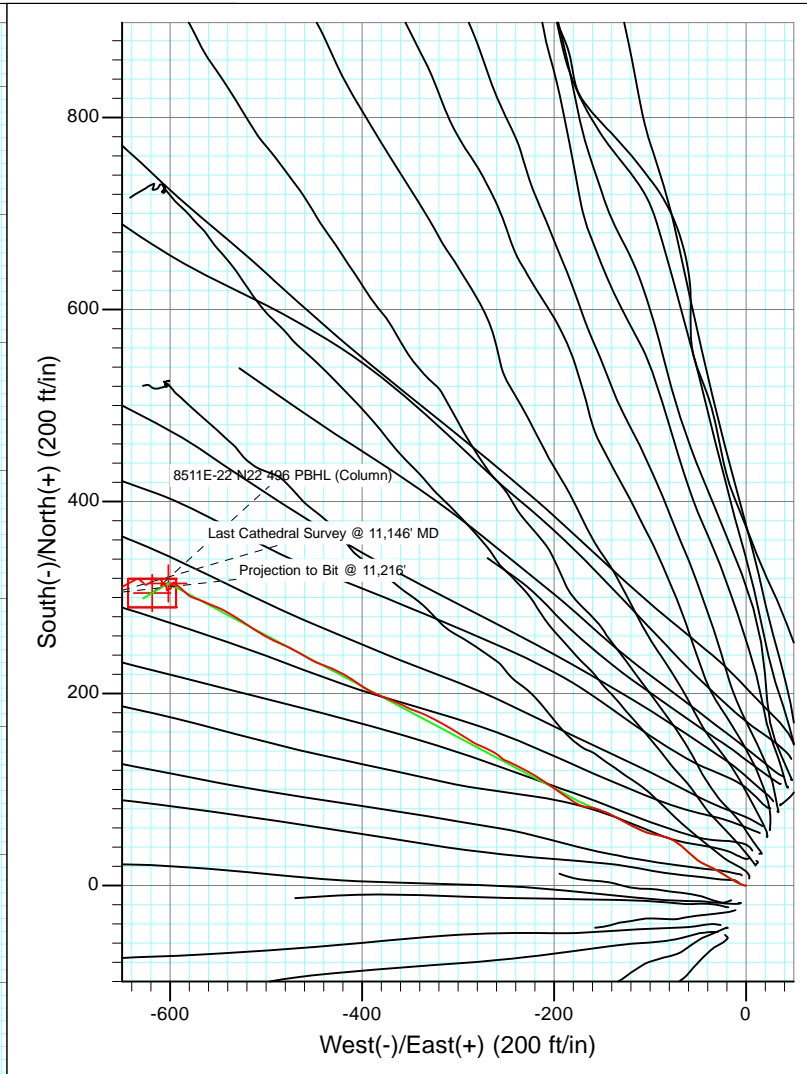
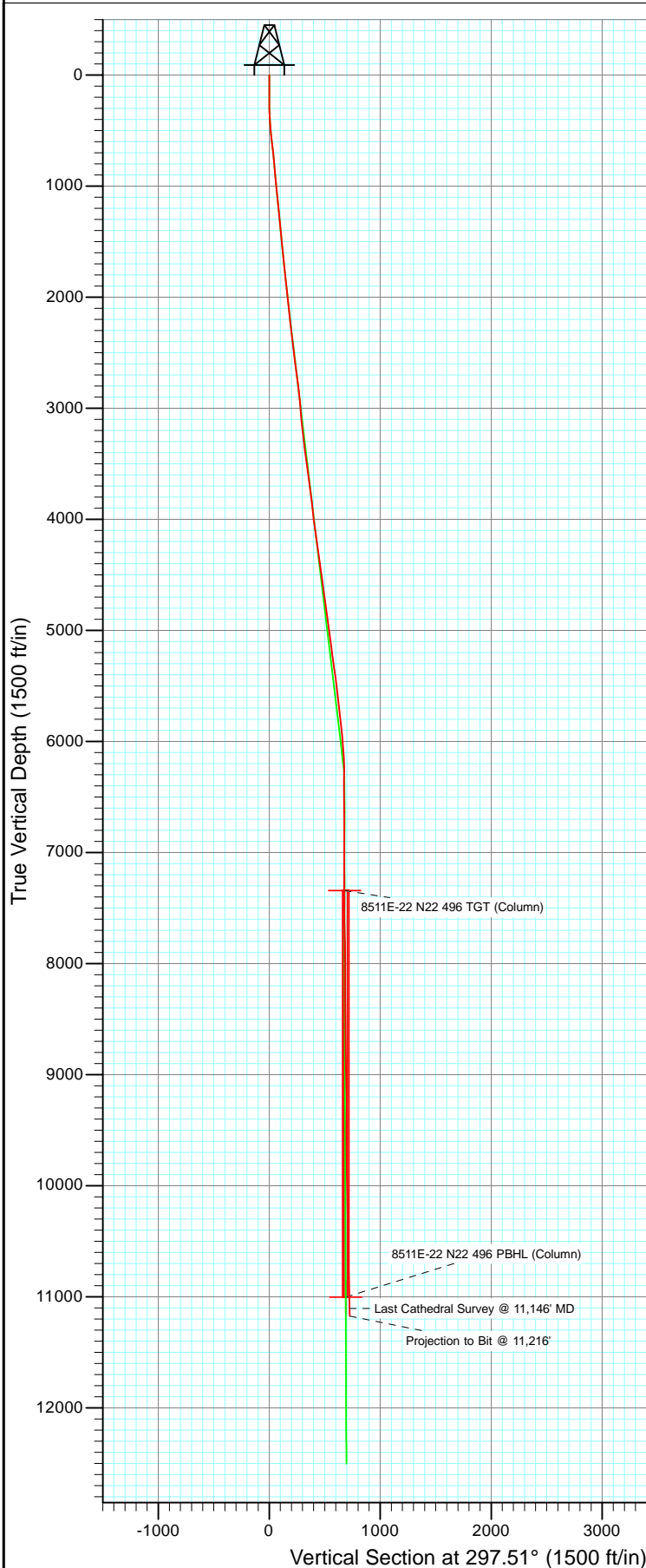




