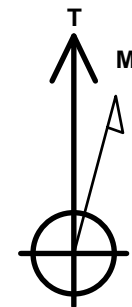
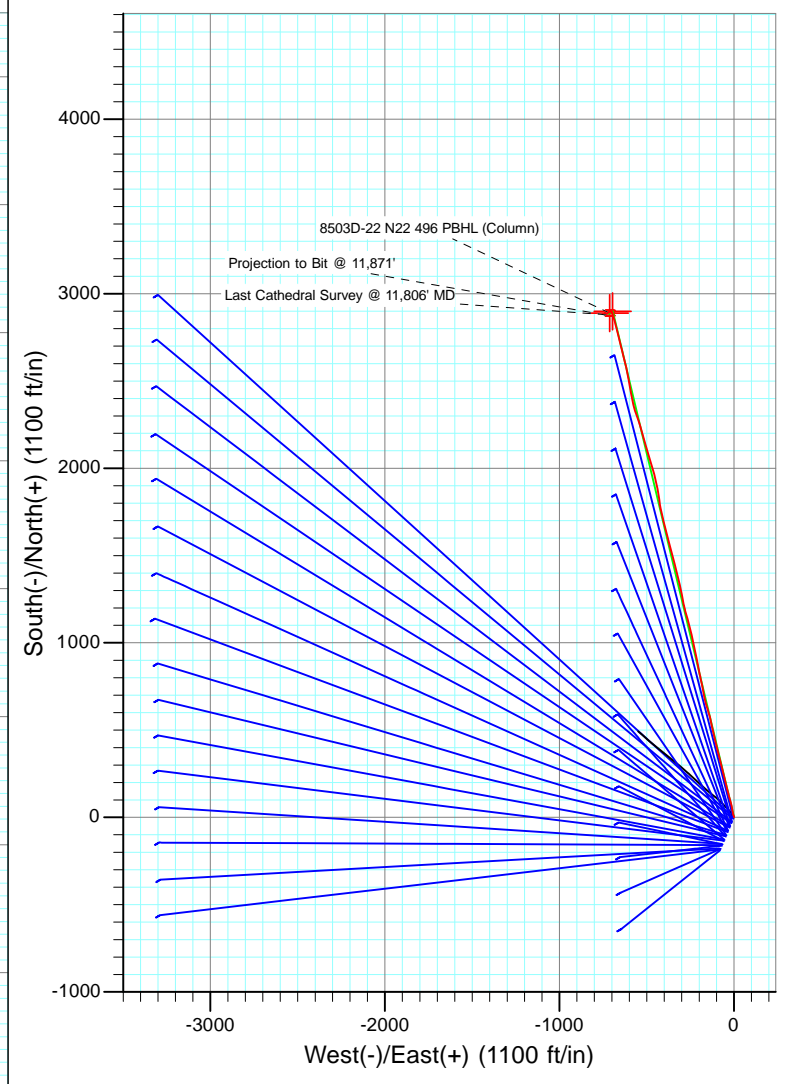
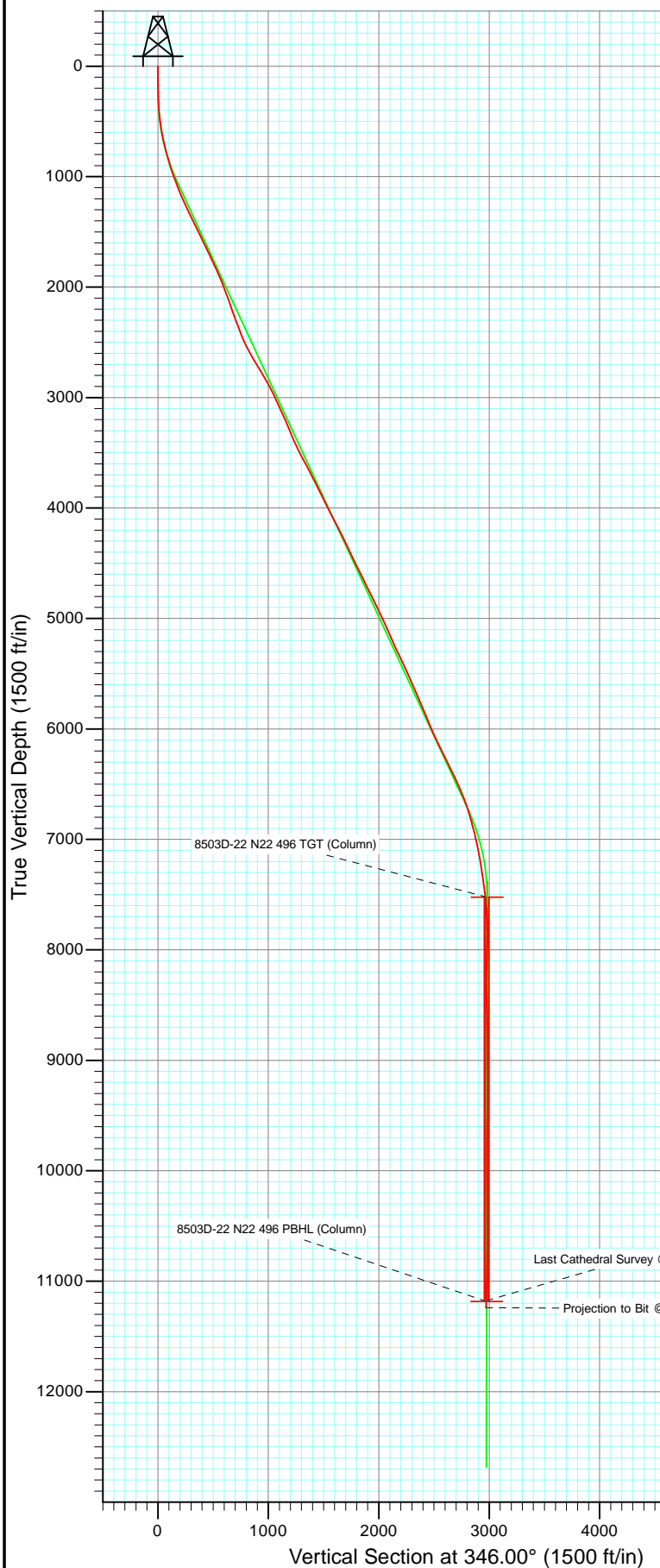




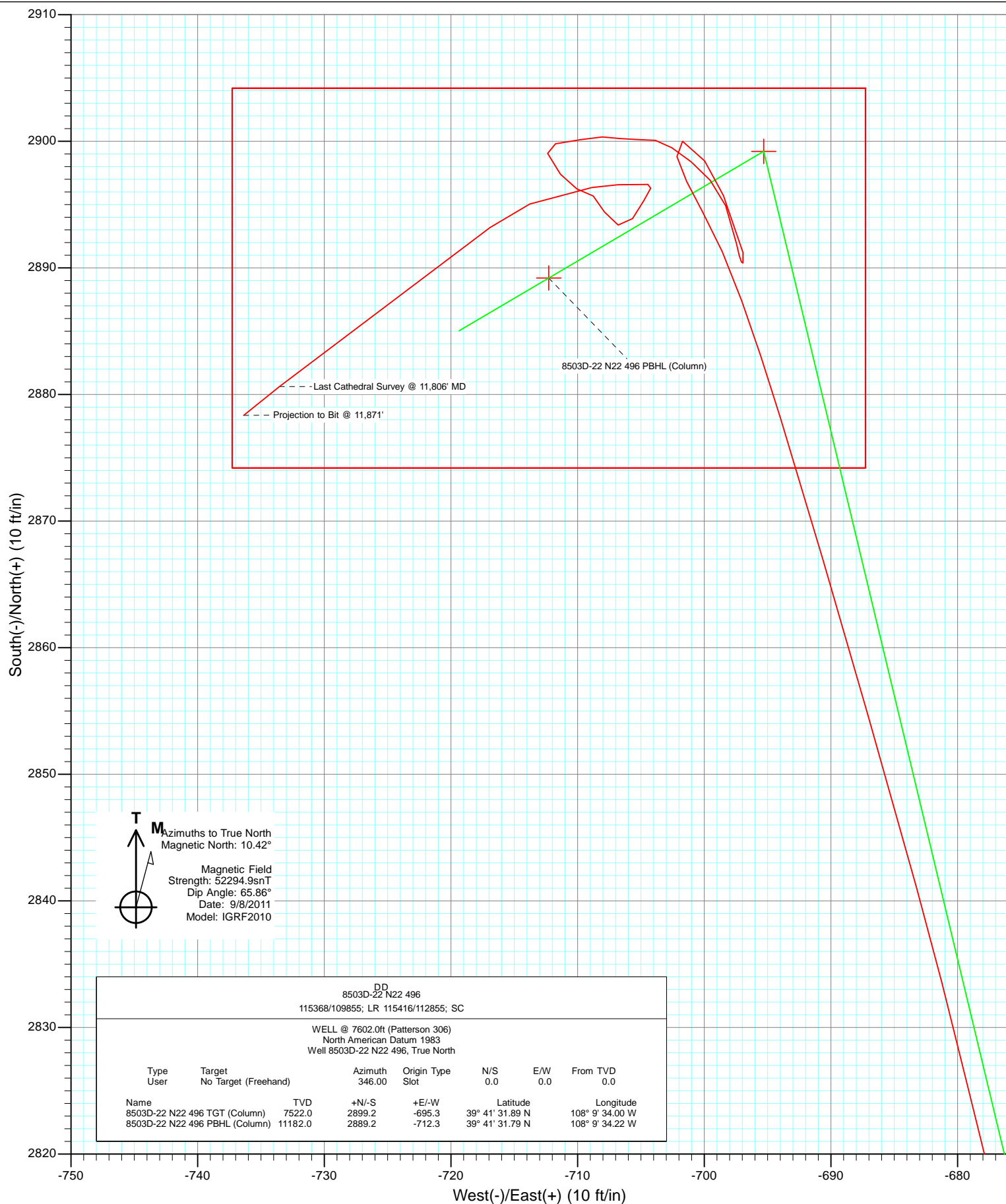
Project: Story Gulch
 Site: S22-T4S-R96W (N22 496) (Column Pattern)
 Well: 8503D-22 N22 496
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.42°

Magnetic Field
 Strength: 52294.9snT
 Dip Angle: 65.86°
 Date: 9/8/2011
 Model: IGRF2010

DD 8503D-22 N22 496 115368/109855; LR 115416/112855; SC						
WELL @ 7602.0ft (Patterson 306) North American Datum 1983 Well 8503D-22 N22 496, True North						
Type User	Target No Target (Freehand)	Azimuth 346.00	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
8503D-22 N22 496 TGT (Column)	7522.0	2899.2	-695.3	39° 41' 31.89 N	108° 9' 34.00 W	
8503D-22 N22 496 PBHL (Column)	11182.0	2889.2	-712.3	39° 41' 31.79 N	108° 9' 34.22 W	



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8503D-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:	8503D-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	8503D-22 N22 496			
Well Position	+N/-S	0.0 ft	Northing:	1,685,048.54 ft
	+E/-W	0.0 ft	Easting:	2,252,316.77 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	9/8/2011	10.42	65.86	52,295

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	346.00

Survey Program	Date	9/26/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
300.0	2,040.0	Survey #1 (DD)	MWD	Geolink MWD
2,171.0	11,871.0	Survey #2 (DD)	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	
300.0	1.50	0.30	300.0	3.9	0.0	3.8	0.50	0.50	
332.0	2.20	335.40	331.9	4.9	-0.2	4.8	3.28	2.19	
423.0	5.00	333.50	422.8	10.0	-2.7	10.4	3.08	3.08	
515.0	8.10	349.20	514.2	20.0	-5.7	20.8	3.86	3.37	
607.0	10.70	352.70	604.9	34.8	-8.0	35.7	2.89	2.83	
