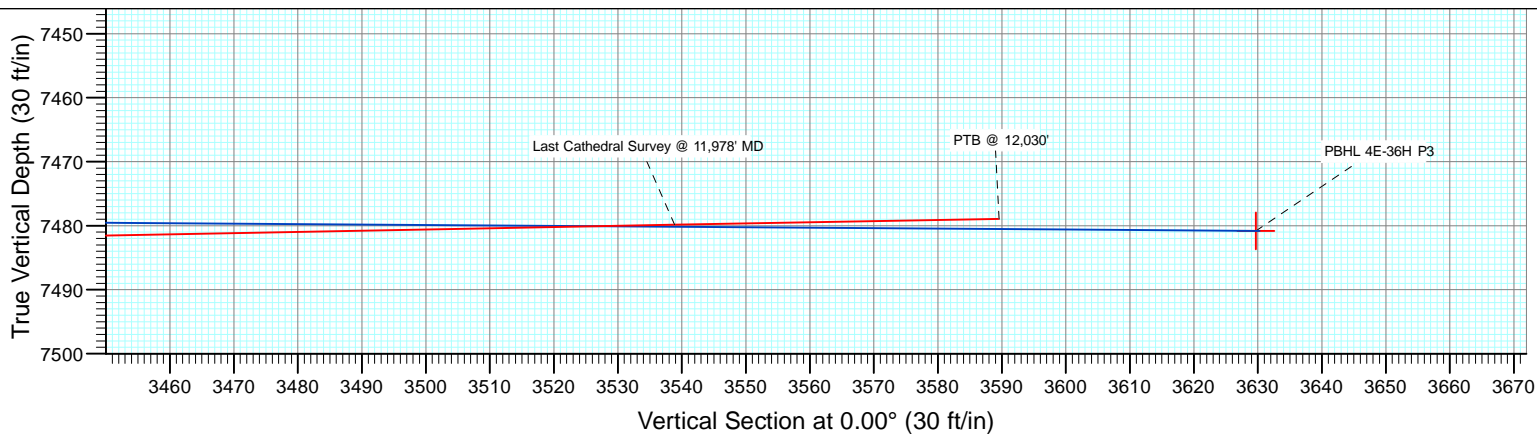
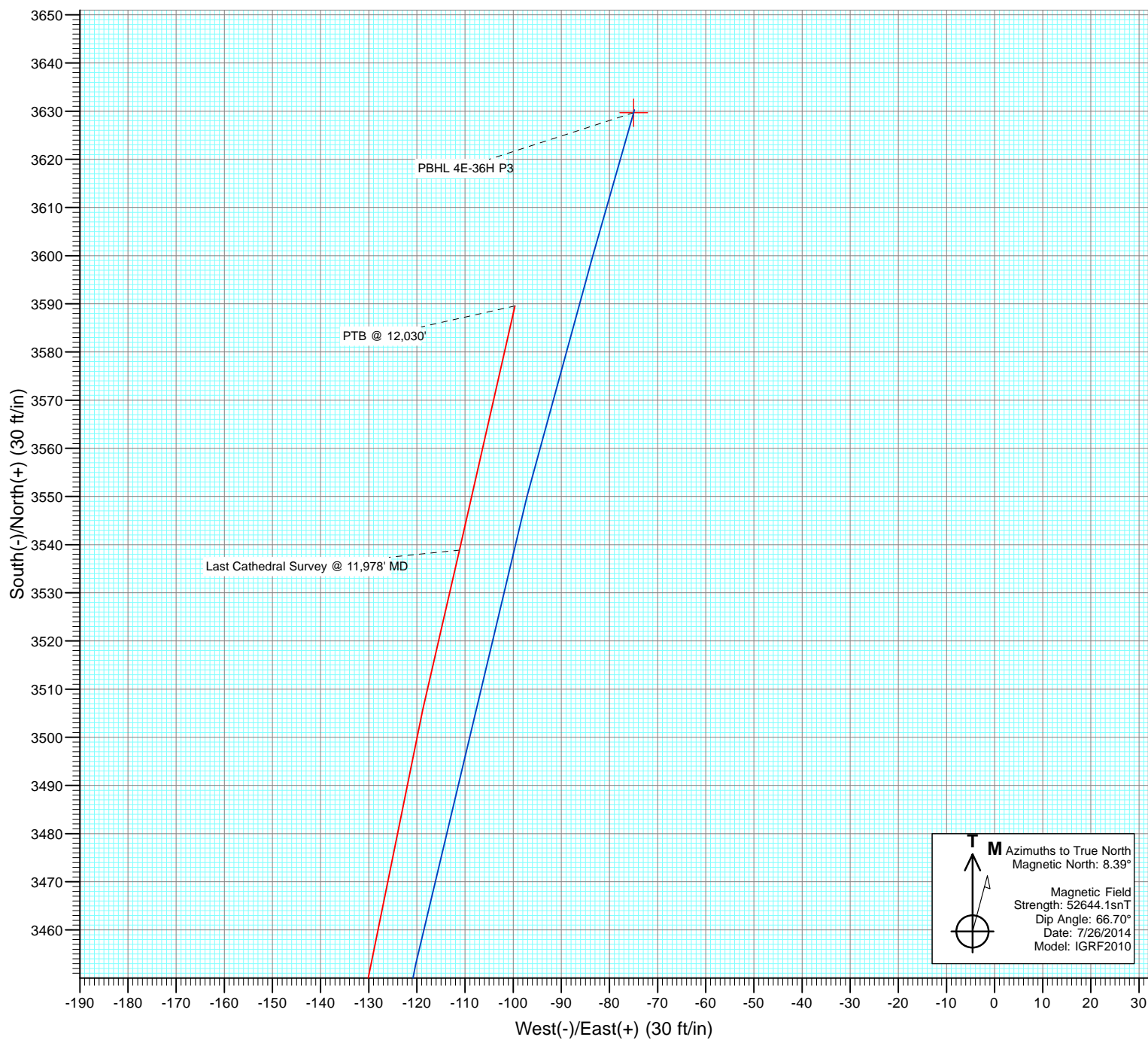




