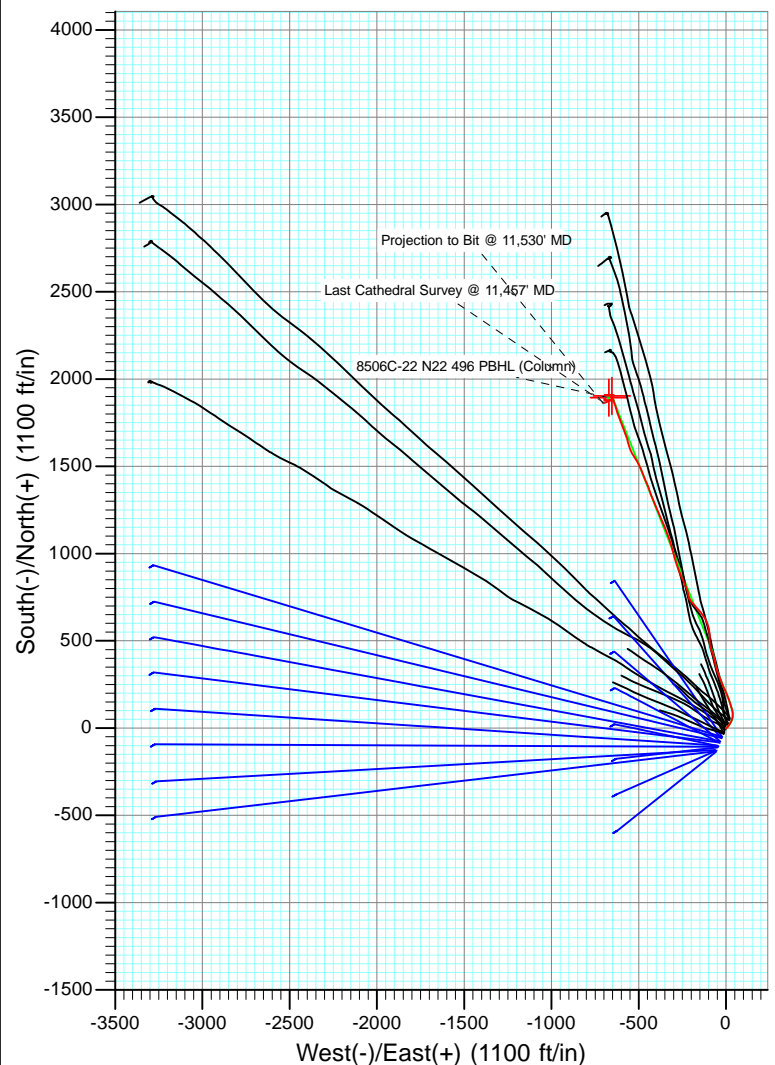
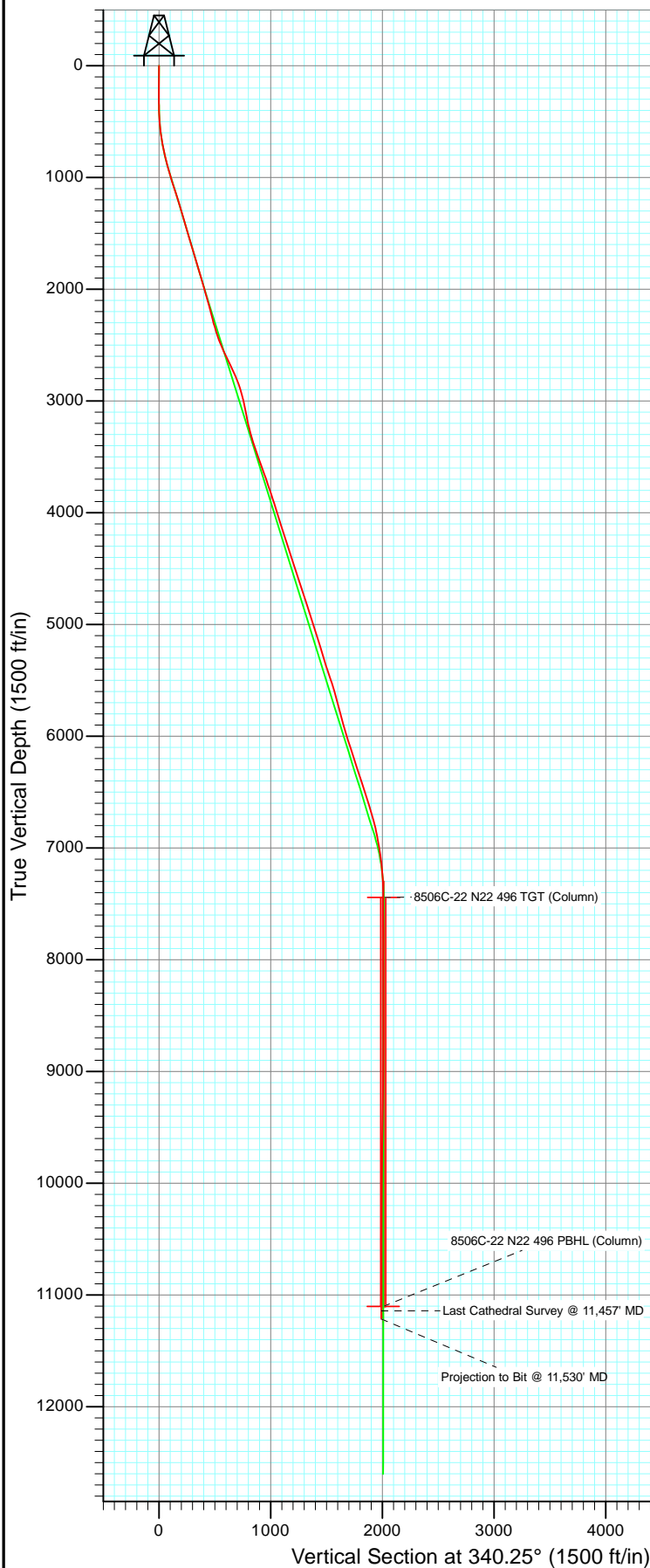




Project: Story Gulch
 Site: S22-T4S-R96W (N22 496) (Column Pattern)
 Well: 8506C-22 N22 496
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.38°

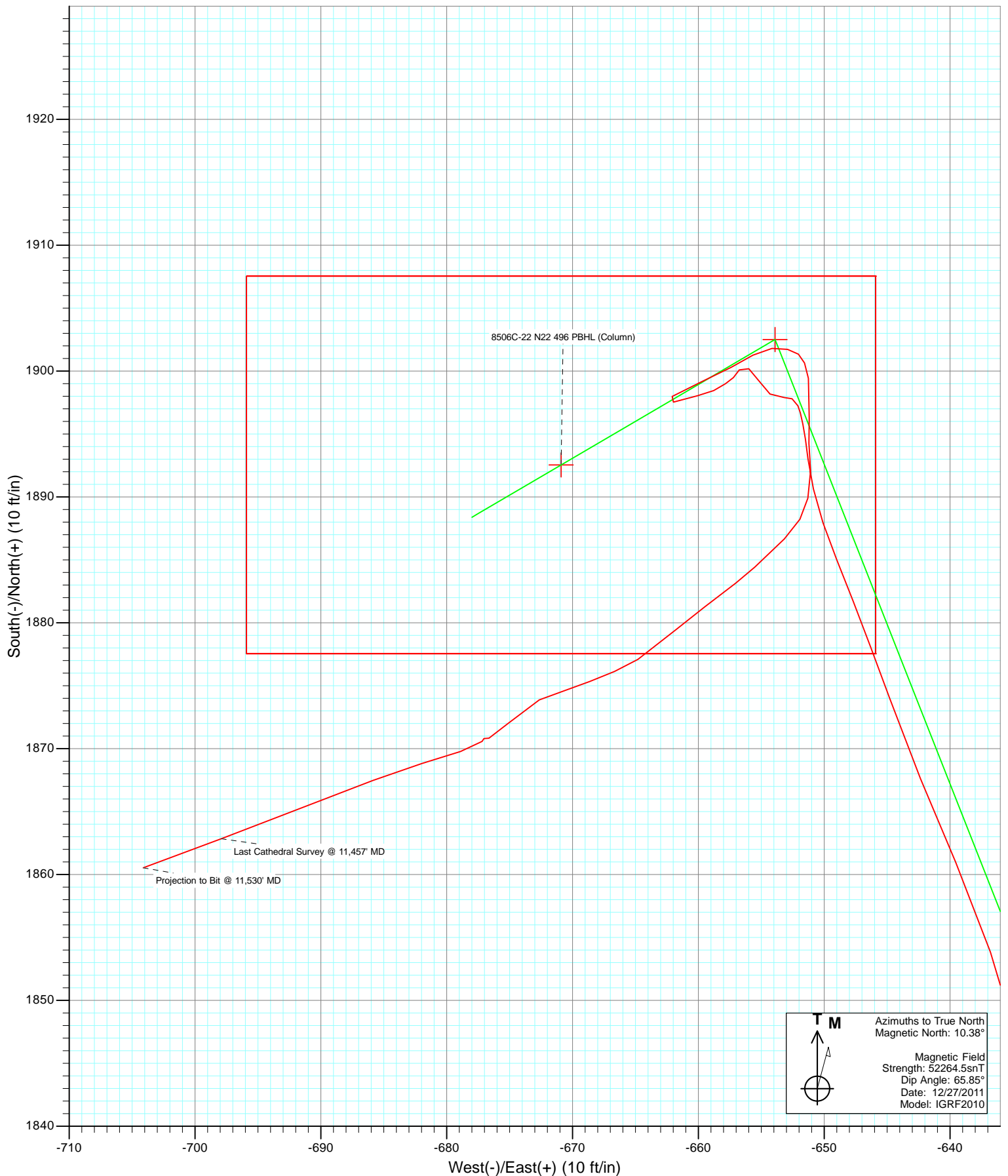
Magnetic Field
 Strength: 52264.5nT
 Dip Angle: 65.85°
 Date: 12/27/2011
 Model: IGRF2010

DD
 8506C-22 N22 496
 115506/120155 (SH) 115566/129255 (MH); LR
 WELL @ 7602.0ft (Patterson 306)
 North American Datum 1983
 Well 8506C-22 N22 496, True North

Type User	Target No Target (Freehand)	Azimuth 340.25	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0
Name						
8506C-22 N22 496 TGT (Column)	TVD 7442.0	+N/-S 1902.5	+E/-W -653.9	N/S 39° 41' 21.53 N	E/W 108° 9' 33.75 W	Longitude
8506C-22 N22 496 PBHL (Column)	11102.0	1892.5	-670.9	39° 41' 21.43 N	108° 9' 33.97 W	



Project: Story Gulch
Site: S22-T4S-R96W (N22 496) (Column Pattern)
Well: 8506C-22 N22 496
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8506C-22 N22 496
Project:	Story Gulch	TVD Reference:	WELL @ 7602.0ft (Patterson 306)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	MD Reference:	WELL @ 7602.0ft (Patterson 306)
Well:	8506C-22 N22 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Project	Story Gulch		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	S22-T4S-R96W (N22 496) (Column Pattern)			
Site Position:		Northing:	1,685,048.56 ft	Latitude: 39° 41' 3.24 N
From:	Lat/Long	Easting:	2,252,316.79 ft	Longitude: 108° 9' 25.11 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -1.68 °

Well	8506C-22 N22 496			
Well Position	+N/-S	0.0 ft	Northing:	1,684,997.60 ft
