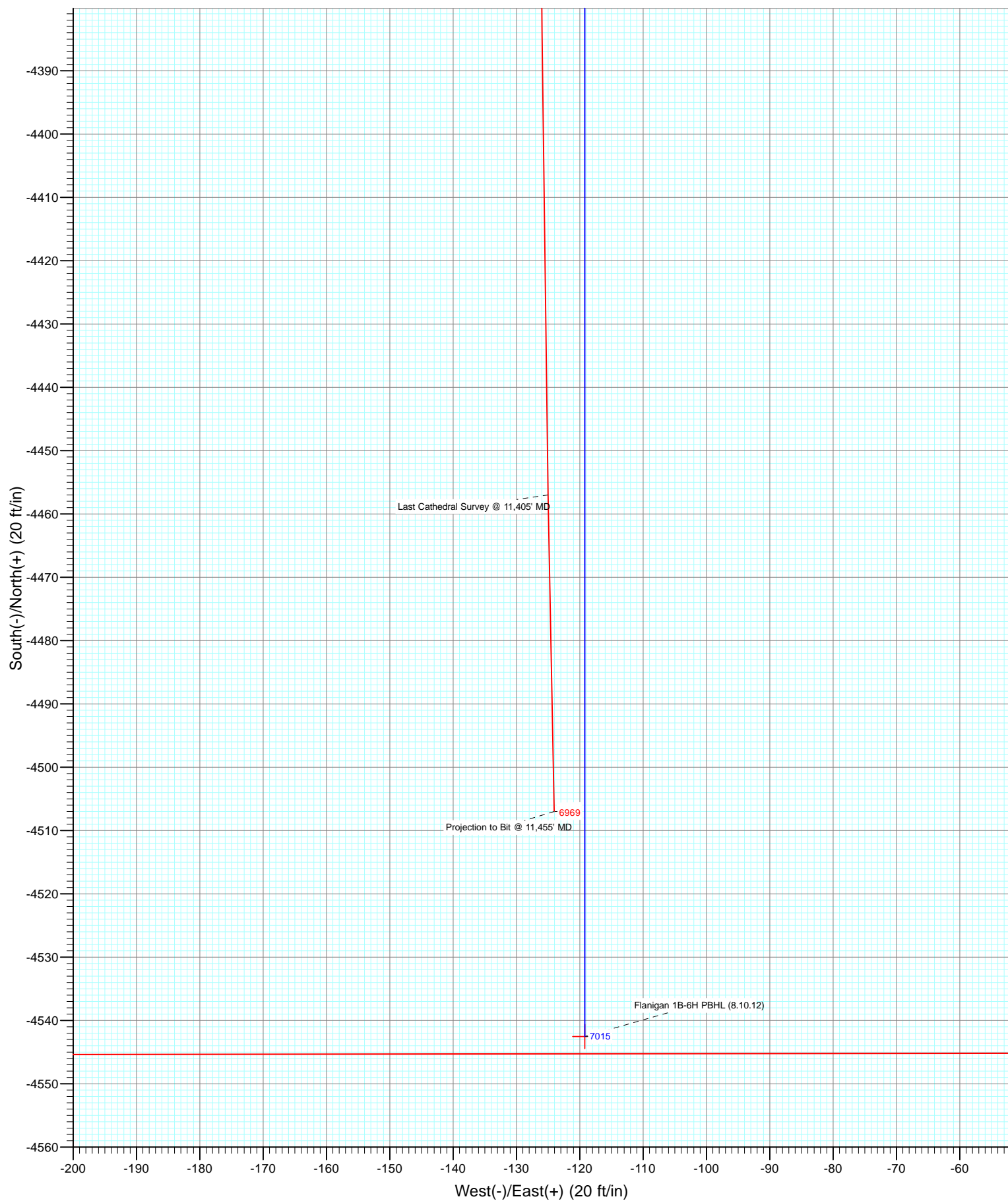




Project: DJ Wattenberg
Site: NWNE S6-T1N-R64W (Flanigan)
Well: Flanigan 1B-6H (New SHL)
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Flanigan 1B-6H (New SHL)
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Site:	NWNE S6-T1N-R64W (Flanigan)	MD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Well:	Flanigan 1B-6H (New SHL)	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		NWNE S6-T1N-R64W (Flanigan)			
Site Position:		Northing:	1,275,832.11 ft	Latitude:	40.086970
From:	Lat/Long	Easting:	3,254,152.25 ft	Longitude:	-104.591660
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.59 °

Well	Flanigan 1B-6H (New SHL)					
Well Position	+N/-S	0.0 ft	Northing:	1,275,831.91 ft	Latitude:	40.086970
	+E/-W	0.0 ft	Easting:	3,254,134.35 ft	Longitude:	-104.591724
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,997.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/21/2012	8.60	66.79	52,868

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	180.00	

Survey Program	Date	8/14/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
109.0	11,455.0	Survey #1 (HZ)	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		
109.0	0.30	154.80	109.0	-0.3	0.1	0.3	0.28	0.28		
171.0	0.70	173.10	171.0	-0.8	0.2	0.8	0.69	0.65		
265.0	1.10	148.80	265.0	-2.1	0.8	2.1	0.58	0.43		
358.0	2.10	82.10	358.0	-2.7	2.9	2.7	2.09	1.08		
451.0	2.30	93.10	450.9	-2.5	6.5	2.5	0.50	0.22		
512.0	2.50	85.40	511.8	-2.5	9.0	2.5	0.62	0.33		
575.0	2.90	87.10	574.8	-2.3	12.0	2.3	0.65	0.63		
637.0	3.60	91.00	636.7	-2.2	15.5	2.2	1.18	1.13		
699.0	3.40	103.70	698.5	-2.7	19.2	2.7	1.29	-0.32		
761.0	3.40	108.40	760.4	-3.7	22.8	3.7	0.45	0.00		
823.0	2.70	94.60	822.4	-4.4	26.0	4.4	1.63	-1.13		
885.0	2.40	93.40	884.3	-4.6	28.7	4.6	0.49	-0.48		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Flanigan 1B-6H (New SHL)
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Site:	NWNE S6-T1N-R64W (Flanigan)	MD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Well:	Flanigan 1B-6H (New SHL)	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
947.0	3.10	95.60	946.2	-4.9	31.7	4.9	1.14	1.13	
1,009.0	3.00	92.40	1,008.1	-5.1	35.0	5.1	0.32	-0.16	
1,062.0	3.10	92.30	1,061.1	-5.2	37.8	5.2	0.19	0.19	
1,133.0	2.90	96.90	1,132.0	-5.5	41.5	5.5	0.44	-0.28	
