



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4E-6H-I368
Project:	DJ Wattenberg	TVD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4E-6H-I368	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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		S6-T3N-R68W (Zisch/Drieth)			
Site Position:		Northing:	1,333,692.14 ft	Latitude:	40.248510
From:	Lat/Long	Easting:	3,124,995.76 ft	Longitude:	-105.052220
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Drieth 4E-6H-I368					
Well Position	+N/-S	0.0 ft	Northing:	1,335,751.68 ft	Latitude:	40.254110
	+E/-W	0.0 ft	Easting:	3,128,800.85 ft	Longitude:	-105.038550
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,110.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2014	8.55	66.77	52,672

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	270.00	

Survey Program	Date	10/24/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
140.0	11,683.0	Survey #1 (Hz)	Geolink MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
140.0	0.40	131.20	140.0	-0.3	0.4	-0.4	0.29	0.29		
232.0	0.20	197.80	232.0	-0.7	0.6	-0.6	0.40	-0.22		
324.0	0.50	248.50	324.0	-1.0	0.1	-0.1	0.44	0.33		
415.0	0.90	138.80	415.0	-1.7	0.2	-0.2	1.28	0.44		
507.0	1.40	142.20	507.0	-3.1	1.4	-1.4	0.55	0.54		
599.0	2.00	112.40	598.9	-4.6	3.6	-3.6	1.14	0.65		
691.0	3.00	121.10	690.8	-6.5	7.1	-7.1	1.16	1.09		
783.0	4.00	112.60	782.7	-8.9	12.1	-12.1	1.22	1.09		
825.0	4.40	115.10	824.6	-10.2	15.0	-15.0	1.05	0.95		
928.0	7.00	112.10	927.0	-14.2	24.4	-24.4	2.54	2.52		
1,022.0	6.50	111.10	1,020.4	-18.3	34.6	-34.6	0.55	-0.53		
1,114.0	6.10	124.00	1,111.8	-22.9	43.5	-43.5	1.60	-0.43		

