

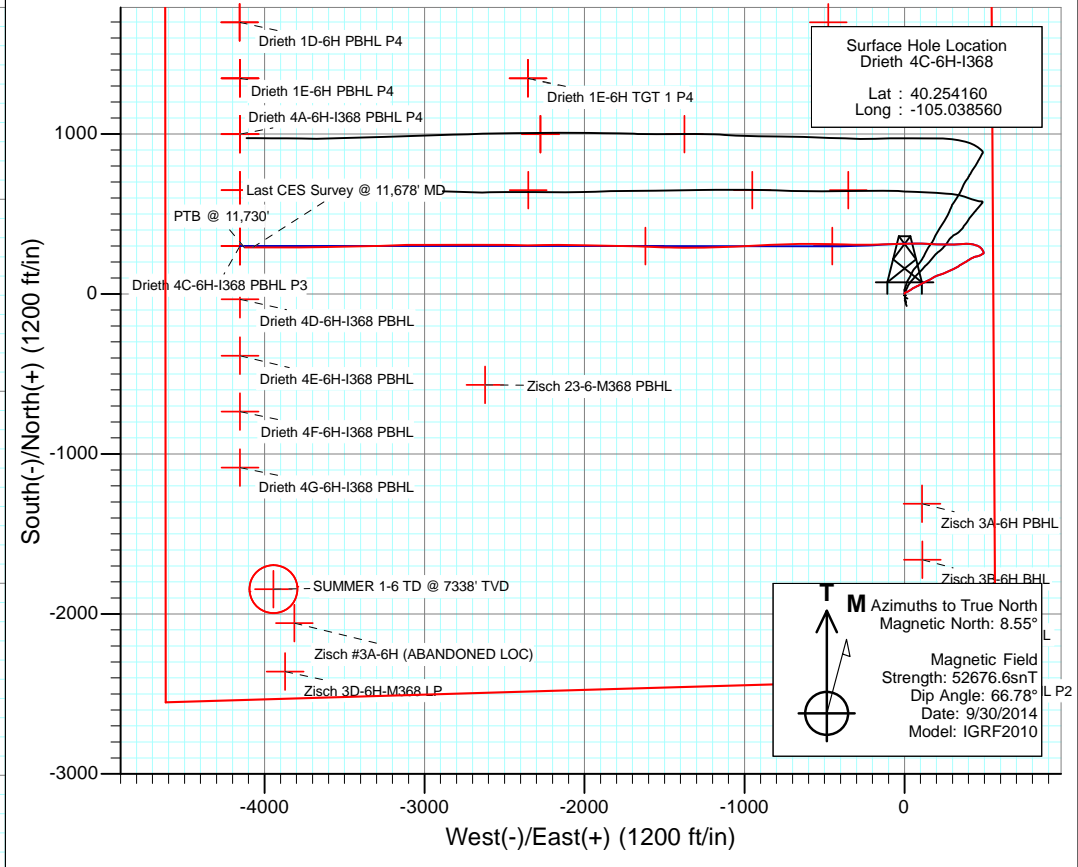
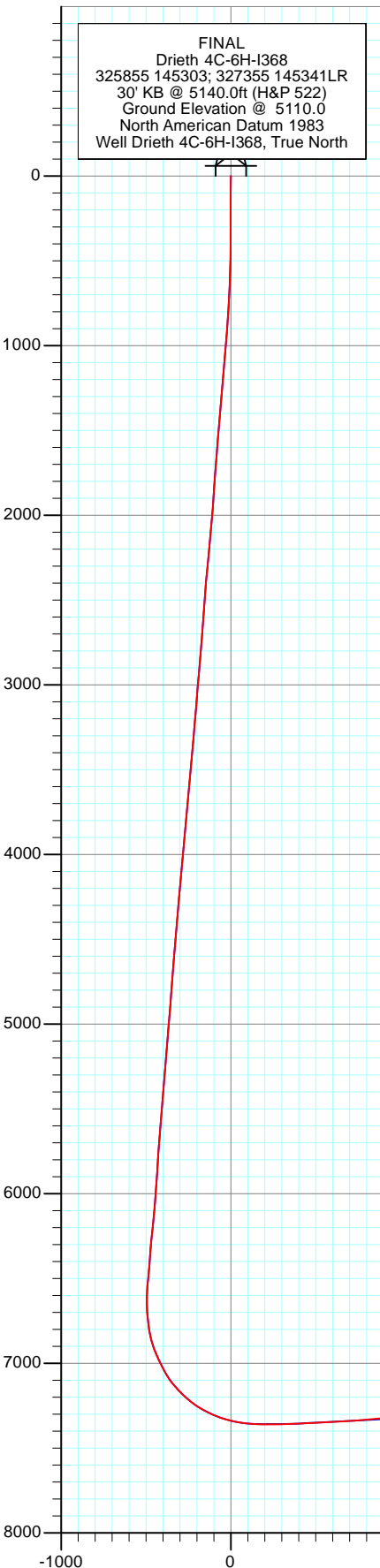


Project: DJ Wattenberg
 Site: S6-T3N-R68W (Zisch/Drieth)
 Well: Drieth 4C-6H-1368
 Wellbore: Hz
 Design: FINAL

