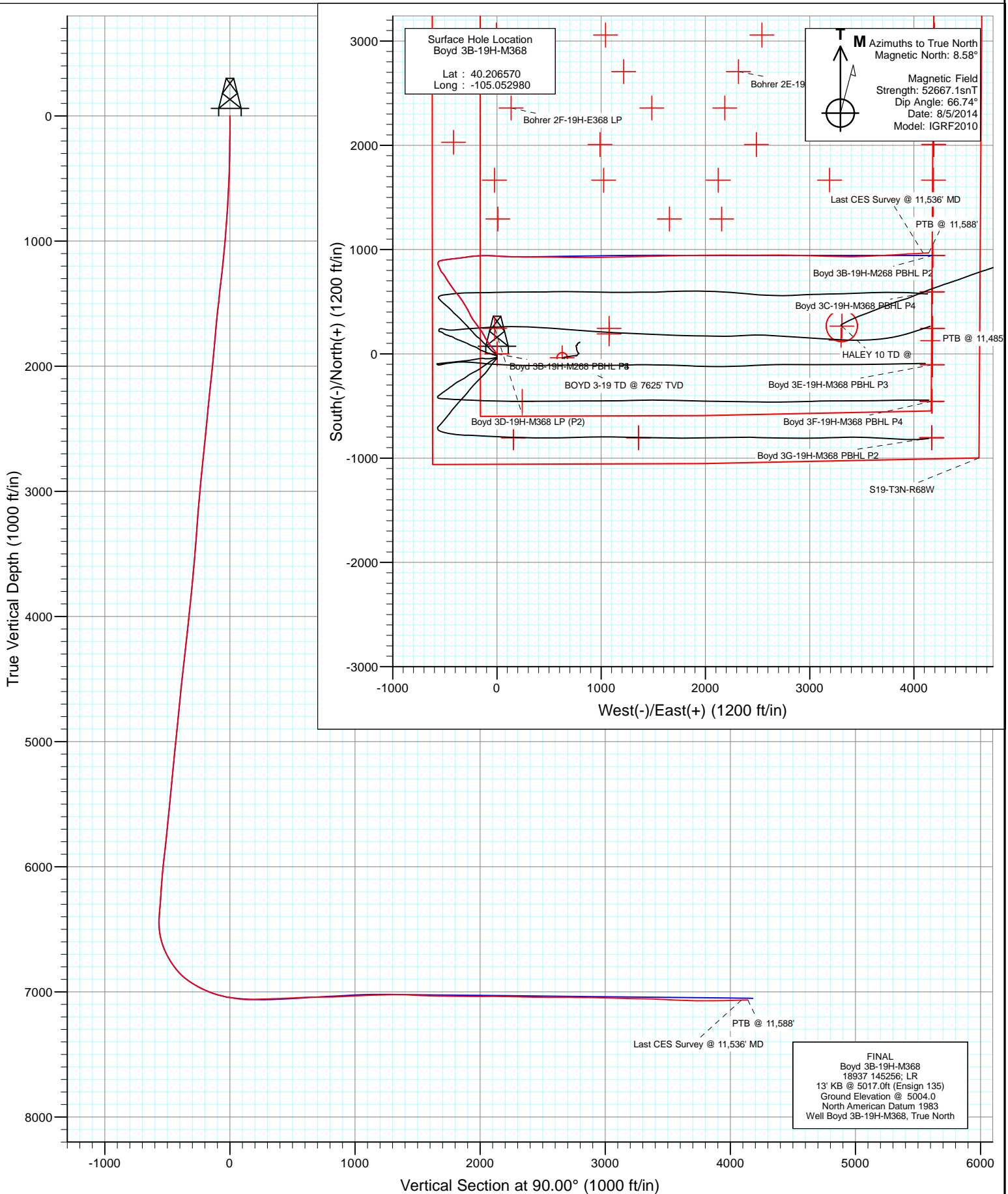


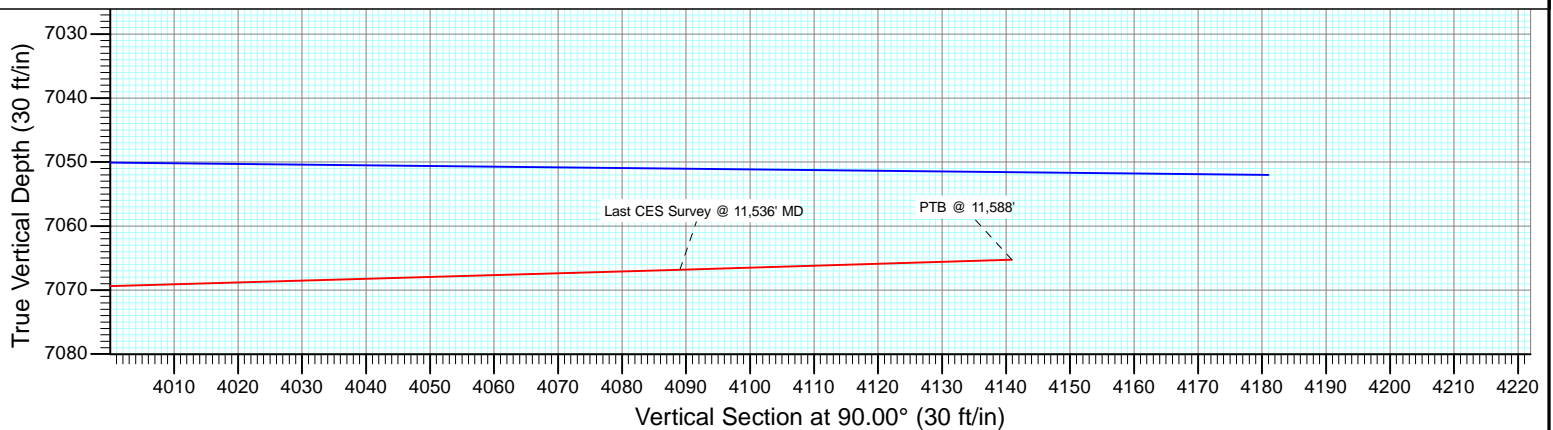
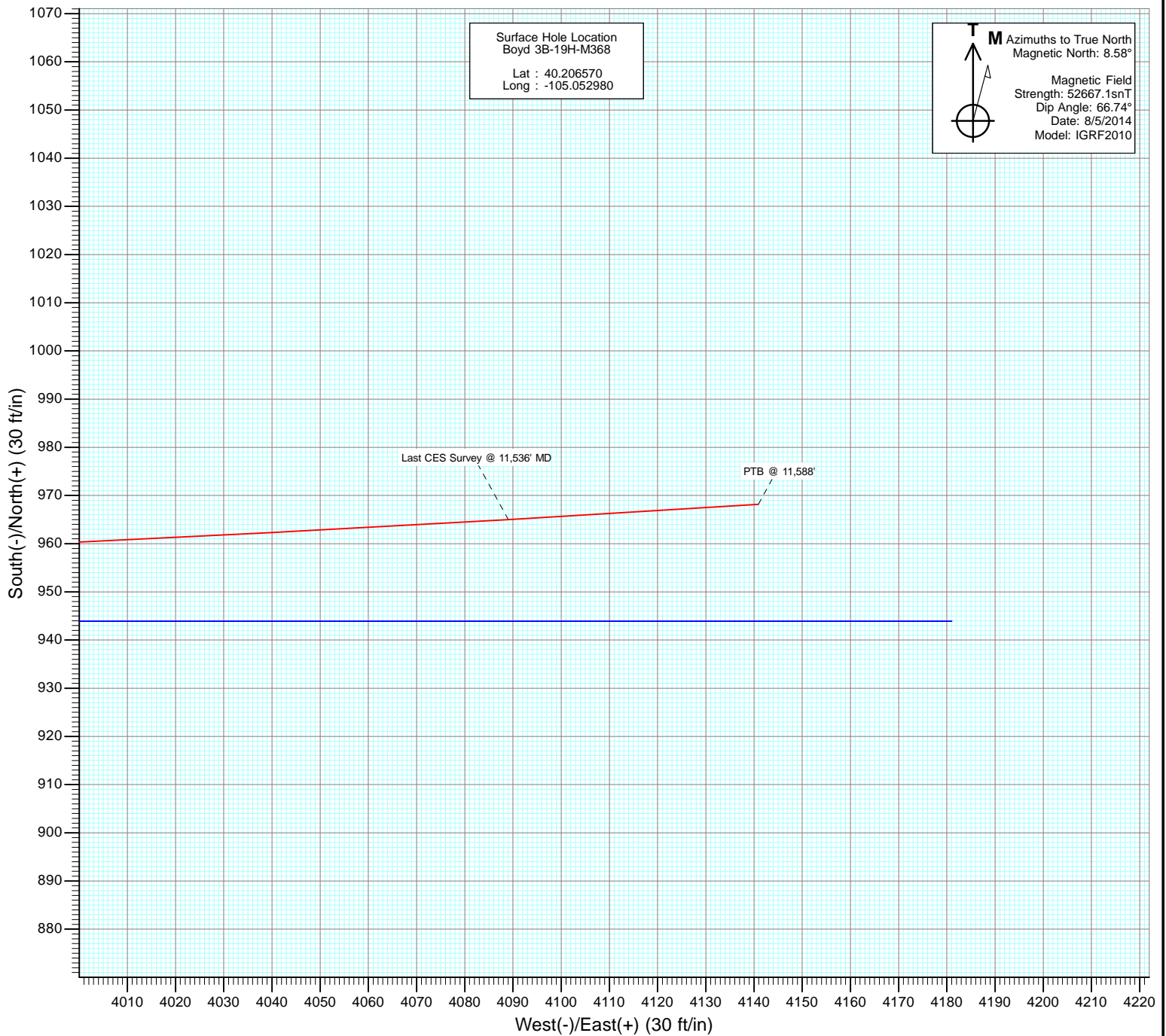


Project: DJ Wattenberg
Site: S19-T3N-R68W (Bohrer/Boyd)
Well: Boyd 3B-19H-M368
Wellbore: Hz
Design: FINAL





Project: DJ Wattenberg
Site: S19-T3N-R68W (Bohrer/Boyd)
Well: Boyd 3B-19H-M368
Wellbore: Hz
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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		S19-T3N-R68W (Bohrer/Boyd)			
Site Position:		Northing:	1,318,413.13 ft	Latitude:	40.206570
From:	Lat/Long	Easting:	3,124,860.64 ft	Longitude:	-105.052980
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Boyd 3B-19H-M368					
Well Position	+N/-S	0.0 ft	Northing:	1,318,413.13 ft	Latitude:	40.206570
	+E/-W	0.0 ft	Easting:	3,124,860.64 ft	Longitude:	-105.052980
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,004.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/5/2014	8.58	66.74	52,667