699.0	12.70	348.10	695.0	53.2	-11.2	54.3	2.40	2.17	
791.0	14.40	346.10	784.4	74.2	-16.0	75.9	1.92	1.85	
882.0	17.00	345.10	872.0	98.1	-22.2	100.5	2.87	2.86	
974.0	19.00	344.60	959.5	125.5	-29.6	128.9	2.18	2.17	
1,066.0	20.70	347.10	1,046.1	155.8	-37.2	160.2	2.07	1.85	
1,158.0	22.00	347.00	1,131.7	188.4	-44.7	193.6	1.41	1.41	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8503D-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:	8503D-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
1,250.0	24.40	345.10	1,216.3	223.6	-53.5	229.9	2.73	2.61	
1,342.0	26.00	344.90	1,299.5	261.4	-63.6	269.0	1.74	1.74	
1,435.0	25.70	345.40	1,383.2	300.6	-74.0	309.6	0.40	-0.32	
1,525.0	25.80	345.60	1,464.3	338.5	-83.8	348.7	0.15	0.11	
1,617.0	25.80	346.20	1,547.1	377.3	-93.6	388.7	0.28	0.00	
1,709.0	25.80	347.20	1,630.0	416.3	-102.8	428.8	0.47	0.00	
1,800.0	25.40	347.60	1,712.0	454.6	-111.4	468.1	0.48	-0.44	
1,892.0	24.60	347.90	1,795.4	492.6	-119.6	506.9	0.88	-0.87	
1,979.0	24.30	347.80	1,874.6	527.8	-127.2	542.9	0.35	-0.34	
2,040.0	23.50	346.50	1,930.4	551.9	-132.7	567.6	1.57	-1.31	Last Cathedral Survey @ 2,040' MD
2,171.0	20.10	343.10	2,052.0	598.9	-145.3	616.3	2.77	-2.60	
2,263.0	18.90	341.20	2,138.7	628.1	-154.7	646.9	1.48	-1.30	
2,354.0	19.20	345.90	2,224.7	656.6	-163.1	676.5	1.72	0.33	
2,446.0	21.20	349.70	2,311.1	687.6	-169.8	708.3	2.60	2.17	
2,537.0	20.80	349.20	2,396.0	719.7	-175.8	740.8	0.48	-0.44	
2,629.0	22.90	347.70	2,481.4	753.2	-182.6	775.0	2.36	2.28	
2,812.0	32.30	348.80	2,643.4	836.2	-199.7	859.6	5.14	5.14	
2,904.0	31.10	348.40	2,721.7	883.6	-209.3	907.9	1.32	-1.30	
2,995.0	30.20	349.00	2,800.0	929.0	-218.4	954.3	1.04	-0.99	
3,087.0	28.00	347.80	2,880.4	972.9	-227.4	999.0	2.47	-2.39	
