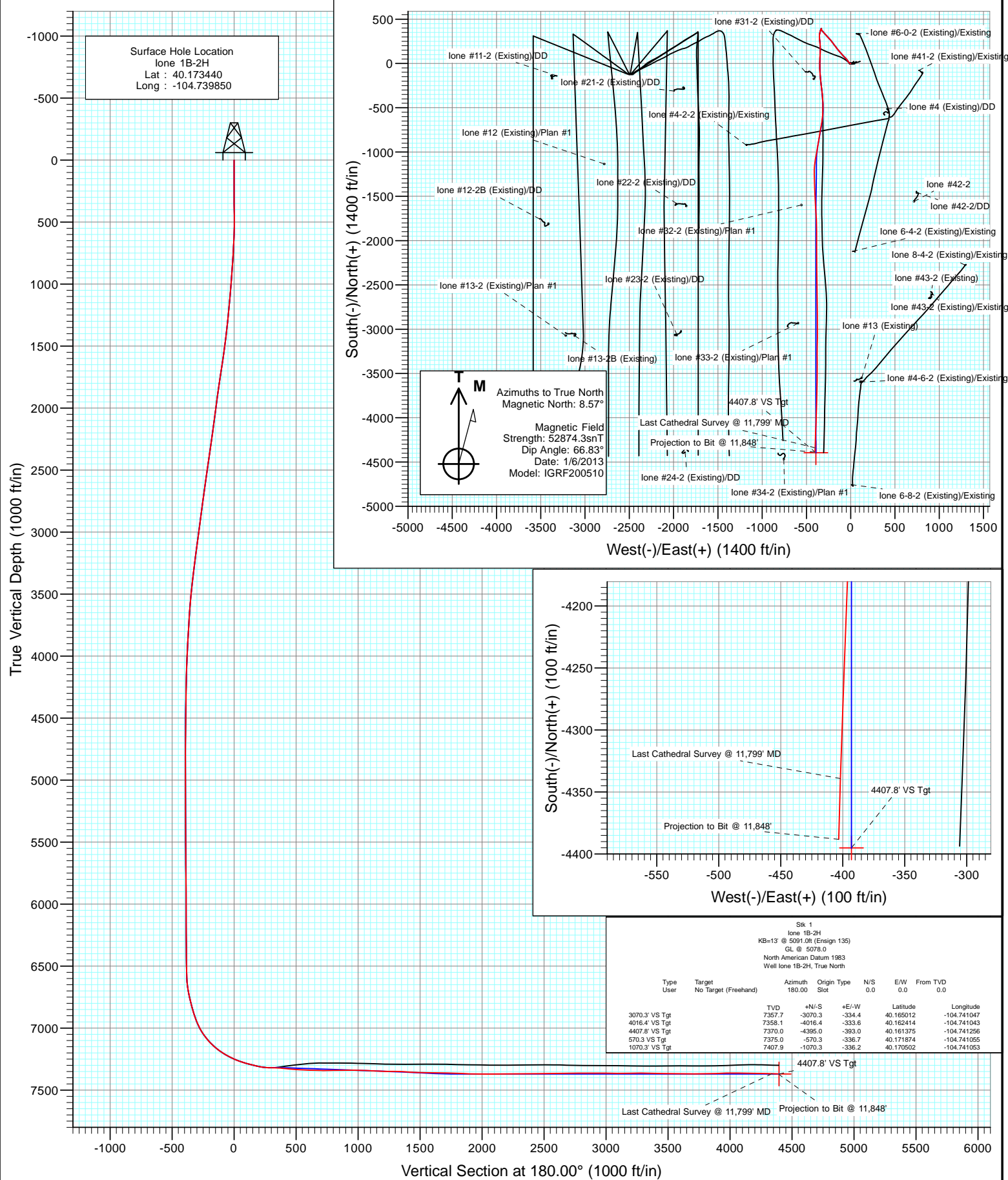


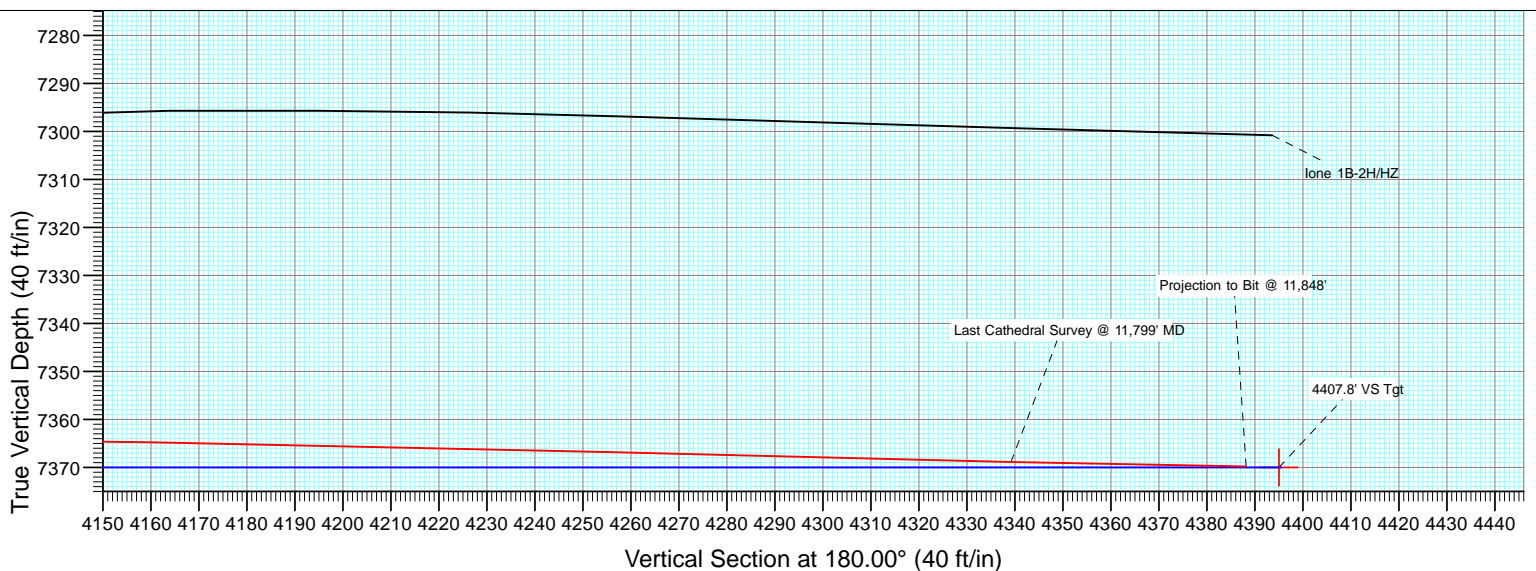
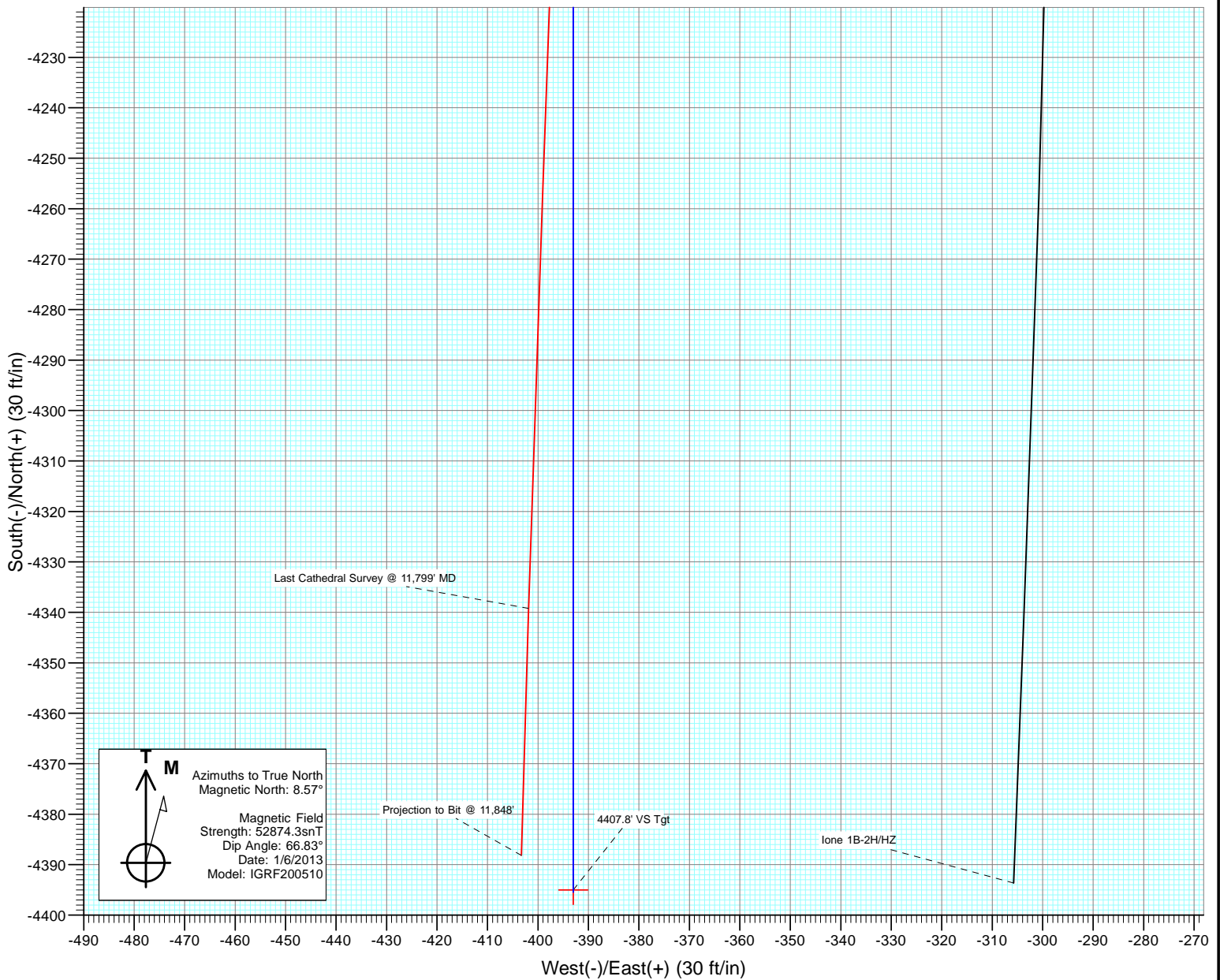


Project: DJ Wattenberg
Site: NWN S2-T2N-R66W (lone)
Well: lone 1B-2H
Wellbore: Sk 1
Design: FINAL





Project: DJ Wattenberg
Site: NWNE S2-T2N-R66W (Ione)
Well: Ione 1B-2H
Wellbore: Stk 1
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1B-2H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Site:	NWNE S2-T2N-R66W (lone)	MD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Well:	lone 1B-2H	North Reference:	True
Wellbore:	Stk 1	Survey Calculation Method:	Minimum Curvature
Design:	Stk 1	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		NWNE S2-T2N-R66W (lone)			
Site Position:		Northing:	1,306,798.50 ft	Latitude:	40.173110
From:	Lat/Long	Easting:	3,209,901.52 ft	Longitude:	-104.748870
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.49 °

Well	lone 1B-2H					
Well Position	+N/-S	0.0 ft	Northing:	1,306,940.16 ft	Latitude:	40.173440
	+E/-W	0.0 ft	Easting:	3,212,420.97 ft	Longitude:	-104.739850
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,078.0 ft

Wellbore	Stk 1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/6/2013	8.57	66.83	52,874

Design	Stk 1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	7,733.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	180.00	

Survey Program	Date	1/13/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
169.0	7,733.0	Survey #1 (HZ)	MWD	Geolink MWD	
7,774.0	11,848.0	Survey #1 (Stk 1)	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		
169.0	0.00	252.70	169.0	0.0	0.0	0.0	0.00	0.00		
261.0	0.40	239.70	261.0	-0.2	-0.3	0.2	0.43	0.43		
353.0	0.80	224.40	353.0	-0.8	-1.0	0.8	0.46	0.43		
445.0	1.30	254.70	445.0	-1.5	-2.5	1.5	0.79	0.54		
537.0	2.20	290.00	536.9	-1.2	-5.1	1.2	1.48	0.98		
629.0	3.30	310.10	628.8	1.1	-8.8	-1.1	1.57	1.20		