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	90.00	

Survey Program	Date	8/11/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
141.0	11,588.0	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	0.60	161.50	141.0	-0.7	0.2	0.2	0.43	0.43		
233.0	0.70	312.10	233.0	-0.8	0.0	0.0	1.37	0.11		
325.0	1.80	308.90	325.0	0.5	-1.6	-1.6	1.20	1.20		
417.0	2.50	321.70	416.9	3.0	-3.9	-3.9	0.92	0.76		
509.0	3.40	327.70	508.8	6.9	-6.6	-6.6	1.03	0.98		
601.0	5.00	326.00	600.5	12.5	-10.3	-10.3	1.74	1.74		
693.0	5.90	321.50	692.1	19.5	-15.5	-15.5	1.08	0.98		
784.0	6.20	319.20	782.6	26.9	-21.6	-21.6	0.42	0.33		
823.0	6.60	319.70	821.4	30.2	-24.5	-24.5	1.04	1.03		
915.0	6.90	323.20	912.7	38.7	-31.2	-31.2	0.55	0.33		
1,007.0	7.80	321.40	1,004.0	48.0	-38.4	-38.4	1.01	0.98		
1,099.0	9.50	327.20	1,094.9	59.2	-46.4	-46.4	2.07	1.85		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
1,191.0	8.50	317.20	1,185.8	70.6	-55.2	-55.2	2.01	-1.09	
1,283.0	11.10	319.30	1,276.5	82.3	-65.5	-65.5	2.85	2.83	
1,374.0	11.60	326.20	1,365.7	96.5	-76.4	-76.4	1.59	0.55	
1,466.0	9.90	326.50	1,456.1	110.8	-85.9	-85.9	1.85	-1.85	
1,558.0	11.90	325.40	1,546.4	125.2	-95.6	-95.6	2.19	2.17	
1,649.0	11.10	328.90	1,635.6	140.5	-105.5	-105.5	1.17	-0.88	
1,741.0	11.10	337.30	1,725.9	156.2	-113.5	-113.5	1.76	0.00	
1,833.0	11.40	332.40	1,816.1	172.4	-121.1	-121.1	1.09	0.33	
1,925.0	10.90	329.70	1,906.3	188.0	-129.7	-129.7	0.79	-0.54	
2,016.0	10.50	327.00	1,995.8	202.4	-138.5	-138.5	0.70	-0.44	
2,108.0	10.40	324.50	2,086.2	216.2	-147.9	-147.9	0.50	-0.11	
2,200.0	9.90	320.60	2,176.8	229.1	-157.8	-157.8	0.92	-0.54	
2,292.0	9.70	329.00	2,267.5	241.8	-166.8	-166.8	1.57	-0.22	
2,383.0	9.50	324.70	2,357.2	254.5	-175.1	-175.1	0.82	-0.22	
2,478.0	9.50	320.30	2,450.9	266.9	-184.6	-184.6	0.76	0.00	
2,572.0	9.40	325.70	2,543.6	279.3	-193.9	-193.9	0.95	-0.11	
2,667.0	9.50	320.20	2,637.3	291.7	-203.3	-203.3	0.96	0.11	
2,761.0	9.50	325.80	2,730.0	304.1	-212.6	-212.6	0.98	0.00	
2,856.0	9.60	321.30	2,823.7	316.7	-222.0	-222.0	0.79	0.11	
2,950.0	10.00	326.00	2,916.4	329.6	-231.4	-231.4	0.95	0.43	
3,045.0	10.10	332.10	3,009.9	343.8	-239.9	-239.9	1.12	0.11	
3,139.0	9.90	326.40	3,102.5	357.8	-248.3	-248.3	1.07	-0.21	
3,234.0	9.90	337.60	3,196.1	372.2	-255.9	-255.9	2.02	0.00	
3,328.0	10.00	335.40	3,288.7	387.1	-262.4	-262.4	0.42	0.11	
3,423.0	10.20	332.70	3,382.2	402.0	-269.7	-269.7	0.54	0.21	
3,517.0	9.50	331.20	3,474.8	416.2	-277.2	-277.2	0.79	-0.74	
3,612.0	8.70	331.90	3,568.6	429.4	-284.4	-284.4	0.85	-0.84	
3,706.0	10.50	326.90	3,661.3	442.9	-292.4	-292.4	2.11	1.91	
3,801.0	12.00	331.10	3,754.5	458.8	-301.9	-301.9	1.80	1.58	
3,895.0	11.40	330.20	3,846.5	475.4	-311.3	-311.3	0.67	-0.64	
3,990.0	10.30	326.80	3,939.8	490.7	-320.6	-320.6	1.34	-1.16	
4,085.0	9.30	323.60	4,033.4	504.0	-329.8	-329.8	1.20	-1.05	
4,179.0	11.20	327.40	4,125.9	517.8	-339.2	-339.2	2.14	2.02	
4,274.0	11.50	325.30	4,219.1	533.3	-349.6	-349.6	0.54	0.32	
4,368.0	10.90	322.70	4,311.3	548.1	-360.3	-360.3	0.83	-0.64	
4,463.0	10.10	320.90	4,404.7	561.7	-371.0	-371.0	0.91	-0.84	
4,558.0	9.20	318.10	4,498.3	573.8	-381.3	-381.3	1.07	-0.95	
4,652.0	8.50	316.50	4,591.2	584.4	-391.1	-391.1	0.79	-0.74	
4,747.0	9.80	325.00	4,685.0	596.2	-400.6	-400.6	1.97	1.37	
4,841.0	8.80	322.10	4,777.8	608.4	-409.6	-409.6	1.17	-1.06	
4,936.0	10.10	323.60	4,871.5	620.8	-419.0	-419.0	1.39	1.37	
5,031.0	10.90	327.50	4,964.9	635.1	-428.8	-428.8	1.13	0.84	
5,125.0	9.40	323.90	5,057.4	648.8	-438.1	-438.1	1.73	-1.60	
5,220.0	9.50	326.10	5,151.1	661.6	-447.0	-447.0	0.39	0.11	
5,314.0	10.40	326.80	5,243.7	675.1	-456.0	-456.0	0.97	0.96	
5,409.0	9.00	323.00	5,337.4	688.2	-465.2	-465.2	1.62	-1.47	
5,504.0	10.50	330.20	5,431.0	701.7	-473.9	-473.9	2.03	1.58	
5,598.0	10.20	326.20	5,523.5	716.0	-482.8	-482.8	0.83	-0.32	
5,693.0	11.30	328.80	5,616.8	731.0	-492.3	-492.3	1.27	1.16	
5,787.0	11.30	329.40	5,709.0	746.8	-501.8	-501.8	0.13	0.00	
5,882.0	9.10	323.40	5,802.5	760.8	-511.0	-511.0	2.57	-2.32	
5,976.0	10.20	317.10	5,895.1	772.9	-521.1	-521.1	1.62	1.17	
6,071.0	11.00	324.00	5,988.5	786.4	-532.1	-532.1	1.58	0.84	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
6,165.0	10.50	337.50	6,080.9	801.6	-540.7	-540.7	2.72	-0.53	
6,260.0	10.50	336.10	6,174.3	817.5	-547.5	-547.5	0.27	0.00	
6,355.0	11.00	338.10	6,267.6	833.8	-554.4	-554.4	0.66	0.53	