Project: DJ Wattenberg
Site: S36 T2N-R66W (Marcus State, Mumby State)
Well: Mumby State 4E-36H
Wellbore: HZ
Design: FINAL



Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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		S36 T2N-R66W (Marcus State, Mumby State)			
Site Position:		Northing:	1,275,942.66 ft	Latitude:	40.088280
From:	Lat/Long	Easting:	3,215,403.58 ft	Longitude:	-104.730140
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50 °

Well	Mumby State 4E-36H					
Well Position	+N/-S	0.0 ft	Northing:	1,276,895.96 ft	Latitude:	40.090826
	+E/-W	0.0 ft	Easting:	3,218,357.73 ft	Longitude:	-104.719552
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,018.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/26/2014	8.40	66.70	52,644

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	0.00	

Survey Program	Date	8/1/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
141.0	12,030.0	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		
141.0	0.31	58.33	141.0	0.2	0.3	0.2	0.22	0.22		
233.0	0.40	85.90	233.0	0.4	0.9	0.4	0.21	0.10		
325.0	0.20	112.60	325.0	0.3	1.3	0.3	0.26	-0.22		
417.0	0.13	87.86	417.0	0.3	1.6	0.3	0.11	-0.08		
509.0	0.20	55.00	509.0	0.4	1.8	0.4	0.12	0.08		
601.0	1.80	199.00	601.0	-0.9	1.5	-0.9	2.14	1.74		
693.0	2.10	191.60	692.9	-3.9	0.7	-3.9	0.43	0.33		
785.0	3.30	197.00	784.8	-8.1	-0.4	-8.1	1.33	1.30		
877.0	3.30	194.30	876.7	-13.2	-1.9	-13.2	0.17	0.00		
969.0	4.50	195.80	968.5	-19.3	-3.5	-19.3	1.31	1.30		
1,061.0	6.00	185.90	1,060.1	-27.5	-5.0	-27.5	1.90	1.63		
1,092.0	5.80	185.40	1,090.9	-30.7	-5.3	-30.7	0.67	-0.65		