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Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,206.0	5.20	114.60	1,203.4	-27.4	51.4	-51.4	1.40	-0.98	
1,297.0	6.40	117.30	1,293.9	-31.4	59.6	-59.6	1.35	1.32	
1,389.0	5.60	112.80	1,385.4	-35.5	68.3	-68.3	1.01	-0.87	
1,481.0	6.70	131.70	1,476.9	-40.8	76.5	-76.5	2.49	1.20	
1,573.0	6.00	126.30	1,568.3	-47.2	84.4	-84.4	1.00	-0.76	
1,665.0	5.90	120.70	1,659.8	-52.5	92.3	-92.3	0.64	-0.11	
1,757.0	5.90	126.90	1,751.4	-57.7	100.1	-100.1	0.69	0.00	
1,849.0	5.40	120.50	1,842.9	-62.8	107.7	-107.7	0.87	-0.54	
1,942.0	6.20	130.30	1,935.4	-68.2	115.3	-115.3	1.37	0.86	
2,034.0	5.50	122.40	2,027.0	-73.8	122.8	-122.8	1.16	-0.76	
2,126.0	5.10	120.80	2,118.6	-78.3	130.0	-130.0	0.46	-0.43	
2,218.0	7.30	140.60	2,210.0	-84.9	137.2	-137.2	3.30	2.39	
2,309.0	6.50	137.10	2,300.4	-93.1	144.4	-144.4	0.99	-0.88	
2,402.0	6.60	138.00	2,392.8	-101.0	151.6	-151.6	0.15	0.11	
2,494.0	5.70	139.60	2,484.2	-108.4	158.1	-158.1	1.00	-0.98	
2,586.0	5.10	127.80	2,575.8	-114.4	164.3	-164.3	1.37	-0.65	
2,678.0	5.80	132.70	2,667.4	-120.0	170.9	-170.9	0.91	0.76	
2,769.0	6.00	120.80	2,757.9	-125.6	178.4	-178.4	1.36	0.22	
2,862.0	5.20	124.30	2,850.5	-130.4	186.0	-186.0	0.93	-0.86	
2,953.0	8.30	114.20	2,940.9	-135.4	195.4	-195.4	3.63	3.41	
3,045.0	7.30	113.70	3,032.0	-140.5	206.8	-206.8	1.09	-1.09	
3,137.0	6.30	111.20	3,123.4	-144.7	216.9	-216.9	1.13	-1.09	
3,229.0	5.30	114.10	3,214.9	-148.3	225.5	-225.5	1.13	-1.09	
3,323.0	6.50	110.90	3,308.4	-151.9	234.4	-234.4	1.32	1.28	
3,418.0	6.80	140.70	3,402.8	-158.2	243.0	-243.0	3.61	0.32	
3,512.0	6.60	131.90	3,496.1	-166.1	250.5	-250.5	1.11	-0.21	
3,607.0	6.50	131.90	3,590.5	-173.3	258.6	-258.6	0.11	-0.11	
3,701.0	6.40	133.00	3,683.9	-180.5	266.4	-266.4	0.17	-0.11	
3,796.0	8.60	122.40	3,778.1	-187.9	276.3	-276.3	2.73	2.32	
3,890.0	8.00	121.10	3,871.1	-195.0	287.8	-287.8	0.67	-0.64	
3,985.0	6.80	122.40	3,965.3	-201.5	298.2	-298.2	1.28	-1.26	
4,079.0	6.00	120.50	4,058.7	-206.9	307.2	-307.2	0.88	-0.85	
4,174.0	5.70	122.50	4,153.2	-212.0	315.4	-315.4	0.38	-0.32	
4,269.0	5.20	121.40	4,247.8	-216.8	323.1	-323.1	0.54	-0.53	
4,363.0	4.60	122.10	4,341.5	-221.0	329.9	-329.9	0.64	-0.64	
4,458.0	4.10	120.90	4,436.2	-224.8	336.0	-336.0	0.53	-0.53	
4,552.0	3.70	121.50	4,530.0	-228.1	341.5	-341.5	0.43	-0.43	
4,647.0	3.60	123.40	4,624.8	-231.3	346.6	-346.6	0.17	-0.11	
4,741.0	3.40	124.10	4,718.6	-234.5	351.4	-351.4	0.22	-0.21	
4,836.0	2.60	125.40	4,813.5	-237.3	355.5	-355.5	0.85	-0.84	
4,930.0	4.30	126.80	4,907.3	-240.7	360.0	-360.0	1.81	1.81	
5,025.0	5.40	102.10	5,002.0	-243.8	367.3	-367.3	2.46	1.16	
5,120.0	5.50	118.90	5,096.6	-246.9	375.6	-375.6	1.68	0.11	
5,214.0	6.90	112.80	5,190.0	-251.3	384.8	-384.8	1.64	1.49	
5,309.0	6.10	111.50	5,284.4	-255.3	394.7	-394.7	0.86	-0.84	
5,403.0	5.60	119.20	5,377.9	-259.4	403.4	-403.4	0.99	-0.53	
5,498.0	4.90	125.40	5,472.5	-264.0	410.7	-410.7	0.95	-0.74	
5,593.0	6.50	131.00	5,567.0	-269.9	418.1	-418.1	1.78	1.68	
5,687.0	5.70	134.00	5,660.5	-276.6	425.5	-425.5	0.92	-0.85	
5,782.0	5.30	135.80	5,755.1	-283.0	431.9	-431.9	0.46	-0.42	
5,876.0	5.10	135.00	5,848.7	-289.1	437.9	-437.9	0.23	-0.21	
5,971.0	5.30	124.00	5,943.3	-294.5	444.5	-444.5	1.07	0.21	
6,066.0	7.00	121.40	6,037.7	-300.0	453.1	-453.1	1.81	1.79	