6,402.0	9.60	332.90	6,313.9	841.4	-557.9	-557.9	3.57	-2.98	
6,449.0	9.50	331.00	6,360.2	848.3	-561.5	-561.5	0.70	-0.21	
6,496.0	11.00	343.80	6,406.5	856.0	-564.7	-564.7	5.78	3.19	
6,544.0	13.10	359.40	6,453.4	865.9	-566.0	-566.0	8.03	4.37	
6,591.0	14.30	19.20	6,499.1	876.7	-564.1	-564.1	10.24	2.55	
6,638.0	14.10	50.80	6,544.7	885.8	-557.8	-557.8	16.30	-0.43	
6,685.0	15.20	70.40	6,590.2	891.5	-547.5	-547.5	10.75	2.34	
6,733.0	20.40	78.20	6,635.9	895.3	-533.4	-533.4	11.90	10.83	
6,780.0	25.30	80.50	6,679.2	898.6	-515.5	-515.5	10.60	10.43	
6,827.0	29.60	81.60	6,720.9	902.0	-494.1	-494.1	9.21	9.15	
6,874.0	32.70	82.10	6,761.2	905.4	-470.0	-470.0	6.62	6.60	
6,922.0	35.90	82.80	6,800.8	909.0	-443.2	-443.2	6.72	6.67	
6,969.0	40.60	84.30	6,837.7	912.2	-414.3	-414.3	10.19	10.00	
7,017.0	47.90	84.50	6,872.1	915.5	-381.0	-381.0	15.21	15.21	
7,064.0	53.90	81.70	6,901.7	919.9	-344.8	-344.8	13.58	12.77	
7,111.0	57.50	80.80	6,928.2	925.8	-306.4	-306.4	7.82	7.66	
7,158.0	60.60	83.00	6,952.3	931.5	-266.5	-266.5	7.72	6.60	
7,206.0	63.80	85.00	6,974.7	935.9	-224.3	-224.3	7.62	6.67	
7,253.0	67.00	86.40	6,994.3	939.1	-181.7	-181.7	7.33	6.81	
7,300.0	70.70	88.70	7,011.3	941.0	-137.9	-137.9	9.10	7.87	
7,347.0	74.70	90.90	7,025.2	941.1	-93.1	-93.1	9.61	8.51	
7,394.0	76.70	92.30	7,036.8	939.9	-47.5	-47.5	5.14	4.26	
7,409.0	78.10	92.90	7,040.1	939.2	-32.9	-32.9	10.12	9.33	
7,465.0	81.80	93.00	7,049.9	936.4	22.1	22.1	6.61	6.61	
7,512.0	81.10	93.50	7,056.9	933.7	68.5	68.5	1.82	-1.49	
7,559.0	86.50	93.70	7,061.9	930.8	115.1	115.1	11.50	11.49	
7,606.0	91.80	91.20	7,062.6	928.8	162.1	162.1	12.47	11.28	
7,701.0	93.20	89.30	7,058.5	928.4	257.0	257.0	2.48	1.47	
7,795.0	90.70	90.10	7,055.3	928.9	350.9	350.9	2.79	-2.66	
7,890.0	92.90	90.60	7,052.3	928.3	445.9	445.9	2.37	2.32	
7,985.0	93.20	90.80	7,047.3	927.1	540.7	540.7	0.38	0.32	
8,079.0	91.10	90.60	7,043.7	926.0	634.6	634.6	2.24	-2.23	
8,174.0	90.30	91.10	7,042.6	924.6	729.6	729.6	0.99	-0.84	
8,269.0	91.40	90.50	7,041.2	923.2	824.6	824.6	1.32	1.16	
8,363.0	93.10	89.60	7,037.5	923.1	918.5	918.5	2.05	1.81	
8,458.0	92.90	89.10	7,032.5	924.2	1,013.4	1,013.4	0.57	-0.21	
8,553.0	92.10	88.50	7,028.4	926.2	1,108.3	1,108.3	1.05	-0.84	
8,647.0	91.70	87.90	7,025.2	929.2	1,202.2	1,202.2	0.77	-0.43	
8,742.0	90.20	88.60	7,023.7	932.1	1,297.1	1,297.1	1.74	-1.58	
8,836.0	89.10	88.10	7,024.2	934.8	1,391.1	1,391.1	1.29	-1.17	
8,931.0	86.70	89.50	7,027.7	936.8	1,486.0	1,486.0	2.92	-2.53	
9,026.0	88.00	88.70	7,032.1	938.3	1,580.9	1,580.9	1.61	1.37	
9,121.0	89.40	89.50	7,034.3	939.7	1,675.8	1,675.8	1.70	1.47	
9,215.0	89.30	88.60	7,035.3	941.3	1,769.8	1,769.8	0.96	-0.11	
9,310.0	89.80	89.70	7,036.1	942.7	1,864.8	1,864.8	1.27	0.53	
9,405.0	89.00	88.00	7,037.1	944.6	1,959.8	1,959.8	1.98	-0.84	
9,499.0	90.20	90.50	7,037.7	945.8	2,053.7	2,053.7	2.95	1.28	
9,594.0	89.80	89.40	7,037.7	945.9	2,148.7	2,148.7	1.23	-0.42	
9,688.0	89.00	91.00	7,038.7	945.6	2,242.7	2,242.7	1.90	-0.85	
9,783.0	88.70	90.00	7,040.6	944.8	2,337.7	2,337.7	1.10	-0.32	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
9,878.0	88.20	89.50	7,043.2	945.2	2,432.7	2,432.7	0.74	-0.53	
9,972.0	89.80	90.10	7,044.8	945.5	2,526.7	2,526.7	1.82	1.70	
10,067.0	90.10	89.40	7,044.9	945.9	2,621.7	2,621.7	0.80	0.32	
10,162.0	89.90	90.50	7,044.9	946.0	2,716.6	2,716.6	1.18	-0.21	
10,256.0	89.90	89.60	7,045.1	945.9	2,810.6	2,810.6	0.96	0.00	
10,351.0	88.90	92.40	7,046.1	944.3	2,905.6	2,905.6	3.13	-1.05	
10,445.0	88.40	91.70	7,048.3	940.9	2,999.5	2,999.5	0.91	-0.53	
10,540.0	87.80	91.50	7,051.4	938.3	3,094.4	3,094.4	0.67	-0.63	
10,635.0	89.10	91.40	7,054.0	935.9	3,189.4	3,189.4	1.37	1.37	
10,729.0	89.60	91.70	7,055.1	933.3	3,283.3	3,283.3	0.62	0.53	
10,824.0	87.70	90.10	7,057.3	931.8	3,378.3	3,378.3	2.61	-2.00	
10,918.0	87.50	88.70	7,061.2	932.8	3,472.2	3,472.2	1.50	-0.21	
11,013.0	86.30	87.10	7,066.4	936.3	3,567.0	3,567.0	2.10	-1.26	
11,107.0	88.90	87.10	7,070.3	941.0	3,660.8	3,660.8	2.77	2.77	
11,202.0	90.20	87.30	7,071.1	945.7	3,755.7	3,755.7	1.38	1.37	
11,296.0	89.20	85.50	7,071.6	951.6	3,849.5	3,849.5	2.19	-1.06	
11,391.0	91.60	87.20	7,070.9	957.6	3,944.3	3,944.3	3.10	2.53	
11,486.0	91.60	87.20	7,068.2	962.3	4,039.1	4,039.1	0.00	0.00	
11,536.0	91.70	86.50	7,066.8	965.0	4,089.0	4,089.0	1.41	0.20	Last CES Survey @ 11,536' MD
11,588.0	91.70	86.50	7,065.3	968.2	4,140.9	4,140.9	0.00	0.00	PTB @ 11,588'

