.2	7,539.0	57.7	57.4	118.55	-181.8	-1,964.3	468.6	367.1	101.50	4.617	
9,800.0	7,315.0	10,002.2	7,539.0	60.1	59.7	118.55	-181.8	-2,064.3	468.6	362.9	105.71	4.433	
9,900.0	7,315.0	10,102.2	7,539.0	62.5	62.2	118.55	-181.8	-2,164.3	468.6	358.7	109.93	4.263	
10,000.0	7,315.0	10,202.2	7,539.0	64.9	64.6	118.55	-181.8	-2,264.3	468.6	354.5	114.16	4.105	
10,100.0	7,315.0	10,302.2	7,539.0	67.3	67.0	118.55	-181.8	-2,364.3	468.6	350.2	118.39	3.958	
10,200.0	7,315.0	10,402.2	7,539.0	69.7	69.4	118.55	-181.8	-2,464.3	468.6	346.0	122.64	3.821	
10,300.0	7,315.0	10,502.2	7,539.0	72.1	71.8	118.55	-181.8	-2,564.3	468.6	341.7	126.89	3.693	

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 McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4C-34H-P266 - Hz - Plan #2

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	7,315.0	10,602.2	7,539.0	74.5	74.2	118.55	-181.8	-2,664.3	468.6	337.5	131.15	3.573	
10,500.0	7,315.0	10,702.2	7,539.0	76.9	76.7	118.55	-181.8	-2,764.3	468.6	333.2	135.41	3.461	
10,600.0	7,315.0	10,802.2	7,539.0	79.4	79.1	118.55	-181.8	-2,864.3	468.6	329.0	139.68	3.355	
10,700.0	7,315.0	10,902.2	7,539.0	81.8	81.5	118.55	-181.8	-2,964.3	468.6	324.7	143.96	3.255	
10,800.0	7,315.0	11,002.2	7,539.0	84.2	84.0	118.55	-181.8	-3,064.3	468.6	320.4	148.24	3.161	
10,900.0	7,315.0	11,102.2	7,539.0	86.6	86.4	118.55	-181.8	-3,164.3	468.6	316.1	152.52	3.073	
11,000.0	7,315.0	11,202.2	7,539.0	89.1	88.8	118.55	-181.8	-3,264.3	468.6	311.8	156.81	2.989	
11,100.0	7,315.0	11,302.2	7,539.0	91.5	91.3	118.55	-181.8	-3,364.3	468.6	307.5	161.10	2.909	
11,200.0	7,315.0	11,402.2	7,539.0	94.0	93.7	118.55	-181.8	-3,464.3	468.6	303.2	165.39	2.834	
11,300.0	7,315.0	11,502.2	7,539.0	96.4	96.2	118.55	-181.8	-3,564.3	468.6	298.9	169.69	2.762	
11,400.0	7,315.0	11,602.2	7,539.0	98.8	98.6	118.55	-181.8	-3,664.3	468.6	294.6	173.99	2.694	
11,500.0	7,315.0	11,702.2	7,539.0	101.3	101.1	118.55	-181.8	-3,764.3	468.6	290.3	178.29	2.629	
11,600.0	7,315.0	11,802.2	7,539.0	103.7	103.5	118.55	-181.8	-3,864.3	468.6	286.0	182.59	2.567	
11,700.0	7,315.0	11,902.2	7,539.0	106.2	106.0	118.55	-181.8	-3,964.3	468.6	281.7	186.90	2.507	
11,800.0	7,315.0	12,002.2	7,539.0	108.6	108.4	118.55	-181.8	-4,064.3	468.6	277.4	191.20	2.451	
11,869.2	7,315.0	12,071.4	7,539.0	110.3	110.1	118.55	-181.8	-4,133.4	468.6	274.4	194.19	2.413	
11,896.3	7,315.0	12,098.5	7,539.0	111.0	110.8	118.55	-181.8	-4,160.5	468.6	273.3	195.35	2.399	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 S34-T2N-R66W (McConahay) - McConahay 4D-34H-P266 - Hz - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-Geolink 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	51.0	0.0	52.0				
