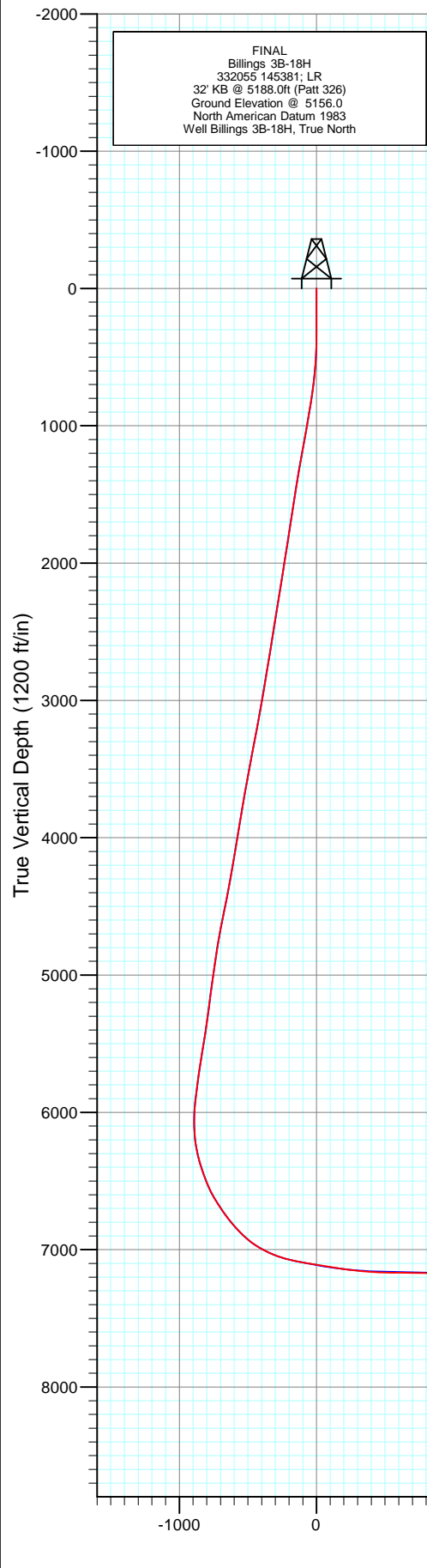
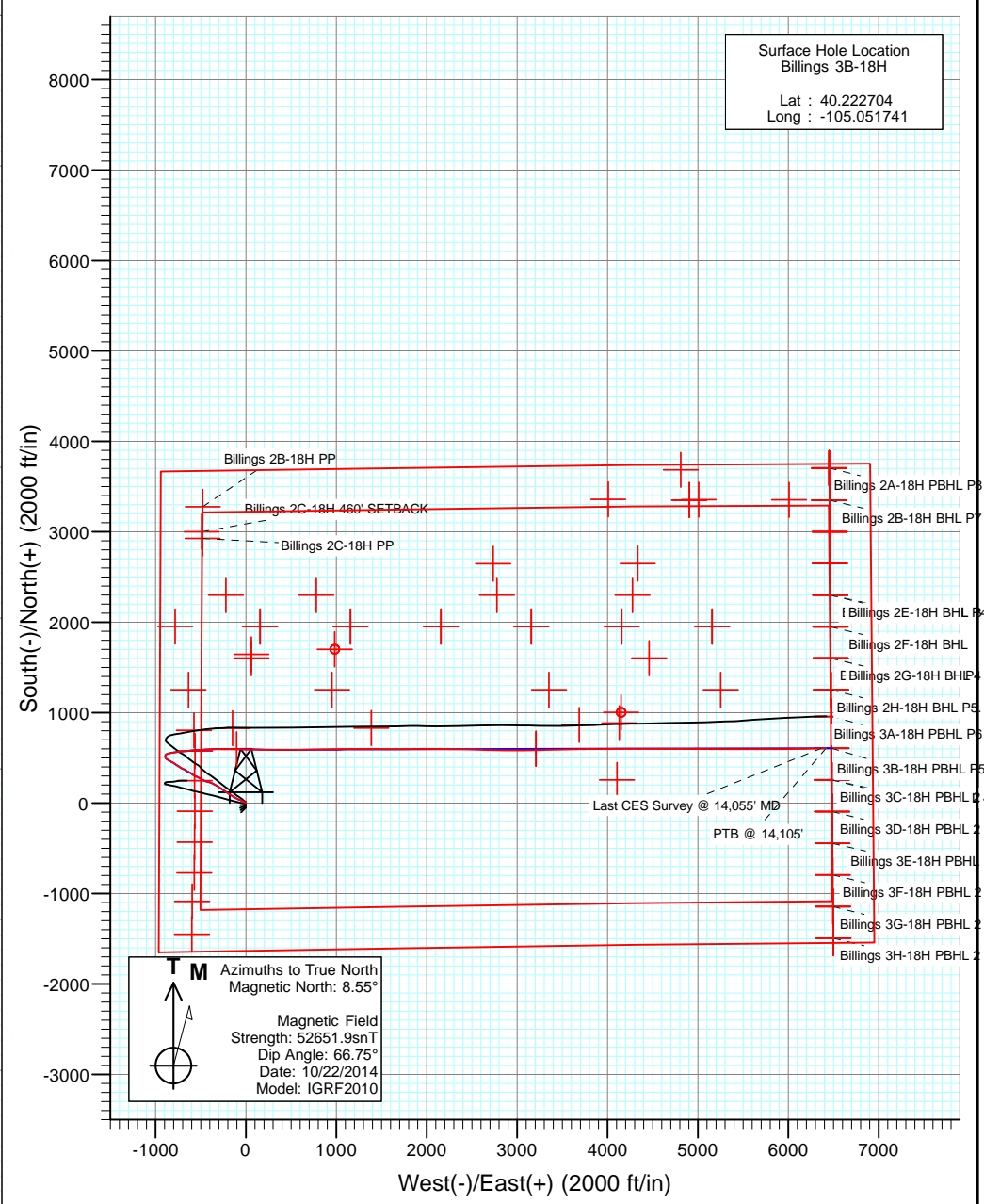




Project: DJ Wattenberg
 Site: S18-T3N-R68W (Billings)
 Well: Billings 3B-18H
 Wellbore: Hz
 Design: FINAL



FINAL
 Billings 3B-18H
 332055 145381, LR
 32' KB @ 5188.0ft (Part 326)
 Ground Elevation @ 5156.0
 North American Datum 1983
 Well Billings 3B-18H, True North