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
Boyd 3B-19H-M268 PBT - actual wellpath misses target center by 1326.5ft at 7559.0ft MD (7061.9 TVD, 930.8 N, 115.1 E) - Point	0.00	0.00	8,000.0	0.0	0.0	1,318,413.13	3,124,860.64	40.206570	-105.052980
Boyd 3B-19H-M268 PBT - actual wellpath misses target center by 53.3ft at 11588.0ft MD (7065.3 TVD, 968.2 N, 4140.9 E) - Point	0.00	0.00	7,040.0	943.9	4,181.0	1,319,378.06	3,129,036.87	40.209160	-105.038010
Boyd 3B-19H-M268 PBT - actual wellpath misses target center by 49.9ft at 11588.0ft MD (7065.3 TVD, 968.2 N, 4140.9 E) - Point	0.00	0.00	7,082.0	943.9	4,181.0	1,319,378.06	3,129,036.87	40.209160	-105.038010
Boyd 3B-19H-M268 PBT - actual wellpath misses target center by 936.2ft at 7496.0ft MD (7054.4 TVD, 934.7 N, 52.7 E) - Point	0.00	0.00	7,052.0	0.0	0.0	1,318,413.13	3,124,860.64	40.206570	-105.052980

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,536.0	7,066.8	965.0	4,089.0	Last CES Survey @ 11,536' MD
11,588.0	7,065.3	968.2	4,140.9	PTB @ 11,588'

Checked By: _____ Approved By: _____ Date: _____

EnCana Oil & Gas (USA) Inc

DJ Wattenberg

S19-T3N-R68W (Bohrer/Boyd)

Boyd 3B-19H-M368

Hz

Design: FINAL

Survey Report - Geographic

11 August, 2014

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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	S19-T3N-R68W (Bohrer/Boyd)				
Site Position:		Northing:	1,318,413.13 ft	Latitude:	40.206570
From:	Lat/Long	Easting:	3,124,860.64 ft	Longitude:	-105.052980
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.29 °

Well	Boyd 3B-19H-M368					
Well Position	+N/-S	0.0 ft	Northing:	1,318,413.13 ft	Latitude:	40.206570
	+E/-W	0.0 ft	Easting:	3,124,860.64 ft	Longitude:	-105.052980
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,004.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/5/2014	8.58	66.74	52,667

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	8/11/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
141.0	11,588.0	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	1,318,413.13	3,124,860.64	40.206570	-105.052980
141.0	0.60	161.50	141.0	-0.7	0.2	1,318,412.43	3,124,860.88	40.206568	-105.052979
233.0	0.70	312.10	233.0	-0.8	0.0	1,318,412.35	3,124,860.61	40.206568	-105.052980
325.0	1.80	308.90	325.0	0.5	-1.6	1,318,413.63	3,124,859.07	40.206571	-105.052986
417.0	2.50	321.70	416.9	3.0	-3.9	1,318,416.10	3,124,856.69	40.206578	-105.052994
509.0	3.40	327.70	508.8	6.9	-6.6	1,318,419.97	3,124,853.97	40.206589	-105.053004
601.0	5.00	326.00	600.5	12.5	-10.3	1,318,425.58	3,124,850.24	40.206604	-105.053017
693.0	5.90	321.50	692.1	19.5	-15.5	1,318,432.58	3,124,845.02	40.206624	-105.053036
784.0	6.20	319.20	782.6	26.9	-21.6	1,318,439.93	3,124,838.86	40.206644	-105.053058
823.0	6.60	319.70	821.4	30.2	-24.5	1,318,443.21	3,124,836.01	40.206653	-105.053068
915.0	6.90	323.20	912.7	38.7	-31.2	1,318,451.64	3,124,829.24	40.206676	-105.053092
1,007.0	7.80	321.40	1,004.0	48.0	-38.4	1,318,460.91	3,124,821.99	40.206702	-105.053118