1,195.0	1.60	82.30	1,193.9	-5.6	43.9	5.6	2.28	-2.10	
1,288.0	0.70	17.00	1,286.9	-4.9	45.4	4.9	1.56	-0.97	
1,382.0	0.70	270.90	1,380.9	-4.3	44.9	4.3	1.19	0.00	
1,475.0	1.20	237.20	1,473.9	-4.8	43.6	4.8	0.78	0.54	
1,570.0	1.30	238.30	1,568.9	-5.9	41.8	5.9	0.11	0.11	
1,665.0	0.70	270.90	1,663.8	-6.5	40.3	6.5	0.85	-0.63	
1,760.0	0.30	32.60	1,758.8	-6.3	39.9	6.3	0.94	-0.42	
1,855.0	0.40	4.00	1,853.8	-5.7	40.0	5.7	0.21	0.11	
1,950.0	0.40	33.20	1,948.8	-5.1	40.2	5.1	0.21	0.00	
2,045.0	0.40	8.30	2,043.8	-4.5	40.5	4.5	0.18	0.00	
2,140.0	0.40	51.80	2,138.8	-4.0	40.8	4.0	0.31	0.00	
2,236.0	0.70	32.70	2,234.8	-3.3	41.3	3.3	0.36	0.31	
2,331.0	0.80	31.50	2,329.8	-2.2	42.0	2.2	0.11	0.11	
2,426.0	0.70	63.20	2,424.8	-1.4	42.9	1.4	0.44	-0.11	
2,521.0	0.70	57.00	2,519.8	-0.8	43.9	0.8	0.08	0.00	
2,616.0	0.70	54.30	2,614.8	-0.2	44.8	0.2	0.03	0.00	
2,711.0	0.70	61.50	2,709.8	0.5	45.8	-0.5	0.09	0.00	
2,806.0	0.90	94.70	2,804.8	0.7	47.1	-0.7	0.52	0.21	
2,901.0	1.40	114.50	2,899.8	0.1	48.9	-0.1	0.66	0.53	
2,996.0	0.70	82.40	2,994.7	-0.3	50.5	0.3	0.94	-0.74	
3,091.0	0.50	61.10	3,089.7	0.0	51.4	0.0	0.31	-0.21	
3,186.0	0.30	110.20	3,184.7	0.1	52.0	-0.1	0.40	-0.21	
3,281.0	0.40	146.50	3,279.7	-0.2	52.4	0.2	0.25	0.11	
3,376.0	0.70	156.80	3,374.7	-1.1	52.9	1.1	0.33	0.32	
3,472.0	0.70	167.90	3,470.7	-2.2	53.2	2.2	0.14	0.00	
3,567.0	1.40	173.60	3,565.7	-3.9	53.5	3.9	0.74	0.74	
3,662.0	0.70	140.70	3,660.7	-5.5	54.0	5.5	0.94	-0.74	
3,757.0	0.80	173.30	3,755.7	-6.6	54.4	6.6	0.45	0.11	
3,852.0	0.60	189.20	3,850.7	-7.7	54.4	7.7	0.29	-0.21	
3,947.0	0.30	167.50	3,945.7	-8.5	54.4	8.5	0.36	-0.32	
4,042.0	0.30	136.20	4,040.7	-8.9	54.6	8.9	0.17	0.00	
4,137.0	0.20	99.40	4,135.7	-9.1	54.9	9.1	0.19	-0.11	
4,232.0	0.40	120.60	4,230.7	-9.3	55.4	9.3	0.24	0.21	
4,327.0	0.90	187.10	4,325.7	-10.2	55.6	10.2	0.87	0.53	
4,422.0	2.00	207.60	4,420.6	-12.4	54.7	12.4	1.26	1.16	
4,518.0	0.60	217.20	4,516.6	-14.3	53.6	14.3	1.47	-1.46	
4,613.0	0.60	226.70	4,611.6	-15.0	53.0	15.0	0.10	0.00	
4,708.0	0.80	219.20	4,706.6	-15.9	52.2	15.9	0.23	0.21	
4,803.0	0.80	218.10	4,801.6	-16.9	51.4	16.9	0.02	0.00	
4,898.0	0.60	230.00	4,896.6	-17.8	50.6	17.8	0.26	-0.21	
4,993.0	1.30	352.90	4,991.6	-17.0	50.1	17.0	1.79	0.74	
5,088.0	4.50	340.40	5,086.4	-12.4	48.7	12.4	3.41	3.37	
5,183.0	9.90	341.70	5,180.7	-1.2	44.9	1.2	5.69	5.68	