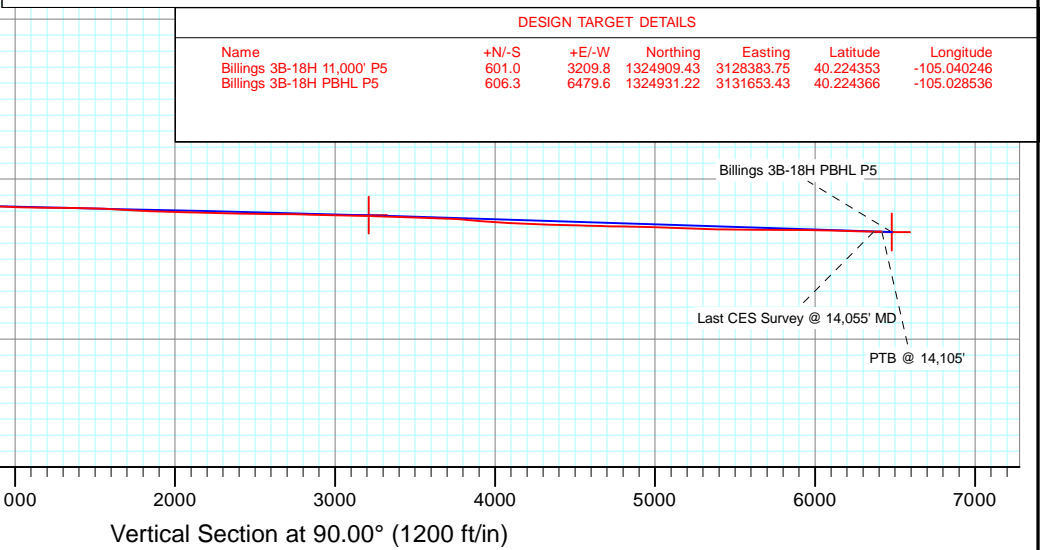


Surface Hole Location
 Billings 3B-18H
 Lat : 40.222704
 Long : -105.051741

T M Azimuths to True North
 Magnetic North: 8.55°
 Magnetic Field
 Strength: 52651.9snT
 Dip Angle: 66.75°
 Date: 10/22/2014
 Model: IGRF2010

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Billings 3B-18H 11,000' P5	601.0	3209.8	1324909.43	3128383.75	40.224353	-105.040246
Billings 3B-18H PBHL P5	606.3	6479.6	1324931.22	3131653.43	40.224366	-105.028536



Billings 3B-18H PBHL P5
 Last CES Survey @ 14,055' MD
 PTB @ 14,105'

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Billings 3B-18H
Project: DJ Wattenberg	TVD Reference: 32' KB @ 5188.0ft (Patt 326)
Site: S18-T3N-R68W (Billings)	MD Reference: 32' KB @ 5188.0ft (Patt 326)
Well: Billings 3B-18H	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 S18-T3N-R68W (Billings)				
Site Position:	Northing: 1,326,724.18 ft	Latitude: 40.229390		
From: Lat/Long	Easting: 3,124,452.97 ft	Longitude: -105.054290		
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: 0.29 °		

Well Billings 3B-18H				
Well Position	+N/-S 0.0 ft	Northing: 1,324,292.16 ft	Latitude: 40.222704	
	+E/-W 0.0 ft	Easting: 3,125,176.99 ft	Longitude: -105.051741	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 5,156.0 ft	

Wellbore Hz					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/22/2014	8.55	66.75	52,652