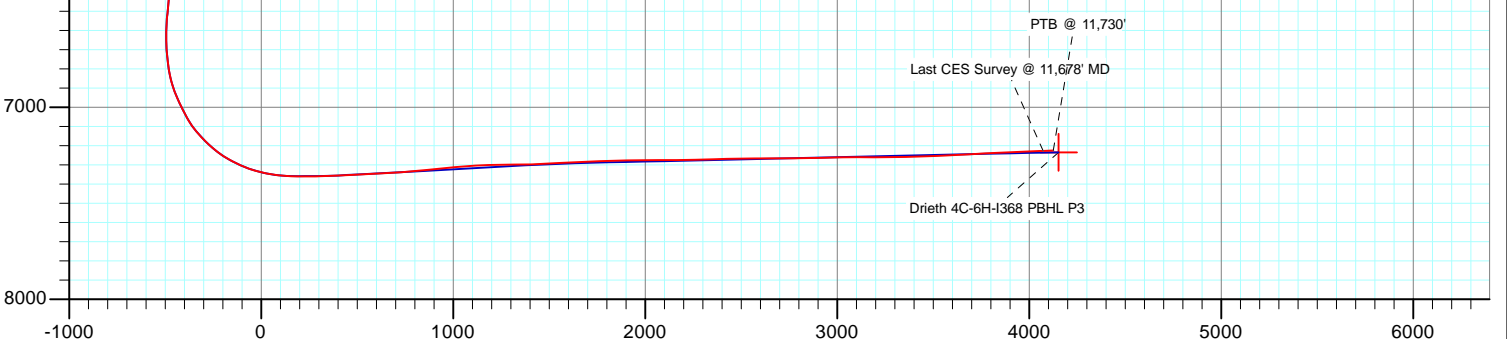


FINAL
 Drieth 4C-6H-1368
 325855 145303; 327355 145341LR
 30' KB @ 5140.0ft (H&P 522)
 Ground Elevation @ 5110.0
 North American Datum 1983
 Well Drieth 4C-6H-1368, True North

True Vertical Depth (1000 ft/in)



Vertical Section at 270.00° (1000 ft/in)



Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Drieth 4C-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 4C-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 4C-6H-I368				
Well Position	+N/-S	0.0 ft	Northing:	1,335,769.88 ft
	+E/-W	0.0 ft	Easting:	3,128,797.96 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Latitude:	40.254160
			Longitude:	-105.038560
			Ground Level:	5,110.0 ft

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/30/2014	8.55	66.78	52,677

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 10/7/2014
From (ft)	To (ft)	Survey (Wellbore)
140.0	11,730.0	Survey #1 (Hz)
		Tool Name Geolink MWD
		Description Geolink MWD