3,178.0	26.20	347.50	2,961.4	1,013.4	-236.2	1,040.4	1.98	-1.98	
3,270.0	25.00	347.50	3,044.3	1,052.2	-244.8	1,080.2	1.30	-1.30	
3,361.0	24.70	345.30	3,126.9	1,089.3	-253.8	1,118.4	1.07	-0.33	
3,453.0	23.90	344.80	3,210.8	1,125.9	-263.6	1,156.2	0.90	-0.87	
3,544.0	21.40	342.40	3,294.7	1,159.5	-273.4	1,191.2	2.93	-2.75	
3,636.0	23.60	347.70	3,379.7	1,193.5	-282.4	1,226.4	3.25	2.39	
3,728.0	26.70	349.20	3,463.0	1,231.8	-290.2	1,265.5	3.44	3.37	
3,819.0	27.40	348.50	3,544.0	1,272.4	-298.2	1,306.8	0.85	0.77	
3,911.0	28.20	347.40	3,625.4	1,314.4	-307.2	1,349.7	1.03	0.87	
4,003.0	27.20	347.10	3,706.9	1,356.1	-316.6	1,392.4	1.10	-1.09	
4,094.0	26.80	345.90	3,788.0	1,396.3	-326.3	1,433.7	0.74	-0.44	
4,186.0	26.70	346.60	3,870.1	1,436.5	-336.1	1,475.2	0.36	-0.11	
4,278.0	26.00	344.40	3,952.6	1,476.0	-346.3	1,516.0	1.31	-0.76	
4,369.0	26.40	344.50	4,034.2	1,514.7	-357.1	1,556.1	0.44	0.44	
4,461.0	27.30	344.80	4,116.3	1,554.8	-368.1	1,597.7	0.99	0.98	
4,552.0	27.80	345.90	4,197.0	1,595.5	-378.8	1,639.8	0.78	0.55	
4,644.0	25.80	347.60	4,279.1	1,635.9	-388.3	1,681.2	2.33	-2.17	
4,736.0	25.30	346.70	4,362.1	1,674.6	-397.1	1,720.9	0.69	-0.54	
4,827.0	25.70	346.90	4,444.2	1,712.7	-406.0	1,760.1	0.45	0.44	
4,919.0	26.20	345.30	4,527.0	1,751.8	-415.7	1,800.3	0.94	0.54	
5,010.0	26.20	349.70	4,608.6	1,791.0	-424.4	1,840.5	2.13	0.00	
5,102.0	26.40	352.10	4,691.1	1,831.2	-430.9	1,881.1	1.18	0.22	
5,194.0	26.80	350.60	4,773.4	1,872.0	-437.1	1,922.1	0.85	0.43	
5,285.0	26.50	348.80	4,854.7	1,912.1	-444.3	1,962.8	0.95	-0.33	
5,376.0	25.30	345.40	4,936.6	1,950.9	-453.2	2,002.5	2.10	-1.32	
5,468.0	25.00	345.60	5,019.8	1,988.7	-463.0	2,041.6	0.34	-0.33	
5,560.0	23.90	343.80	5,103.6	2,025.4	-473.0	2,079.7	1.44	-1.20	