5,278.0	9.20	343.30	5,274.3	13.9	40.1	-13.9	0.79	-0.74	
5,373.0	8.50	343.50	5,368.2	27.9	35.9	-27.9	0.74	-0.74	
5,469.0	9.40	335.70	5,463.0	41.8	30.7	-41.8	1.57	0.94	
5,564.0	8.80	323.10	5,556.9	54.7	23.1	-54.7	2.19	-0.63	
5,659.0	9.40	322.50	5,650.7	66.7	14.1	-66.7	0.64	0.63	
5,754.0	8.40	323.80	5,744.5	78.4	5.2	-78.4	1.07	-1.05	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Flanigan 1B-6H (New SHL)
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Site:	NWNE S6-T1N-R64W (Flanigan)	MD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Well:	Flanigan 1B-6H (New SHL)	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
5,817.0	8.40	321.10	5,806.8	85.7	-0.4	-85.7	0.63	0.00	
5,880.0	8.60	328.80	5,869.1	93.3	-5.7	-93.3	1.83	0.32	
5,944.0	9.80	328.50	5,932.3	102.1	-11.0	-102.1	1.88	1.87	
6,008.0	15.00	324.70	5,994.8	113.5	-18.7	-113.5	8.22	8.12	
6,071.0	14.20	322.30	6,055.8	126.2	-28.1	-126.2	1.59	-1.27	
6,103.0	14.80	323.70	6,086.8	132.6	-32.9	-132.6	2.17	1.87	
6,199.0	12.90	323.10	6,180.0	151.1	-46.6	-151.1	1.98	-1.98	
6,230.0	14.10	325.10	6,210.1	157.0	-50.9	-157.0	4.15	3.87	
6,261.0	15.20	329.90	6,240.1	163.6	-55.1	-163.6	5.28	3.55	
6,293.0	13.10	325.40	6,271.1	170.2	-59.2	-170.2	7.40	-6.56	
6,325.0	12.00	317.40	6,302.4	175.6	-63.5	-175.6	6.42	-3.44	
6,356.0	12.40	305.60	6,332.7	179.9	-68.4	-179.9	8.13	1.29	
6,388.0	12.30	289.40	6,363.9	183.1	-74.4	-183.1	10.80	-0.31	
6,420.0	12.60	273.10	6,395.2	184.4	-81.1	-184.4	10.99	0.94	
6,451.0	14.10	258.70	6,425.4	183.8	-88.2	-183.8	11.73	4.84	
6,483.0	16.10	248.90	6,456.3	181.5	-96.2	-181.5	10.11	6.25	
6,515.0	17.50	239.20	6,486.9	177.4	-104.4	-177.4	9.78	4.37	
6,547.0	18.40	227.60	6,517.4	171.5	-112.3	-171.5	11.50	2.81	
6,578.0	19.20	215.90	6,546.7	164.1	-118.9	-164.1	12.41	2.58	
6,610.0	21.40	208.60	6,576.7	154.7	-124.8	-154.7	10.47	6.87	
6,642.0	24.20	204.30	6,606.2	143.6	-130.3	-143.6	10.18	8.75	
6,673.0	27.10	201.70	6,634.2	131.2	-135.5	-131.2	10.03	9.35	
6,705.0	30.00	199.90	6,662.3	116.9	-140.9	-116.9	9.45	9.06	
6,737.0	33.10	198.40	6,689.5	101.1	-146.4	-101.1	9.99	9.69	
6,768.0	36.20	196.80	6,715.0	84.3	-151.7	-84.3	10.42	10.00	
6,800.0	38.50	194.00	6,740.5	65.6	-156.9	-65.6	8.93	7.19	
6,832.0	41.90	191.50	6,764.9	45.5	-161.4	-45.5	11.76	10.62	