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Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,160.0	6.00	118.30	6,131.1	-305.3	462.3	-462.3	1.13	-1.06	
6,255.0	5.20	118.60	6,225.7	-309.7	470.5	-470.5	0.84	-0.84	
6,349.0	5.80	110.80	6,319.2	-313.5	478.6	-478.6	1.02	0.64	
6,444.0	5.10	109.00	6,413.8	-316.5	487.1	-487.1	0.76	-0.74	
6,539.0	4.10	109.80	6,508.5	-319.1	494.3	-494.3	1.05	-1.05	
6,586.0	3.20	128.40	6,555.4	-320.4	496.9	-496.9	3.14	-1.91	
6,633.0	5.60	206.60	6,602.3	-323.3	496.9	-496.9	12.45	5.11	
6,680.0	6.90	245.40	6,649.1	-326.5	493.3	-493.3	9.20	2.77	
6,728.0	10.10	264.20	6,696.5	-328.2	486.5	-486.5	8.75	6.67	
6,775.0	12.80	267.20	6,742.6	-328.8	477.2	-477.2	5.88	5.74	
6,823.0	12.40	263.30	6,789.4	-329.7	466.8	-466.8	1.96	-0.83	
6,870.0	17.50	263.40	6,834.8	-331.1	454.7	-454.7	10.85	10.85	
6,917.0	22.20	265.30	6,879.0	-332.6	438.9	-438.9	10.09	10.00	
6,964.0	23.80	264.70	6,922.3	-334.2	420.6	-420.6	3.44	3.40	
7,012.0	27.40	263.30	6,965.6	-336.4	399.9	-399.9	7.60	7.50	
7,059.0	31.30	267.70	7,006.5	-338.2	377.0	-377.0	9.48	8.30	
7,106.0	34.70	270.60	7,045.9	-338.5	351.4	-351.4	7.97	7.23	
7,153.0	38.20	272.20	7,083.7	-337.8	323.5	-323.5	7.72	7.45	
7,201.0	40.60	269.70	7,120.8	-337.3	293.0	-293.0	5.99	5.00	
7,248.0	46.20	268.40	7,155.0	-337.9	260.8	-260.8	12.06	11.91	
7,295.0	48.50	266.80	7,186.8	-339.4	226.2	-226.2	5.50	4.89	
7,341.0	53.90	268.30	7,215.6	-340.9	190.4	-190.4	12.01	11.74	
7,388.0	60.80	266.90	7,241.0	-342.5	150.9	-150.9	14.89	14.68	
7,435.0	67.30	264.80	7,261.5	-345.6	108.8	-108.8	14.40	13.83	
7,483.0	69.80	263.60	7,279.1	-350.1	64.4	-64.4	5.70	5.21	
7,530.0	69.60	264.60	7,295.4	-354.7	20.5	-20.5	2.04	-0.43	
7,598.0	73.20	267.30	7,317.1	-359.2	-43.8	43.8	6.49	5.29	
7,645.0	78.30	269.60	7,328.6	-360.4	-89.3	89.3	11.84	10.85	
7,692.0	82.00	272.20	7,336.7	-359.7	-135.6	135.6	9.57	7.87	
7,786.0	91.30	275.20	7,342.2	-353.6	-229.1	229.1	10.39	9.89	
7,881.0	91.10	275.30	7,340.2	-344.9	-323.7	323.7	0.24	-0.21	
7,975.0	92.90	274.90	7,336.9	-336.6	-417.2	417.2	1.96	1.91	
8,069.0	96.20	273.50	7,329.4	-329.7	-510.7	510.7	3.81	3.51	
8,163.0	98.60	270.70	7,317.3	-326.3	-603.8	603.8	3.90	2.55	
8,258.0	98.50	268.40	7,303.2	-327.0	-697.8	697.8	2.40	-0.11	
8,352.0	94.60	266.20	7,292.5	-331.5	-791.0	791.0	4.76	-4.15	
8,446.0	91.80	265.00	7,287.2	-338.7	-884.6	884.6	3.24	-2.98	
8,540.0	93.20	265.10	7,283.1	-346.8	-978.1	978.1	1.49	1.49	
8,634.0	90.40	263.60	7,280.2	-356.0	-1,071.6	1,071.6	3.38	-2.98	
8,729.0	91.70	265.60	7,278.4	-364.9	-1,166.2	1,166.2	2.51	1.37	
8,823.0	92.80	267.60	7,274.8	-370.5	-1,259.9	1,259.9	2.43	1.17	
8,918.0	89.80	266.20	7,272.6	-375.7	-1,354.8	1,354.8	3.48	-3.16	
9,012.0	90.00	269.00	7,272.8	-379.6	-1,448.7	1,448.7	2.99	0.21	
9,106.0	92.10	270.90	7,271.0	-379.7	-1,542.6	1,542.6	3.01	2.23	
9,201.0	90.40	271.90	7,269.0	-377.4	-1,637.6	1,637.6	2.08	-1.79	
9,295.0	89.80	271.40	7,268.8	-374.6	-1,731.5	1,731.5	0.83	-0.64	
9,390.0	89.80	271.30	7,269.1	-372.4	-1,826.5	1,826.5	0.11	0.00	
9,484.0	89.30	271.30	7,269.9	-370.3	-1,920.5	1,920.5	0.53	-0.53	
9,579.0	89.90	270.80	7,270.5	-368.5	-2,015.5	2,015.5	0.82	0.63	
9,673.0	90.50	270.60	7,270.2	-367.4	-2,109.5	2,109.5	0.67	0.64	
9,768.0	91.10	269.90	7,268.9	-367.0	-2,204.5	2,204.5	0.97	0.63	
9,862.0	90.90	269.60	7,267.2	-367.4	-2,298.4	2,298.4	0.38	-0.21	
9,957.0	92.10	269.50	7,264.8	-368.1	-2,393.4	2,393.4	1.27	1.26	