5,651.0	23.80	341.40	5,186.8	2,060.5	-484.0	2,116.4	1.07	-0.11	
5,743.0	25.10	341.30	5,270.6	2,096.6	-496.2	2,154.4	1.41	1.41	
5,834.0	25.10	343.60	5,353.0	2,133.4	-507.8	2,192.9	1.07	0.00	
5,926.0	25.00	344.90	5,436.3	2,170.9	-518.4	2,231.8	0.61	-0.11	
6,017.0	24.40	345.10	5,519.0	2,207.6	-528.2	2,269.9	0.67	-0.66	
6,109.0	24.30	344.10	5,602.8	2,244.2	-538.3	2,307.8	0.46	-0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8503D-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:	8503D-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
6,199.0	22.90	340.70	5,685.3	2,278.5	-549.2	2,343.7	2.17	-1.56	
6,291.0	23.70	339.70	5,769.8	2,312.8	-561.5	2,379.9	0.97	0.87	
6,382.0	23.10	343.00	5,853.3	2,347.0	-573.1	2,415.9	1.58	-0.66	
6,474.0	21.90	349.80	5,938.3	2,381.2	-581.4	2,451.1	3.11	-1.30	
6,565.0	23.20	351.40	6,022.3	2,415.6	-587.1	2,485.9	1.58	1.43	
6,657.0	25.40	348.40	6,106.2	2,452.8	-593.8	2,523.6	2.74	2.39	
6,748.0	27.50	349.20	6,187.7	2,492.6	-601.6	2,564.1	2.34	2.31	
6,840.0	25.80	350.40	6,269.9	2,533.2	-608.9	2,605.3	1.94	-1.85	
6,932.0	26.50	347.00	6,352.5	2,572.9	-616.9	2,645.8	1.80	0.76	
7,023.0	25.40	346.30	6,434.3	2,611.7	-626.1	2,685.6	1.25	-1.21	
7,115.0	23.90	346.10	6,517.9	2,648.9	-635.2	2,723.9	1.63	-1.63	
7,206.0	21.60	345.60	6,601.8	2,683.1	-643.8	2,759.1	2.54	-2.53	
7,298.0	18.70	346.90	6,688.2	2,713.8	-651.4	2,790.8	3.19	-3.15	
7,389.0	17.80	346.40	6,774.6	2,741.6	-658.0	2,819.3	1.00	-0.99	
7,481.0	14.60	345.60	6,862.9	2,766.5	-664.2	2,845.0	3.49	-3.48	
7,572.0	14.20	345.20	6,951.1	2,788.4	-669.9	2,867.6	0.45	-0.44	
7,664.0	11.70	345.90	7,040.7	2,808.3	-675.0	2,888.2	2.72	-2.72	
7,755.0	10.70	346.50	7,130.0	2,825.5	-679.2	2,905.9	1.11	-1.10	
7,847.0	9.40	344.50	7,220.6	2,841.0	-683.2	2,921.9	1.46	-1.41	