6,863.0	45.00	188.70	6,787.4	24.5	-165.1	-24.5	11.77	10.00	
6,895.0	47.60	186.50	6,809.5	1.6	-168.2	-1.6	9.52	8.12	
6,927.0	49.90	184.60	6,830.6	-22.4	-170.5	22.4	8.46	7.19	
6,958.0	52.20	182.90	6,850.1	-46.4	-172.1	46.4	8.56	7.42	
6,990.0	54.90	181.70	6,869.1	-72.2	-173.1	72.2	8.96	8.44	
7,022.0	57.70	181.40	6,886.9	-98.8	-173.8	98.8	8.78	8.75	
7,054.0	60.00	180.10	6,903.4	-126.1	-174.2	126.1	7.98	7.19	
7,085.0	61.80	179.60	6,918.5	-153.2	-174.1	153.2	5.98	5.81	
7,117.0	64.80	178.10	6,932.9	-181.8	-173.5	181.8	10.27	9.37	
7,149.0	66.80	177.80	6,946.0	-211.0	-172.5	211.0	6.31	6.25	
7,180.0	69.80	177.20	6,957.5	-239.7	-171.2	239.7	9.84	9.68	
7,212.0	72.30	176.40	6,967.9	-270.0	-169.5	270.0	8.16	7.81	
7,244.0	75.40	176.50	6,976.8	-300.6	-167.6	300.6	9.69	9.69	
7,275.0	78.00	176.60	6,983.9	-330.8	-165.8	330.8	8.39	8.39	
7,307.0	81.40	177.00	6,989.6	-362.2	-164.1	362.2	10.70	10.62	
7,338.0	85.10	177.40	6,993.2	-392.9	-162.6	392.9	12.00	11.94	
7,401.0	90.50	177.70	6,995.7	-455.8	-159.9	455.8	8.58	8.57	
7,464.0	92.70	178.40	6,993.9	-518.7	-157.7	518.7	3.66	3.49	
7,528.0	93.00	177.90	6,990.7	-582.6	-155.7	582.6	0.91	0.47	
7,591.0	93.10	177.60	6,987.4	-645.5	-153.2	645.5	0.50	0.16	
7,655.0	91.80	177.00	6,984.6	-709.3	-150.2	709.3	2.24	-2.03	
7,718.0	90.40	176.80	6,983.4	-772.2	-146.8	772.2	2.24	-2.22	
7,782.0	89.40	175.10	6,983.5	-836.1	-142.3	836.1	3.08	-1.56	
7,845.0	89.40	175.40	6,984.2	-898.9	-137.0	898.9	0.48	0.00	
7,908.0	89.30	175.70	6,984.9	-961.7	-132.2	961.7	0.50	-0.16	
7,972.0	90.50	175.20	6,985.0	-1,025.5	-127.1	1,025.5	2.03	1.87	

Cathedral Energy Services

Survey Report

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Well:	Flanigan 1B-6H (New SHL)	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
8,035.0	90.40	174.40	6,984.5	-1,088.2	-121.4	1,088.2	1.28	-0.16	
8,099.0	90.30	175.30	6,984.1	-1,151.9	-115.6	1,151.9	1.41	-0.16	
8,162.0	90.70	176.20	6,983.6	-1,214.8	-111.0	1,214.8	1.56	0.63	
8,226.0	91.00	177.20	6,982.6	-1,278.7	-107.3	1,278.7	1.63	0.47	
8,289.0	90.20	178.80	6,982.0	-1,341.6	-105.1	1,341.6	2.84	-1.27	
8,352.0	90.00	180.10	6,981.9	-1,404.6	-104.5	1,404.6	2.09	-0.32	
8,416.0	90.00	179.60	6,981.9	-1,468.6	-104.3	1,468.6	0.78	0.00	
8,479.0	89.40	179.50	6,982.2	-1,531.6	-103.8	1,531.6	0.97	-0.95	
8,543.0	89.70	181.40	6,982.7	-1,595.6	-104.3	1,595.6	3.01	0.47	