	+E/-W	0.0 ft	Easting:	2,252,293.42 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level: 7,569.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/27/2011	10.38	65.85	52,264

Design	DD			
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	340.25

Survey Program	Date	1/5/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
210.0	700.0	Survey #1 (DD)	MWD	Geolink MWD
791.0	2,045.0	Survey #2 (DD)	MWD	Geolink MWD
2,166.0	11,530.0	Survey #3 (DD)	MWD	Geolink MWD

Survey										
Measured			Vertical			Vertical	Dogleg	Build	Formations /	
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Comments	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
210.0	0.50	193.00	210.0	-0.9	-0.2	-0.8	0.24	0.24		
240.0	0.60	217.80	240.0	-1.1	-0.3	-1.0	0.85	0.33		
332.0	2.10	48.30	332.0	-0.4	0.6	-0.6	2.93	1.63		
424.0	5.20	53.50	423.8	3.2	5.2	1.2	3.39	3.37		
517.0	8.80	39.70	516.1	11.2	13.2	6.1	4.25	3.87		
609.0	11.60	29.90	606.6	24.6	22.3	15.6	3.57	3.04		
700.0	14.00	24.40	695.4	42.6	31.4	29.5	2.95	2.64		
791.0	14.20	7.60	783.7	63.7	37.4	47.3	4.49	0.22		
882.0	15.60	355.50	871.6	86.9	37.9	69.0	3.74	1.54		
974.0	17.20	343.80	959.9	112.3	33.2	94.5	3.98	1.74		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8506C-22 N22 496
Project:	Story Gulch	TVD Reference:	WELL @ 7602.0ft (Patterson 306)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	MD Reference:	WELL @ 7602.0ft (Patterson 306)
Well:	8506C-22 N22 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
1,065.0	16.90	341.60	1,046.9	137.8	25.2	121.2	0.78	-0.33	
1,157.0	17.50	338.80	1,134.8	163.4	16.0	148.4	1.11	0.65	
1,248.0	17.20	339.10	1,221.6	188.7	6.3	175.5	0.34	-0.33	
1,340.0	15.70	336.10	1,309.9	212.8	-3.6	201.5	1.87	-1.63	