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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	5.50	181.80	1,202.4	-41.7	-6.0	-41.7	0.41	-0.27	
1,296.0	7.40	182.20	1,293.8	-52.0	-6.4	-52.0	2.07	2.07	
1,388.0	9.20	195.70	1,384.8	-65.0	-8.6	-65.0	2.87	1.96	
1,480.0	10.60	192.00	1,475.4	-80.4	-12.3	-80.4	1.67	1.52	
1,572.0	12.60	185.10	1,565.6	-98.6	-15.0	-98.6	2.64	2.17	
1,664.0	12.40	184.10	1,655.4	-118.5	-16.6	-118.5	0.32	-0.22	
1,756.0	12.40	183.70	1,745.2	-138.2	-17.9	-138.2	0.09	0.00	
1,848.0	12.80	181.80	1,835.0	-158.2	-18.9	-158.2	0.63	0.43	
1,940.0	12.50	185.40	1,924.8	-178.3	-20.1	-178.3	0.92	-0.33	
2,031.0	12.70	185.90	2,013.6	-198.1	-22.1	-198.1	0.25	0.22	
2,123.0	11.80	189.50	2,103.5	-217.4	-24.7	-217.4	1.28	-0.98	
2,215.0	12.00	187.90	2,193.5	-236.2	-27.6	-236.2	0.42	0.22	
2,307.0	12.00	187.60	2,283.5	-255.1	-30.1	-255.1	0.07	0.00	
2,399.0	12.50	187.00	2,373.4	-274.5	-32.6	-274.5	0.56	0.54	
2,491.0	12.50	186.60	2,463.2	-294.3	-35.0	-294.3	0.09	0.00	
2,583.0	10.60	193.50	2,553.4	-312.4	-38.1	-312.4	2.55	-2.07	
2,675.0	11.00	193.10	2,643.8	-329.2	-42.1	-329.2	0.44	0.43	
2,767.0	10.60	193.00	2,734.1	-346.0	-46.0	-346.0	0.44	-0.43	
2,859.0	12.00	188.50	2,824.3	-363.7	-49.3	-363.7	1.80	1.52	
2,951.0	12.00	188.80	2,914.3	-382.6	-52.1	-382.6	0.07	0.00	
3,043.0	11.60	188.80	3,004.4	-401.2	-55.0	-401.2	0.43	-0.43	
3,135.0	11.50	187.30	3,094.5	-419.4	-57.6	-419.4	0.34	-0.11	
3,227.0	11.30	186.40	3,184.7	-437.5	-59.8	-437.5	0.29	-0.22	
3,321.0	11.20	186.10	3,276.9	-455.7	-61.8	-455.7	0.12	-0.11	
3,416.0	10.90	187.40	3,370.1	-473.8	-63.9	-473.8	0.41	-0.32	
3,510.0	12.70	186.40	3,462.2	-492.9	-66.2	-492.9	1.93	1.91	
3,605.0	12.00	185.90	3,555.0	-513.1	-68.4	-513.1	0.75	-0.74	
3,699.0	11.30	184.40	3,647.0	-532.0	-70.1	-532.0	0.81	-0.74	
3,794.0	13.40	187.00	3,739.8	-552.2	-72.2	-552.2	2.29	2.21	
3,888.0	12.30	186.60	3,831.5	-572.9	-74.6	-572.9	1.17	-1.17	
3,983.0	11.60	184.80	3,924.4	-592.5	-76.6	-592.5	0.83	-0.74	
4,078.0	11.90	184.50	4,017.4	-611.8	-78.2	-611.8	0.32	0.32	
4,172.0	13.00	188.30	4,109.2	-631.9	-80.4	-631.9	1.46	1.17	
4,267.0	12.50	187.60	4,201.9	-652.7	-83.4	-652.7	0.55	-0.53	
4,361.0	12.00	188.60	4,293.7	-672.4	-86.2	-672.4	0.58	-0.53	
4,455.0	13.50	187.20	4,385.4	-693.0	-89.0	-693.0	1.63	1.60	
4,550.0	13.40	185.10	4,477.8	-714.9	-91.4	-714.9	0.52	-0.11	
4,644.0	12.70	183.90	4,569.4	-736.1	-93.0	-736.1	0.80	-0.74	
4,739.0	12.40	182.10	4,662.1	-756.7	-94.1	-756.7	0.52	-0.32	
4,833.0	11.90	181.60	4,754.0	-776.5	-94.8	-776.5	0.54	-0.53	
4,928.0	13.50	184.10	4,846.7	-797.3	-95.8	-797.3	1.78	1.68	
5,023.0	12.60	192.40	4,939.2	-818.5	-98.8	-818.5	2.19	-0.95	
5,117.0	12.50	192.60	5,031.0	-838.5	-103.3	-838.5	0.12	-0.11	
5,212.0	12.50	191.50	5,123.7	-858.6	-107.6	-858.6	0.25	0.00	
5,306.0	11.90	191.70	5,215.6	-878.0	-111.5	-878.0	0.64	-0.64	
5,401.0	11.60	189.50	5,308.6	-897.0	-115.1	-897.0	0.57	-0.32	
5,496.0	11.60	187.90	5,401.7	-915.9	-118.0	-915.9	0.34	0.00	
5,590.0	11.50	185.70	5,493.8	-934.6	-120.2	-934.6	0.48	-0.11	
5,685.0	11.30	183.50	5,586.9	-953.3	-121.7	-953.3	0.50	-0.21	
5,779.0	11.10	185.20	5,679.1	-971.5	-123.1	-971.5	0.41	-0.21	
5,874.0	10.50	184.20	5,772.4	-989.3	-124.6	-989.3	0.66	-0.63	
5,968.0	11.00	190.70	5,864.8	-1,006.6	-126.9	-1,006.6	1.39	0.53	
6,063.0	12.20	187.00	5,957.8	-1,025.5	-129.8	-1,025.5	1.49	1.26	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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
6,158.0	11.90	185.90	6,050.7	-1,045.2	-132.0	-1,045.2	0.40	-0.32	
6,252.0	13.30	185.10	6,142.5	-1,065.6	-134.0	-1,065.6	1.50	1.49	
6,347.0	12.40	185.00	6,235.1	-1,086.6	-135.8	-1,086.6	0.95	-0.95	
6,441.0	11.40	180.10	6,327.1	-1,106.0	-136.7	-1,106.0	1.51	-1.06	
6,536.0	11.70	186.60	6,420.2	-1,124.9	-137.9	-1,124.9	1.41	0.32	
6,630.0	11.10	184.90	6,512.3	-1,143.4	-139.7	-1,143.4	0.73	-0.64	
6,677.0	11.00	185.70	6,558.4	-1,152.4	-140.6	-1,152.4	0.39	-0.21	
6,725.0	8.00	219.70	6,605.8	-1,159.5	-143.1	-1,159.5	12.98	-6.25	
6,772.0	6.70	272.20	6,652.5	-1,161.9	-148.0	-1,161.9	14.02	-2.77	
6,820.0	6.90	290.30	6,700.1	-1,160.8	-153.5	-1,160.8	4.47	0.42	
6,867.0	6.00	313.10	6,746.8	-1,158.2	-157.9	-1,158.2	5.73	-1.91	
6,914.0	6.30	356.60	6,793.6	-1,153.9	-159.9	-1,153.9	9.70	0.64	
6,961.0	10.00	358.50	6,840.1	-1,147.3	-160.1	-1,147.3	7.89	7.87	