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
1,099.0	9.50	327.20	1,094.9	59.2	-46.4	1,318,472.13	3,124,813.92	40.206733	-105.053146
1,191.0	8.50	317.20	1,185.8	70.6	-55.2	1,318,483.45	3,124,805.13	40.206764	-105.053178
1,283.0	11.10	319.30	1,276.5	82.3	-65.5	1,318,495.11	3,124,794.68	40.206796	-105.053215
1,374.0	11.60	326.20	1,365.7	96.5	-76.4	1,318,509.30	3,124,783.80	40.206835	-105.053254
1,466.0	9.90	326.50	1,456.1	110.8	-85.9	1,318,523.53	3,124,774.22	40.206874	-105.053288
1,558.0	11.90	325.40	1,546.4	125.2	-95.6	1,318,537.89	3,124,764.40	40.206914	-105.053323
1,649.0	11.10	328.90	1,635.6	140.5	-105.5	1,318,553.06	3,124,754.47	40.206956	-105.053358
1,741.0	11.10	337.30	1,725.9	156.2	-113.5	1,318,568.77	3,124,746.40	40.206999	-105.053386
1,833.0	11.40	332.40	1,816.1	172.4	-121.1	1,318,584.96	3,124,738.68	40.207043	-105.053414
1,925.0	10.90	329.70	1,906.3	188.0	-129.7	1,318,600.49	3,124,730.00	40.207086	-105.053445
2,016.0	10.50	327.00	1,995.8	202.4	-138.5	1,318,614.83	3,124,721.07	40.207126	-105.053476
2,108.0	10.40	324.50	2,086.2	216.2	-147.9	1,318,628.57	3,124,711.62	40.207164	-105.053510
2,200.0	9.90	320.60	2,176.8	229.1	-157.8	1,318,641.39	3,124,701.71	40.207199	-105.053545
2,292.0	9.70	329.00	2,267.5	241.8	-166.8	1,318,654.10	3,124,692.63	40.207234	-105.053577
2,383.0	9.50	324.70	2,357.2	254.5	-175.1	1,318,666.76	3,124,684.28	40.207269	-105.053607
2,478.0	9.50	320.30	2,450.9	266.9	-184.6	1,318,679.14	3,124,674.68	40.207303	-105.053641
2,572.0	9.40	325.70	2,543.6	279.3	-193.9	1,318,691.40	3,124,665.34	40.207337	-105.053674
2,667.0	9.50	320.20	2,637.3	291.7	-203.3	1,318,703.79	3,124,655.89	40.207371	-105.053708
2,761.0	9.50	325.80	2,730.0	304.1	-212.6	1,318,716.12	3,124,646.50	40.207405	-105.053741
2,856.0	9.60	321.30	2,823.7	316.7	-222.0	1,318,728.74	3,124,637.07	40.207440	-105.053775
2,950.0	10.00	326.00	2,916.4	329.6	-231.4	1,318,741.57	3,124,627.54	40.207475	-105.053809
3,045.0	10.10	332.10	3,009.9	343.8	-239.9	1,318,755.73	3,124,618.96	40.207514	-105.053839
3,139.0	9.90	326.40	3,102.5	357.8	-248.3	1,318,769.70	3,124,610.56	40.207552	-105.053869
3,234.0	9.90	337.60	3,196.1	372.2	-255.9	1,318,784.02	3,124,602.86	40.207592	-105.053897
3,328.0	10.00	335.40	3,288.7	387.1	-262.4	1,318,798.88	3,124,596.31	40.207633	-105.053920
3,423.0	10.20	332.70	3,382.2	402.0	-269.7	1,318,813.82	3,124,588.94	40.207674	-105.053946
3,517.0	9.50	331.20	3,474.8	416.2	-277.2	1,318,827.97	3,124,581.31	40.207713	-105.053973
3,612.0	8.70	331.90	3,568.6	429.4	-284.4	1,318,841.14	3,124,574.09	40.207749	-105.053998
3,706.0	10.50	326.90	3,661.3	442.9	-292.4	1,318,854.55	3,124,565.99	40.207786	-105.054027
3,801.0	12.00	331.10	3,754.5	458.8	-301.9	1,318,870.40	3,124,556.41	40.207830	-105.054061
3,895.0	11.40	330.20	3,846.5	475.4	-311.3	1,318,886.97	3,124,546.99	40.207875	-105.054095
3,990.0	10.30	326.80	3,939.8	490.7	-320.6	1,318,902.18	3,124,537.59	40.207917	-105.054128
4,085.0	9.30	323.60	4,033.4	504.0	-329.8	1,318,915.42	3,124,528.32	40.207953	-105.054161
4,179.0	11.20	327.40	4,125.9	517.8	-339.2	1,318,929.17	3,124,518.83	40.207991	-105.054195
4,274.0	11.50	325.30	4,219.1	533.3	-349.6	1,318,944.68	3,124,508.38	40.208034	-105.054232
4,368.0	10.90	322.70	4,311.3	548.1	-360.3	1,318,959.40	3,124,497.59	40.208075	-105.054270
4,463.0	10.10	320.90	4,404.7	561.7	-371.0	1,318,972.96	3,124,486.83	40.208112	-105.054309
4,558.0	9.20	318.10	4,498.3	573.8	-381.3	1,318,985.02	3,124,476.44	40.208145	-105.054346
4,652.0	8.50	316.50	4,591.2	584.4	-391.1	1,318,995.60	3,124,466.58	40.208174	-105.054381
4,747.0	9.80	325.00	4,685.0	596.2	-400.6	1,319,007.27	3,124,457.05	40.208207	-105.054415
4,841.0	8.80	322.10	4,777.8	608.4	-409.6	1,319,019.45	3,124,447.99	40.208240	-105.054447
4,936.0	10.10	323.60	4,871.5	620.8	-419.0	1,319,031.85	3,124,438.52	40.208274	-105.054480
5,031.0	10.90	327.50	4,964.9	635.1	-428.8	1,319,046.08	3,124,428.68	40.208314	-105.054515
5,125.0	9.40	323.90	5,057.4	648.8	-438.1	1,319,059.73	3,124,419.31	40.208351	-105.054549
5,220.0	9.50	326.10	5,151.1	661.6	-447.0	1,319,072.46	3,124,410.30	40.208386	-105.054581
5,314.0	10.40	326.80	5,243.7	675.1	-456.0	1,319,085.95	3,124,401.26	40.208423	-105.054613
5,409.0	9.00	323.00	5,337.4	688.2	-465.2	1,319,099.02	3,124,392.03	40.208459	-105.054646
5,504.0	10.50	330.20	5,431.0	701.7	-473.9	1,319,112.42	3,124,383.18	40.208496	-105.054677
5,598.0	10.20	326.20	5,523.5	716.0	-482.8	1,319,126.72	3,124,374.22	40.208536	-105.054709
5,693.0	11.30	328.80	5,616.8	731.0	-492.3	1,319,141.63	3,124,364.65	40.208577	-105.054743
5,787.0	11.30	329.40	5,709.0	746.8	-501.8	1,319,157.38	3,124,355.11	40.208620	-105.054777
5,882.0	9.10	323.40	5,802.5	760.8	-511.0	1,319,171.38	3,124,345.82	40.208659	-105.054810
5,976.0	10.20	317.10	5,895.1	772.9	-521.1	1,319,183.39	3,124,335.66	40.208692	-105.054846
6,071.0	11.00	324.00	5,988.5	786.4	-532.1	1,319,196.83	3,124,324.54	40.208729	-105.054886
6,165.0	10.50	337.50	6,080.9	801.6	-540.7	1,319,211.96	3,124,315.91	40.208770	-105.054916