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	90.00

Survey Program		Date 11/4/2014
From (ft)	To (ft)	Survey (Wellbore)
192.0	14,105.0	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	
192.0	0.70	355.30	192.0	1.2	-0.1	-0.1	0.36	0.36	
240.0	0.80	351.10	240.0	1.8	-0.2	-0.2	0.24	0.21	
287.0	0.40	350.00	287.0	2.3	-0.3	-0.3	0.85	-0.85	
334.0	0.20	353.70	334.0	2.5	-0.3	-0.3	0.43	-0.43	
429.0	1.60	301.80	429.0	3.4	-1.4	-1.4	1.56	1.47	
524.0	3.90	299.90	523.9	5.7	-5.4	-5.4	2.42	2.42	
619.0	6.40	297.10	618.5	9.7	-12.9	-12.9	2.64	2.63	
714.0	8.60	299.80	712.6	15.7	-23.8	-23.8	2.34	2.32	
808.0	10.20	296.80	805.4	22.9	-37.3	-37.3	1.78	1.70	
835.0	10.40	295.90	831.9	25.0	-41.6	-41.6	0.95	0.74	
926.0	10.60	293.50	921.4	32.0	-56.7	-56.7	0.53	0.22	
1,020.0	9.90	288.50	1,013.9	38.0	-72.3	-72.3	1.20	-0.74	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MVD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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
1,111.0	11.70	292.50	1,103.3	44.0	-88.2	-88.2	2.14	1.98	
1,203.0	11.10	301.10	1,193.5	52.1	-104.4	-104.4	1.96	-0.65	
1,295.0	11.20	296.10	1,283.8	60.6	-120.0	-120.0	1.06	0.11	
1,387.0	11.20	303.20	1,374.0	69.5	-135.5	-135.5	1.50	0.00	
1,479.0	11.00	297.00	1,464.3	78.4	-150.8	-150.8	1.31	-0.22	
1,571.0	10.20	309.40	1,554.7	87.5	-164.9	-164.9	2.62	-0.87	
1,663.0	10.50	303.60	1,645.3	97.3	-178.2	-178.2	1.18	0.33	
1,755.0	10.30	298.10	1,735.7	105.8	-192.5	-192.5	1.10	-0.22	
1,847.0	10.90	306.40	1,826.2	114.9	-206.7	-206.7	1.78	0.65	
1,939.0	10.70	302.20	1,916.5	124.6	-220.9	-220.9	0.88	-0.22	
2,031.0	10.20	299.60	2,007.0	133.2	-235.2	-235.2	0.75	-0.54	
2,123.0	11.80	308.70	2,097.3	143.1	-249.7	-249.7	2.56	1.74	
2,215.0	11.90	306.10	2,187.4	154.5	-264.7	-264.7	0.59	0.11	
2,307.0	11.30	305.40	2,277.5	165.3	-279.7	-279.7	0.67	-0.65	
2,400.0	10.70	302.70	2,368.8	175.3	-294.4	-294.4	0.85	-0.65	
2,494.0	10.40	299.80	2,461.2	184.2	-309.1	-309.1	0.65	-0.32	
2,589.0	9.60	299.00	2,554.8	192.3	-323.5	-323.5	0.85	-0.84	
2,683.0	10.40	298.70	2,647.3	200.2	-337.8	-337.8	0.85	0.85	
2,778.0	11.20	298.90	2,740.6	208.8	-353.4	-353.4	0.84	0.84	
2,873.0	10.20	294.50	2,834.0	216.7	-369.1	-369.1	1.36	-1.05	
2,967.0	10.50	295.50	2,926.5	223.9	-384.4	-384.4	0.37	0.32	
3,062.0	11.20	287.90	3,019.8	230.4	-401.0	-401.0	1.67	0.74	
3,156.0	9.80	283.10	3,112.2	235.0	-417.5	-417.5	1.75	-1.49	
3,251.0	11.90	286.00	3,205.5	239.6	-434.8	-434.8	2.28	2.21	
3,345.0	11.00	287.80	3,297.6	245.0	-452.6	-452.6	1.03	-0.96	
3,440.0	11.80	298.20	3,390.8	252.3	-469.8	-469.8	2.32	0.84	
3,534.0	12.10	300.50	3,482.7	261.9	-486.8	-486.8	0.60	0.32	
3,629.0	12.40	300.00	3,575.6	272.0	-504.2	-504.2	0.33	0.32	
3,723.0	11.60	299.70	3,667.5	281.8	-521.1	-521.1	0.85	-0.85	
3,818.0	10.10	294.40	3,760.8	289.9	-537.0	-537.0	1.89	-1.58	
3,912.0	10.00	285.80	3,853.4	295.6	-552.4	-552.4	1.60	-0.11	
4,007.0	11.10	298.90	3,946.8	302.2	-568.3	-568.3	2.77	1.16	
4,101.0	10.90	308.30	4,039.1	312.1	-583.2	-583.2	1.92	-0.21	
4,196.0	12.00	302.50	4,132.2	323.0	-598.6	-598.6	1.67	1.16	
4,290.0	11.40	300.80	4,224.2	333.0	-614.8	-614.8	0.74	-0.64	
4,385.0	10.80	300.40	4,317.4	342.3	-630.6	-630.6	0.64	-0.63	
4,479.0	13.10	298.10	4,409.4	351.8	-647.6	-647.6	2.50	2.45	
4,574.0	13.20	299.00	4,501.9	362.1	-666.5	-666.5	0.24	0.11	
4,668.0	12.70	297.60	4,593.5	372.1	-685.1	-685.1	0.63	-0.53	
4,763.0	11.30	296.20	4,686.4	381.1	-702.7	-702.7	1.51	-1.47	
4,857.0	11.30	303.80	4,778.6	390.2	-718.6	-718.6	1.58	0.00	
4,952.0	10.70	303.00	4,871.9	400.2	-733.7	-733.7	0.65	-0.63	
5,046.0	9.50	301.90	4,964.4	409.1	-747.6	-747.6	1.29	-1.28	
5,141.0	9.60	299.70	5,058.1	417.1	-761.2	-761.2	0.40	0.11	
5,236.0	9.30	305.10	5,151.8	425.5	-774.3	-774.3	0.98	-0.32	
5,330.0	9.00	307.90	5,244.6	434.4	-786.4	-786.4	0.57	-0.32	
5,425.0	8.60	302.80	5,338.5	442.8	-798.2	-798.2	0.92	-0.42	
5,519.0	10.30	299.90	5,431.2	450.8	-811.4	-811.4	1.88	1.81	
5,614.0	11.20	297.80	5,524.5	459.3	-826.9	-826.9	1.03	0.95	
5,709.0	9.80	296.30	5,618.0	467.2	-842.3	-842.3	1.50	-1.47	
5,803.0	9.40	300.40	5,710.6	474.6	-856.1	-856.1	0.84	-0.43	
5,898.0	8.80	303.30	5,804.4	482.5	-868.9	-868.9	0.79	-0.63	
5,945.0	8.50	301.30	5,850.9	486.3	-874.8	-874.8	0.90	-0.64	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MVD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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
5,993.0	10.10	314.90	5,898.3	491.1	-880.9	-880.9	5.64	3.33	
6,040.0	10.90	326.50	5,944.5	497.8	-886.2	-886.2	4.80	1.70	
6,087.0	11.00	345.00	5,990.7	505.8	-889.8	-889.8	7.45	0.21	
6,134.0	10.20	351.90	6,036.9	514.2	-891.6	-891.6	3.19	-1.70	
6,182.0	9.70	6.10	6,084.1	522.5	-891.8	-891.8	5.20	-1.04	
6,229.0	9.00	22.00	6,130.5	529.8	-890.0	-890.0	5.67	-1.49	
6,276.0	8.70	34.00	6,177.0	536.2	-886.6	-886.6	3.97	-0.64	
6,323.0	9.10	63.00	6,223.4	540.8	-881.3	-881.3	9.48	0.85	
6,371.0	11.10	73.70	6,270.7	543.8	-873.5	-873.5	5.70	4.17	
6,418.0	14.40	74.50	6,316.5	546.7	-863.5	-863.5	7.03	7.02	
6,465.0	17.10	74.60	6,361.7	550.1	-851.2	-851.2	5.74	5.74	
6,512.0	19.20	77.40	6,406.4	553.6	-837.0	-837.0	4.84	4.47	
6,560.0	19.40	78.90	6,451.7	556.8	-821.5	-821.5	1.11	0.42	
6,607.0	20.10	79.80	6,495.9	559.8	-805.9	-805.9	1.62	1.49	
6,655.0	24.60	82.20	6,540.3	562.6	-787.8	-787.8	9.56	9.37	
6,702.0	28.00	82.60	6,582.5	565.3	-767.2	-767.2	7.24	7.23	
6,749.0	30.30	83.30	6,623.5	568.1	-744.5	-744.5	4.95	4.89	
6,796.0	32.40	84.70	6,663.6	570.7	-720.2	-720.2	4.73	4.47	
6,844.0	34.00	85.80	6,703.8	572.9	-694.0	-694.0	3.56	3.33	
6,891.0	35.90	85.00	6,742.3	575.0	-667.1	-667.1	4.16	4.04	
6,939.0	38.60	82.90	6,780.5	578.1	-638.3	-638.3	6.22	5.62	
6,986.0	41.10	83.90	6,816.6	581.6	-608.3	-608.3	5.49	5.32	
7,033.0	43.40	85.40	6,851.4	584.5	-576.9	-576.9	5.34	4.89	
7,080.0	45.50	86.90	6,885.0	586.7	-544.0	-544.0	5.00	4.47	
7,128.0	48.40	87.10	6,917.7	588.5	-509.0	-509.0	6.05	6.04	
7,175.0	53.60	86.90	6,947.3	590.4	-472.6	-472.6	11.07	11.06	
7,222.0	58.20	86.40	6,973.6	592.7	-433.7	-433.7	9.83	9.79	
7,269.0	61.20	86.90	6,997.3	595.1	-393.2	-393.2	6.45	6.38	
7,317.0	64.20	88.00	7,019.3	597.0	-350.6	-350.6	6.57	6.25	
7,364.0	68.40	89.30	7,038.2	598.0	-307.6	-307.6	9.29	8.94	
7,411.0	72.40	89.10	7,054.0	598.6	-263.3	-263.3	8.52	8.51	
7,458.0	75.30	89.50	7,067.1	599.2	-218.2	-218.2	6.22	6.17	
7,506.0	77.50	90.60	7,078.4	599.1	-171.5	-171.5	5.10	4.58	
7,553.0	79.00	91.30	7,087.9	598.4	-125.5	-125.5	3.51	3.19	
7,580.0	79.50	91.60	7,093.0	597.7	-99.0	-99.0	2.15	1.85	
7,652.0	81.10	92.30	7,105.1	595.3	-28.1	-28.1	2.42	2.22	
7,743.0	80.90	90.90	7,119.3	592.8	61.8	61.8	1.54	-0.22	
7,835.0	80.90	90.60	7,133.9	591.6	152.6	152.6	0.32	0.00	
7,927.0	83.30	90.50	7,146.5	590.7	243.7	243.7	2.61	2.61	
8,019.0	84.80	89.70	7,156.1	590.5	335.2	335.2	1.85	1.63	
8,111.0	86.20	90.40	7,163.3	590.5	426.9	426.9	1.70	1.52	
8,203.0	89.30	89.90	7,166.9	590.2	518.8	518.8	3.41	3.37	
8,295.0	90.00	89.60	7,167.5	590.6	610.8	610.8	0.83	0.76	
8,387.0	89.10	88.50	7,168.2	592.1	702.8	702.8	1.54	-0.98	
8,480.0	88.90	89.50	7,169.8	593.8	795.8	795.8	1.10	-0.22	
8,572.0	89.20	89.00	7,171.3	595.0	887.8	887.8	0.63	0.33	
8,666.0	88.20	88.20	7,173.5	597.3	981.7	981.7	1.36	-1.06	
8,761.0	88.40	89.40	7,176.3	599.3	1,076.6	1,076.6	1.28	0.21	
8,855.0	88.70	90.50	7,178.7	599.3	1,170.6	1,170.6	1.21	0.32	
8,950.0	89.60	90.00	7,180.1	598.9	1,265.6	1,265.6	1.08	0.95	
9,044.0	89.60	90.20	7,180.7	598.8	1,359.6	1,359.6	0.21	0.00	
9,139.0	89.40	90.50	7,181.6	598.2	1,454.6	1,454.6	0.38	-0.21	
9,234.0	86.80	90.50	7,184.7	597.3	1,549.5	1,549.5	2.74	-2.74	