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	1.00	7.20	140.0	1.2	0.2	-0.2	0.71	0.71	
232.0	1.10	354.10	232.0	2.9	0.2	-0.2	0.28	0.11	
324.0	0.50	14.90	324.0	4.2	0.2	-0.2	0.71	-0.65	
416.0	0.90	24.00	416.0	5.2	0.6	-0.6	0.45	0.43	
507.0	1.70	47.20	506.9	6.8	1.9	-1.9	1.04	0.88	
599.0	2.50	69.60	598.9	8.4	4.7	-4.7	1.23	0.87	
691.0	2.70	66.00	690.8	10.0	8.6	-8.6	0.28	0.22	
783.0	3.90	73.00	782.6	11.8	13.6	-13.6	1.37	1.30	
830.0	4.20	66.00	829.5	12.9	16.7	-16.7	1.23	0.64	
926.0	4.30	59.40	925.2	16.2	23.0	-23.0	0.52	0.10	
1,021.0	6.50	60.20	1,019.8	20.7	30.7	-30.7	2.32	2.32	
1,112.0	5.90	57.50	1,110.3	25.8	39.1	-39.1	0.73	-0.66	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4C-6H-I368
Project:	DJ Wattenberg	TD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MVD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4C-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)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,204.0	5.70	53.20	1,201.8	31.0	46.8	-46.8	0.52	-0.22	
1,296.0	5.60	52.20	1,293.4	36.5	54.0	-54.0	0.15	-0.11	
1,388.0	5.20	74.00	1,385.0	40.4	61.5	-61.5	2.26	-0.43	
1,480.0	5.40	65.50	1,476.6	43.4	69.5	-69.5	0.88	0.22	
1,572.0	5.30	62.60	1,568.2	47.1	77.2	-77.2	0.31	-0.11	
1,664.0	5.30	61.00	1,659.8	51.1	84.7	-84.7	0.16	0.00	
1,756.0	4.90	59.50	1,751.4	55.2	91.8	-91.8	0.46	-0.43	
1,848.0	4.60	51.20	1,843.1	59.5	98.0	-98.0	0.81	-0.33	
1,940.0	5.10	66.10	1,934.8	63.5	104.7	-104.7	1.47	0.54	
2,032.0	4.90	63.10	2,026.4	66.9	111.9	-111.9	0.36	-0.22	
2,124.0	5.90	71.60	2,118.0	70.2	119.9	-119.9	1.39	1.09	
2,216.0	5.80	65.40	2,209.5	73.6	128.6	-128.6	0.70	-0.11	
2,308.0	5.80	63.80	2,301.1	77.6	137.0	-137.0	0.18	0.00	
2,400.0	5.60	62.40	2,392.6	81.7	145.1	-145.1	0.26	-0.22	
2,492.0	5.20	58.90	2,484.2	86.0	152.7	-152.7	0.56	-0.43	
2,584.0	5.20	58.40	2,575.8	90.3	159.8	-159.8	0.05	0.00	
2,676.0	5.00	50.90	2,667.5	95.0	166.5	-166.5	0.76	-0.22	
2,768.0	4.60	58.60	2,759.1	99.5	172.7	-172.7	0.82	-0.43	
2,860.0	6.00	66.30	2,850.8	103.3	180.3	-180.3	1.70	1.52	
2,952.0	5.90	65.20	2,942.3	107.2	189.0	-189.0	0.16	-0.11	
3,044.0	5.10	65.10	3,033.8	110.9	197.0	-197.0	0.87	-0.87	
3,136.0	4.50	62.30	3,125.5	114.3	203.9	-203.9	0.70	-0.65	
3,228.0	5.60	72.70	3,217.2	117.3	211.4	-211.4	1.55	1.20	
3,320.0	5.40	73.20	3,310.7	120.0	220.0	-220.0	0.22	-0.21	
3,412.0	4.70	73.80	3,405.4	122.4	228.0	-228.0	0.74	-0.74	
3,504.0	5.60	70.00	3,499.0	125.0	236.0	-236.0	1.02	0.96	
3,596.0	5.40	68.30	3,593.5	128.2	244.5	-244.5	0.27	-0.21	
3,688.0	5.50	70.90	3,687.1	131.4	252.9	-252.9	0.28	0.11	
3,780.0	6.00	64.20	3,781.6	135.0	261.7	-261.7	0.88	0.53	
3,872.0	6.00	63.90	3,875.1	139.3	270.5	-270.5	0.03	0.00	
3,964.0	5.80	66.50	3,969.6	143.4	279.4	-279.4	0.35	-0.21	
4,056.0	5.80	65.60	4,063.1	147.3	288.0	-288.0	0.10	0.00	
4,148.0	5.50	62.60	4,157.7	151.3	296.5	-296.5	0.44	-0.32	
4,240.0	5.30	63.10	4,251.3	155.4	304.3	-304.3	0.22	-0.21	
4,332.0	5.50	66.60	4,345.8	159.2	312.4	-312.4	0.41	0.21	
4,424.0	5.20	67.30	4,439.4	162.6	320.5	-320.5	0.33	-0.32	
4,516.0	5.40	56.00	4,534.0	166.8	328.2	-328.2	1.12	0.21	
4,608.0	5.40	57.70	4,628.6	171.6	335.6	-335.6	0.17	0.00	
4,700.0	5.00	53.60	4,722.2	176.4	342.7	-342.7	0.58	-0.43	
4,792.0	5.80	60.20	4,816.8	181.3	350.2	-350.2	1.06	0.84	
4,884.0	4.90	60.90	4,910.4	185.6	357.8	-357.8	0.96	-0.96	
4,976.0	5.70	59.00	5,005.0	190.0	365.4	-365.4	0.86	0.84	
5,068.0	5.30	57.70	5,098.5	194.7	373.1	-373.1	0.45	-0.43	
5,160.0	5.60	59.30	5,193.1	199.4	380.8	-380.8	0.35	0.32	
5,252.0	5.10	59.00	5,286.7	203.9	388.3	-388.3	0.53	-0.53	
5,344.0	6.30	57.20	5,381.2	208.9	396.3	-396.3	1.28	1.26	
5,436.0	5.40	55.60	5,475.7	214.3	404.4	-404.4	0.96	-0.95	
5,528.0	5.20	63.40	5,569.3	218.7	411.8	-411.8	0.79	-0.21	
5,620.0	4.90	60.90	5,664.0	222.6	419.2	-419.2	0.39	-0.32	
5,712.0	4.90	62.30	5,757.6	226.4	426.3	-426.3	0.13	0.00	
5,804.0	4.20	58.60	5,852.3	230.1	432.8	-432.8	0.80	-0.74	
5,896.0	3.60	87.90	5,947.1	232.0	438.8	-438.8	2.16	-0.63	
5,988.0	4.80	77.80	6,040.9	233.0	445.6	-445.6	1.49	1.28	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4C-6H-I368
Project:	DJ Wattenberg	TD Reference:	30' KB @ 5140.0ft (H&P 522)
Site:	S6-T3N-R68W (Zisch/Drieth)	MVD Reference:	30' KB @ 5140.0ft (H&P 522)
Well:	Drieth 4C-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)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,159.0	5.70	74.00	6,135.5	235.1	454.0	-454.0	1.02	0.95	
6,254.0	6.40	71.50	6,229.9	238.1	463.6	-463.6	0.79	0.74	
6,348.0	4.90	69.10	6,323.5	241.2	472.3	-472.3	1.62	-1.60	
6,443.0	5.60	52.80	6,418.1	245.4	479.8	-479.8	1.73	0.74	