7,939.0	8.40	344.00	7,311.5	2,854.7	-687.1	2,936.2	1.09	-1.09	
8,030.0	7.80	343.70	7,401.6	2,867.1	-690.7	2,949.0	0.66	-0.66	
8,122.0	6.70	342.90	7,492.8	2,878.2	-694.0	2,960.6	1.20	-1.20	
8,213.0	5.60	340.30	7,583.3	2,887.4	-697.1	2,970.3	1.25	-1.21	
8,305.0	3.90	330.30	7,675.0	2,894.4	-700.1	2,977.8	2.05	-1.85	
8,397.0	2.20	343.90	7,766.9	2,898.8	-702.2	2,982.6	2.00	-1.85	
8,488.0	1.30	117.10	7,857.8	2,900.0	-701.7	2,983.6	3.55	-0.99	
8,580.0	1.70	142.80	7,949.8	2,898.4	-700.0	2,981.7	0.84	0.43	
8,672.0	2.20	158.20	8,041.8	2,895.7	-698.5	2,978.7	0.78	0.54	
8,855.0	0.80	168.70	8,224.7	2,891.2	-696.9	2,973.9	0.78	-0.77	
8,946.0	0.30	215.40	8,315.7	2,890.4	-696.9	2,973.1	0.70	-0.55	
9,038.0	2.20	348.00	8,407.7	2,891.9	-697.5	2,974.7	2.62	2.07	
9,130.0	1.70	338.40	8,499.6	2,894.9	-698.3	2,977.9	0.65	-0.54	
9,221.0	1.30	316.40	8,590.6	2,896.9	-699.5	2,980.1	0.76	-0.44	
9,313.0	1.30	312.20	8,682.6	2,898.4	-701.0	2,981.9	0.10	0.00	
9,405.0	1.10	298.80	8,774.5	2,899.5	-702.6	2,983.3	0.37	-0.22	
9,496.0	0.70	285.90	8,865.5	2,900.1	-703.9	2,984.2	0.49	-0.44	
9,584.0	1.10	264.30	8,953.5	2,900.1	-705.2	2,984.6	0.59	0.45	
9,676.0	0.70	287.80	9,045.5	2,900.2	-706.6	2,985.0	0.58	-0.43	
9,767.0	1.10	267.20	9,136.5	2,900.3	-708.0	2,985.5	0.56	0.44	
9,859.0	1.10	258.20	9,228.5	2,900.1	-709.8	2,985.7	0.19	0.00	
9,950.0	1.40	262.90	9,319.4	2,899.8	-711.7	2,985.9	0.35	0.33	
10,041.0	1.00	142.30	9,410.4	2,899.0	-712.4	2,985.3	2.30	-0.44	
10,133.0	1.40	152.50	9,502.4	2,897.4	-711.4	2,983.4	0.49	0.43	
10,224.0	1.00	103.20	9,593.4	2,896.2	-710.1	2,982.0	1.17	-0.44	
10,316.0	0.80	126.40	9,685.4	2,895.7	-708.8	2,981.1	0.45	-0.22	
10,408.0	1.20	156.80	9,777.4	2,894.4	-707.9	2,979.7	0.71	0.43	