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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
9,328.0	86.70	90.00	7,190.0	596.9	1,643.4	1,643.4	0.54	-0.11	
9,423.0	87.10	89.30	7,195.2	597.5	1,738.3	1,738.3	0.85	0.42	
9,517.0	87.90	89.30	7,199.3	598.7	1,832.2	1,832.2	0.85	0.85	
9,612.0	88.70	89.40	7,202.1	599.7	1,927.1	1,927.1	0.85	0.84	
9,706.0	87.70	89.80	7,205.0	600.4	2,021.1	2,021.1	1.15	-1.06	
9,801.0	88.70	90.40	7,208.0	600.2	2,116.0	2,116.0	1.23	1.05	
9,895.0	87.70	92.00	7,211.0	598.3	2,209.9	2,209.9	2.01	-1.06	
9,990.0	88.40	90.50	7,214.2	596.2	2,304.9	2,304.9	1.74	0.74	
10,085.0	89.80	90.60	7,215.7	595.3	2,399.8	2,399.8	1.48	1.47	
10,179.0	89.20	91.30	7,216.5	593.7	2,493.8	2,493.8	0.98	-0.64	
10,274.0	90.10	91.60	7,217.1	591.3	2,588.8	2,588.8	1.00	0.95	
10,368.0	89.20	92.50	7,217.7	588.0	2,682.7	2,682.7	1.35	-0.96	
10,463.0	88.10	91.70	7,219.9	584.5	2,777.6	2,777.6	1.43	-1.16	
10,557.0	88.30	90.10	7,222.9	583.0	2,871.6	2,871.6	1.71	0.21	
10,651.0	88.40	89.40	7,225.6	583.4	2,965.5	2,965.5	0.75	0.11	
10,746.0	89.00	90.20	7,227.7	583.7	3,060.5	3,060.5	1.05	0.63	
10,840.0	89.30	89.20	7,229.1	584.2	3,154.5	3,154.5	1.11	0.32	
10,935.0	87.90	88.60	7,231.4	586.1	3,249.4	3,249.4	1.60	-1.47	
11,029.0	88.20	88.50	7,234.6	588.4	3,343.4	3,343.4	0.34	0.32	
11,124.0	88.20	88.60	7,237.6	590.8	3,438.3	3,438.3	0.11	0.00	
11,219.0	87.60	88.60	7,241.1	593.2	3,533.2	3,533.2	0.63	-0.63	
11,313.0	88.60	87.90	7,244.2	596.0	3,627.1	3,627.1	1.30	1.06	
11,408.0	87.60	89.80	7,247.4	597.9	3,722.0	3,722.0	2.26	-1.05	
11,502.0	85.00	89.80	7,253.4	598.3	3,815.8	3,815.8	2.77	-2.77	
11,597.0	85.30	89.80	7,261.5	598.6	3,910.5	3,910.5	0.32	0.32	
11,691.0	85.50	89.80	7,269.0	598.9	4,004.1	4,004.1	0.21	0.21	
11,786.0	86.70	89.80	7,275.5	599.2	4,098.9	4,098.9	1.26	1.26	
11,880.0	87.70	89.80	7,280.1	599.6	4,192.8	4,192.8	1.06	1.06	
11,975.0	88.90	89.60	7,282.9	600.1	4,287.8	4,287.8	1.28	1.26	
12,069.0	88.00	89.80	7,285.4	600.6	4,381.7	4,381.7	0.98	-0.96	
12,164.0	89.20	89.90	7,287.7	600.8	4,476.7	4,476.7	1.27	1.26	
12,258.0	87.50	89.80	7,290.5	601.1	4,570.7	4,570.7	1.81	-1.81	
12,353.0	88.60	90.00	7,293.7	601.2	4,665.6	4,665.6	1.18	1.16	
12,447.0	89.70	90.40	7,295.1	600.9	4,759.6	4,759.6	1.25	1.17	
12,542.0	89.10	89.40	7,296.1	601.1	4,854.6	4,854.6	1.23	-0.63	
12,636.0	87.30	90.40	7,299.0	601.2	4,948.5	4,948.5	2.19	-1.91	
12,731.0	87.90	91.00	7,303.0	600.1	5,043.4	5,043.4	0.89	0.63	
12,825.0	88.70	91.00	7,305.8	598.4	5,137.4	5,137.4	0.85	0.85	
12,920.0	88.30	90.60	7,308.3	597.1	5,232.3	5,232.3	0.60	-0.42	
13,014.0	87.50	90.20	7,311.7	596.4	5,326.3	5,326.3	0.95	-0.85	
13,109.0	89.50	91.00	7,314.2	595.5	5,421.2	5,421.2	2.27	2.11	
13,203.0	88.80	89.30	7,315.6	595.2	5,515.2	5,515.2	1.96	-0.74	
13,298.0	89.70	89.30	7,316.8	596.4	5,610.2	5,610.2	0.95	0.95	
13,392.0	90.20	88.80	7,316.9	597.9	5,704.2	5,704.2	0.75	0.53	
13,487.0	90.10	90.60	7,316.7	598.4	5,799.2	5,799.2	1.90	-0.11	
13,581.0	88.30	90.20	7,318.0	597.8	5,893.2	5,893.2	1.96	-1.91	
13,676.0	88.80	89.10	7,320.4	598.3	5,988.1	5,988.1	1.27	0.53	
13,770.0	90.10	89.20	7,321.3	599.7	6,082.1	6,082.1	1.39	1.38	
13,865.0	87.70	88.90	7,323.1	601.3	6,177.1	6,177.1	2.55	-2.53	
13,959.0	88.40	88.40	7,326.3	603.5	6,271.0	6,271.0	0.91	0.74	
14,055.0	89.40	88.60	7,328.2	606.0	6,366.9	6,366.9	1.06	1.04	Last CES Survey @ 14,055' MD
14,105.0	89.40	88.60	7,328.7	607.3	6,416.9	6,416.9	0.00	0.00	PTB @ 14,105'