6,537.0	5.80	67.20	6,511.6	250.0	487.8	-487.8	1.53	0.21	
6,562.0	5.50	65.70	6,536.5	251.0	490.0	-490.0	1.34	-1.20	
6,632.0	5.20	19.00	6,606.2	255.4	494.1	-494.1	6.06	-0.43	
6,680.0	6.90	350.60	6,654.0	260.3	494.4	-494.4	7.06	3.54	
6,727.0	9.00	329.80	6,700.5	266.3	492.1	-492.1	7.51	4.47	
6,775.0	11.70	330.80	6,747.7	273.8	487.8	-487.8	5.64	5.62	
6,821.0	12.40	324.00	6,792.7	281.8	482.6	-482.6	3.44	1.52	
6,869.0	15.30	308.70	6,839.3	290.0	474.6	-474.6	9.68	6.04	
6,916.0	19.70	299.20	6,884.2	297.7	462.9	-462.9	11.13	9.36	
6,964.0	23.40	288.10	6,928.8	304.6	446.7	-446.7	11.44	7.71	
7,011.0	25.20	282.10	6,971.7	309.6	428.1	-428.1	6.50	3.83	
7,059.0	26.90	275.10	7,014.8	312.7	407.3	-407.3	7.31	3.54	
7,105.0	28.60	268.30	7,055.5	313.3	385.9	-385.9	7.81	3.70	
7,153.0	35.30	264.30	7,096.2	311.6	360.6	-360.6	14.63	13.96	
7,200.0	40.60	267.60	7,133.3	309.6	331.8	-331.8	12.07	11.28	
7,248.0	44.20	270.60	7,168.7	309.1	299.4	-299.4	8.60	7.50	
7,294.0	47.70	270.20	7,200.7	309.4	266.4	-266.4	7.63	7.61	
7,342.0	52.30	270.60	7,231.5	309.6	229.6	-229.6	9.60	9.58	
7,389.0	57.20	272.50	7,258.7	310.7	191.2	-191.2	10.93	10.43	
7,437.0	62.00	273.30	7,282.9	312.8	149.9	-149.9	10.10	10.00	
7,483.0	66.60	272.10	7,302.9	314.7	108.5	-108.5	10.27	10.00	
7,531.0	70.80	270.00	7,320.3	315.5	63.8	-63.8	9.65	8.75	
7,578.0	74.60	269.40	7,334.3	315.3	19.0	-19.0	8.18	8.09	
7,626.0	78.70	267.60	7,345.4	314.1	-27.7	27.7	9.29	8.54	
7,673.0	82.00	266.50	7,353.2	311.7	-74.0	74.0	7.39	7.02	
7,717.0	85.70	266.90	7,358.0	309.2	-117.7	117.7	8.46	8.41	
7,787.0	89.80	270.80	7,360.7	307.8	-187.6	187.6	8.08	5.86	
7,881.0	90.90	270.50	7,360.1	308.8	-281.5	281.5	1.21	1.17	
7,975.0	92.40	270.60	7,357.4	309.7	-375.5	375.5	1.60	1.60	
8,069.0	92.20	271.30	7,353.7	311.3	-469.4	469.4	0.77	-0.21	
8,164.0	93.50	270.50	7,348.9	312.8	-564.3	564.3	1.61	1.37	
8,258.0	93.70	269.10	7,343.0	312.5	-658.1	658.1	1.50	0.21	
8,352.0	93.30	268.10	7,337.3	310.2	-751.9	751.9	1.14	-0.43	
8,446.0	95.80	267.20	7,329.8	306.3	-845.5	845.5	2.83	2.66	
8,540.0	96.50	266.90	7,319.8	301.5	-938.8	938.8	0.81	0.74	
8,635.0	95.00	267.60	7,310.2	297.0	-1,033.2	1,033.2	1.74	-1.58	
8,729.0	92.60	267.70	7,304.0	293.1	-1,127.0	1,127.0	2.56	-2.55	
8,824.0	91.10	268.00	7,300.9	289.6	-1,221.8	1,221.8	1.61	-1.58	
8,918.0	90.50	270.40	7,299.6	288.3	-1,315.8	1,315.8	2.63	-0.64	
9,012.0	91.20	270.80	7,298.2	289.3	-1,409.8	1,409.8	0.86	0.74	
9,106.0	93.70	272.00	7,294.2	291.5	-1,503.7	1,503.7	2.95	2.66	
9,201.0	93.00	272.30	7,288.7	295.1	-1,598.4	1,598.4	0.80	-0.74	
9,295.0	92.50	271.30	7,284.2	298.1	-1,692.3	1,692.3	1.19	-0.53	
9,390.0	92.00	271.10	7,280.4	300.0	-1,787.2	1,787.2	0.57	-0.53	
9,484.0	90.60	270.90	7,278.3	301.7	-1,881.2	1,881.2	1.50	-1.49	
9,579.0	91.10	271.50	7,276.9	303.7	-1,976.1	1,976.1	0.82	0.53	
9,673.0	90.30	270.80	7,275.7	305.6	-2,070.1	2,070.1	1.13	-0.85	
9,768.0	90.30	269.80	7,275.2	306.1	-2,165.1	2,165.1	1.05	0.00	
9,863.0	91.20	269.20	7,274.0	305.2	-2,260.1	2,260.1	1.14	0.95	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4C-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 4C-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)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
9,957.0	91.40	270.20	7,271.9	304.7	-2,354.0	2,354.0	1.08	0.21	
10,051.0	91.90	271.20	7,269.2	305.9	-2,448.0	2,448.0	1.19	0.53	
10,146.0	90.50	269.90	7,267.2	306.8	-2,543.0	2,543.0	2.01	-1.47	
10,240.0	90.40	270.20	7,266.4	306.9	-2,637.0	2,637.0	0.34	-0.11	
10,335.0	89.90	270.20	7,266.2	307.2	-2,732.0	2,732.0	0.53	-0.53	
10,430.0	90.90	269.70	7,265.5	307.1	-2,827.0	2,827.0	1.18	1.05	
10,524.0	90.90	269.50	7,264.0	306.5	-2,920.9	2,920.9	0.21	0.00	
10,619.0	91.80	270.90	7,261.8	306.8	-3,015.9	3,015.9	1.75	0.95	
10,713.0	90.10	268.40	7,260.2	306.2	-3,109.9	3,109.9	3.22	-1.81	
10,808.0	89.70	267.60	7,260.4	302.9	-3,204.8	3,204.8	0.94	-0.42	
10,903.0	90.80	268.60	7,260.0	299.8	-3,299.8	3,299.8	1.56	1.16	
10,997.0	91.50	269.10	7,258.1	297.9	-3,393.8	3,393.8	0.92	0.74	
11,092.0	91.50	268.20	7,255.6	295.6	-3,488.7	3,488.7	0.95	0.00	
11,186.0	93.70	269.40	7,251.4	293.7	-3,582.6	3,582.6	2.67	2.34	
11,281.0	93.30	268.90	7,245.6	292.3	-3,677.4	3,677.4	0.67	-0.42	
11,375.0	92.40	269.80	7,240.9	291.2	-3,771.3	3,771.3	1.35	-0.96	
11,470.0	92.50	270.00	7,236.8	291.0	-3,866.2	3,866.2	0.24	0.11	
11,565.0	92.30	269.90	7,232.9	290.9	-3,961.1	3,961.1	0.24	-0.21	
11,659.0	92.40	270.10	7,229.0	290.9	-4,055.0	4,055.0	0.24	0.11	
11,678.0	92.50	270.30	7,228.2	291.0	-4,074.0	4,074.0	1.18	0.53	Last CES Survey @ 11,678' MD
11,730.0	92.50	270.30	7,225.9	291.3	-4,125.9	4,125.9	0.00	0.00	PTB @ 11,730'