8,606.0	91.80	181.60	6,981.9	-1,658.6	-106.0	1,658.6	3.35	3.33	
8,669.0	91.50	180.40	6,980.1	-1,721.5	-107.1	1,721.5	1.96	-0.48	
8,732.0	91.20	180.40	6,978.6	-1,784.5	-107.5	1,784.5	0.48	-0.48	
8,796.0	90.20	179.30	6,977.8	-1,848.5	-107.3	1,848.5	2.32	-1.56	
8,859.0	90.60	180.20	6,977.4	-1,911.5	-107.1	1,911.5	1.56	0.63	
8,923.0	91.10	181.10	6,976.4	-1,975.5	-107.8	1,975.5	1.61	0.78	
8,986.0	90.60	180.90	6,975.5	-2,038.5	-108.9	2,038.5	0.85	-0.79	
9,049.0	90.90	181.00	6,974.6	-2,101.5	-109.9	2,101.5	0.50	0.48	
9,112.0	90.40	181.00	6,973.9	-2,164.4	-111.0	2,164.4	0.79	-0.79	
9,158.3	89.75	180.78	6,973.9	-2,210.7	-111.7	2,210.7	1.48	-1.41	Flanigan 1B-6H 9200' MD TGT
9,176.0	89.50	180.70	6,974.0	-2,228.4	-112.0	2,228.4	1.48	-1.41	
9,239.0	89.80	181.70	6,974.4	-2,291.4	-113.3	2,291.4	1.66	0.48	
9,303.0	91.60	182.00	6,973.6	-2,355.4	-115.4	2,355.4	2.85	2.81	
9,366.0	91.40	181.20	6,971.9	-2,418.3	-117.1	2,418.3	1.31	-0.32	
9,430.0	90.70	180.50	6,970.8	-2,482.3	-118.1	2,482.3	1.55	-1.09	
9,493.0	89.80	180.30	6,970.5	-2,545.3	-118.5	2,545.3	1.46	-1.43	
9,557.0	91.10	179.80	6,970.0	-2,609.3	-118.6	2,609.3	2.18	2.03	
9,620.0	90.70	179.30	6,969.0	-2,672.3	-118.1	2,672.3	1.02	-0.63	
9,683.0	90.10	179.00	6,968.6	-2,735.3	-117.1	2,735.3	1.06	-0.95	
9,747.0	90.60	180.40	6,968.2	-2,799.3	-116.8	2,799.3	2.32	0.78	
9,810.0	91.60	181.10	6,967.0	-2,862.3	-117.6	2,862.3	1.94	1.59	
9,873.0	90.90	180.30	6,965.6	-2,925.2	-118.4	2,925.2	1.69	-1.11	
9,937.0	90.30	179.80	6,964.9	-2,989.2	-118.5	2,989.2	1.22	-0.94	
10,000.0	90.10	179.30	6,964.7	-3,052.2	-118.0	3,052.2	0.85	-0.32	
10,064.0	89.10	179.10	6,965.1	-3,116.2	-117.1	3,116.2	1.59	-1.56	
10,127.0	88.50	179.30	6,966.5	-3,179.2	-116.2	3,179.2	1.00	-0.95	
10,190.0	87.60	179.00	6,968.6	-3,242.2	-115.2	3,242.2	1.51	-1.43	
10,254.0	88.80	180.00	6,970.6	-3,306.1	-114.7	3,306.1	2.44	1.87	
10,317.0	90.50	181.10	6,971.0	-3,369.1	-115.3	3,369.1	3.21	2.70	
10,381.0	90.40	180.90	6,970.5	-3,433.1	-116.4	3,433.1	0.35	-0.16	
10,444.0	89.90	180.40	6,970.3	-3,496.1	-117.1	3,496.1	1.12	-0.79	
10,507.0	90.20	181.00	6,970.3	-3,559.1	-117.9	3,559.1	1.06	0.48	
10,571.0	89.40	180.80	6,970.5	-3,623.1	-118.9	3,623.1	1.29	-1.25	
10,634.0	89.80	181.00	6,970.9	-3,686.1	-119.9	3,686.1	0.71	0.63	