1,432.0	16.30	334.40	1,398.3	235.8	-14.2	226.8	0.83	0.65	
1,523.0	17.90	338.50	1,485.3	260.4	-24.9	253.5	2.20	1.76	
1,615.0	17.30	339.80	1,573.0	286.4	-34.8	281.3	0.78	-0.65	
1,706.0	15.30	336.30	1,660.3	310.1	-44.3	306.8	2.45	-2.20	
1,889.0	16.90	347.80	1,836.2	358.2	-59.6	357.3	1.95	0.87	
1,981.0	17.60	348.90	1,924.0	384.9	-65.1	384.3	0.84	0.76	
2,045.0	17.10	346.00	1,985.1	403.5	-69.3	403.2	1.56	-0.78	
2,166.0	14.40	338.40	2,101.6	434.8	-79.1	435.9	2.80	-2.23	
2,258.0	13.80	340.50	2,190.8	455.8	-87.0	458.4	0.86	-0.65	
2,349.0	15.90	351.80	2,278.8	478.3	-92.4	481.4	3.92	2.31	
2,440.0	19.20	2.10	2,365.6	505.6	-93.6	507.5	4.97	3.63	
2,532.0	19.90	356.90	2,452.3	536.4	-93.9	536.6	2.04	0.76	
2,623.0	24.20	347.70	2,536.6	570.1	-98.7	569.9	6.05	4.73	
2,715.0	26.50	338.00	2,619.8	607.6	-110.4	609.2	5.15	2.50	
2,806.0	26.60	324.40	2,701.3	643.0	-129.9	649.1	6.67	0.11	
2,898.0	24.20	320.00	2,784.4	674.2	-154.0	686.6	3.32	-2.61	
2,989.0	20.10	316.00	2,868.7	699.8	-176.9	718.4	4.80	-4.51	
3,081.0	16.00	319.30	2,956.1	720.8	-196.2	744.6	4.59	-4.46	
3,173.0	11.20	330.70	3,045.5	738.2	-208.8	765.3	5.95	-5.22	
3,264.0	11.30	350.20	3,134.8	754.7	-214.7	782.8	4.16	0.11	
3,356.0	13.70	349.60	3,224.6	774.3	-218.2	802.4	2.61	2.61	
3,447.0	16.40	337.10	3,312.5	796.7	-225.1	825.9	4.62	2.97	
3,539.0	17.80	337.30	3,400.4	821.7	-235.6	852.9	1.52	1.52	
3,630.0	20.00	336.70	3,486.5	848.8	-247.1	882.4	2.43	2.42	
3,722.0	19.80	334.80	3,573.0	877.3	-260.0	913.6	0.74	-0.22	
3,813.0	19.80	339.20	3,658.7	905.7	-272.0	944.3	1.64	0.00	
3,905.0	18.20	343.00	3,745.6	934.0	-281.7	974.3	2.20	-1.74	
3,996.0	18.90	344.40	3,831.9	961.8	-289.9	1,003.2	0.91	0.77	