Cathedral Energy Services

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Drieth 4C-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 4C-6H-I368	North Reference: True
Wellbore: Hz	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Drieth 4C-6H-I368 9200'	0.00	0.00	7,292.0	299.1	-1,619.6	1,336,060.52	3,127,176.80	40.254981	-105.044363
- actual wellpath misses target center by 5.4ft at 9222.1ft MD (7287.6 TVD, 295.9 N, -1619.5 E)									
- Point									
Drieth 4C-6H-I368 PBHL	0.00	0.00	7,280.0	299.1	-4,153.1	1,336,047.34	3,124,643.35	40.254980	-105.053440
- actual wellpath misses target center by 61.0ft at 11730.0ft MD (7225.9 TVD, 291.3 N, -4125.9 E)									
- Point									
Drieth 4C-6H-I368 PBHL	0.00	0.00	7,263.0	299.1	-4,153.1	1,336,047.34	3,124,643.35	40.254980	-105.053440
- actual wellpath misses target center by 46.6ft at 11730.0ft MD (7225.9 TVD, 291.3 N, -4125.9 E)									
- Point									
Drieth 4C-6H-I368 7,800'	0.00	0.00	7,360.0	299.1	-450.7	1,336,066.60	3,128,345.66	40.254981	-105.040175
- actual wellpath misses target center by 13.1ft at 8049.9ft MD (7354.4 TVD, 310.9 N, -450.3 E)									
- Point									
Drieth 4C-6H-I368 PBHL	0.00	0.00	7,235.0	299.1	-4,153.1	1,336,047.34	3,124,643.35	40.254980	-105.053440
- actual wellpath misses target center by 29.7ft at 11730.0ft MD (7225.9 TVD, 291.3 N, -4125.9 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,678.0	7,228.2	291.0	-4,074.0	Last CES Survey @ 11,678' MD	
11,730.0	7,225.9	291.3	-4,125.9	PTB @ 11,730'	

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S6-T3N-R68W (Zisch/Drieth)

Drieth 4C-6H-I368

Hz

Design: FINAL

Survey Report - Geographic

07 October, 2014

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Drieth 4C-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 4C-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 4C-6H-I368			
Well Position	+N/-S 0.0 ft	Northing: 1,335,769.88 ft	Latitude: 40.254160
	+E/-W 0.0 ft	Easting: 3,128,797.96 ft	Longitude: -105.038560
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
	IGRF2010	9/30/2014	(°) 8.55	(°) 66.78	(nT) 52,677