720.0	4.70	310.30	719.6	5.2	-13.7	-5.2	1.54	1.54		
813.0	5.20	316.30	812.3	10.7	-19.5	-10.7	0.77	0.54		
905.0	5.40	323.60	903.9	17.2	-24.9	-17.2	0.76	0.22		
997.0	5.70	327.20	995.4	24.6	-30.0	-24.6	0.50	0.33		
1,040.0	5.60	314.30	1,038.2	27.8	-32.6	-27.8	2.96	-0.23		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1B-2H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Site:	NWNE S2-T2N-R66W (lone)	MD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Well:	lone 1B-2H	North Reference:	True
Wellbore:	Stk 1	Survey Calculation Method:	Minimum Curvature
Design:	Stk 1	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
1,101.0	6.00	329.30	1,098.9	32.6	-36.4	-32.6	2.56	0.66	
1,193.0	6.50	325.60	1,190.4	41.1	-41.8	-41.1	0.70	0.54	
1,285.0	7.60	319.00	1,281.7	50.0	-48.7	-50.0	1.48	1.20	
1,377.0	9.10	313.90	1,372.7	59.6	-57.9	-59.6	1.82	1.63	
1,469.0	10.30	314.50	1,463.4	70.4	-69.1	-70.4	1.31	1.30	
1,561.0	11.40	314.90	1,553.7	82.6	-81.4	-82.6	1.20	1.20	
1,653.0	11.60	317.80	1,643.9	95.9	-94.0	-95.9	0.66	0.22	
1,745.0	11.50	320.60	1,734.0	109.8	-106.1	-109.8	0.62	-0.11	
1,837.0	10.80	321.20	1,824.3	123.6	-117.3	-123.6	0.77	-0.76	
1,929.0	9.80	319.00	1,914.8	136.2	-127.8	-136.2	1.17	-1.09	
2,024.0	9.30	320.10	2,008.5	148.2	-138.0	-148.2	0.56	-0.53	
2,119.0	9.80	319.10	2,102.2	160.2	-148.3	-160.2	0.55	0.53	
2,214.0	9.80	324.50	2,195.8	172.9	-158.2	-172.9	0.97	0.00	
2,308.0	10.50	321.70	2,288.3	186.1	-168.2	-186.1	0.91	0.74	
2,403.0	10.50	321.90	2,381.7	199.7	-178.9	-199.7	0.04	0.00	
2,498.0	10.10	322.90	2,475.2	213.2	-189.3	-213.2	0.46	-0.42	
2,593.0	10.40	325.80	2,568.7	226.9	-199.1	-226.9	0.63	0.32	
2,688.0	9.60	321.30	2,662.2	240.2	-208.9	-240.2	1.18	-0.84	
2,783.0	9.40	320.50	2,755.9	252.4	-218.8	-252.4	0.25	-0.21	
2,877.0	9.40	320.60	2,848.7	264.2	-228.5	-264.2	0.02	0.00	
2,974.0	10.20	320.90	2,944.3	277.0	-239.0	-277.0	0.83	0.82	