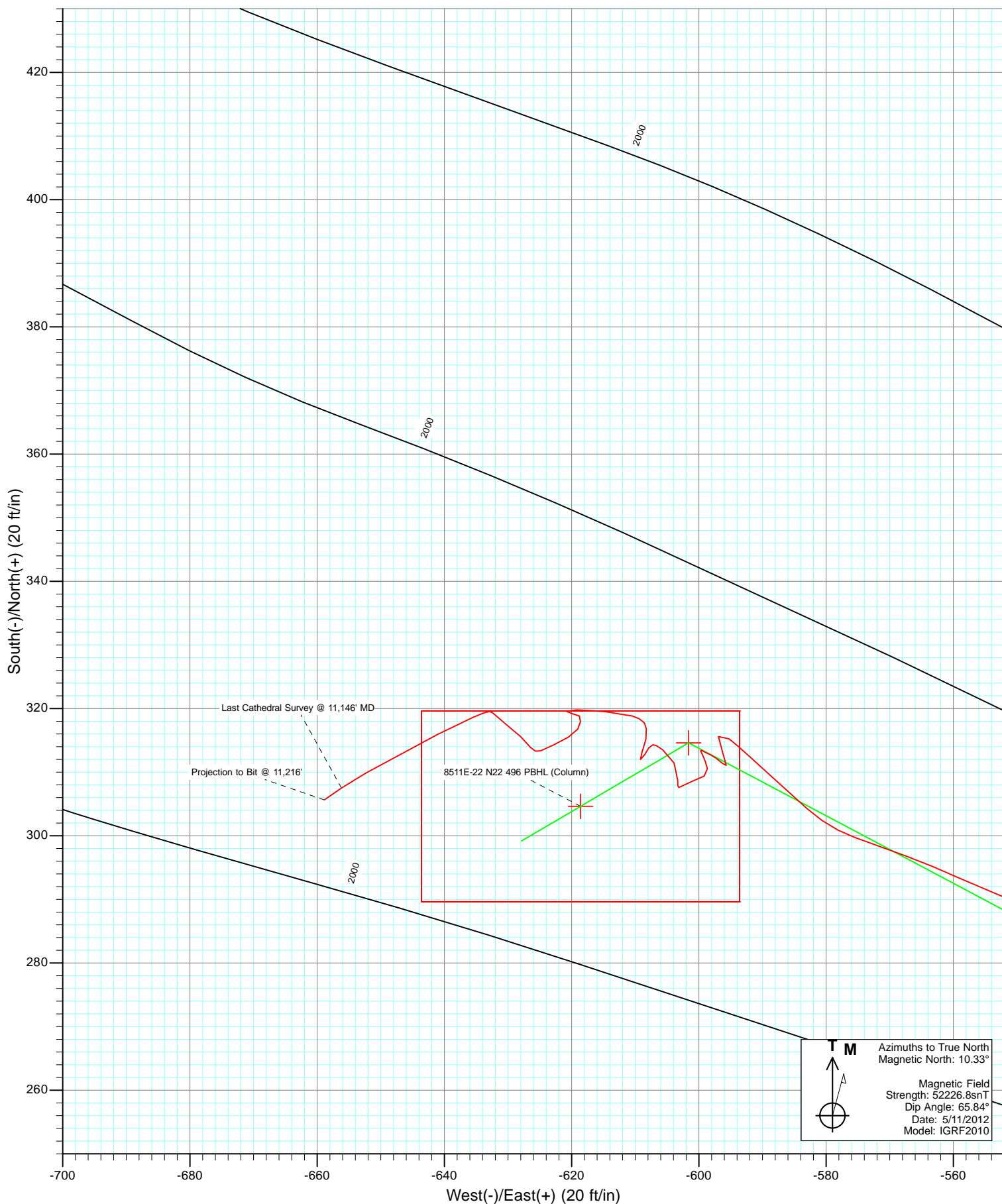
Project: Story Gulch
 Site: S22-T4S-R96W (N22 496) (Column Pattern)
 Well: 8511E-22 N22 496
 Wellbore: DD
 Design: FINAL