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

Survey Program		Date 10/7/2014			
From	To	Survey (Wellbore)	Tool Name	Description	
(ft) 140.0	(ft) 11,730.0	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	1,335,769.88	3,128,797.96	40.254160	-105.038560	
140.0	1.00	7.20	140.0	1.2	0.2	1,335,771.10	3,128,798.11	40.254163	-105.038560	
232.0	1.10	354.10	232.0	2.9	0.2	1,335,772.77	3,128,798.11	40.254168	-105.038560	
324.0	0.50	14.90	324.0	4.2	0.2	1,335,774.04	3,128,798.11	40.254171	-105.038560	
416.0	0.90	24.00	416.0	5.2	0.6	1,335,775.09	3,128,798.51	40.254174	-105.038558	
507.0	1.70	47.20	506.9	6.8	1.9	1,335,776.66	3,128,799.78	40.254179	-105.038554	
599.0	2.50	69.60	598.9	8.4	4.7	1,335,778.31	3,128,802.65	40.254183	-105.038543	
691.0	2.70	66.00	690.8	10.0	8.6	1,335,779.91	3,128,806.50	40.254187	-105.038529	
783.0	3.90	73.00	782.6	11.8	13.6	1,335,781.73	3,128,811.47	40.254192	-105.038512	
830.0	4.20	66.00	829.5	12.9	16.7	1,335,782.91	3,128,814.56	40.254196	-105.038501	
926.0	4.30	59.40	925.2	16.2	23.0	1,335,786.21	3,128,820.85	40.254205	-105.038478	
1,021.0	6.50	60.20	1,019.8	20.7	30.7	1,335,790.73	3,128,828.56	40.254217	-105.038450	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4C-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 4C-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	
1,112.0	5.90	57.50	1,110.3	25.8	39.1	1,335,795.85	3,128,836.95	40.254231	-105.038420	
1,204.0	5.70	53.20	1,201.8	31.0	46.8	1,335,801.17	3,128,844.57	40.254245	-105.038393	
1,296.0	5.60	52.20	1,293.4	36.5	54.0	1,335,806.69	3,128,851.75	40.254260	-105.038367	
1,388.0	5.20	74.00	1,385.0	40.4	61.5	1,335,810.63	3,128,859.28	40.254271	-105.038340	
1,480.0	5.40	65.50	1,476.6	43.4	69.5	1,335,813.62	3,128,867.21	40.254279	-105.038311	
1,572.0	5.30	62.60	1,568.2	47.1	77.2	1,335,817.41	3,128,874.90	40.254289	-105.038284	
1,664.0	5.30	61.00	1,659.8	51.1	84.7	1,335,821.46	3,128,882.37	40.254300	-105.038257	
1,756.0	4.90	59.50	1,751.4	55.2	91.8	1,335,825.55	3,128,889.45	40.254312	-105.038231	
1,848.0	4.60	51.20	1,843.1	59.5	98.0	1,335,829.89	3,128,895.69	40.254323	-105.038209	
1,940.0	5.10	66.10	1,934.8	63.5	104.7	1,335,833.89	3,128,902.28	40.254334	-105.038185	
2,032.0	4.90	63.10	2,026.4	66.9	111.9	1,335,837.37	3,128,909.51	40.254344	-105.038159	
2,124.0	5.90	71.60	2,118.0	70.2	119.9	1,335,840.68	3,128,917.48	40.254353	-105.038131	
2,216.0	5.80	65.40	2,209.5	73.6	128.6	1,335,844.15	3,128,926.18	40.254362	-105.038100	
2,308.0	5.80	63.80	2,301.1	77.6	137.0	1,335,848.18	3,128,934.56	40.254373	-105.038069	
2,400.0	5.60	62.40	2,392.6	81.7	145.1	1,335,852.36	3,128,942.68	40.254384	-105.038040	
2,492.0	5.20	58.90	2,484.2	86.0	152.7	1,335,856.63	3,128,950.21	40.254396	-105.038013	
2,584.0	5.20	58.40	2,575.8	90.3	159.8	1,335,861.00	3,128,957.31	40.254408	-105.037988	
2,676.0	5.00	50.90	2,667.5	95.0	166.5	1,335,865.75	3,128,963.94	40.254421	-105.037964	
2,768.0	4.60	58.60	2,759.1	99.5	172.7	1,335,870.23	3,128,970.18	40.254433	-105.037941	
2,860.0	6.00	66.30	2,850.8	103.3	180.3	1,335,874.13	3,128,977.71	40.254444	-105.037914	
2,952.0	5.90	65.20	2,942.3	107.2	189.0	1,335,878.09	3,128,986.39	40.254454	-105.037883	
3,044.0	5.10	65.10	3,033.8	110.9	197.0	1,335,881.84	3,128,994.37	40.254465	-105.037854	
3,136.0	4.50	62.30	3,125.5	114.3	203.9	1,335,885.27	3,129,001.26	40.254474	-105.037830	
3,228.0	5.60	72.70	3,217.2	117.3	211.4	1,335,888.32	3,129,008.72	40.254482	-105.037803	
3,320.0	5.40	73.20	3,310.7	120.0	220.0	1,335,891.01	3,129,017.32	40.254489	-105.037772	
3,412.0	4.70	73.80	3,405.4	122.4	228.0	1,335,893.43	3,129,025.33	40.254496	-105.037743	
3,504.0	5.60	70.00	3,499.0	125.0	236.0	1,335,896.12	3,129,033.32	40.254503	-105.037715	
3,596.0	5.40	68.30	3,593.5	128.2	244.5	1,335,899.40	3,129,041.81	40.254512	-105.037684	
3,688.0	5.50	70.90	3,687.1	131.4	252.9	1,335,902.55	3,129,050.16	40.254521	-105.037654	
3,780.0	6.00	64.20	3,781.6	135.0	261.7	1,335,906.25	3,129,058.92	40.254531	-105.037623	
3,872.0	6.00	63.90	3,875.1	139.3	270.5	1,335,910.59	3,129,067.73	40.254542	-105.037591	
3,964.0	5.80	66.50	3,969.6	143.4	279.4	1,335,914.74	3,129,076.57	40.254554	-105.037559	
4,056.0	5.80	65.60	4,063.1	147.3	288.0	1,335,918.64	3,129,085.23	40.254564	-105.037528	
4,148.0	5.50	62.60	4,157.7	151.3	296.5	1,335,922.76	3,129,093.62	40.254575	-105.037498	
4,240.0	5.30	63.10	4,251.3	155.4	304.3	1,335,926.84	3,129,101.47	40.254587	-105.037470	
4,332.0	5.50	66.60	4,345.8	159.2	312.4	1,335,930.67	3,129,109.54	40.254597	-105.037441	
4,424.0	5.20	67.30	4,439.4	162.6	320.5	1,335,934.15	3,129,117.59	40.254606	-105.037412	
4,516.0	5.40	56.00	4,534.0	166.8	328.2	1,335,938.35	3,129,125.24	40.254618	-105.037385	
4,608.0	5.40	57.70	4,628.6	171.6	335.6	1,335,943.28	3,129,132.70	40.254631	-105.037358	
4,700.0	5.00	53.60	4,722.2	176.4	342.7	1,335,948.11	3,129,139.71	40.254644	-105.037333	
4,792.0	5.80	60.20	4,816.8	181.3	350.2	1,335,952.99	3,129,147.19	40.254658	-105.037306	
4,884.0	4.90	60.90	4,910.4	185.6	357.8	1,335,957.34	3,129,154.79	40.254670	-105.037278	
4,976.0	5.70	59.00	5,005.0	190.0	365.4	1,335,961.78	3,129,162.36	40.254682	-105.037251	
5,068.0	5.30	57.70	5,098.5	194.7	373.1	1,335,966.55	3,129,170.01	40.254695	-105.037224	
5,160.0	5.60	59.30	5,193.1	199.4	380.8	1,335,971.30	3,129,177.68	40.254708	-105.037196	
5,252.0	5.10	59.00	5,286.7	203.9	388.3	1,335,975.83	3,129,185.18	40.254720	-105.037169	
5,344.0	6.30	57.20	5,381.2	208.9	396.3	1,335,980.87	3,129,193.15	40.254734	-105.037140	
5,436.0	5.40	55.60	5,475.7	214.3	404.4	1,335,986.26	3,129,201.19	40.254748	-105.037112	
5,528.0	5.20	63.40	5,569.3	218.7	411.8	1,335,990.71	3,129,208.63	40.254760	-105.037085	
5,620.0	4.90	60.90	5,664.0	222.6	419.2	1,335,994.65	3,129,216.00	40.254771	-105.037058	
5,712.0	4.90	62.30	5,757.6	226.4	426.3	1,335,998.50	3,129,223.05	40.254782	-105.037033	
5,804.0	4.20	58.60	5,852.3	230.1	432.8	1,336,002.23	3,129,229.59	40.254792	-105.037009	
5,896.0	3.60	87.90	5,947.1	232.0	438.8	1,336,004.19	3,129,235.53	40.254797	-105.036988	
5,988.0	4.80	77.80	6,040.9	233.0	445.6	1,336,005.16	3,129,242.32	40.254800	-105.036964	
6,080.0	5.70	74.00	6,135.5	235.1	454.0	1,336,007.35	3,129,250.73	40.254805	-105.036934	