7,009.0	12.90	352.80	6,887.2	-1,137.8	-160.9	-1,137.8	6.48	6.04	
7,056.0	17.10	354.60	6,932.5	-1,125.7	-162.2	-1,125.7	8.99	8.94	
7,103.0	20.40	358.10	6,977.0	-1,110.6	-163.1	-1,110.6	7.42	7.02	
7,150.0	23.90	0.90	7,020.6	-1,092.9	-163.3	-1,092.9	7.78	7.45	
7,198.0	27.40	1.70	7,063.8	-1,072.1	-162.8	-1,072.1	7.33	7.29	
7,245.0	29.20	1.30	7,105.2	-1,049.9	-162.2	-1,049.9	3.85	3.83	
7,292.0	29.10	0.10	7,146.3	-1,027.0	-161.9	-1,027.0	1.26	-0.21	
7,339.0	32.30	357.80	7,186.7	-1,003.0	-162.4	-1,003.0	7.25	6.81	
7,387.0	38.30	356.90	7,225.8	-975.3	-163.7	-975.3	12.55	12.50	
7,434.0	44.60	356.70	7,261.0	-944.3	-165.4	-944.3	13.41	13.40	
7,481.0	48.30	357.60	7,293.4	-910.2	-167.1	-910.2	7.99	7.87	
7,528.0	50.00	357.90	7,324.2	-874.7	-168.5	-874.7	3.65	3.62	
7,576.0	55.30	356.20	7,353.3	-836.6	-170.5	-836.6	11.39	11.04	
7,623.0	61.80	354.20	7,377.8	-796.7	-173.9	-796.7	14.30	13.83	
7,670.0	66.00	353.00	7,398.5	-754.8	-178.6	-754.8	9.23	8.94	
7,717.0	70.50	352.70	7,415.9	-711.5	-184.0	-711.5	9.59	9.57	
7,765.0	75.30	353.30	7,430.0	-665.9	-189.6	-665.9	10.07	10.00	
7,812.0	78.80	354.40	7,440.5	-620.4	-194.5	-620.4	7.79	7.45	
7,859.0	84.00	357.00	7,447.5	-574.1	-198.0	-574.1	12.34	11.06	
7,892.0	87.80	359.60	7,449.9	-541.2	-198.9	-541.2	13.94	11.52	
7,948.0	88.50	1.60	7,451.7	-485.2	-198.4	-485.2	3.78	1.25	
7,976.0	88.70	0.80	7,452.4	-457.2	-197.8	-457.2	2.94	0.71	
8,070.0	88.90	1.40	7,454.4	-363.3	-196.0	-363.3	0.67	0.21	
8,165.0	88.00	1.40	7,456.9	-268.3	-193.6	-268.3	0.95	-0.95	
8,259.0	89.20	1.60	7,459.2	-174.4	-191.2	-174.4	1.29	1.28	
8,354.0	89.30	0.90	7,460.5	-79.4	-189.1	-79.4	0.74	0.11	
8,448.0	91.20	0.80	7,460.1	14.5	-187.7	14.5	2.02	2.02	
8,543.0	90.60	0.40	7,458.6	109.5	-186.7	109.5	0.76	-0.63	
8,637.0	90.40	0.00	7,457.7	203.5	-186.4	203.5	0.48	-0.21	
8,731.0	89.90	359.90	7,457.5	297.5	-186.5	297.5	0.54	-0.53	
8,826.0	90.00	0.30	7,457.6	392.5	-186.3	392.5	0.43	0.11	
8,920.0	90.20	0.90	7,457.4	486.5	-185.3	486.5	0.67	0.21	
9,014.0	89.40	0.40	7,457.7	580.5	-184.3	580.5	1.00	-0.85	
9,109.0	90.30	1.00	7,458.0	675.5	-183.1	675.5	1.14	0.95	
9,203.0	89.80	0.80	7,457.9	769.5	-181.6	769.5	0.57	-0.53	
9,298.0	89.50	0.70	7,458.5	864.5	-180.4	864.5	0.33	-0.32	
9,392.0	88.00	0.60	7,460.5	958.5	-179.3	958.5	1.60	-1.60	
9,487.0	91.60	0.40	7,460.9	1,053.4	-178.5	1,053.4	3.80	3.79	
9,581.0	90.80	0.70	7,458.9	1,147.4	-177.6	1,147.4	0.91	-0.85	
9,676.0	90.40	1.10	7,457.9	1,242.4	-176.1	1,242.4	0.60	-0.42	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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
9,770.0	90.00	1.60	7,457.6	1,336.4	-173.9	1,336.4	0.68	-0.43	
9,865.0	90.00	2.10	7,457.6	1,431.3	-170.8	1,431.3	0.53	0.00	
9,959.0	89.80	359.60	7,457.7	1,525.3	-169.4	1,525.3	2.67	-0.21	
10,054.0	89.30	359.40	7,458.5	1,620.3	-170.2	1,620.3	0.57	-0.53	
10,148.0	86.90	358.60	7,461.6	1,714.2	-171.9	1,714.2	2.69	-2.55	
10,243.0	87.30	358.80	7,466.4	1,809.0	-174.0	1,809.0	0.47	0.42	
10,337.0	89.80	0.40	7,468.8	1,903.0	-174.7	1,903.0	3.16	2.66	
10,432.0	90.50	1.40	7,468.5	1,998.0	-173.2	1,998.0	1.28	0.74	
10,526.0	90.10	1.50	7,468.0	2,092.0	-170.8	2,092.0	0.44	-0.43	
10,621.0	89.70	0.60	7,468.2	2,186.9	-169.1	2,186.9	1.04	-0.42	
10,715.0	89.30	0.40	7,469.0	2,280.9	-168.3	2,280.9	0.48	-0.43	
10,810.0	89.80	1.70	7,469.8	2,375.9	-166.5	2,375.9	1.47	0.53	
10,904.0	90.00	2.20	7,469.9	2,469.9	-163.3	2,469.9	0.57	0.21	
10,999.0	89.50	1.30	7,470.4	2,564.8	-160.4	2,564.8	1.08	-0.53	
11,093.0	88.00	0.20	7,472.4	2,658.8	-159.2	2,658.8	1.98	-1.60	
11,188.0	89.80	357.90	7,474.2	2,753.7	-160.8	2,753.7	3.07	1.89	
11,283.0	89.10	357.60	7,475.1	2,848.7	-164.5	2,848.7	0.80	-0.74	
11,377.0	88.50	357.90	7,477.1	2,942.6	-168.2	2,942.6	0.71	-0.64	
11,472.0	88.90	0.20	7,479.3	3,037.5	-169.8	3,037.5	2.46	0.42	
11,566.0	89.40	2.00	7,480.7	3,131.5	-168.0	3,131.5	1.99	0.53	
11,661.0	90.00	5.20	7,481.2	3,226.3	-162.0	3,226.3	3.43	0.63	
11,755.0	88.90	7.30	7,482.1	3,319.7	-151.8	3,319.7	2.52	-1.17	
11,849.0	90.90	9.90	7,482.2	3,412.6	-137.7	3,412.6	3.49	2.13	
11,944.0	91.20	13.10	7,480.5	3,505.7	-118.8	3,505.7	3.38	0.32	
11,978.0	91.00	12.80	7,479.8	3,538.8	-111.2	3,538.8	1.06	-0.59	Last Cathedral Survey @ 11,978' MD
12,030.0	91.00	12.80	7,478.9	3,589.5	-99.6	3,589.5	0.00	0.00	PTB @ 12,030'