10,698.0	89.30	181.00	6,971.4	-3,750.1	-121.0	3,750.1	0.78	-0.78	
10,758.4	90.16	181.67	6,971.7	-3,810.5	-122.4	3,810.5	1.81	1.43	Flanigan 1B-6H 10,800' MD TGT
10,761.0	90.20	181.70	6,971.7	-3,813.0	-122.5	3,813.0	1.81	1.43	
10,824.0	89.90	181.00	6,971.7	-3,876.0	-124.0	3,876.0	1.21	-0.48	
10,888.0	90.90	180.60	6,971.2	-3,940.0	-124.9	3,940.0	1.68	1.56	
10,951.0	90.80	180.40	6,970.3	-4,003.0	-125.4	4,003.0	0.35	-0.16	
11,015.0	90.10	179.70	6,969.8	-4,067.0	-125.5	4,067.0	1.55	-1.09	
11,078.0	89.40	179.70	6,970.1	-4,130.0	-125.1	4,130.0	1.11	-1.11	
11,142.0	90.40	180.50	6,970.2	-4,194.0	-125.3	4,194.0	2.00	1.56	
11,205.0	90.50	180.40	6,969.7	-4,257.0	-125.8	4,257.0	0.22	0.16	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Flanigan 1B-6H (New SHL)
Project:	DJ Wattenberg	TVD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Site:	NWNE S6-T1N-R64W (Flanigan)	MD Reference:	KB=13' @ 5010.0ft (Ensign 124)
Well:	Flanigan 1B-6H (New SHL)	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
11,268.0	90.50	180.20	6,969.1	-4,320.0	-126.1	4,320.0	0.32	0.00	
11,332.0	90.20	179.60	6,968.7	-4,384.0	-126.0	4,384.0	1.05	-0.47	
11,405.0	89.80	178.90	6,968.7	-4,457.0	-125.0	4,457.0	1.10	-0.55	Last Cathedral Survey @ 11,405' MD
11,455.0	89.80	178.90	6,968.9	-4,507.0	-124.1	4,507.0	0.00	0.00	Projection to Bit @ 11,455' MD - Flanigan 1B-6H

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
Flanigan 1B-6H PBHL (E		0.00	0.00	7,015.0	-4,542.5	-119.2	1,271,288.40	3,254,061.66	40.074500 -104.592150
- actual wellpath misses target center by 58.4ft at 11455.0ft MD (6968.9 TVD, -4507.0 N, -124.1 E)									
- Point									
Flanigan 1B-6H 10,800'		0.00	0.00	7,025.0	-3,810.3	-119.2	1,272,020.59	3,254,054.16	40.076510 -104.592150
- actual wellpath misses target center by 53.4ft at 10758.4ft MD (6971.7 TVD, -3810.5 N, -122.4 E)									
- Point									
Flanigan 1B-6H 9200' M		0.00	0.00	6,984.0	-2,210.6	-119.2	1,273,620.20	3,254,037.78	40.080901 -104.592150
- actual wellpath misses target center by 12.6ft at 9158.3ft MD (6973.9 TVD, -2210.8 N, -111.7 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
11,405.0	6,968.7	-4,457.0	-125.0	Last Cathedral Survey @ 11,405' MD	
11,455.0	6,968.9	-4,507.0	-124.1	Projection to Bit @ 11,455' MD	

Checked By: _____ Approved By: _____ Date: _____