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Drieth 4C-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 4C-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	
6,254.0	6.40	71.50	6,229.9	238.1	463.6	1,336,010.38	3,129,260.27	40.254814	-105.036899	
6,348.0	4.90	69.10	6,323.5	241.2	472.3	1,336,013.52	3,129,268.97	40.254822	-105.036868	
6,443.0	5.60	52.80	6,418.1	245.4	479.8	1,336,017.81	3,129,276.43	40.254834	-105.036841	
6,537.0	5.80	67.20	6,511.6	250.0	487.8	1,336,022.46	3,129,284.44	40.254846	-105.036813	
6,562.0	5.50	65.70	6,536.5	251.0	490.0	1,336,023.46	3,129,286.69	40.254849	-105.036805	
6,632.0	5.20	19.00	6,606.2	255.4	494.1	1,336,027.86	3,129,290.76	40.254861	-105.036790	
6,680.0	6.90	350.60	6,654.0	260.3	494.4	1,336,032.76	3,129,290.97	40.254875	-105.036789	
6,727.0	9.00	329.80	6,700.5	266.3	492.1	1,336,038.71	3,129,288.63	40.254891	-105.036797	
6,775.0	11.70	330.80	6,747.7	273.8	487.8	1,336,046.19	3,129,284.33	40.254912	-105.036813	
6,821.0	12.40	324.00	6,792.7	281.8	482.6	1,336,054.23	3,129,279.11	40.254934	-105.036831	
6,869.0	15.30	308.70	6,839.3	290.0	474.6	1,336,062.32	3,129,271.09	40.254956	-105.036860	
6,916.0	19.70	299.20	6,884.2	297.7	462.9	1,336,070.01	3,129,259.28	40.254977	-105.036902	
6,964.0	23.40	288.10	6,928.8	304.6	446.7	1,336,076.83	3,129,243.11	40.254996	-105.036960	
7,011.0	25.20	282.10	6,971.7	309.6	428.1	1,336,081.74	3,129,224.43	40.255010	-105.037026	
7,059.0	26.90	275.10	7,014.8	312.7	407.3	1,336,084.74	3,129,203.60	40.255019	-105.037101	
7,105.0	28.60	268.30	7,055.5	313.3	385.9	1,336,085.22	3,129,182.22	40.255020	-105.037178	
7,153.0	35.30	264.30	7,096.2	311.6	360.6	1,336,083.37	3,129,156.91	40.255015	-105.037268	
7,200.0	40.60	267.60	7,133.3	309.6	331.8	1,336,081.23	3,129,128.11	40.255010	-105.037372	
7,248.0	44.20	270.60	7,168.7	309.1	299.4	1,336,080.58	3,129,095.76	40.255009	-105.037488	
7,294.0	47.70	270.20	7,200.7	309.4	266.4	1,336,080.64	3,129,062.71	40.255009	-105.037606	
7,342.0	52.30	270.60	7,231.5	309.6	229.6	1,336,080.71	3,129,025.95	40.255010	-105.037738	
7,389.0	57.20	272.50	7,258.7	310.7	191.2	1,336,081.57	3,128,987.59	40.255013	-105.037875	
7,437.0	62.00	273.30	7,282.9	312.8	149.9	1,336,083.45	3,128,946.24	40.255019	-105.038023	
7,483.0	66.60	272.10	7,302.9	314.7	108.5	1,336,085.18	3,128,904.84	40.255024	-105.038171	
7,531.0	70.80	270.00	7,320.3	315.5	63.8	1,336,085.75	3,128,860.14	40.255026	-105.038332	
7,578.0	74.60	269.40	7,334.3	315.3	19.0	1,336,085.28	3,128,815.27	40.255026	-105.038492	
7,626.0	78.70	267.60	7,345.4	314.1	-27.7	1,336,083.81	3,128,768.61	40.255022	-105.038660	
7,673.0	82.00	266.50	7,353.2	311.7	-74.0	1,336,081.19	3,128,722.35	40.255016	-105.038825	
7,717.0	85.70	266.90	7,358.0	309.2	-117.7	1,336,078.44	3,128,678.70	40.255009	-105.038982	
7,787.0	89.80	270.80	7,360.7	307.8	-187.6	1,336,076.68	3,128,608.80	40.255005	-105.039232	
7,881.0	90.90	270.50	7,360.1	308.8	-281.5	1,336,077.25	3,128,514.81	40.255008	-105.039569	
7,975.0	92.40	270.60	7,357.4	309.7	-375.5	1,336,077.67	3,128,420.85	40.255010	-105.039906	
8,069.0	92.20	271.30	7,353.7	311.3	-469.4	1,336,078.74	3,128,326.94	40.255015	-105.040242	
8,164.0	93.50	270.50	7,348.9	312.8	-564.3	1,336,079.73	3,128,232.06	40.255019	-105.040582	
8,258.0	93.70	269.10	7,343.0	312.5	-658.1	1,336,078.92	3,128,138.25	40.255018	-105.040918	
8,352.0	93.30	268.10	7,337.3	310.2	-751.9	1,336,076.14	3,128,044.47	40.255011	-105.041254	
8,446.0	95.80	267.20	7,329.8	306.3	-845.5	1,336,071.81	3,127,950.87	40.255001	-105.041590	
8,540.0	96.50	266.90	7,319.8	301.5	-938.8	1,336,066.51	3,127,857.57	40.254988	-105.041924	
8,635.0	95.00	267.60	7,310.2	297.0	-1,033.2	1,336,061.49	3,127,763.18	40.254975	-105.042262	
8,729.0	92.60	267.70	7,304.0	293.1	-1,127.0	1,336,057.16	3,127,669.50	40.254965	-105.042598	
8,824.0	91.10	268.00	7,300.9	289.6	-1,221.8	1,336,053.10	3,127,574.63	40.254955	-105.042938	
8,918.0	90.50	270.40	7,299.6	288.3	-1,315.8	1,336,051.30	3,127,480.67	40.254951	-105.043275	
9,012.0	91.20	270.80	7,298.2	289.3	-1,409.8	1,336,051.79	3,127,386.68	40.254954	-105.043611	
9,106.0	93.70	272.00	7,294.2	291.5	-1,503.7	1,336,053.60	3,127,292.79	40.254960	-105.043948	
9,201.0	93.00	272.30	7,288.7	295.1	-1,598.4	1,336,056.66	3,127,198.01	40.254970	-105.044287	
9,295.0	92.50	271.30	7,284.2	298.1	-1,692.3	1,336,059.12	3,127,104.15	40.254978	-105.044623	
9,390.0	92.00	271.10	7,280.4	300.0	-1,787.2	1,336,060.62	3,127,009.23	40.254984	-105.044964	
9,484.0	90.60	270.90	7,278.3	301.7	-1,881.2	1,336,061.77	3,126,915.27	40.254988	-105.045300	
9,579.0	91.10	271.50	7,276.9	303.7	-1,976.1	1,336,063.26	3,126,820.29	40.254993	-105.045640	
9,673.0	90.30	270.80	7,275.7	305.6	-2,070.1	1,336,064.66	3,126,726.31	40.254999	-105.045977	
9,768.0	90.30	269.80	7,275.2	306.1	-2,165.1	1,336,064.66	3,126,631.31	40.255000	-105.046317	
9,863.0	91.20	269.20	7,274.0	305.2	-2,260.1	1,336,063.34	3,126,536.33	40.254998	-105.046658	
9,957.0	91.40	270.20	7,271.9	304.7	-2,354.0	1,336,062.36	3,126,442.36	40.254996	-105.046994	
10,051.0	91.90	271.20	7,269.2	305.9	-2,448.0	1,336,063.02	3,126,348.40	40.254999	-105.047331	
10,146.0	90.50	269.90	7,267.2	306.8	-2,543.0	1,336,063.44	3,126,253.43	40.255002	-105.047671	