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10,051.0	91.80	269.20	7,261.6	-369.2	-2,487.3	2,487.3	0.45	-0.32	
10,146.0	90.90	268.90	7,259.3	-370.8	-2,582.3	2,582.3	1.00	-0.95	
10,240.0	89.90	268.40	7,258.7	-373.0	-2,676.2	2,676.2	1.19	-1.06	
10,335.0	89.90	269.30	7,258.8	-374.9	-2,771.2	2,771.2	0.95	0.00	
10,429.0	89.40	270.40	7,259.4	-375.1	-2,865.2	2,865.2	1.29	-0.53	
10,524.0	90.60	270.60	7,259.4	-374.3	-2,960.2	2,960.2	1.28	1.26	
10,618.0	93.50	272.70	7,256.0	-371.6	-3,054.1	3,054.1	3.81	3.09	
10,713.0	93.40	272.70	7,250.3	-367.1	-3,148.8	3,148.8	0.11	-0.11	
10,808.0	93.70	273.20	7,244.4	-362.3	-3,243.5	3,243.5	0.61	0.32	
10,902.0	92.70	271.40	7,239.2	-358.5	-3,337.3	3,337.3	2.19	-1.06	
10,997.0	92.40	269.30	7,235.0	-357.9	-3,432.2	3,432.2	2.23	-0.32	
11,091.0	89.70	268.70	7,233.2	-359.6	-3,526.2	3,526.2	2.94	-2.87	
11,186.0	90.10	269.20	7,233.4	-361.3	-3,621.1	3,621.1	0.67	0.42	
11,280.0	90.40	268.80	7,233.0	-362.9	-3,715.1	3,715.1	0.53	0.32	
11,375.0	90.50	268.40	7,232.3	-365.3	-3,810.1	3,810.1	0.43	0.11	
11,470.0	90.60	268.50	7,231.3	-367.8	-3,905.0	3,905.0	0.15	0.11	
11,564.0	90.60	268.30	7,230.4	-370.4	-3,999.0	3,999.0	0.21	0.00	
11,631.0	90.80	267.80	7,229.5	-372.7	-4,066.0	4,066.0	0.80	0.30	Last CES Survey @ 11,631' MD
11,683.0	90.80	267.80	7,228.8	-374.7	-4,117.9	4,117.9	0.00	0.00	PTB @ 11,683'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Drieth 4E-6H-I368 PBHL	0.00	0.00	7,216.4	-367.6	-4,156.0	1,335,362.49	3,124,646.80	40.253100	-105.053440
- actual wellpath misses target center by 40.7ft at 11683.0ft MD (7228.8 TVD, -374.7 N, -4117.9 E)									
- Point									
Drieth 4E-6H-I368 PBHL	0.00	0.00	7,280.0	-367.6	-4,156.0	1,335,362.49	3,124,646.80	40.253100	-105.053440
- actual wellpath misses target center by 64.2ft at 11683.0ft MD (7228.8 TVD, -374.7 N, -4117.9 E)									
- Point									
Drieth 4E-6H-I368 LP	0.00	0.00	7,320.0	-367.2	-187.9	1,335,383.47	3,128,614.86	40.253102	-105.039223
- actual wellpath misses target center by 23.9ft at 7742.8ft MD (7341.5 TVD, -357.0 N, -186.0 E)									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,631.0	7,229.5	-372.7	-4,066.0	Last CES Survey @ 11,631' MD
11,683.0	7,228.8	-374.7	-4,117.9	PTB @ 11,683'

Checked By: _____	Approved By: _____	Date: _____
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EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S6-T3N-R68W (Zisch/Drieth)

Drieth 4E-6H-I368

Hz

Design: FINAL

Survey Report - Geographic

24 October, 2014

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4E-6H-I368
Project:	DJ Wattenberg	TVD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4E-6H-I368	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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	S6-T3N-R68W (Zisch/Drieth)				
Site Position:		Northing:	1,333,692.14 ft	Latitude:	40.248510
From:	Lat/Long	Easting:	3,124,995.76 ft	Longitude:	-105.052220
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Drieth 4E-6H-I368					
Well Position	+N/-S	0.0 ft	Northing:	1,335,751.68 ft	Latitude:	40.254110
	+E/-W	0.0 ft	Easting:	3,128,800.85 ft	Longitude:	-105.038550
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,110.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2014	8.55	66.77	52,672