3,067.0	10.70	316.70	3,035.7	289.7	-250.1	-289.7	0.98	0.54	
3,162.0	10.80	315.20	3,129.1	302.4	-262.4	-302.4	0.31	0.11	
3,257.0	10.50	315.90	3,222.4	315.0	-274.7	-315.0	0.34	-0.32	
3,351.0	9.10	317.70	3,315.0	326.6	-285.7	-326.6	1.52	-1.49	
3,446.0	8.50	318.80	3,408.9	337.5	-295.4	-337.5	0.66	-0.63	
3,541.0	7.10	321.40	3,503.0	347.3	-303.6	-347.3	1.52	-1.47	
3,636.0	5.90	318.20	3,597.4	355.6	-310.6	-355.6	1.32	-1.26	
3,731.0	5.30	313.40	3,692.0	362.2	-317.0	-362.2	0.80	-0.63	
3,825.0	4.40	313.70	3,785.6	367.7	-322.8	-367.7	0.96	-0.96	
3,920.0	4.40	320.80	3,880.4	373.0	-327.7	-373.0	0.57	0.00	
4,015.0	3.60	317.10	3,975.1	378.0	-332.0	-378.0	0.88	-0.84	
4,109.0	2.40	354.20	4,069.0	382.2	-334.2	-382.2	2.36	-1.28	
4,204.0	1.50	347.30	4,164.0	385.3	-334.7	-385.3	0.98	-0.95	
4,299.0	0.70	2.70	4,258.9	387.1	-335.0	-387.1	0.89	-0.84	
4,393.0	0.60	12.70	4,352.9	388.2	-334.8	-388.2	0.16	-0.11	
4,487.0	0.60	30.50	4,446.9	389.1	-334.5	-389.1	0.20	0.00	
4,582.0	0.70	33.20	4,541.9	390.0	-333.9	-390.0	0.11	0.11	
4,677.0	0.70	22.00	4,636.9	391.0	-333.4	-391.0	0.14	0.00	
4,772.0	0.60	16.60	4,731.9	392.0	-333.0	-392.0	0.12	-0.11	
4,866.0	0.40	28.80	4,825.9	392.8	-332.7	-392.8	0.24	-0.21	
4,961.0	0.40	45.50	4,920.9	393.3	-332.3	-393.3	0.12	0.00	
5,056.0	1.20	88.90	5,015.9	393.6	-331.1	-393.6	1.00	0.84	
5,151.0	0.40	168.20	5,110.9	393.3	-330.0	-393.3	1.26	-0.84	
5,246.0	0.50	179.70	5,205.9	392.5	-329.9	-392.5	0.14	0.11	
5,340.0	0.40	182.80	5,299.9	391.8	-330.0	-391.8	0.11	-0.11	
5,435.0	0.60	196.60	5,394.9	391.0	-330.1	-391.0	0.24	0.21	
5,530.0	0.40	194.80	5,489.9	390.2	-330.3	-390.2	0.21	-0.21	
5,625.0	0.40	212.40	5,584.9	389.6	-330.6	-389.6	0.13	0.00	
5,719.0	0.40	210.60	5,678.9	389.0	-331.0	-389.0	0.01	0.00	
5,814.0	0.40	207.90	5,773.9	388.5	-331.3	-388.5	0.02	0.00	
5,909.0	0.20	186.70	5,868.9	388.0	-331.4	-388.0	0.24	-0.21	