100.0	100.0	90.0	90.0	0.1	0.1	0.00	51.0	0.0	51.0	50.7	0.27	190.608	
200.0	200.0	190.0	190.0	0.3	0.3	0.00	51.0	0.0	51.0	50.4	0.61	83.012	CC, ES
300.0	300.0	288.6	288.6	0.5	0.5	-132.07	52.1	0.7	53.3	52.4	0.96	55.320	
400.0	399.8	386.7	386.6	0.7	0.7	-133.10	56.1	3.3	60.8	59.5	1.33	45.881	
500.0	499.5	484.0	483.6	0.9	0.9	-134.23	62.8	7.6	73.6	71.9	1.71	42.975	
600.0	598.7	580.2	579.1	1.2	1.1	-135.19	72.1	13.7	91.3	89.2	2.13	42.955	SF
700.0	697.9	675.3	673.1	1.4	1.4	-135.21	84.0	21.4	112.2	109.7	2.56	43.780	
800.0	797.1	771.6	767.9	1.7	1.7	-134.57	98.1	30.5	135.2	132.1	3.01	44.829	
900.0	896.3	868.9	863.7	2.0	2.1	-134.07	112.5	39.8	158.3	154.8	3.48	45.543	
1,000.0	995.4	966.2	959.5	2.3	2.4	-133.69	126.9	49.1	181.4	177.4	3.94	46.051	
1,100.0	1,094.6	1,063.4	1,055.2	2.5	2.7	-133.40	141.3	58.5	204.5	200.1	4.40	46.427	
1,200.0	1,193.8	1,160.7	1,151.0	2.8	3.1	-133.17	155.7	67.8	227.6	222.8	4.87	46.716	
1,300.0	1,293.0	1,258.0	1,246.7	3.1	3.4	-132.99	170.1	77.1	250.8	245.4	5.34	46.944	
1,400.0	1,392.1	1,355.3	1,342.5	3.4	3.8	-132.83	184.5	86.4	273.9	268.1	5.81	47.127	
1,500.0	1,491.3	1,452.6	1,438.3	3.7	4.1	-132.70	198.9	95.7	297.0	290.7	6.28	47.279	
1,600.0	1,590.5	1,549.9	1,534.0	3.9	4.4	-132.58	213.3	105.1	320.2	313.4	6.75	47.405	
1,700.0	1,689.7	1,647.2	1,629.8	4.2	4.8	-132.49	227.7	114.4	343.3	336.1	7.23	47.512	
1,800.0	1,788.8	1,744.4	1,725.6	4.5	5.1	-132.40	242.1	123.7	366.4	358.7	7.70	47.604	
1,900.0	1,888.0	1,841.7	1,821.3	4.8	5.5	-132.33	256.5	133.0	389.6	381.4	8.17	47.683	
2,000.0	1,987.2	1,939.0	1,917.1	5.1	5.8	-132.26	270.9	142.3	412.7	404.1	8.64	47.753	
2,100.0	2,086.4	2,036.3	2,012.8	5.4	6.2	-132.20	285.2	151.7	435.8	426.7	9.12	47.814	
2,200.0	2,185.5	2,133.6	2,108.6	5.6	6.5	-132.15	299.6	161.0	459.0	449.4	9.59	47.868	
2,300.0	2,284.7	2,230.9	2,204.4	5.9	6.8	-132.10	314.0	170.3	482.1	472.0	10.06	47.917	

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 McConahay 4E-34H-P266
Project:	DJ Wattenberg	**TVD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Reference Site:	S34-T2N-R66W (McConahay)	**MD Reference:**	WELL @ 5101.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	McConahay 4E-34H-P266	**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 @ 5101.0ft (Original Well Elev)	Coordinates are relative to: McConahay 4E-34H-P266
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: 0.48°