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	270.00	

Survey Program	Date	10/24/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
140.0	11,683.0	Survey #1 (Hz)	Geolink MWD	Geolink MWD	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	1,335,751.68	3,128,800.85	40.254110	-105.038550	
140.0	0.40	131.20	140.0	-0.3	0.4	1,335,751.36	3,128,801.22	40.254109	-105.038549	
232.0	0.20	197.80	232.0	-0.7	0.6	1,335,751.00	3,128,801.41	40.254108	-105.038548	
324.0	0.50	248.50	324.0	-1.0	0.1	1,335,750.70	3,128,800.99	40.254107	-105.038550	
415.0	0.90	138.80	415.0	-1.7	0.2	1,335,750.01	3,128,801.09	40.254105	-105.038549	
507.0	1.40	142.20	507.0	-3.1	1.4	1,335,748.59	3,128,802.27	40.254102	-105.038545	
599.0	2.00	112.40	598.9	-4.6	3.6	1,335,747.10	3,128,804.45	40.254097	-105.038537	
691.0	3.00	121.10	690.8	-6.5	7.1	1,335,745.26	3,128,808.00	40.254092	-105.038525	
783.0	4.00	112.60	782.7	-8.9	12.1	1,335,742.81	3,128,813.04	40.254086	-105.038507	
825.0	4.40	115.10	824.6	-10.2	15.0	1,335,741.58	3,128,815.86	40.254082	-105.038497	
928.0	7.00	112.10	927.0	-14.2	24.4	1,335,737.59	3,128,825.27	40.254071	-105.038463	
1,022.0	6.50	111.10	1,020.4	-18.3	34.6	1,335,733.58	3,128,835.57	40.254060	-105.038426	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4E-6H-I368
Project:	DJ Wattenberg	TVD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4E-6H-I368	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,114.0	6.10	124.00	1,111.8	-22.9	43.5	1,335,729.01	3,128,844.50	40.254047	-105.038394
1,206.0	5.20	114.60	1,203.4	-27.4	51.4	1,335,724.59	3,128,852.37	40.254035	-105.038366
1,297.0	6.40	117.30	1,293.9	-31.4	59.6	1,335,720.59	3,128,860.64	40.254024	-105.038337
1,389.0	5.60	112.80	1,385.4	-35.5	68.3	1,335,716.54	3,128,869.36	40.254013	-105.038305
1,481.0	6.70	131.70	1,476.9	-40.8	76.5	1,335,711.27	3,128,877.53	40.253998	-105.038276
1,573.0	6.00	126.30	1,568.3	-47.2	84.4	1,335,704.90	3,128,885.45	40.253980	-105.038248
1,665.0	5.90	120.70	1,659.8	-52.5	92.3	1,335,699.68	3,128,893.42	40.253966	-105.038220
1,757.0	5.90	126.90	1,751.4	-57.7	100.1	1,335,694.46	3,128,901.29	40.253952	-105.038191
1,849.0	5.40	120.50	1,842.9	-62.8	107.7	1,335,689.47	3,128,908.83	40.253938	-105.038165
1,942.0	6.20	130.30	1,935.4	-68.2	115.3	1,335,684.04	3,128,916.46	40.253923	-105.038137
2,034.0	5.50	122.40	2,027.0	-73.8	122.8	1,335,678.50	3,128,924.00	40.253907	-105.038110
2,126.0	5.10	120.80	2,118.6	-78.3	130.0	1,335,674.08	3,128,931.26	40.253895	-105.038084
2,218.0	7.30	140.60	2,210.0	-84.9	137.2	1,335,667.51	3,128,938.52	40.253877	-105.038059
2,309.0	6.50	137.10	2,300.4	-93.1	144.4	1,335,659.30	3,128,945.74	40.253854	-105.038033
2,402.0	6.60	138.00	2,392.8	-101.0	151.6	1,335,651.51	3,128,952.94	40.253833	-105.038007
2,494.0	5.70	139.60	2,484.2	-108.4	158.1	1,335,644.14	3,128,959.47	40.253813	-105.037984
2,586.0	5.10	127.80	2,575.8	-114.4	164.3	1,335,638.19	3,128,965.70	40.253796	-105.037962
2,678.0	5.80	132.70	2,667.4	-120.0	170.9	1,335,632.56	3,128,972.37	40.253781	-105.037938
2,769.0	6.00	120.80	2,757.9	-125.6	178.4	1,335,627.05	3,128,979.87	40.253765	-105.037911
2,862.0	5.20	124.30	2,850.5	-130.4	186.0	1,335,622.22	3,128,987.55	40.253752	-105.037884