6,004.0	0.30	106.80	5,963.9	387.8	-331.2	-387.8	0.35	0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1B-2H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Site:	NWNE S2-T2N-R66W (lone)	MD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Well:	lone 1B-2H	North Reference:	True
Wellbore:	Stk 1	Survey Calculation Method:	Minimum Curvature
Design:	Stk 1	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
6,099.0	0.40	94.50	6,058.9	387.7	-330.7	-387.7	0.13	0.11	
6,193.0	0.50	163.50	6,152.9	387.2	-330.2	-387.2	0.55	0.11	
6,288.0	1.00	179.00	6,247.8	386.0	-330.1	-386.0	0.56	0.53	
6,383.0	1.10	249.10	6,342.8	384.9	-330.9	-384.9	1.27	0.11	
6,478.0	1.70	258.10	6,437.8	384.2	-333.2	-384.2	0.67	0.63	
6,572.0	1.80	241.00	6,531.8	383.2	-335.8	-383.2	0.56	0.11	
6,636.0	3.10	216.10	6,595.7	381.4	-337.7	-381.4	2.58	2.03	
6,667.0	5.20	203.70	6,626.6	379.4	-338.8	-379.4	7.33	6.77	
6,699.0	7.40	194.40	6,658.4	376.1	-339.9	-376.1	7.56	6.87	
6,731.0	9.30	192.90	6,690.1	371.6	-341.0	-371.6	5.98	5.94	
6,762.0	11.30	195.70	6,720.6	366.2	-342.3	-366.2	6.65	6.45	
6,794.0	13.00	197.90	6,751.9	359.7	-344.3	-359.7	5.51	5.31	
6,826.0	14.50	197.40	6,782.9	352.5	-346.6	-352.5	4.70	4.69	
6,857.0	15.60	195.00	6,812.9	344.8	-348.8	-344.8	4.08	3.55	
6,889.0	16.50	191.40	6,843.6	336.2	-350.8	-336.2	4.19	2.81	
6,921.0	17.10	187.70	6,874.3	327.0	-352.4	-327.0	3.83	1.87	
6,952.0	17.90	184.20	6,903.8	317.8	-353.3	-317.8	4.26	2.58	
6,984.0	19.60	179.20	6,934.1	307.5	-353.6	-307.5	7.31	5.31	
7,016.0	22.90	177.20	6,964.0	295.9	-353.2	-295.9	10.56	10.31	
7,047.0	27.10	175.90	6,992.1	282.8	-352.4	-282.8	13.66	13.55	
7,079.0	31.30	174.20	7,020.0	267.3	-351.1	-267.3	13.38	13.12	
7,110.0	35.40	173.00	7,045.9	250.4	-349.2	-250.4	13.40	13.23	
7,142.0	38.00	174.20	7,071.5	231.4	-347.0	-231.4	8.43	8.12	
7,174.0	40.50	175.80	7,096.3	211.2	-345.3	-211.2	8.43	7.81	