4,088.0	17.40	342.90	3,919.3	989.3	-297.9	1,031.8	1.71	-1.63	
4,179.0	17.70	347.10	4,006.1	1,015.8	-305.0	1,059.1	1.43	0.33	
4,271.0	17.00	343.80	4,093.9	1,042.3	-311.9	1,086.4	1.31	-0.76	
4,362.0	18.70	340.80	4,180.5	1,068.9	-320.4	1,114.3	2.12	1.87	
4,454.0	17.90	340.80	4,267.9	1,096.2	-329.9	1,143.1	0.87	-0.87	
4,546.0	17.90	338.00	4,355.4	1,122.6	-339.8	1,171.4	0.94	0.00	
4,637.0	17.30	337.20	4,442.2	1,148.1	-350.3	1,198.9	0.71	-0.66	
4,729.0	17.60	336.30	4,529.9	1,173.4	-361.2	1,226.4	0.44	0.33	
4,820.0	18.70	337.10	4,616.4	1,199.4	-372.4	1,254.7	1.24	1.21	
4,912.0	17.90	337.00	4,703.8	1,226.0	-383.7	1,283.6	0.87	-0.87	
5,003.0	19.00	337.50	4,790.1	1,252.6	-394.8	1,312.3	1.22	1.21	
5,095.0	18.70	337.60	4,877.1	1,280.1	-406.2	1,342.0	0.33	-0.33	
5,187.0	17.20	336.50	4,964.7	1,306.2	-417.2	1,370.3	1.67	-1.63	
5,278.0	17.70	339.50	5,051.5	1,331.5	-427.4	1,397.6	1.13	0.55	
5,370.0	17.60	340.40	5,139.1	1,357.7	-437.0	1,425.5	0.32	-0.11	
5,462.0	16.50	338.90	5,227.1	1,383.0	-446.3	1,452.5	1.29	-1.20	
5,553.0	16.40	336.00	5,314.4	1,406.8	-456.2	1,478.2	0.91	-0.11	
5,645.0	18.80	338.00	5,402.0	1,432.5	-467.1	1,506.0	2.80	2.72	
5,736.0	18.90	337.90	5,488.2	1,459.7	-478.1	1,535.4	0.12	-0.11	
5,827.0	16.90	337.50	5,574.8	1,485.5	-488.7	1,563.3	2.09	-2.09	
5,919.0	14.70	332.70	5,663.3	1,508.2	-499.2	1,588.2	2.78	-2.39	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8506C-22 N22 496
Project:	Story Gulch	TVD Reference:	WELL @ 7602.0ft (Patterson 306)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	MD Reference:	WELL @ 7602.0ft (Patterson 306)
Well:	8506C-22 N22 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
6,011.0	14.60	329.60	5,752.3	1,528.6	-510.4	1,611.2	0.86	-0.11	