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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
PBHL 4E-36H P3 - actual wellpath misses target center by 47.1ft at 12030.0ft MD (7478.9 TVD, 3589.5 N, -99.6 E) - Point	0.00	0.00	7,480.8	3,629.7	-75.0	1,280,524.84	3,218,250.82	40.100790	-104.719820
MidPt Tgt - actual wellpath misses target center by 4.9ft at 11297.5ft MD (7475.4 TVD, 2863.2 N, -165.1 E) - Point	0.00	0.00	7,475.4	2,863.0	-170.0	1,279,757.33	3,218,162.54	40.098685	-104.720160
Interp @ 7470.0 (Mumby) - actual wellpath misses target center by 7.3ft at 11297.4ft MD (7475.4 TVD, 2863.1 N, -165.1 E) - Point	0.00	0.00	7,470.0	2,863.0	-170.0	1,279,757.33	3,218,162.54	40.098685	-104.720160
PBHL 4E-36H - actual wellpath misses target center by 48.0ft at 12030.0ft MD (7478.9 TVD, 3589.5 N, -99.6 E) - Point	0.00	0.00	7,470.0	3,629.7	-75.0	1,280,524.84	3,218,250.82	40.100790	-104.719820

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,978.0	7,479.8	3,538.8	-111.2	Last Cathedral Survey @ 11,978' MD
12,030.0	7,478.9	3,589.5	-99.6	PTB @ 12,030'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S36 T2N-R66W (Marcus State, Mumby State)

Mumby State 4E-36H

HZ

Design: FINAL

Survey Report - Geographic

01 August, 2014

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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	S36 T2N-R66W (Marcus State, Mumby State)				
Site Position:		Northing:	1,275,942.66 ft	Latitude:	40.088280
From:	Lat/Long	Easting:	3,215,403.58 ft	Longitude:	-104.730140
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.50 °

Well	Mumby State 4E-36H					
Well Position	+N/-S	0.0 ft	Northing:	1,276,895.96 ft	Latitude:	40.090826
	+E/-W	0.0 ft	Easting:	3,218,357.73 ft	Longitude:	-104.719552
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,018.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/26/2014	8.40	66.70	52,644