7,205.0	43.30	178.60	7,119.4	190.5	-344.3	-190.5	10.86	9.03	
7,237.0	46.50	180.40	7,142.0	167.9	-344.1	-167.9	10.76	10.00	
7,268.0	50.50	181.80	7,162.6	144.7	-344.6	-144.7	13.34	12.90	
7,300.0	54.20	181.60	7,182.1	119.4	-345.3	-119.4	11.57	11.56	
7,332.0	57.50	181.60	7,200.1	92.9	-346.0	-92.9	10.31	10.31	
7,363.0	60.40	181.00	7,216.1	66.4	-346.6	-66.4	9.50	9.35	
7,395.0	62.10	182.00	7,231.5	38.3	-347.4	-38.3	5.98	5.31	
7,426.0	64.70	181.40	7,245.3	10.6	-348.2	-10.6	8.56	8.39	
7,458.0	68.10	180.30	7,258.2	-18.7	-348.6	18.7	11.08	10.62	
7,493.0	71.60	178.60	7,270.2	-51.5	-348.3	51.5	10.99	10.00	
7,544.0	73.60	177.00	7,285.5	-100.2	-346.4	100.2	4.93	3.92	
7,575.0	75.50	176.70	7,293.7	-130.0	-344.8	130.0	6.20	6.13	
7,607.0	76.20	175.20	7,301.5	-160.9	-342.6	160.9	5.05	2.19	
7,638.0	78.40	173.90	7,308.4	-191.0	-339.7	191.0	8.19	7.10	
7,670.0	80.80	173.10	7,314.1	-222.3	-336.2	222.3	7.89	7.50	
7,702.0	84.60	172.70	7,318.2	-253.8	-332.2	253.8	11.94	11.87	
7,733.0	89.00	172.80	7,319.9	-284.5	-328.3	284.5	14.20	14.19	
7,774.0	88.80	173.20	7,320.7	-325.2	-323.3	325.2	1.09	-0.49	
7,806.0	86.00	173.50	7,322.2	-356.9	-319.6	356.9	8.80	-8.75	
7,837.0	84.40	175.20	7,324.8	-387.7	-316.6	387.7	7.52	-5.16	
7,869.0	84.10	176.80	7,328.0	-419.4	-314.4	419.4	5.06	-0.94	
7,900.0	84.70	179.00	7,331.0	-450.3	-313.3	450.3	7.32	1.94	
7,932.0	85.70	180.60	7,333.7	-482.1	-313.1	482.1	5.88	3.12	
7,964.0	86.30	181.80	7,335.9	-514.1	-313.8	514.1	4.18	1.87	
7,995.0	87.30	182.10	7,337.6	-545.0	-314.9	545.0	3.37	3.23	
8,027.0	87.90	183.90	7,339.0	-576.9	-316.5	576.9	5.92	1.87	
8,059.0	88.40	185.70	7,340.0	-608.8	-319.2	608.8	5.84	1.56	
8,090.0	88.20	187.60	7,340.9	-639.6	-322.8	639.6	6.16	-0.65	