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Billings 3B-18H
Project: DJ Wattenberg	TVD Reference: 32' KB @ 5188.0ft (Patt 326)
Site: S18-T3N-R68W (Billings)	MD Reference: 32' KB @ 5188.0ft (Patt 326)
Well: Billings 3B-18H	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 - Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Billings 3B-18H 7686' - actual wellpath misses target center by 9.0ft at 7577.0ft MD (7092.4 TVD, 597.8 N, -101.9 E) - Point	0.00	0.00	7,101.0	595.6	-103.6	1,324,887.26	3,125,070.37	40.224339	-105.052112
Billings 3B-18H 11,000' - actual wellpath misses target center by 62.2ft at 10894.2ft MD (7230.2 TVD, 585.2 N, 3208.7 E) - Point	0.00	0.00	7,170.0	601.0	3,209.8	1,324,909.43	3,128,383.75	40.224353	-105.040246
Billings 3B-18H TGT - actual wellpath misses target center by 19.5ft at 7069.8ft MD (6877.8 TVD, 586.3 N, -551.3 E) - Point	0.00	0.00	6,890.0	576.7	-563.1	1,324,866.03	3,124,610.97	40.224287	-105.053758
Billings 3B-18H 11,000' I - actual wellpath misses target center by 16.7ft at 10895.6ft MD (7230.2 TVD, 585.2 N, 3210.0 E) - Point	0.00	0.00	7,225.0	601.0	3,209.8	1,324,909.43	3,128,383.75	40.224353	-105.040246
Billings 3B-18H PBHL - actual wellpath misses target center by 64.9ft at 14105.0ft MD (7328.7 TVD, 607.3 N, 6416.9 E) - Point	0.00	0.00	7,312.0	606.3	6,479.6	1,324,931.22	3,131,653.43	40.224366	-105.028536
Billings 3B-18H PBHL P. - actual wellpath misses target center by 82.5ft at 14105.0ft MD (7328.7 TVD, 607.3 N, 6416.9 E) - Point	0.00	0.00	7,275.0	606.3	6,479.6	1,324,931.22	3,131,653.43	40.224366	-105.028536
Billings 3B-18H PBHL P! - actual wellpath misses target center by 62.7ft at 14105.0ft MD (7328.7 TVD, 607.3 N, 6416.9 E) - Point	0.00	0.00	7,330.0	606.3	6,479.6	1,324,931.22	3,131,653.43	40.224366	-105.028536

Design Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	14,055.0	7,328.2	606.0	6,366.9	Last CES Survey @ 14,055' MD
	14,105.0	7,328.7	607.3	6,416.9	PTB @ 14,105'

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

DJ Wattenberg

S18-T3N-R68W (Billings)

Billings 3B-18H

Hz

Design: FINAL

Survey Report - Geographic

04 November, 2014

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TVD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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	S18-T3N-R68W (Billings)				
Site Position:		Northing:	1,326,724.18 ft	Latitude:	40.229390
From:	Lat/Long	Easting:	3,124,452.97 ft	Longitude:	-105.054290
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Billings 3B-18H					
Well Position	+N/-S	0.0 ft	Northing:	1,324,292.16 ft	Latitude:	40.222704
	+E/-W	0.0 ft	Easting:	3,125,176.99 ft	Longitude:	-105.051741
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,156.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/22/2014	8.55	66.75	52,652