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	0.00	

Survey Program	Date	8/1/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
141.0	12,030.0	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	1,276,895.96	3,218,357.73	40.090826	-104.719552	
141.0	0.31	58.33	141.0	0.2	0.3	1,276,896.16	3,218,358.06	40.090827	-104.719551	
233.0	0.40	85.90	233.0	0.4	0.9	1,276,896.32	3,218,358.59	40.090827	-104.719549	
325.0	0.20	112.60	325.0	0.3	1.3	1,276,896.28	3,218,359.06	40.090827	-104.719548	
417.0	0.13	87.86	417.0	0.3	1.6	1,276,896.23	3,218,359.31	40.090827	-104.719547	
509.0	0.20	55.00	509.0	0.4	1.8	1,276,896.33	3,218,359.55	40.090827	-104.719546	
601.0	1.80	199.00	601.0	-0.9	1.5	1,276,895.05	3,218,359.22	40.090824	-104.719547	
693.0	2.10	191.60	692.9	-3.9	0.7	1,276,892.02	3,218,358.43	40.090815	-104.719550	
785.0	3.30	197.00	784.8	-8.1	-0.4	1,276,887.83	3,218,357.36	40.090804	-104.719554	
877.0	3.30	194.30	876.7	-13.2	-1.9	1,276,882.72	3,218,355.98	40.090790	-104.719559	
969.0	4.50	195.80	968.5	-19.3	-3.5	1,276,876.67	3,218,354.39	40.090773	-104.719565	
1,061.0	6.00	185.90	1,060.1	-27.5	-5.0	1,276,868.40	3,218,352.99	40.090751	-104.719570	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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
1,092.0	5.80	185.40	1,090.9	-30.7	-5.3	1,276,865.22	3,218,352.70	40.090742	-104.719571
1,204.0	5.50	181.80	1,202.4	-41.7	-6.0	1,276,854.22	3,218,352.10	40.090712	-104.719574
1,296.0	7.40	182.20	1,293.8	-52.0	-6.4	1,276,843.89	3,218,351.82	40.090683	-104.719575
1,388.0	9.20	195.70	1,384.8	-65.0	-8.6	1,276,830.87	3,218,349.72	40.090648	-104.719583
1,480.0	10.60	192.00	1,475.4	-80.4	-12.3	1,276,815.48	3,218,346.10	40.090605	-104.719596
1,572.0	12.60	185.10	1,565.6	-98.6	-15.0	1,276,797.18	3,218,343.61	40.090555	-104.719606
1,664.0	12.40	184.10	1,655.4	-118.5	-16.6	1,276,777.32	3,218,342.19	40.090501	-104.719612
1,756.0	12.40	183.70	1,745.2	-138.2	-17.9	1,276,757.60	3,218,341.02	40.090447	-104.719616
1,848.0	12.80	181.80	1,835.0	-158.2	-18.9	1,276,737.55	3,218,340.24	40.090392	-104.719620
1,940.0	12.50	185.40	1,924.8	-178.3	-20.1	1,276,717.44	3,218,339.16	40.090336	-104.719624
2,031.0	12.70	185.90	2,013.6	-198.1	-22.1	1,276,697.67	3,218,337.38	40.090282	-104.719631
2,123.0	11.80	189.50	2,103.5	-217.4	-24.7	1,276,678.31	3,218,334.96	40.090229	-104.719641
2,215.0	12.00	187.90	2,193.5	-236.2	-27.6	1,276,659.53	3,218,332.25	40.090178	-104.719651
2,307.0	12.00	187.60	2,283.5	-255.1	-30.1	1,276,640.56	3,218,329.84	40.090126	-104.719660
2,399.0	12.50	187.00	2,373.4	-274.5	-32.6	1,276,621.17	3,218,327.53	40.090072	-104.719669
2,491.0	12.50	186.60	2,463.2	-294.3	-35.0	1,276,601.38	3,218,325.35	40.090018	-104.719677
2,583.0	10.60	193.50	2,553.4	-312.4	-38.1	1,276,583.23	3,218,322.39	40.089968	-104.719688
2,675.0	11.00	193.10	2,643.8	-329.2	-42.1	1,276,566.42	3,218,318.57	40.089922	-104.719703
2,767.0	10.60	193.00	2,734.1	-346.0	-46.0	1,276,549.59	3,218,314.83	40.089876	-104.719717
2,859.0	12.00	188.50	2,824.3	-363.7	-49.3	1,276,531.86	3,218,311.67	40.089828	-104.719728
2,951.0	12.00	188.80	2,914.3	-382.6	-52.1	1,276,512.93	3,218,308.96	40.089776	-104.719739
3,043.0	11.60	188.80	3,004.4	-401.2	-55.0	1,276,494.31	3,218,306.24	40.089725	-104.719749
3,135.0	11.50	187.30	3,094.5	-419.4	-57.6	1,276,476.05	3,218,303.82	40.089675	-104.719758
3,227.0	11.30	186.40	3,184.7	-437.5	-59.8	1,276,457.98	3,218,301.81	40.089625	-104.719766
3,321.0	11.20	186.10	3,276.9	-455.7	-61.8	1,276,439.73	3,218,299.97	40.089575	-104.719773
3,416.0	10.90	187.40	3,370.1	-473.8	-63.9	1,276,421.63	3,218,298.00	40.089525	-104.719781
3,510.0	12.70	186.40	3,462.2	-492.9	-66.2	1,276,402.53	3,218,295.87	40.089473	-104.719789
3,605.0	12.00	185.90	3,555.0	-513.1	-68.4	1,276,382.31	3,218,293.87	40.089418	-104.719797
3,699.0	11.30	184.40	3,647.0	-532.0	-70.1	1,276,363.39	3,218,292.32	40.089366	-104.719803
3,794.0	13.40	187.00	3,739.8	-552.2	-72.2	1,276,343.17	3,218,290.44	40.089310	-104.719810
3,888.0	12.30	186.60	3,831.5	-572.9	-74.6	1,276,322.39	3,218,288.15	40.089253	-104.719819
3,983.0	11.60	184.80	3,924.4	-592.5	-76.6	1,276,302.80	3,218,286.36	40.089200	-104.719826
4,078.0	11.90	184.50	4,017.4	-611.8	-78.2	1,276,283.51	3,218,284.96	40.089147	-104.719832
4,172.0	13.00	188.30	4,109.2	-631.9	-80.4	1,276,263.36	3,218,282.85	40.089091	-104.719840
4,267.0	12.50	187.60	4,201.9	-652.7	-83.4	1,276,242.57	3,218,280.13	40.089034	-104.719850
4,361.0	12.00	188.60	4,293.7	-672.4	-86.2	1,276,222.80	3,218,277.50	40.088980	-104.719860
4,455.0	13.50	187.20	4,385.4	-693.0	-89.0	1,276,202.23	3,218,274.84	40.088924	-104.719870
4,550.0	13.40	185.10	4,477.8	-714.9	-91.4	1,276,180.25	3,218,272.67	40.088863	-104.719879
4,644.0	12.70	183.90	4,569.4	-736.1	-93.0	1,276,159.07	3,218,271.18	40.088805	-104.719885
4,739.0	12.40	182.10	4,662.1	-756.7	-94.1	1,276,138.45	3,218,270.28	40.088749	-104.719889
4,833.0	11.90	181.60	4,754.0	-776.5	-94.8	1,276,118.67	3,218,269.81	40.088695	-104.719891
4,928.0	13.50	184.10	4,846.7	-797.3	-95.8	1,276,097.81	3,218,268.93	40.088637	-104.719895
5,023.0	12.60	192.40	4,939.2	-818.5	-98.8	1,276,076.60	3,218,266.10	40.088579	-104.719906
5,117.0	12.50	192.60	5,031.0	-838.5	-103.3	1,276,056.62	3,218,261.85	40.088524	-104.719921
5,212.0	12.50	191.50	5,123.7	-858.6	-107.6	1,276,036.48	3,218,257.74	40.088469	-104.719937
5,306.0	11.90	191.70	5,215.6	-878.0	-111.5	1,276,016.99	3,218,253.92	40.088416	-104.719951
5,401.0	11.60	189.50	5,308.6	-897.0	-115.1	1,275,997.94	3,218,250.52	40.088364	-104.719964
5,496.0	11.60	187.90	5,401.7	-915.9	-118.0	1,275,979.04	3,218,247.80	40.088312	-104.719974
5,590.0	11.50	185.70	5,493.8	-934.6	-120.2	1,275,960.33	3,218,245.73	40.088260	-104.719982
5,685.0	11.30	183.50	5,586.9	-953.3	-121.7	1,275,941.61	3,218,244.39	40.088209	-104.719987
5,779.0	11.10	185.20	5,679.1	-971.5	-123.1	1,275,923.39	3,218,243.17	40.088159	-104.719992
5,874.0	10.50	184.20	5,772.4	-989.3	-124.6	1,275,905.64	3,218,241.86	40.088110	-104.719998
5,968.0	11.00	190.70	5,864.8	-1,006.6	-126.9	1,275,888.27	3,218,239.72	40.088063	-104.720006
6,063.0	12.20	187.00	5,957.8	-1,025.5	-129.8	1,275,869.37	3,218,236.98	40.088011	-104.720016
6,158.0	11.90	185.90	6,050.7	-1,045.2	-132.0	1,275,849.65	3,218,234.93	40.087957	-104.720024