6,102.0	15.50	326.40	5,840.2	1,548.6	-522.9	1,634.2	1.35	0.99	
6,194.0	17.00	329.80	5,928.5	1,570.5	-536.5	1,659.4	1.93	1.63	
6,285.0	17.70	337.80	6,015.4	1,594.8	-548.4	1,686.3	2.73	0.77	
6,377.0	17.80	346.20	6,103.0	1,621.4	-557.1	1,714.3	2.78	0.11	
6,468.0	18.20	344.60	6,189.6	1,648.6	-564.2	1,742.3	0.70	0.44	
6,560.0	17.70	337.80	6,277.1	1,675.4	-573.3	1,770.6	2.34	-0.54	
6,652.0	18.60	340.10	6,364.5	1,702.2	-583.5	1,799.2	1.25	0.98	
6,743.0	17.70	338.90	6,451.0	1,728.7	-593.5	1,827.6	1.07	-0.99	
6,834.0	17.60	339.10	6,537.7	1,754.5	-603.3	1,855.2	0.13	-0.11	
6,926.0	17.40	338.90	6,625.5	1,780.3	-613.3	1,882.8	0.23	-0.22	
7,018.0	16.10	342.00	6,713.5	1,805.3	-622.2	1,909.3	1.71	-1.41	
7,109.0	13.60	343.00	6,801.5	1,827.5	-629.2	1,932.6	2.76	-2.75	
7,201.0	10.60	345.50	6,891.4	1,846.1	-634.5	1,951.9	3.31	-3.26	
7,292.0	9.40	336.30	6,981.1	1,861.0	-639.5	1,967.6	2.19	-1.32	
7,383.0	8.40	340.00	7,071.0	1,874.0	-644.8	1,981.7	1.27	-1.10	
7,475.0	6.30	337.90	7,162.2	1,885.0	-649.0	1,993.4	2.30	-2.28	
7,566.0	4.30	353.20	7,252.8	1,893.0	-651.3	2,001.8	2.67	-2.20	
7,658.0	1.10	333.60	7,344.7	1,897.2	-652.1	2,006.0	3.57	-3.48	
7,749.0	0.90	260.30	7,435.7	1,897.9	-653.2	2,007.0	1.32	-0.22	
7,841.0	0.70	313.30	7,527.7	1,898.2	-654.3	2,007.6	0.80	-0.22	
7,932.0	0.90	324.80	7,618.7	1,899.1	-655.1	2,008.8	0.28	0.22	
8,024.0	0.80	315.70	7,710.7	1,900.2	-656.0	2,010.1	0.18	-0.11	
8,115.0	0.80	210.00	7,801.7	1,900.1	-656.7	2,010.2	1.40	0.00	
8,207.0	0.20	253.70	7,893.7	1,899.5	-657.2	2,009.8	0.73	-0.65	
8,298.0	0.80	226.60	7,984.7	1,899.0	-657.8	2,009.6	0.69	0.66	
8,390.0	0.60	257.10	8,076.7	1,898.5	-658.8	2,009.4	0.45	-0.22	
8,482.0	1.10	249.60	8,168.6	1,898.0	-660.1	2,009.4	0.56	0.54	