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	90.00	

Survey Program	Date	11/4/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
192.0	14,105.0	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	1,324,292.16	3,125,176.99	40.222704	-105.051741	
192.0	0.70	355.30	192.0	1.2	-0.1	1,324,293.33	3,125,176.88	40.222707	-105.051742	
240.0	0.80	351.10	240.0	1.8	-0.2	1,324,293.95	3,125,176.80	40.222709	-105.051742	
287.0	0.40	350.00	287.0	2.3	-0.3	1,324,294.44	3,125,176.72	40.222710	-105.051742	
334.0	0.20	353.70	334.0	2.5	-0.3	1,324,294.68	3,125,176.68	40.222711	-105.051742	
429.0	1.60	301.80	429.0	3.4	-1.4	1,324,295.54	3,125,175.53	40.222713	-105.051746	
524.0	3.90	299.90	523.9	5.7	-5.4	1,324,297.83	3,125,171.59	40.222720	-105.051760	
619.0	6.40	297.10	618.5	9.7	-12.9	1,324,301.82	3,125,164.06	40.222731	-105.051787	
714.0	8.60	299.80	712.6	15.7	-23.8	1,324,307.70	3,125,153.15	40.222747	-105.051826	
808.0	10.20	296.80	805.4	22.9	-37.3	1,324,314.88	3,125,139.58	40.222767	-105.051875	
835.0	10.40	295.90	831.9	25.0	-41.6	1,324,317.00	3,125,135.25	40.222773	-105.051890	
926.0	10.60	293.50	921.4	32.0	-56.7	1,324,323.85	3,125,120.15	40.222792	-105.051944	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TVD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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	
1,020.0	9.90	288.50	1,013.9	38.0	-72.3	1,324,329.78	3,125,104.53	40.222808	-105.052000	
1,111.0	11.70	292.50	1,103.3	44.0	-88.2	1,324,335.72	3,125,088.55	40.222825	-105.052057	
1,203.0	11.10	301.10	1,193.5	52.1	-104.4	1,324,343.78	3,125,072.31	40.222847	-105.052115	
1,295.0	11.20	296.10	1,283.8	60.6	-120.0	1,324,352.21	3,125,056.66	40.222871	-105.052171	
1,387.0	11.20	303.20	1,374.0	69.5	-135.5	1,324,360.95	3,125,041.11	40.222895	-105.052227	
1,479.0	11.00	297.00	1,464.3	78.4	-150.8	1,324,369.75	3,125,025.77	40.222919	-105.052281	
1,571.0	10.20	309.40	1,554.7	87.5	-164.9	1,324,378.84	3,125,011.61	40.222944	-105.052332	
1,663.0	10.50	303.60	1,645.3	97.3	-178.2	1,324,388.58	3,124,998.28	40.222971	-105.052379	
1,755.0	10.30	298.10	1,735.7	105.8	-192.5	1,324,397.02	3,124,984.00	40.222995	-105.052430	
1,847.0	10.90	306.40	1,826.2	114.9	-206.7	1,324,405.98	3,124,969.70	40.223019	-105.052482	
1,939.0	10.70	302.20	1,916.5	124.6	-220.9	1,324,415.62	3,124,955.42	40.223046	-105.052532	
2,031.0	10.20	299.60	2,007.0	133.2	-235.2	1,324,424.13	3,124,941.07	40.223070	-105.052584	
2,123.0	11.80	308.70	2,097.3	143.1	-249.7	1,324,433.96	3,124,926.59	40.223097	-105.052635	
2,215.0	11.90	306.10	2,187.4	154.5	-264.7	1,324,443.35	3,124,911.53	40.223128	-105.052689	
2,307.0	11.30	305.40	2,277.5	165.3	-279.7	1,324,456.09	3,124,896.46	40.223158	-105.052743	
2,400.0	10.70	302.70	2,368.8	175.3	-294.4	1,324,465.96	3,124,881.72	40.223185	-105.052796	
2,494.0	10.40	299.80	2,461.2	184.2	-309.1	1,324,474.81	3,124,866.97	40.223210	-105.052848	
2,589.0	9.60	299.00	2,554.8	192.3	-323.5	1,324,482.84	3,124,852.56	40.223232	-105.052900	
2,683.0	10.40	298.70	2,647.3	200.2	-337.8	1,324,490.64	3,124,838.22	40.223254	-105.052951	
2,778.0	11.20	298.90	2,740.6	208.8	-353.4	1,324,499.14	3,124,822.58	40.223277	-105.053007	
2,873.0	10.20	294.50	2,834.0	216.7	-369.1	1,324,507.01	3,124,806.81	40.223299	-105.053063	
2,967.0	10.50	295.50	2,926.5	223.9	-384.4	1,324,514.07	3,124,791.47	40.223319	-105.053118	
3,062.0	11.20	287.90	3,019.8	230.4	-401.0	1,324,520.55	3,124,774.84	40.223337	-105.053177	
3,156.0	9.80	283.10	3,112.2	235.0	-417.5	1,324,525.09	3,124,758.34	40.223349	-105.053236	
3,251.0	11.90	286.00	3,205.5	239.6	-434.8	1,324,529.53	3,124,741.02	40.223362	-105.053298	
3,345.0	11.00	287.80	3,297.6	245.0	-452.6	1,324,534.85	3,124,723.14	40.223377	-105.053362	
3,440.0	11.80	298.20	3,390.8	252.3	-469.8	1,324,542.13	3,124,705.91	40.223397	-105.053424	
3,534.0	12.10	300.50	3,482.7	261.9	-486.8	1,324,551.59	3,124,688.90	40.223423	-105.053484	
3,629.0	12.40	300.00	3,575.6	272.0	-504.2	1,324,561.65	3,124,671.44	40.223451	-105.053547	
3,723.0	11.60	299.70	3,667.5	281.8	-521.1	1,324,571.29	3,124,654.44	40.223478	-105.053608	
3,818.0	10.10	294.40	3,760.8	289.9	-537.0	1,324,579.39	3,124,638.52	40.223500	-105.053664	
3,912.0	10.00	285.80	3,853.4	295.6	-552.4	1,324,584.94	3,124,623.13	40.223515	-105.053719	
4,007.0	11.10	298.90	3,946.8	302.2	-568.3	1,324,591.52	3,124,607.15	40.223534	-105.053777	
4,101.0	10.90	308.30	4,039.1	312.1	-583.2	1,324,601.33	3,124,592.20	40.223561	-105.053830	
4,196.0	12.00	302.50	4,132.2	323.0	-598.6	1,324,612.13	3,124,576.77	40.223591	-105.053885	
4,290.0	11.40	300.80	4,224.2	333.0	-614.8	1,324,622.05	3,124,560.50	40.223618	-105.053943	
4,385.0	10.80	300.40	4,317.4	342.3	-630.6	1,324,631.28	3,124,544.71	40.223644	-105.053999	
4,479.0	13.10	298.10	4,409.4	351.8	-647.6	1,324,640.67	3,124,527.66	40.223670	-105.054060	
4,574.0	13.20	299.00	4,501.9	362.1	-666.5	1,324,650.91	3,124,508.63	40.223698	-105.054128	
4,668.0	12.70	297.60	4,593.5	372.1	-685.1	1,324,660.80	3,124,490.03	40.223725	-105.054195	
4,763.0	11.30	296.20	4,686.4	381.1	-702.7	1,324,669.66	3,124,472.38	40.223750	-105.054258	
4,857.0	11.30	303.80	4,778.6	390.2	-718.6	1,324,678.77	3,124,456.42	40.223775	-105.054315	
4,952.0	10.70	303.00	4,871.9	400.2	-733.7	1,324,688.67	3,124,441.24	40.223803	-105.054369	
5,046.0	9.50	301.90	4,964.4	409.1	-747.6	1,324,697.46	3,124,427.29	40.223827	-105.054419	
5,141.0	9.60	299.70	5,058.1	417.1	-761.2	1,324,705.46	3,124,413.71	40.223849	-105.054467	
5,236.0	9.30	305.10	5,151.8	425.5	-774.3	1,324,713.73	3,124,400.51	40.223872	-105.054514	
5,330.0	9.00	307.90	5,244.6	434.4	-786.4	1,324,722.55	3,124,388.45	40.223896	-105.054557	
5,425.0	8.60	302.80	5,338.5	442.8	-798.2	1,324,730.90	3,124,376.57	40.223919	-105.054600	