2,953.0	8.30	114.20	2,940.9	-135.4	195.4	1,335,617.25	3,128,996.98	40.253738	-105.037850
3,045.0	7.30	113.70	3,032.0	-140.5	206.8	1,335,612.24	3,129,008.41	40.253724	-105.037809
3,137.0	6.30	111.20	3,123.4	-144.7	216.9	1,335,608.12	3,129,018.49	40.253713	-105.037773
3,229.0	5.30	114.10	3,214.9	-148.3	225.5	1,335,604.60	3,129,027.09	40.253703	-105.037742
3,323.0	6.50	110.90	3,308.4	-151.9	234.4	1,335,600.98	3,129,036.05	40.253693	-105.037710
3,418.0	6.80	140.70	3,402.8	-158.2	243.0	1,335,594.75	3,129,044.67	40.253676	-105.037680
3,512.0	6.60	131.90	3,496.1	-166.1	250.5	1,335,586.88	3,129,052.25	40.253654	-105.037653
3,607.0	6.50	131.90	3,590.5	-173.3	258.6	1,335,579.68	3,129,060.36	40.253634	-105.037624
3,701.0	6.40	133.00	3,683.9	-180.5	266.4	1,335,572.60	3,129,068.19	40.253615	-105.037596
3,796.0	8.60	122.40	3,778.1	-187.9	276.3	1,335,565.23	3,129,078.10	40.253594	-105.037560
3,890.0	8.00	121.10	3,871.1	-195.0	287.8	1,335,558.14	3,129,089.67	40.253575	-105.037519
3,985.0	6.80	122.40	3,965.3	-201.5	298.2	1,335,551.77	3,129,100.11	40.253557	-105.037482
4,079.0	6.00	120.50	4,058.7	-206.9	307.2	1,335,546.34	3,129,109.07	40.253542	-105.037450
4,174.0	5.70	122.50	4,153.2	-212.0	315.4	1,335,541.33	3,129,117.35	40.253528	-105.037420
4,269.0	5.20	121.40	4,247.8	-216.8	323.1	1,335,536.59	3,129,125.03	40.253515	-105.037393
4,363.0	4.60	122.10	4,341.5	-221.0	329.9	1,335,532.40	3,129,131.88	40.253503	-105.037368
4,458.0	4.10	120.90	4,436.2	-224.8	336.0	1,335,528.67	3,129,138.04	40.253493	-105.037346
4,552.0	3.70	121.50	4,530.0	-228.1	341.5	1,335,525.39	3,129,143.53	40.253484	-105.037327
4,647.0	3.60	123.40	4,624.8	-231.3	346.6	1,335,522.17	3,129,148.65	40.253475	-105.037308
4,741.0	3.40	124.10	4,718.6	-234.5	351.4	1,335,519.01	3,129,153.44	40.253466	-105.037291
4,836.0	2.60	125.40	4,813.5	-237.3	355.5	1,335,516.20	3,129,157.54	40.253459	-105.037277
4,930.0	4.30	126.80	4,907.3	-240.7	360.0	1,335,512.88	3,129,162.12	40.253449	-105.037260
5,025.0	5.40	102.10	5,002.0	-243.8	367.3	1,335,509.85	3,129,169.36	40.253441	-105.037234
5,120.0	5.50	118.90	5,096.6	-246.9	375.6	1,335,506.75	3,129,177.73	40.253432	-105.037205
5,214.0	6.90	112.80	5,190.0	-251.3	384.8	1,335,502.43	3,129,186.91	40.253420	-105.037172
5,309.0	6.10	111.50	5,284.4	-255.3	394.7	1,335,498.42	3,129,196.88	40.253409	-105.037136
5,403.0	5.60	119.20	5,377.9	-259.4	403.4	1,335,494.40	3,129,205.56	40.253398	-105.037105
5,498.0	4.90	125.40	5,472.5	-264.0	410.7	1,335,489.83	3,129,212.93	40.253385	-105.037079
5,593.0	6.50	131.00	5,567.0	-269.9	418.1	1,335,483.99	3,129,220.33	40.253369	-105.037052
5,687.0	5.70	134.00	5,660.5	-276.6	425.5	1,335,477.29	3,129,227.74	40.253351	-105.037026
5,782.0	5.30	135.80	5,755.1	-283.0	431.9	1,335,470.90	3,129,234.22	40.253333	-105.037003
5,876.0	5.10	135.00	5,848.7	-289.1	437.9	1,335,464.87	3,129,240.24	40.253316	-105.036981
5,971.0	5.30	124.00	5,943.3	-294.5	444.5	1,335,459.46	3,129,246.89	40.253302	-105.036958
6,066.0	7.00	121.40	6,037.7	-300.0	453.1	1,335,454.04	3,129,255.50	40.253286	-105.036927
6,160.0	6.00	118.30	6,131.1	-305.3	462.3	1,335,448.77	3,129,264.74	40.253272	-105.036894