8,122.0	88.00	189.20	7,342.0	-671.2	-327.5	671.2	5.04	-0.62	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1B-2H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Site:	NWNE S2-T2N-R66W (lone)	MD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Well:	lone 1B-2H	North Reference:	True
Wellbore:	Stk 1	Survey Calculation Method:	Minimum Curvature
Design:	Stk 1	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
8,153.0	88.40	189.90	7,343.0	-701.8	-332.6	701.8	2.60	1.29	
8,185.0	90.10	190.10	7,343.4	-733.3	-338.2	733.3	5.35	5.31	
8,280.0	92.40	189.20	7,341.3	-826.9	-354.1	826.9	2.60	2.42	
8,311.0	91.20	189.20	7,340.3	-857.5	-359.0	857.5	3.87	-3.87	
8,343.0	90.90	188.80	7,339.7	-889.1	-364.0	889.1	1.56	-0.94	
8,375.0	89.40	189.80	7,339.7	-920.7	-369.2	920.7	5.63	-4.69	
8,406.0	88.40	190.60	7,340.3	-951.2	-374.7	951.2	4.13	-3.23	
8,438.0	88.70	190.50	7,341.1	-982.6	-380.6	982.6	0.99	0.94	
8,469.0	89.50	190.30	7,341.6	-1,013.1	-386.2	1,013.1	2.66	2.58	
8,501.0	88.70	190.30	7,342.1	-1,044.6	-391.9	1,044.6	2.50	-2.50	
8,532.0	87.60	190.40	7,343.1	-1,075.1	-397.5	1,075.1	3.56	-3.55	
8,564.0	86.70	188.50	7,344.6	-1,106.6	-402.7	1,106.6	6.56	-2.81	
8,595.0	86.90	186.10	7,346.4	-1,137.3	-406.6	1,137.3	7.76	0.65	
8,627.0	87.60	183.80	7,347.9	-1,169.1	-409.4	1,169.1	7.51	2.19	
8,659.0	89.00	182.00	7,348.9	-1,201.1	-411.0	1,201.1	7.12	4.37	
8,690.0	90.00	180.20	7,349.1	-1,232.1	-411.6	1,232.1	6.64	3.23	
8,722.0	90.20	179.10	7,349.1	-1,264.1	-411.4	1,264.1	3.49	0.62	
8,753.0	89.10	178.70	7,349.3	-1,295.1	-410.8	1,295.1	3.78	-3.55	
8,816.0	86.40	178.10	7,351.7	-1,358.0	-409.1	1,358.0	4.39	-4.29	
8,879.0	87.00	177.30	7,355.4	-1,420.8	-406.5	1,420.8	1.59	0.95	
8,942.0	87.70	177.10	7,358.3	-1,483.7	-403.5	1,483.7	1.16	1.11	
9,037.0	89.70	177.50	7,360.4	-1,578.5	-399.0	1,578.5	2.15	2.11	
9,100.0	89.70	176.90	7,360.8	-1,641.5	-395.9	1,641.5	0.95	0.00	
9,163.0	88.10	175.90	7,362.0	-1,704.3	-392.0	1,704.3	2.99	-2.54	
9,226.0	87.30	177.40	7,364.5	-1,767.2	-388.3	1,767.2	2.70	-1.27	