5,519.0	10.30	299.90	5,431.2	450.8	-811.4	1,324,738.83	3,124,363.34	40.223941	-105.054647	
5,614.0	11.20	297.80	5,524.5	459.3	-826.9	1,324,747.29	3,124,347.77	40.223965	-105.054703	
5,709.0	9.80	296.30	5,618.0	467.2	-842.3	1,324,755.10	3,124,332.32	40.223987	-105.054758	
5,803.0	9.40	300.40	5,710.6	474.6	-856.1	1,324,762.46	3,124,318.49	40.224007	-105.054807	
5,898.0	8.80	303.30	5,804.4	482.5	-868.9	1,324,770.31	3,124,305.68	40.224029	-105.054853	
5,945.0	8.50	301.30	5,850.9	486.3	-874.8	1,324,774.06	3,124,299.69	40.224039	-105.054874	
5,993.0	10.10	314.90	5,898.3	491.1	-880.9	1,324,778.84	3,124,293.65	40.224052	-105.054896	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TVD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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	
6,040.0	10.90	326.50	5,944.5	497.8	-886.2	1,324,785.43	3,124,288.25	40.224070	-105.054915	
6,087.0	11.00	345.00	5,990.7	505.8	-889.8	1,324,793.45	3,124,284.59	40.224092	-105.054928	
6,134.0	10.20	351.90	6,036.9	514.2	-891.6	1,324,801.89	3,124,282.80	40.224116	-105.054934	
6,182.0	9.70	6.10	6,084.1	522.5	-891.8	1,324,810.12	3,124,282.59	40.224138	-105.054935	
6,229.0	9.00	22.00	6,130.5	529.8	-890.0	1,324,817.48	3,124,284.35	40.224158	-105.054928	
6,276.0	8.70	34.00	6,177.0	536.2	-886.6	1,324,823.85	3,124,287.69	40.224176	-105.054916	
6,323.0	9.10	63.00	6,223.4	540.8	-881.3	1,324,828.51	3,124,292.97	40.224189	-105.054897	
6,371.0	11.10	73.70	6,270.7	543.8	-873.5	1,324,831.57	3,124,300.77	40.224197	-105.054869	
6,418.0	14.40	74.50	6,316.5	546.7	-863.5	1,324,834.46	3,124,310.73	40.224205	-105.054834	
6,465.0	17.10	74.60	6,361.7	550.1	-851.2	1,324,837.92	3,124,323.01	40.224214	-105.054790	
6,512.0	19.20	77.40	6,406.4	553.6	-837.0	1,324,841.51	3,124,337.20	40.224224	-105.054739	
6,560.0	19.40	78.90	6,451.7	556.8	-821.5	1,324,844.85	3,124,352.71	40.224233	-105.054683	
6,607.0	20.10	79.80	6,495.9	559.8	-805.9	1,324,847.86	3,124,368.30	40.224241	-105.054627	
6,655.0	24.60	82.20	6,540.3	562.6	-787.8	1,324,850.77	3,124,386.31	40.224248	-105.054563	
6,702.0	28.00	82.60	6,582.5	565.3	-767.2	1,324,853.62	3,124,406.94	40.224256	-105.054489	
6,749.0	30.30	83.30	6,623.5	568.1	-744.5	1,324,856.54	3,124,429.64	40.224264	-105.054407	
6,796.0	32.40	84.70	6,663.6	570.7	-720.2	1,324,859.21	3,124,453.94	40.224271	-105.054320	
6,844.0	34.00	85.80	6,703.8	572.9	-694.0	1,324,861.51	3,124,480.12	40.224277	-105.054227	
6,891.0	35.90	85.00	6,742.3	575.0	-667.1	1,324,863.81	3,124,506.95	40.224283	-105.054130	
6,939.0	38.60	82.90	6,780.5	578.1	-638.3	1,324,867.04	3,124,535.82	40.224291	-105.054027	
6,986.0	41.10	83.90	6,816.6	581.6	-608.3	1,324,870.64	3,124,565.71	40.224300	-105.053920	
7,033.0	43.40	85.40	6,851.4	584.5	-576.9	1,324,873.74	3,124,597.16	40.224309	-105.053807	
7,080.0	45.50	86.90	6,885.0	586.7	-544.0	1,324,876.10	3,124,629.98	40.224315	-105.053690	
7,128.0	48.40	87.10	6,917.7	588.5	-509.0	1,324,878.12	3,124,665.00	40.224320	-105.053564	
7,175.0	53.60	86.90	6,947.3	590.4	-472.6	1,324,880.21	3,124,701.45	40.224325	-105.053434	
7,222.0	58.20	86.40	6,973.6	592.7	-433.7	1,324,882.69	3,124,740.28	40.224331	-105.053295	
7,269.0	61.20	86.90	6,997.3	595.1	-393.2	1,324,885.26	3,124,780.77	40.224338	-105.053149	
7,317.0	64.20	88.00	7,019.3	597.0	-350.6	1,324,887.37	3,124,823.37	40.224343	-105.052997	
7,364.0	68.40	89.30	7,038.2	598.0	-307.6	1,324,888.59	3,124,866.38	40.224346	-105.052843	
7,411.0	72.40	89.10	7,054.0	598.6	-263.3	1,324,889.43	3,124,910.64	40.224347	-105.052684	
7,458.0	75.30	89.50	7,067.1	599.2	-218.2	1,324,890.21	3,124,955.77	40.224349	-105.052523	
7,506.0	77.50	90.60	7,078.4	599.1	-171.5	1,324,890.41	3,125,002.42	40.224349	-105.052356	
7,553.0	79.00	91.30	7,087.9	598.4	-125.5	1,324,889.87	3,125,048.43	40.224347	-105.052191	
7,580.0	79.50	91.60	7,093.0	597.7	-99.0	1,324,889.34	3,125,074.95	40.224345	-105.052096	
7,652.0	81.10	92.30	7,105.1	595.3	-28.1	1,324,887.28	3,125,145.89	40.224338	-105.051842	
7,743.0	80.90	90.90	7,119.3	592.8	61.8	1,324,885.22	3,125,235.74	40.224331	-105.051520	
7,835.0	80.90	90.60	7,133.9	591.6	152.6	1,324,884.49	3,125,326.58	40.224328	-105.051195	
7,927.0	83.30	90.50	7,146.5	590.7	243.7	1,324,884.08	3,125,417.70	40.224326	-105.050868	
8,019.0	84.80	89.70	7,156.1	590.5	335.2	1,324,884.38	3,125,509.20	40.224325	-105.050541	
8,111.0	86.20	90.40	7,163.3	590.5	426.9	1,324,884.77	3,125,600.91	40.224325	-105.050212	
8,203.0	89.30	89.90	7,166.9	590.2	518.8	1,324,884.99	3,125,692.83	40.224324	-105.049883	
8,295.0	90.00	89.60	7,167.5	590.6	610.8	1,324,885.86	3,125,784.83	40.224325	-105.049554	
8,387.0	89.10	88.50	7,168.2	592.1	702.8	1,324,887.85	3,125,876.80	40.224329	-105.049224	
8,480.0	88.90	89.50	7,169.8	593.8	795.8	1,324,889.94	3,125,969.76	40.224334	-105.048891	
8,572.0	89.20	89.00	7,171.3	595.0	887.8	1,324,891.61	3,126,061.73	40.224337	-105.048562	
8,666.0	88.20	88.20	7,173.5	597.3	981.7	1,324,894.38	3,126,155.66	40.224344	-105.048226	
8,761.0	88.40	89.40	7,176.3	599.3	1,076.6	1,324,896.85	3,126,250.59	40.224349	-105.047886	
8,855.0	88.70	90.50	7,178.7	599.3	1,170.6	1,324,897.41	3,126,344.56	40.224349	-105.047549	
8,950.0	89.60	90.00	7,180.1	598.9	1,265.6	1,324,897.47	3,126,439.56	40.224348	-105.047209	
9,044.0	89.60	90.20	7,180.7	598.8	1,359.6	1,324,897.78	3,126,533.56	40.224348	-105.046872	
9,139.0	89.40	90.50	7,181.6	598.2	1,454.6	1,324,897.68	3,126,628.56	40.224346	-105.046532	
9,234.0	86.80	90.50	7,184.7	597.3	1,549.5	1,324,897.33	3,126,723.49	40.224344	-105.046192	
9,328.0	86.70	90.00	7,190.0	596.9	1,643.4	1,324,897.40	3,126,817.34	40.224343	-105.045856	
9,423.0	87.10	89.30	7,195.2	597.5	1,738.3	1,324,898.46	3,126,912.20	40.224344	-105.045516	
9,517.0	87.90	89.30	7,199.3	598.7	1,832.2	1,324,900.08	3,127,006.09	40.224347	-105.045180	