8,573.0	1.40	259.20	8,259.6	1,897.5	-662.0	2,009.6	0.40	0.33	
8,664.0	1.50	56.40	8,350.6	1,898.0	-662.1	2,010.1	3.12	0.11	
8,755.0	1.90	68.90	8,441.6	1,899.2	-659.7	2,010.4	0.60	0.44	
8,847.0	1.30	56.80	8,533.5	1,900.3	-657.4	2,010.7	0.74	-0.65	
8,938.0	1.20	65.50	8,624.5	1,901.3	-655.7	2,011.0	0.24	-0.11	
9,030.0	0.80	77.70	8,716.5	1,901.8	-654.1	2,011.0	0.49	-0.43	
9,122.0	0.80	109.30	8,808.5	1,901.7	-652.9	2,010.5	0.47	0.00	
9,213.0	0.40	123.40	8,899.5	1,901.3	-652.0	2,009.8	0.47	-0.44	
9,305.0	0.70	156.90	8,991.5	1,900.6	-651.6	2,009.0	0.47	0.33	
9,396.0	0.90	172.70	9,082.5	1,899.4	-651.3	2,007.8	0.33	0.22	
9,579.0	1.10	183.80	9,265.4	1,896.2	-651.2	2,004.8	0.15	0.11	
9,670.0	1.40	178.60	9,356.4	1,894.3	-651.2	2,002.9	0.35	0.33	
9,762.0	1.30	173.90	9,448.4	1,892.1	-651.1	2,000.8	0.16	-0.11	
9,854.0	1.50	195.70	9,540.4	1,889.9	-651.3	1,998.8	0.61	0.22	
9,944.0	0.80	209.80	9,630.4	1,888.2	-651.9	1,997.5	0.83	-0.78	
10,036.0	1.70	222.30	9,722.3	1,886.7	-653.2	1,996.4	1.02	0.98	
10,127.0	2.40	229.40	9,813.3	1,884.4	-655.5	1,995.1	0.82	0.77	
10,176.0	2.20	230.50	9,862.2	1,883.2	-657.0	1,994.4	0.42	-0.41	
10,267.0	1.70	234.90	9,953.2	1,881.3	-659.5	1,993.5	0.57	-0.55	
10,359.0	2.00	229.00	10,045.1	1,879.4	-661.8	1,992.5	0.39	0.33	
10,450.0	2.80	234.30	10,136.1	1,877.1	-664.8	1,991.3	0.91	0.88	
10,495.0	2.60	252.00	10,181.0	1,876.1	-666.7	1,991.1	1.90	-0.44	
10,542.0	2.60	243.70	10,228.0	1,875.3	-668.6	1,991.0	0.80	0.00	
10,587.0	2.90	256.00	10,272.9	1,874.6	-670.7	1,991.0	1.47	0.67	
10,633.0	2.40	242.40	10,318.9	1,873.9	-672.6	1,990.9	1.74	-1.09	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8506C-22 N22 496