Azimuths to True North
 Magnetic North: 10.33°

Magnetic Field
 Strength: 52226.8nT
 Dip Angle: 65.84°
 Date: 5/11/2012
 Model: IGRF2010

DD 8511E-22 N22 496 125334; 162555; DN WELL @ 7602.0ft (Patterson #306) North American Datum 1983 Well 8511E-22 N22 496, True North						
Type User	Target	Azimuth	Origin Type	N/S	E/W	From TVD
	No Target (Freehand)	297.51	Slot	0.0	0.0	0.0
Name		TVD	+N/-S		Latitude	Longitude
8511E-22 N22 496 TGT (Column)		7342.0	314.6		39° 41' 5.00 N	108° 9' 33.54 W
8511E-22 N22 496 PBHL (Column)		11002.0	304.6		39° 41' 4.90 N	108° 9' 33.76 W



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8511E-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:	8511E-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	8511E-22 N22 496					
Well Position	+N/-S	0.0 ft	Northing:	1,684,914.05 ft	Latitude:	39° 41' 1.89 N
	+E/-W	0.0 ft	Easting:	2,252,255.03 ft	Longitude:	108° 9' 25.85 W
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	5/11/2012	10.33	65.84	52,227

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	297.51	

Survey Program	Date	5/19/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
210.0	2,071.0	Survey #1 (DD)	MWD	Geolink MWD	
2,169.0	11,216.0	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		
210.0	0.20	262.70	210.0	0.0	-0.4	0.3	0.10	0.10		
240.0	0.10	295.10	240.0	0.0	-0.4	0.4	0.42	-0.33		
332.0	2.10	281.20	332.0	0.3	-2.2	2.1	2.18	2.17		
423.0	4.00	293.70	422.8	1.9	-6.7	6.8	2.20	2.09		
518.0	5.80	303.10	517.5	5.9	-13.8	14.9	2.07	1.89		
610.0	6.50	300.10	609.0	11.0	-22.2	24.7	0.84	0.76		
701.0	5.90	300.10	699.4	16.0	-30.7	34.6	0.66	-0.66		
793.0	5.40	293.20	791.0	20.0	-38.7	43.6	0.92	-0.54		
884.0	5.10	299.60	881.6	23.7	-46.2	51.9	0.72	-0.33		
975.0	5.90	311.40	972.2	28.8	-53.2	60.5	1.52	0.88		
1,068.0	5.90	312.10	1,064.7	35.2	-60.3	69.8	0.08	0.00		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8511E-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:	8511E-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
1,159.0	5.80	310.40	1,155.2	41.3	-67.3	78.8	0.22	-0.11	
1,251.0	5.80	300.90	1,246.8	46.7	-74.8	87.9	1.04	0.00	
1,342.0	5.60	287.60	1,337.3	50.4	-83.0	96.9	1.46	-0.22	
1,434.0	5.70	279.30	1,428.9	52.5	-91.8	105.7	0.89	0.11	