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TVD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	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	
9,612.0	88.70	89.40	7,202.1	599.7	1,927.1	1,324,901.64	3,127,101.04	40.224350	-105.044840	
9,706.0	87.70	89.80	7,205.0	600.4	2,021.1	1,324,902.77	3,127,194.98	40.224352	-105.044503	
9,801.0	88.70	90.40	7,208.0	600.2	2,116.0	1,324,903.08	3,127,289.94	40.224351	-105.044163	
9,895.0	87.70	92.00	7,211.0	598.3	2,209.9	1,324,901.59	3,127,383.87	40.224346	-105.043827	
9,990.0	88.40	90.50	7,214.2	596.2	2,304.9	1,324,900.00	3,127,478.80	40.224340	-105.043487	
10,085.0	89.80	90.60	7,215.7	595.3	2,399.8	1,324,899.57	3,127,573.79	40.224338	-105.043147	
10,179.0	89.20	91.30	7,216.5	593.7	2,493.8	1,324,898.48	3,127,667.78	40.224334	-105.042810	
10,274.0	90.10	91.60	7,217.1	591.3	2,588.8	1,324,896.56	3,127,762.75	40.224327	-105.042470	
10,368.0	89.20	92.50	7,217.7	588.0	2,682.7	1,324,893.67	3,127,856.71	40.224318	-105.042134	
10,463.0	88.10	91.70	7,219.9	584.5	2,777.6	1,324,890.67	3,127,951.63	40.224308	-105.041794	
10,557.0	88.30	90.10	7,222.9	583.0	2,871.6	1,324,889.67	3,128,045.58	40.224304	-105.041457	
10,651.0	88.40	89.40	7,225.6	583.4	2,965.5	1,324,890.56	3,128,139.53	40.224305	-105.041121	
10,746.0	89.00	90.20	7,227.7	583.7	3,060.5	1,324,891.37	3,128,234.50	40.224306	-105.040781	
10,840.0	89.30	89.20	7,229.1	584.2	3,154.5	1,324,892.34	3,128,328.49	40.224307	-105.040444	
10,935.0	87.90	88.60	7,231.4	586.1	3,249.4	1,324,894.64	3,128,423.43	40.224312	-105.040104	
11,029.0	88.20	88.50	7,234.6	588.4	3,343.4	1,324,897.49	3,128,517.33	40.224319	-105.039768	
11,124.0	88.20	88.60	7,237.6	590.8	3,438.3	1,324,900.37	3,128,612.24	40.224325	-105.039428	
11,219.0	87.60	88.60	7,241.1	593.2	3,533.2	1,324,903.17	3,128,707.13	40.224332	-105.039088	
11,313.0	88.60	87.90	7,244.2	596.0	3,627.1	1,324,906.52	3,128,801.02	40.224339	-105.038752	
11,408.0	87.60	89.80	7,247.4	597.9	3,722.0	1,324,908.90	3,128,895.93	40.224345	-105.038412	
11,502.0	85.00	89.80	7,253.4	598.3	3,815.8	1,324,909.70	3,128,989.70	40.224346	-105.038076	
11,597.0	85.30	89.80	7,261.5	598.6	3,910.5	1,324,910.51	3,129,084.36	40.224346	-105.037737	
11,691.0	85.50	89.80	7,269.0	598.9	4,004.1	1,324,911.31	3,129,178.05	40.224347	-105.037401	
11,786.0	86.70	89.80	7,275.5	599.2	4,098.9	1,324,912.12	3,129,272.83	40.224348	-105.037062	
11,880.0	87.70	89.80	7,280.1	599.6	4,192.8	1,324,912.93	3,129,366.71	40.224349	-105.036726	
11,975.0	88.90	89.60	7,282.9	600.1	4,287.8	1,324,913.90	3,129,461.66	40.224350	-105.036386	
12,069.0	88.00	89.80	7,285.4	600.6	4,381.7	1,324,914.87	3,129,555.62	40.224352	-105.036049	
12,164.0	89.20	89.90	7,287.7	600.8	4,476.7	1,324,915.60	3,129,650.59	40.224352	-105.035709	
12,258.0	87.50	89.80	7,290.5	601.1	4,570.7	1,324,916.32	3,129,744.54	40.224353	-105.035373	
12,353.0	88.60	90.00	7,293.7	601.2	4,665.6	1,324,916.96	3,129,839.49	40.224353	-105.035033	
12,447.0	89.70	90.40	7,295.1	600.9	4,759.6	1,324,917.11	3,129,933.47	40.224352	-105.034696	
12,542.0	89.10	89.40	7,296.1	601.1	4,854.6	1,324,917.76	3,130,028.47	40.224353	-105.034356	
12,636.0	87.30	90.40	7,299.0	601.2	4,948.5	1,324,918.40	3,130,122.41	40.224353	-105.034019	
12,731.0	87.90	91.00	7,303.0	600.1	5,043.4	1,324,917.72	3,130,217.32	40.224350	-105.033679	
12,825.0	88.70	91.00	7,305.8	598.4	5,137.4	1,324,916.55	3,130,311.28	40.224345	-105.033343	
12,920.0	88.30	90.60	7,308.3	597.1	5,232.3	1,324,915.71	3,130,406.24	40.224342	-105.033003	
13,014.0	87.50	90.20	7,311.7	596.4	5,326.3	1,324,915.53	3,130,500.17	40.224340	-105.032667	
13,109.0	89.50	91.00	7,314.2	595.5	5,421.2	1,324,915.01	3,130,595.14	40.224337	-105.032327	
13,203.0	88.80	89.30	7,315.6	595.2	5,515.2	1,324,915.24	3,130,689.12	40.224336	-105.031990	
13,298.0	89.70	89.30	7,316.8	596.4	5,610.2	1,324,916.88	3,130,784.10	40.224339	-105.031650	
13,392.0	90.20	88.80	7,316.9	597.9	5,704.2	1,324,918.91	3,130,878.07	40.224344	-105.031313	
13,487.0	90.10	90.60	7,316.7	598.4	5,799.2	1,324,919.89	3,130,973.07	40.224345	-105.030973	
13,581.0	88.30	90.20	7,318.0	597.8	5,893.2	1,324,919.71	3,131,067.05	40.224343	-105.030636	
13,676.0	88.80	89.10	7,320.4	598.3	5,988.1	1,324,920.77	3,131,162.01	40.224345	-105.030296	
13,770.0	90.10	89.20	7,321.3	599.7	6,082.1	1,324,922.64	3,131,255.99	40.224348	-105.029960	
13,865.0	87.70	88.90	7,323.1	601.3	6,177.1	1,324,924.69	3,131,350.94	40.224353	-105.029620	
13,959.0	88.40	88.40	7,326.3	603.5	6,271.0	1,324,927.38	3,131,444.85	40.224359	-105.029283	
14,055.0	89.40	88.60	7,328.2	606.0	6,366.9	1,324,930.38	3,131,540.78	40.224365	-105.028940	
Last CES Survey @ 14,055' MD										
14,105.0	89.40	88.60	7,328.7	607.3	6,416.9	1,324,931.85	3,131,590.76	40.224369	-105.028761	
PTB @ 14,105'										

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Billings 3B-18H
Project:	DJ Wattenberg	TVD Reference:	32' KB @ 5188.0ft (Patt 326)
Site:	S18-T3N-R68W (Billings)	MD Reference:	32' KB @ 5188.0ft (Patt 326)
Well:	Billings 3B-18H	North Reference:	True
Wellbore:	Hz	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Design 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									
Billings 3B-18H 11,000' I - actual wellpath misses target center by 16.7ft at 10895.6ft MD (7230.2 TVD, 585.2 N, 3210.0 E) - Point	0.00	0.00	7,225.0	601.0	3,209.8	1,324,909.43	3,128,383.75	40.224353	-105.040246
Billings 3B-18H PBHL P! - actual wellpath misses target center by 62.7ft at 14105.0ft MD (7328.7 TVD, 607.3 N, 6416.9 E) - Point	0.00	0.00	7,330.0	606.3	6,479.6	1,324,931.22	3,131,653.43	40.224366	-105.028536

Design Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)		
14,055.0	7,328.2	606.0	6,366.9	Last CES Survey @ 14,055' MD	
14,105.0	7,328.7	607.3	6,416.9	PTB @ 14,105'	

Checked By: _____ Approved By: _____ Date: _____