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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
6,252.0	13.30	185.10	6,142.5	-1,065.6	-134.0	1,275,829.22	3,218,233.15	40.087901	-104.720031
6,347.0	12.40	185.00	6,235.1	-1,086.6	-135.8	1,275,808.16	3,218,231.47	40.087843	-104.720038
6,441.0	11.40	180.10	6,327.1	-1,106.0	-136.7	1,275,788.81	3,218,230.75	40.087790	-104.720041
6,536.0	11.70	186.60	6,420.2	-1,124.9	-137.9	1,275,769.84	3,218,229.79	40.087738	-104.720045
6,630.0	11.10	184.90	6,512.3	-1,143.4	-139.7	1,275,751.34	3,218,228.08	40.087687	-104.720052
6,677.0	11.00	185.70	6,558.4	-1,152.4	-140.6	1,275,742.36	3,218,227.33	40.087663	-104.720055
6,725.0	8.00	219.70	6,605.8	-1,159.5	-143.1	1,275,735.21	3,218,224.80	40.087643	-104.720064
6,772.0	6.70	272.20	6,652.5	-1,161.9	-148.0	1,275,732.75	3,218,219.99	40.087636	-104.720081
6,820.0	6.90	290.30	6,700.1	-1,160.8	-153.5	1,275,733.81	3,218,214.48	40.087639	-104.720101
6,867.0	6.00	313.10	6,746.8	-1,158.2	-157.9	1,275,736.43	3,218,210.01	40.087647	-104.720117
6,914.0	6.30	356.60	6,793.6	-1,153.9	-159.9	1,275,740.67	3,218,208.03	40.087658	-104.720124
6,961.0	10.00	358.50	6,840.1	-1,147.3	-160.1	1,275,747.32	3,218,207.71	40.087677	-104.720125
7,009.0	12.90	352.80	6,887.2	-1,137.8	-160.9	1,275,756.80	3,218,206.85	40.087703	-104.720127
7,056.0	17.10	354.60	6,932.5	-1,125.7	-162.2	1,275,768.88	3,218,205.43	40.087736	-104.720132
7,103.0	20.40	358.10	6,977.0	-1,110.6	-163.1	1,275,783.94	3,218,204.38	40.087777	-104.720135
7,150.0	23.90	0.90	7,020.6	-1,092.9	-163.3	1,275,801.65	3,218,204.10	40.087826	-104.720136
7,198.0	27.40	1.70	7,063.8	-1,072.1	-162.8	1,275,822.42	3,218,204.40	40.087883	-104.720134
7,245.0	29.20	1.30	7,105.2	-1,049.9	-162.2	1,275,844.70	3,218,204.78	40.087944	-104.720132
7,292.0	29.10	0.10	7,146.3	-1,027.0	-161.9	1,275,867.59	3,218,204.86	40.088007	-104.720131
7,339.0	32.30	357.80	7,186.7	-1,003.0	-162.4	1,275,891.57	3,218,204.19	40.088073	-104.720133
7,387.0	38.30	356.90	7,225.8	-975.3	-163.7	1,275,919.25	3,218,202.64	40.088149	-104.720137
7,434.0	44.60	356.70	7,261.0	-944.3	-165.4	1,275,950.28	3,218,200.63	40.088234	-104.720143
7,481.0	48.30	357.60	7,293.4	-910.2	-167.1	1,275,984.28	3,218,198.65	40.088327	-104.720150
7,528.0	50.00	357.90	7,324.2	-874.7	-168.5	1,276,019.79	3,218,196.94	40.088425	-104.720154
7,576.0	55.30	356.20	7,353.3	-836.6	-170.5	1,276,057.86	3,218,194.62	40.088529	-104.720162
7,623.0	61.80	354.20	7,377.8	-796.7	-173.9	1,276,097.76	3,218,190.89	40.088639	-104.720174
7,670.0	66.00	353.00	7,398.5	-754.8	-178.6	1,276,139.65	3,218,185.81	40.088754	-104.720190
7,717.0	70.50	352.70	7,415.9	-711.5	-184.0	1,276,182.90	3,218,180.00	40.088873	-104.720210
7,765.0	75.30	353.30	7,430.0	-665.9	-189.6	1,276,228.38	3,218,174.01	40.088998	-104.720230
7,812.0	78.80	354.40	7,440.5	-620.4	-194.5	1,276,273.86	3,218,168.71	40.089123	-104.720247
7,859.0	84.00	357.00	7,447.5	-574.1	-198.0	1,276,320.15	3,218,164.82	40.089250	-104.720260
7,892.0	87.80	359.60	7,449.9	-541.2	-198.9	1,276,353.04	3,218,163.56	40.089340	-104.720263
7,948.0	88.50	1.60	7,451.7	-485.2	-198.4	1,276,409.00	3,218,163.65	40.089494	-104.720261
7,976.0	88.70	0.80	7,452.4	-457.2	-197.8	1,276,436.99	3,218,163.99	40.089571	-104.720259
8,070.0	88.90	1.40	7,454.4	-363.3	-196.0	1,276,530.97	3,218,164.97	40.089829	-104.720253
8,165.0	88.00	1.40	7,456.9	-268.3	-193.6	1,276,625.92	3,218,166.46	40.090089	-104.720244
8,259.0	89.20	1.60	7,459.2	-174.4	-191.2	1,276,719.88	3,218,168.09	40.090347	-104.720236
8,354.0	89.30	0.90	7,460.5	-79.4	-189.1	1,276,814.86	3,218,169.33	40.090608	-104.720228
8,448.0	91.20	0.80	7,460.1	14.5	-187.7	1,276,908.85	3,218,169.89	40.090866	-104.720223
8,543.0	90.60	0.40	7,458.6	109.5	-186.7	1,277,003.84	3,218,170.05	40.091127	-104.720220
8,637.0	90.40	0.00	7,457.7	203.5	-186.4	1,277,097.84	3,218,169.55	40.091385	-104.720219
8,731.0	89.90	359.90	7,457.5	297.5	-186.5	1,277,191.83	3,218,168.64	40.091643	-104.720219
8,826.0	90.00	0.30	7,457.6	392.5	-186.3	1,277,286.83	3,218,167.97	40.091904	-104.720218
8,920.0	90.20	0.90	7,457.4	486.5	-185.3	1,277,380.83	3,218,168.13	40.092162	-104.720215
9,014.0	89.40	0.40	7,457.7	580.5	-184.3	1,277,474.83	3,218,168.37	40.092420	-104.720211
9,109.0	90.30	1.00	7,458.0	675.5	-183.1	1,277,569.82	3,218,168.69	40.092680	-104.720207
9,203.0	89.80	0.80	7,457.9	769.5	-181.6	1,277,663.82	3,218,169.34	40.092938	-104.720201
9,298.0	89.50	0.70	7,458.5	864.5	-180.4	1,277,758.82	3,218,169.75	40.093199	-104.720197
9,392.0	88.00	0.60	7,460.5	958.5	-179.3	1,277,852.79	3,218,169.99	40.093457	-104.720193
9,487.0	91.60	0.40	7,460.9	1,053.4	-178.5	1,277,947.78	3,218,169.98	40.093718	-104.720190
9,581.0	90.80	0.70	7,458.9	1,147.4	-177.6	1,278,041.76	3,218,170.06	40.093976	-104.720187
9,676.0	90.40	1.10	7,457.9	1,242.4	-176.1	1,278,136.75	3,218,170.71	40.094237	-104.720182
9,770.0	90.00	1.60	7,457.6	1,336.4	-173.9	1,278,230.74	3,218,172.10	40.094495	-104.720174
9,865.0	90.00	2.10	7,457.6	1,431.3	-170.8	1,278,325.71	3,218,174.33	40.094755	-104.720163
9,959.0	89.80	359.60	7,457.7	1,525.3	-169.4	1,278,419.70	3,218,174.90	40.095013	-104.720158