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
6,260.0	10.50	336.10	6,174.3	817.5	-547.5	1,319,227.84	3,124,309.01	40.208814	-105.054941
6,355.0	11.00	338.10	6,267.6	833.8	-554.4	1,319,244.13	3,124,302.04	40.208859	-105.054965
6,402.0	9.60	332.90	6,313.9	841.4	-557.9	1,319,251.76	3,124,298.55	40.208880	-105.054978
6,449.0	9.50	331.00	6,360.2	848.3	-561.5	1,319,258.62	3,124,294.85	40.208899	-105.054991
6,496.0	11.00	343.80	6,406.5	856.0	-564.7	1,319,266.31	3,124,291.68	40.208920	-105.055002
6,544.0	13.10	359.40	6,453.4	865.9	-566.0	1,319,276.14	3,124,290.29	40.208947	-105.055007
6,591.0	14.30	19.20	6,499.1	876.7	-564.1	1,319,286.96	3,124,292.09	40.208977	-105.055000
6,638.0	14.10	50.80	6,544.7	885.8	-557.8	1,319,296.11	3,124,298.40	40.209002	-105.054977
6,685.0	15.20	70.40	6,590.2	891.5	-547.5	1,319,301.85	3,124,308.62	40.209017	-105.054941
6,733.0	20.40	78.20	6,635.9	895.3	-533.4	1,319,305.74	3,124,322.73	40.209028	-105.054890
6,780.0	25.30	80.50	6,679.2	898.6	-515.5	1,319,309.17	3,124,340.65	40.209037	-105.054826
6,827.0	29.60	81.60	6,720.9	902.0	-494.1	1,319,312.63	3,124,362.03	40.209046	-105.054749
6,874.0	32.70	82.10	6,761.2	905.4	-470.0	1,319,316.20	3,124,386.07	40.209056	-105.054663
6,922.0	35.90	82.80	6,800.8	909.0	-443.2	1,319,319.88	3,124,412.87	40.209065	-105.054567
6,969.0	40.60	84.30	6,837.7	912.2	-414.3	1,319,323.27	3,124,441.76	40.209074	-105.054464
7,017.0	47.90	84.50	6,872.1	915.5	-381.0	1,319,326.70	3,124,475.05	40.209083	-105.054344
7,064.0	53.90	81.70	6,901.7	919.9	-344.8	1,319,331.30	3,124,511.21	40.209095	-105.054215
7,111.0	57.50	80.80	6,928.2	925.8	-306.4	1,319,337.41	3,124,549.55	40.209112	-105.054077
7,158.0	60.60	83.00	6,952.3	931.5	-266.5	1,319,343.27	3,124,589.42	40.209127	-105.053935
7,206.0	63.80	85.00	6,974.7	935.9	-224.3	1,319,347.91	3,124,631.61	40.209139	-105.053783
7,253.0	67.00	86.40	6,994.3	939.1	-181.7	1,319,351.32	3,124,674.21	40.209148	-105.053631
7,300.0	70.70	88.70	7,011.3	941.0	-137.9	1,319,353.41	3,124,717.98	40.209153	-105.053474
7,347.0	74.70	90.90	7,025.2	941.1	-93.1	1,319,353.78	3,124,762.84	40.209154	-105.053313
7,394.0	76.70	92.30	7,036.8	939.9	-47.5	1,319,352.74	3,124,808.37	40.209150	-105.053150
7,409.0	78.10	92.90	7,040.1	939.2	-32.9	1,319,352.14	3,124,822.99	40.209148	-105.053098
7,465.0	81.80	93.00	7,049.9	936.4	22.1	1,319,349.59	3,124,878.05	40.209140	-105.052901
7,512.0	81.10	93.50	7,056.9	933.7	68.5	1,319,347.18	3,124,924.47	40.209133	-105.052735
7,559.0	86.50	93.70	7,061.9	930.8	115.1	1,319,344.49	3,124,971.10	40.209125	-105.052568
7,606.0	91.80	91.20	7,062.6	928.8	162.1	1,319,342.72	3,125,018.04	40.209120	-105.052400
7,701.0	93.20	89.30	7,058.5	928.4	257.0	1,319,342.78	3,125,112.94	40.209119	-105.052060
7,795.0	90.70	90.10	7,055.3	928.9	350.9	1,319,343.74	3,125,206.87	40.209120	-105.051724
7,890.0	92.90	90.60	7,052.3	928.3	445.9	1,319,343.64	3,125,301.82	40.209118	-105.051384
7,985.0	93.20	90.80	7,047.3	927.1	540.7	1,319,342.96	3,125,396.68	40.209115	-105.051044
8,079.0	91.10	90.60	7,043.7	926.0	634.6	1,319,342.29	3,125,490.61	40.209112	-105.050708
8,174.0	90.30	91.10	7,042.6	924.6	729.6	1,319,341.36	3,125,585.59	40.209108	-105.050368
8,269.0	91.40	90.50	7,041.2	923.2	824.6	1,319,340.51	3,125,680.58	40.209104	-105.050028
8,363.0	93.10	89.60	7,037.5	923.1	918.5	1,319,340.90	3,125,774.50	40.209104	-105.049692
8,458.0	92.90	89.10	7,032.5	924.2	1,013.4	1,319,342.46	3,125,869.36	40.209107	-105.049352
8,553.0	92.10	88.50	7,028.4	926.2	1,108.3	1,319,344.92	3,125,964.23	40.209113	-105.049012
8,647.0	91.70	87.90	7,025.2	929.2	1,202.2	1,319,348.35	3,126,058.12	40.209121	-105.048676
8,742.0	90.20	88.60	7,023.7	932.1	1,297.1	1,319,351.73	3,126,153.04	40.209129	-105.048336
8,836.0	89.10	88.10	7,024.2	934.8	1,391.1	1,319,354.91	3,126,246.99	40.209136	-105.048000
8,931.0	86.70	89.50	7,027.7	936.8	1,486.0	1,319,357.37	3,126,341.88	40.209141	-105.047660
9,026.0	88.00	88.70	7,032.1	938.3	1,580.9	1,319,359.34	3,126,436.76	40.209146	-105.047320
9,121.0	89.40	89.50	7,034.3	939.7	1,675.8	1,319,361.31	3,126,531.71	40.209150	-105.046980
9,215.0	89.30	88.60	7,035.3	941.3	1,769.8	1,319,363.34	3,126,625.68	40.209154	-105.046644
9,310.0	89.80	89.70	7,036.1	942.7	1,864.8	1,319,365.23	3,126,720.65	40.209158	-105.046303
9,405.0	89.00	88.00	7,037.1	944.6	1,959.8	1,319,367.62	3,126,815.62	40.209163	-105.045963
9,499.0	90.20	90.50	7,037.7	945.8	2,053.7	1,319,369.32	3,126,909.59	40.209166	-105.045627
9,594.0	89.80	89.40	7,037.7	945.9	2,148.7	1,319,369.88	3,127,004.59	40.209166	-105.045287
9,688.0	89.00	91.00	7,038.7	945.6	2,242.7	1,319,370.03	3,127,098.58	40.209166	-105.044950
9,783.0	88.70	90.00	7,040.6	944.8	2,337.7	1,319,369.68	3,127,193.56	40.209163	-105.044610
9,878.0	88.20	89.50	7,043.2	945.2	2,432.7	1,319,370.57	3,127,288.52	40.209164	-105.044270
9,972.0	89.80	90.10	7,044.8	945.5	2,526.7	1,319,371.37	3,127,382.49	40.209165	-105.043934
10,067.0	90.10	89.40	7,044.9	945.9	2,621.7	1,319,372.27	3,127,477.49	40.209166	-105.043594