10,499.0	0.90	102.00	9,868.4	2,893.4	-706.8	2,978.4	1.10	-0.33	
10,590.0	1.00	33.50	9,959.4	2,893.9	-705.7	2,978.7	1.18	0.11	
10,682.0	1.10	30.80	10,051.4	2,895.3	-704.8	2,979.8	0.12	0.11	
10,773.0	0.30	22.30	10,142.4	2,896.3	-704.2	2,980.6	0.88	-0.88	
10,865.0	0.40	284.00	10,234.3	2,896.6	-704.4	2,981.0	0.58	0.11	
11,048.0	1.10	263.80	10,417.3	2,896.6	-706.8	2,981.5	0.40	0.38	
11,139.0	1.50	264.30	10,508.3	2,896.4	-708.9	2,981.8	0.44	0.44	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8503D-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:	8503D-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
11,323.0	1.70	247.10	10,692.2	2,895.0	-713.8	2,981.7	0.28	0.11	
11,414.0	2.90	234.70	10,783.2	2,893.2	-716.9	2,980.7	1.42	1.32	
11,806.0	3.20	231.30	11,174.6	2,880.6	-733.5	2,972.5	0.09	0.08	Last Cathedral Survey @ 11,806' MD Projection to Bit @ 11,871'
11,871.0	3.20	231.30	11,239.5	2,878.4	-736.4	2,971.0	0.00	0.00	

Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
8503D-22 N22 496 TGT	0.00	0.00	7,522.0	2,899.2	-695.3	1,687,966.84	2,251,706.55	39° 41' 31.89 N	108° 9' 34.00 W
- actual wellpath misses target center by 17.7ft at 8153.2ft MD (7523.8 TVD, 2881.6 N, -695.1 E)									
- Point									
8503D-22 N22 496 PBH	0.00	0.00	11,182.0	2,889.2	-712.3	1,687,957.33	2,251,689.29	39° 41' 31.79 N	108° 9' 34.22 W
- actual wellpath misses target center by 24.1ft at 11806.0ft MD (11174.6 TVD, 2880.6 N, -733.5 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,040.0	1,930.4	551.9	-132.7	Last Cathedral Survey @ 2,040' MD
11,806.0	11,174.6	2,880.6	-733.5	Last Cathedral Survey @ 11,806' MD
11,871.0	11,239.5	2,878.4	-736.4	Projection to Bit @ 11,871'

Checked By: _____ Approved By: _____ Date: _____