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Mumby State 4E-36H
Project:	DJ Wattenberg	TVD Reference:	WELL @ 5048.0ft (H&P 522)
Site:	S36 T2N-R66W (Marcus State, Mumby State)	MD Reference:	WELL @ 5048.0ft (H&P 522)
Well:	Mumby State 4E-36H	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
10,054.0	89.30	359.40	7,458.5	1,620.3	-170.2	1,278,514.68	3,218,173.23	40.095274	-104.720161
10,148.0	86.90	358.60	7,461.6	1,714.2	-171.9	1,278,608.59	3,218,170.77	40.095532	-104.720167
10,243.0	87.30	358.80	7,466.4	1,809.0	-174.0	1,278,703.40	3,218,167.78	40.095792	-104.720174
10,337.0	89.80	0.40	7,468.8	1,903.0	-174.7	1,278,797.35	3,218,166.30	40.096050	-104.720177
10,432.0	90.50	1.40	7,468.5	1,998.0	-173.2	1,278,892.35	3,218,166.95	40.096311	-104.720171
10,526.0	90.10	1.50	7,468.0	2,092.0	-170.8	1,278,986.33	3,218,168.51	40.096569	-104.720163
10,621.0	89.70	0.60	7,468.2	2,186.9	-169.1	1,279,081.33	3,218,169.41	40.096830	-104.720157
10,715.0	89.30	0.40	7,469.0	2,280.9	-168.3	1,279,175.32	3,218,169.40	40.097088	-104.720154
10,810.0	89.80	1.70	7,469.8	2,375.9	-166.5	1,279,270.31	3,218,170.31	40.097348	-104.720148
10,904.0	90.00	2.20	7,469.9	2,469.9	-163.3	1,279,364.28	3,218,172.68	40.097606	-104.720136
10,999.0	89.50	1.30	7,470.4	2,564.8	-160.4	1,279,459.26	3,218,174.75	40.097867	-104.720126
11,093.0	88.00	0.20	7,472.4	2,658.8	-159.2	1,279,553.23	3,218,175.15	40.098125	-104.720121
11,188.0	89.80	357.90	7,474.2	2,753.7	-160.8	1,279,648.17	3,218,172.74	40.098385	-104.720127
11,283.0	89.10	357.60	7,475.1	2,848.7	-164.5	1,279,743.06	3,218,168.17	40.098646	-104.720140
11,377.0	88.50	357.90	7,477.1	2,942.6	-168.2	1,279,836.93	3,218,163.66	40.098904	-104.720153
11,472.0	88.90	0.20	7,479.3	3,037.5	-169.8	1,279,931.87	3,218,161.25	40.099165	-104.720159
11,566.0	89.40	2.00	7,480.7	3,131.5	-168.0	1,280,025.85	3,218,162.22	40.099422	-104.720153
11,661.0	90.00	5.20	7,481.2	3,226.3	-162.0	1,280,120.69	3,218,167.35	40.099683	-104.720131
11,755.0	88.90	7.30	7,482.1	3,319.7	-151.8	1,280,214.21	3,218,176.76	40.099939	-104.720095
11,849.0	90.90	9.90	7,482.2	3,412.6	-137.7	1,280,307.26	3,218,190.00	40.100194	-104.720045
11,944.0	91.20	13.10	7,480.5	3,505.7	-118.8	1,280,400.49	3,218,208.11	40.100450	-104.719977
11,978.0	91.00	12.80	7,479.8	3,538.8	-111.2	1,280,433.68	3,218,215.44	40.100541	-104.719950
Last Cathedral Survey @ 11,978' MD									
12,030.0	91.00	12.80	7,478.9	3,589.5	-99.6	1,280,484.48	3,218,226.51	40.100680	-104.719908
PTB @ 12,030'									

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									
PBHL 4E-36H P3	0.00	0.00	7,480.8	3,629.7	-75.0	1,280,524.84	3,218,250.82	40.100790	-104.719820
- actual wellpath misses target center by 47.1ft at 12030.0ft MD (7478.9 TVD, 3589.5 N, -99.6 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
11,978.0	7,479.8	3,538.8	-111.2	Last Cathedral Survey @ 11,978' MD	
12,030.0	7,478.9	3,589.5	-99.6	PTB @ 12,030'	

Checked By: _____ Approved By: _____ Date: _____