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4E-6H-I368
Project:	DJ Wattenberg	TVD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4E-6H-I368	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,255.0	5.20	118.60	6,225.7	-309.7	470.5	1,335,444.40	3,129,272.91	40.253260	-105.036865
6,349.0	5.80	110.80	6,319.2	-313.5	478.6	1,335,440.72	3,129,281.11	40.253250	-105.036835
6,444.0	5.10	109.00	6,413.8	-316.5	487.1	1,335,437.68	3,129,289.61	40.253241	-105.036805
6,539.0	4.10	109.80	6,508.5	-319.1	494.3	1,335,435.19	3,129,296.81	40.253234	-105.036779
6,586.0	3.20	128.40	6,555.4	-320.4	496.9	1,335,433.82	3,129,299.43	40.253230	-105.036770
6,633.0	5.60	206.60	6,602.3	-323.3	496.9	1,335,430.96	3,129,299.44	40.253223	-105.036770
6,680.0	6.90	245.40	6,649.1	-326.5	493.3	1,335,427.71	3,129,295.86	40.253214	-105.036783
6,728.0	10.10	264.20	6,696.5	-328.2	486.5	1,335,426.05	3,129,289.06	40.253209	-105.036807
6,775.0	12.80	267.20	6,742.6	-328.8	477.2	1,335,425.33	3,129,279.76	40.253207	-105.036841
6,823.0	12.40	263.30	6,789.4	-329.7	466.8	1,335,424.41	3,129,269.34	40.253205	-105.036878
6,870.0	17.50	263.40	6,834.8	-331.1	454.7	1,335,422.95	3,129,257.30	40.253201	-105.036921
6,917.0	22.20	265.30	6,879.0	-332.6	438.9	1,335,421.33	3,129,241.43	40.253197	-105.036978
6,964.0	23.80	264.70	6,922.3	-334.2	420.6	1,335,419.63	3,129,223.15	40.253193	-105.037043
7,012.0	27.40	263.30	6,965.6	-336.4	399.9	1,335,417.34	3,129,202.54	40.253187	-105.037117
7,059.0	31.30	267.70	7,006.5	-338.2	377.0	1,335,415.46	3,129,179.60	40.253182	-105.037200
7,106.0	34.70	270.60	7,045.9	-338.5	351.4	1,335,414.98	3,129,154.02	40.253181	-105.037291
7,153.0	38.20	272.20	7,083.7	-337.8	323.5	1,335,415.53	3,129,126.10	40.253183	-105.037391
7,201.0	40.60	269.70	7,120.8	-337.3	293.0	1,335,415.86	3,129,095.65	40.253184	-105.037500
7,248.0	46.20	268.40	7,155.0	-337.9	260.8	1,335,415.14	3,129,063.38	40.253182	-105.037616
7,295.0	48.50	266.80	7,186.8	-339.4	226.2	1,335,413.50	3,129,028.85	40.253178	-105.037740
7,341.0	53.90	268.30	7,215.6	-340.9	190.4	1,335,411.80	3,128,993.06	40.253174	-105.037868
7,388.0	60.80	266.90	7,241.0	-342.5	150.9	1,335,409.92	3,128,953.55	40.253170	-105.038010
7,435.0	67.30	264.80	7,261.5	-345.6	108.8	1,335,406.63	3,128,911.45	40.253161	-105.038160
7,483.0	69.80	263.60	7,279.1	-350.1	64.4	1,335,401.88	3,128,867.03	40.253149	-105.038320
7,530.0	69.60	264.60	7,295.4	-354.7	20.5	1,335,397.12	3,128,823.21	40.253136	-105.038477
7,598.0	73.20	267.30	7,317.1	-359.2	-43.8	1,335,392.25	3,128,758.96	40.253124	-105.038707
7,645.0	78.30	269.60	7,328.6	-360.4	-89.3	1,335,390.79	3,128,713.45	40.253121	-105.038870
7,692.0	82.00	272.20	7,336.7	-359.7	-135.6	1,335,391.28	3,128,667.16	40.253123	-105.039036
7,786.0	91.30	275.20	7,342.2	-353.6	-229.1	1,335,396.86	3,128,573.60	40.253139	-105.039371
7,881.0	91.10	275.30	7,340.2	-344.9	-323.7	1,335,405.05	3,128,478.97	40.253163	-105.039710
7,975.0	92.90	274.90	7,336.9	-336.6	-417.2	1,335,412.92	3,128,385.36	40.253186	-105.040045
8,069.0	96.20	273.50	7,329.4	-329.7	-510.7	1,335,419.30	3,128,291.89	40.253205	-105.040380
8,163.0	98.60	270.70	7,317.3	-326.3	-603.8	1,335,422.23	3,128,198.74	40.253214	-105.040714
8,258.0	98.50	268.40	7,303.2	-327.0	-697.8	1,335,421.01	3,128,104.81	40.253212	-105.041050
8,352.0	94.60	266.20	7,292.5	-331.5	-791.0	1,335,416.12	3,128,011.57	40.253200	-105.041384
8,446.0	91.80	265.00	7,287.2	-338.7	-884.6	1,335,408.43	3,127,918.04	40.253180	-105.041719
8,540.0	93.20	265.10	7,283.1	-346.8	-978.1	1,335,399.84	3,127,824.53	40.253158	-105.042055
8,634.0	90.40	263.60	7,280.2	-356.0	-1,071.6	1,335,390.10	3,127,731.09	40.253133	-105.042390
8,729.0	91.70	265.60	7,278.4	-364.9	-1,166.2	1,335,380.67	3,127,636.59	40.253108	-105.042728
8,823.0	92.80	267.60	7,274.8	-370.5	-1,259.9	1,335,374.61	3,127,542.86	40.253093	-105.043064
8,918.0	89.80	266.20	7,272.6	-375.7	-1,354.8	1,335,368.98	3,127,448.06	40.253079	-105.043404
9,012.0	90.00	269.00	7,272.8	-379.6	-1,448.7	1,335,364.56	3,127,354.18	40.253068	-105.043740
9,106.0	92.10	270.90	7,271.0	-379.7	-1,542.6	1,335,363.99	3,127,260.20	40.253068	-105.044077
9,201.0	90.40	271.90	7,269.0	-377.4	-1,637.6	1,335,365.81	3,127,165.25	40.253074	-105.044417
9,295.0	89.80	271.40	7,268.8	-374.6	-1,731.5	1,335,368.03	3,127,071.28	40.253081	-105.044754
9,390.0	89.80	271.30	7,269.1	-372.4	-1,826.5	1,335,369.78	3,126,976.29	40.253088	-105.045094
9,484.0	89.30	271.30	7,269.9	-370.3	-1,920.5	1,335,371.42	3,126,882.31	40.253093	-105.045431
9,579.0	89.90	270.80	7,270.5	-368.5	-2,015.5	1,335,372.67	3,126,787.32	40.253098	-105.045771
9,673.0	90.50	270.60	7,270.2	-367.4	-2,109.5	1,335,373.33	3,126,693.32	40.253101	-105.046108
9,768.0	91.10	269.90	7,268.9	-367.0	-2,204.5	1,335,373.25	3,126,598.33	40.253102	-105.046448
9,862.0	90.90	269.60	7,267.2	-367.4	-2,298.4	1,335,372.35	3,126,504.37	40.253101	-105.046785
9,957.0	92.10	269.50	7,264.8	-368.1	-2,393.4	1,335,371.11	3,126,409.41	40.253099	-105.047125
10,051.0	91.80	269.20	7,261.6	-369.2	-2,487.3	1,335,369.55	3,126,315.48	40.253096	-105.047462
10,146.0	90.90	268.90	7,259.3	-370.8	-2,582.3	1,335,367.48	3,126,220.53	40.253092	-105.047802
10,240.0	89.90	268.40	7,258.7	-373.0	-2,676.2	1,335,364.78	3,126,126.57	40.253086	-105.048139