9,290.0	88.00	179.00	7,367.1	-1,831.1	-386.3	1,831.1	2.73	1.09	
9,353.0	88.30	179.40	7,369.2	-1,894.0	-385.4	1,894.0	0.79	0.48	
9,416.0	88.80	179.80	7,370.8	-1,957.0	-384.9	1,957.0	1.02	0.79	
9,511.0	90.60	180.00	7,371.3	-2,052.0	-384.8	2,052.0	1.91	1.89	
9,605.0	90.50	179.80	7,370.4	-2,146.0	-384.6	2,146.0	0.24	-0.11	
9,700.0	90.10	179.00	7,369.9	-2,241.0	-383.6	2,241.0	0.94	-0.42	
9,795.0	90.00	179.40	7,369.8	-2,336.0	-382.3	2,336.0	0.43	-0.11	
9,890.0	91.20	180.20	7,368.8	-2,431.0	-382.0	2,431.0	1.52	1.26	
9,984.0	91.40	178.90	7,366.6	-2,524.9	-381.2	2,524.9	1.40	0.21	
10,079.0	90.10	178.70	7,365.4	-2,619.9	-379.2	2,619.9	1.38	-1.37	
10,174.0	90.80	179.30	7,364.7	-2,714.9	-377.6	2,714.9	0.97	0.74	
10,268.0	90.20	180.10	7,363.8	-2,808.9	-377.1	2,808.9	1.06	-0.64	
10,363.0	89.90	179.00	7,363.8	-2,903.9	-376.3	2,903.9	1.20	-0.32	
10,458.0	89.10	179.00	7,364.6	-2,998.9	-374.7	2,998.9	0.84	-0.84	
10,552.0	90.20	181.20	7,365.2	-3,092.9	-374.8	3,092.9	2.62	1.17	
10,647.0	90.30	181.80	7,364.7	-3,187.8	-377.3	3,187.8	0.64	0.11	
10,742.0	90.60	181.00	7,364.0	-3,282.8	-379.7	3,282.8	0.90	0.32	
10,837.0	88.90	179.20	7,364.4	-3,377.8	-379.8	3,377.8	2.61	-1.79	
10,931.0	88.40	179.80	7,366.6	-3,471.8	-379.0	3,471.8	0.83	-0.53	
11,026.0	88.70	179.80	7,369.0	-3,566.7	-378.7	3,566.7	0.32	0.32	
11,121.0	90.00	181.30	7,370.1	-3,661.7	-379.6	3,661.7	2.09	1.37	
11,216.0	91.30	182.70	7,369.0	-3,756.6	-382.9	3,756.6	2.01	1.37	
11,241.0	91.60	181.70	7,368.4	-3,781.6	-383.9	3,781.6	4.17	1.20	
11,336.0	91.80	181.90	7,365.6	-3,876.5	-386.8	3,876.5	0.30	0.21	
11,430.0	90.50	181.60	7,363.7	-3,970.5	-389.7	3,970.5	1.42	-1.38	
11,525.0	89.50	181.80	7,363.7	-4,065.4	-392.5	4,065.4	1.07	-1.05	
11,620.0	89.20	181.90	7,364.8	-4,160.4	-395.6	4,160.4	0.33	-0.32	
11,715.0	88.30	182.20	7,366.8	-4,255.3	-399.0	4,255.3	1.00	-0.95	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well lone 1B-2H