Cathedral Energy Services

Survey Report - Geographic

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Drieth 4C-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 4C-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	
10,240.0	90.40	270.20	7,266.4	306.9	-2,637.0	1,336,063.03	3,126,159.43	40.255002	-105.048008	
10,335.0	89.90	270.20	7,266.2	307.2	-2,732.0	1,336,062.87	3,126,064.43	40.255003	-105.048349	
10,430.0	90.90	269.70	7,265.5	307.1	-2,827.0	1,336,062.29	3,125,969.44	40.255003	-105.048689	
10,524.0	90.90	269.50	7,264.0	306.5	-2,920.9	1,336,061.14	3,125,875.46	40.255001	-105.049026	
10,619.0	91.80	270.90	7,261.8	306.8	-3,015.9	1,336,060.98	3,125,780.49	40.255002	-105.049366	
10,713.0	90.10	268.40	7,260.2	306.2	-3,109.9	1,336,059.92	3,125,686.52	40.255000	-105.049703	
10,808.0	89.70	267.60	7,260.4	302.9	-3,204.8	1,336,056.11	3,125,591.59	40.254991	-105.050043	
10,903.0	90.80	268.60	7,260.0	299.8	-3,299.8	1,336,052.46	3,125,496.65	40.254982	-105.050383	
10,997.0	91.50	269.10	7,258.1	297.9	-3,393.8	1,336,050.09	3,125,402.70	40.254977	-105.050720	
11,092.0	91.50	268.20	7,255.6	295.6	-3,488.7	1,336,047.36	3,125,307.77	40.254971	-105.051060	
11,186.0	93.70	269.40	7,251.4	293.7	-3,582.6	1,336,044.90	3,125,213.90	40.254965	-105.051396	
11,281.0	93.30	268.90	7,245.6	292.3	-3,677.4	1,336,043.00	3,125,119.10	40.254962	-105.051736	
11,375.0	92.40	269.80	7,240.9	291.2	-3,771.3	1,336,041.45	3,125,025.23	40.254959	-105.052072	
11,470.0	92.50	270.00	7,236.8	291.0	-3,866.2	1,336,040.79	3,124,930.32	40.254958	-105.052412	
11,565.0	92.30	269.90	7,232.8	290.9	-3,961.1	1,336,040.21	3,124,835.41	40.254958	-105.052752	
11,659.0	92.40	270.10	7,229.0	290.9	-4,055.0	1,336,039.72	3,124,741.49	40.254958	-105.053089	
11,678.0	92.50	270.30	7,228.2	291.0	-4,074.0	1,336,039.69	3,124,722.53	40.254958	-105.053157	
Last CES Survey @ 11,678' MD										
11,730.0	92.50	270.30	7,225.9	291.3	-4,125.9	1,336,039.69	3,124,670.58	40.254959	-105.053343	
PTB @ 11,730'										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
Drieth 4C-6H-I368 PBHL	0.00	0.00	7,235.0	299.1	-4,153.1	1,336,047.34	3,124,643.35	40.254980	-105.053440	
- hit/miss target										
- Shape										
- actual wellpath misses target center by 29.7ft at 11730.0ft MD (7225.9 TVD, 291.3 N, -4125.9 E)										
- Point										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,678.0	7,228.2	291.0	-4,074.0	Last CES Survey @ 11,678' MD	
11,730.0	7,225.9	291.3	-4,125.9	PTB @ 11,730'	

Checked By: _____ Approved By: _____ Date: _____