Cathedral Energy Services

Survey Report - Geographic

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Boyd 3B-19H-M368
Project:	DJ Wattenberg	TVD Reference:	13' KB @ 5017.0ft (Ensign 135)
Site:	S19-T3N-R68W (Bohrer/Boyd)	MD Reference:	13' KB @ 5017.0ft (Ensign 135)
Well:	Boyd 3B-19H-M368	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
10,162.0	89.90	90.50	7,044.9	946.0	2,716.6	1,319,372.83	3,127,572.49	40.209167	-105.043253
10,256.0	89.90	89.60	7,045.1	945.9	2,810.6	1,319,373.22	3,127,666.48	40.209166	-105.042917
10,351.0	88.90	92.40	7,046.1	944.3	2,905.6	1,319,372.04	3,127,761.46	40.209162	-105.042577
10,445.0	88.40	91.70	7,048.3	940.9	2,999.5	1,319,369.15	3,127,855.39	40.209152	-105.042241
10,540.0	87.80	91.50	7,051.4	938.3	3,094.4	1,319,366.98	3,127,950.31	40.209145	-105.041901
10,635.0	89.10	91.40	7,054.0	935.9	3,189.4	1,319,365.06	3,128,045.26	40.209139	-105.041561
10,729.0	89.60	91.70	7,055.1	933.3	3,283.3	1,319,362.99	3,128,139.23	40.209132	-105.041224
10,824.0	87.70	90.10	7,057.3	931.8	3,378.3	1,319,361.97	3,128,234.19	40.209127	-105.040885
10,918.0	87.50	88.70	7,061.2	932.8	3,472.2	1,319,363.43	3,128,328.09	40.209130	-105.040548
11,013.0	86.30	87.10	7,066.4	936.3	3,567.0	1,319,367.38	3,128,422.87	40.209140	-105.040209
11,107.0	88.90	87.10	7,070.3	941.0	3,660.8	1,319,372.61	3,128,516.63	40.209153	-105.039873
11,202.0	90.20	87.30	7,071.1	945.7	3,755.7	1,319,377.73	3,128,611.49	40.209165	-105.039533
11,296.0	89.20	85.50	7,071.6	951.6	3,849.5	1,319,384.10	3,128,705.26	40.209181	-105.039197
11,391.0	91.60	87.20	7,070.9	957.6	3,944.3	1,319,390.63	3,128,800.03	40.209198	-105.038858
11,486.0	91.60	87.20	7,068.2	962.3	4,039.1	1,319,395.74	3,128,894.85	40.209211	-105.038518
11,536.0	91.70	86.50	7,066.8	965.0	4,089.0	1,319,398.74	3,128,944.74	40.209218	-105.038340
Last CES Survey @ 11,536' MD									
11,588.0	91.70	86.50	7,065.3	968.2	4,140.9	1,319,402.18	3,128,996.60	40.209227	-105.038154
PTB @ 11,588'									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
11,536.0	7,066.8	965.0	4,089.0	Last CES Survey @ 11,536' MD
11,588.0	7,065.3	968.2	4,140.9	PTB @ 11,588'

Checked By: _____ Approved By: _____ Date: _____