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4E-6H-I368
Project:	DJ Wattenberg	TVD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4E-6H-I368	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
10,335.0	89.90	269.30	7,258.8	-374.9	-2,771.2	1,335,362.38	3,126,031.61	40.253081	-105.048479
10,429.0	89.40	270.40	7,259.4	-375.1	-2,865.2	1,335,361.64	3,125,937.61	40.253080	-105.048816
10,524.0	90.60	270.60	7,259.4	-374.3	-2,960.2	1,335,361.98	3,125,842.62	40.253082	-105.049156
10,618.0	93.50	272.70	7,256.0	-371.6	-3,054.1	1,335,364.19	3,125,748.72	40.253089	-105.049492
10,713.0	93.40	272.70	7,250.3	-367.1	-3,148.8	1,335,368.17	3,125,653.97	40.253102	-105.049832
10,808.0	93.70	273.20	7,244.4	-362.3	-3,243.5	1,335,372.55	3,125,559.26	40.253115	-105.050171
10,902.0	92.70	271.40	7,239.2	-358.5	-3,337.3	1,335,375.83	3,125,465.47	40.253125	-105.050507
10,997.0	92.40	269.30	7,235.0	-357.9	-3,432.2	1,335,375.92	3,125,370.56	40.253127	-105.050847
11,091.0	89.70	268.70	7,233.2	-359.6	-3,526.2	1,335,373.79	3,125,276.61	40.253122	-105.051184
11,186.0	90.10	269.20	7,233.4	-361.3	-3,621.1	1,335,371.55	3,125,181.64	40.253118	-105.051524
11,280.0	90.40	268.80	7,233.0	-362.9	-3,715.1	1,335,369.42	3,125,087.67	40.253113	-105.051861
11,375.0	90.50	268.40	7,232.3	-365.3	-3,810.1	1,335,366.61	3,124,992.71	40.253107	-105.052201
11,470.0	90.60	268.50	7,231.3	-367.8	-3,905.0	1,335,363.54	3,124,897.76	40.253100	-105.052541
11,564.0	90.60	268.30	7,230.4	-370.4	-3,999.0	1,335,360.43	3,124,803.82	40.253092	-105.052878
11,631.0	90.80	267.80	7,229.5	-372.7	-4,066.0	1,335,357.80	3,124,736.88	40.253086	-105.053118
Last CES Survey @ 11,631' MD									
11,683.0	90.80	267.80	7,228.8	-374.7	-4,117.9	1,335,355.54	3,124,684.93	40.253080	-105.053304
PTB @ 11,683'									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Drieth 4E-6H-I368 PBHL	0.00	0.00	7,216.4	-367.6	-4,156.0	1,335,362.49	3,124,646.80	40.253100	-105.053440
- actual wellpath misses target center by 40.7ft at 11683.0ft MD (7228.8 TVD, -374.7 N, -4117.9 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
11,631.0	7,229.5	-372.7	-4,066.0	Last CES Survey @ 11,631' MD	
11,683.0	7,228.8	-374.7	-4,117.9	PTB @ 11,683'	

Checked By: _____ Approved By: _____ Date: _____