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Site:	NWNE S2-T2N-R66W (lone)	MD Reference:	KB=13' @ 5091.0ft (Ensign 135)
Well:	lone 1B-2H	North Reference:	True
Wellbore:	Stk 1	Survey Calculation Method:	Minimum Curvature
Design:	Stk 1	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
11,799.0	88.90	181.70	7,368.9	-4,339.2	-401.8	4,339.2	0.93	0.71	Last Cathedral Survey @ 11,799' MD Projection to Bit @ 11,848'
11,848.0	88.90	181.70	7,369.8	-4,388.2	-403.3	4,388.2	0.00	0.00	

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
4016.4' VS Tgt - actual wellpath misses target center by 57.7ft at 11474.3ft MD (7363.5 TVD, -4014.7 N, -391.0 E) - Point	0.00	0.00	7,358.1	-4,016.4	-333.6	1,302,921.01	3,212,121.86	40.162414	-104.741043
570.3 VS Tgt - actual wellpath misses target center by 41.6ft at 8022.9ft MD (7338.8 TVD, -572.8 N, -316.3 E) - Point	0.00	0.00	7,375.0	-570.3	-336.7	1,306,367.04	3,212,089.22	40.171874	-104.741055
1070.3' VS Tgt - actual wellpath misses target center by 88.3ft at 8518.4ft MD (7342.5 TVD, -1061.7 N, -395.0 E) - Point	0.00	0.00	7,407.9	-1,070.3	-336.2	1,305,867.06	3,212,093.95	40.170502	-104.741053
3070.3' VS Tgt - actual wellpath misses target center by 40.8ft at 10529.3ft MD (7365.2 TVD, -3070.1 N, -374.5 E) - Point	0.00	0.00	7,357.7	-3,070.3	-334.4	1,303,867.15	3,212,112.90	40.165012	-104.741047
4407.8' VS Tgt - actual wellpath misses target center by 12.4ft at 11848.0ft MD (7369.8 TVD, -4388.2 N, -403.3 E) - Point	0.00	0.00	7,370.0	-4,395.0	-393.0	1,302,541.95	3,212,065.66	40.161375	-104.741256

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,799.0	7,368.9	-4,339.2	-401.8	Last Cathedral Survey @ 11,799' MD Projection to Bit @ 11,848'
11,848.0	7,369.8	-4,388.2	-403.3	

Checked By: _____ Approved By: _____ Date: _____