Project:	Story Gulch	TVD Reference:	WELL @ 7602.0ft (Patterson 306)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	MD Reference:	WELL @ 7602.0ft (Patterson 306)
Well:	8506C-22 N22 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
10,725.0	1.60	218.40	10,410.8	1,872.0	-675.1	1,990.0	1.24	-0.87	
10,816.0	0.90	258.10	10,501.8	1,870.8	-676.6	1,989.4	1.18	-0.77	
10,908.0	0.40	69.20	10,593.8	1,870.8	-677.0	1,989.5	1.41	-0.54	
11,000.0	0.70	232.50	10,685.8	1,870.6	-677.2	1,989.4	1.18	0.33	
11,091.0	1.70	250.00	10,776.8	1,869.8	-678.9	1,989.2	1.16	1.10	
11,183.0	2.30	254.80	10,868.7	1,868.8	-682.0	1,989.3	0.68	0.65	
11,274.0	2.90	247.90	10,959.6	1,867.5	-685.9	1,989.4	0.74	0.66	
11,457.0	5.20	249.60	11,142.1	1,862.8	-697.9	1,989.1	1.26	1.26	Last Cathedral Survey @ 11,457' MD
11,530.0	5.20	249.50	11,214.8	1,860.5	-704.1	1,989.0	0.01	0.00	Projection to Bit @ 11,530' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8506C-22 N22 496 PBH - hit/miss target - Shape	0.00	0.00	11,102.0	1,892.5	-670.9	1,686,908.96	2,251,678.15	39° 41' 21.43 N	108° 9' 33.97 W
- actual wellpath misses target center by 37.0ft at 11414.4ft MD (11099.7 TVD, 1864.1 N, -694.5 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
8506C-22 N22 496 TGT - hit/miss target - Shape	0.00	0.00	7,442.0	1,902.5	-653.9	1,686,918.42	2,251,695.44	39° 41' 21.53 N	108° 9' 33.75 W
- actual wellpath misses target center by 4.7ft at 7755.3ft MD (7442.0 TVD, 1897.9 N, -653.3 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
11,457.0	11,142.1	1,862.8	-697.9	Last Cathedral Survey @ 11,457' MD	
11,530.0	11,214.8	1,860.5	-704.1	Projection to Bit @ 11,530' MD	

Checked By: _____ Approved By: _____ Date: _____