1,526.0	5.30	284.20	1,520.4	54.3	-100.4	114.1	0.67	-0.43	
1,617.0	6.40	297.10	1,611.0	57.6	-109.0	123.3	1.88	1.21	
1,708.0	6.20	294.60	1,701.4	62.0	-118.0	133.3	0.37	-0.22	
1,799.0	6.30	299.40	1,791.9	66.5	-126.8	143.2	0.58	0.11	
1,891.0	5.50	298.90	1,883.4	71.1	-135.1	152.6	0.87	-0.87	
1,983.0	6.50	293.60	1,974.9	75.3	-143.7	162.2	1.24	1.09	
2,071.0	6.80	289.60	2,062.3	79.0	-153.2	172.4	0.63	0.34	Last Cathedral Survey @ 2,071' MD
2,169.0	6.10	275.10	2,159.7	81.4	-163.8	182.9	1.80	-0.71	
2,260.0	6.10	294.60	2,250.2	83.9	-173.1	192.2	2.27	0.00	
2,351.0	6.70	303.40	2,340.6	88.8	-181.9	202.3	1.26	0.66	
2,443.0	7.10	305.50	2,431.9	95.1	-191.0	213.3	0.51	0.43	
2,534.0	7.10	305.10	2,522.2	101.6	-200.2	224.5	0.05	0.00	
2,626.0	7.80	303.80	2,613.5	108.3	-210.0	236.3	0.78	0.76	
2,718.0	7.50	300.90	2,704.6	114.9	-220.4	248.5	0.53	-0.33	
2,809.0	7.10	297.30	2,794.9	120.5	-230.4	260.1	0.67	-0.44	
2,900.0	6.60	297.20	2,885.3	125.5	-240.1	270.9	0.55	-0.55	
2,993.0	5.20	290.70	2,977.8	129.4	-248.8	280.4	1.67	-1.51	
3,084.0	4.70	314.10	3,068.4	133.5	-255.3	288.1	2.27	-0.55	
3,176.0	5.90	300.70	3,160.0	138.5	-262.1	296.4	1.87	1.30	
3,268.0	6.10	293.00	3,251.5	142.8	-270.7	306.0	0.90	0.22	
3,360.0	6.70	295.50	3,343.0	147.0	-280.0	316.3	0.72	0.65	
3,451.0	8.40	303.80	3,433.2	153.0	-290.3	328.2	2.21	1.87	
3,542.0	7.90	301.10	3,523.3	159.9	-301.2	341.0	0.69	-0.55	
3,634.0	7.30	299.90	3,614.5	166.1	-311.7	353.2	0.67	-0.65	
3,725.0	8.20	298.10	3,704.6	172.1	-322.4	365.4	1.02	0.99	
3,817.0	7.50	294.80	3,795.8	177.7	-333.7	378.0	0.90	-0.76	
3,909.0	6.10	287.70	3,887.1	181.7	-343.8	388.8	1.77	-1.52	
4,000.0	6.10	297.60	3,977.6	185.4	-352.7	398.4	1.15	0.00	
4,092.0	8.40	294.00	4,068.9	190.4	-363.1	410.0	2.55	2.50	
4,183.0	8.30	290.90	4,158.9	195.4	-375.3	423.2	0.51	-0.11	
4,275.0	7.80	293.60	4,250.0	200.3	-387.3	436.0	0.68	-0.54	
4,367.0	7.80	304.30	4,341.1	206.3	-398.1	448.4	1.58	0.00	
4,458.0	7.30	305.70	4,431.4	213.2	-407.9	460.3	0.59	-0.55	
4,550.0	8.60	299.00	4,522.5	219.9	-418.7	472.9	1.73	1.41	
4,641.0	8.60	293.00	4,612.4	225.9	-430.9	486.5	0.99	0.00	
4,733.0	7.30	289.30	4,703.6	230.5	-442.8	499.2	1.52	-1.41	
4,824.0	7.80	299.10	4,793.8	235.4	-453.6	511.1	1.52	0.55	
4,916.0	8.20	301.40	4,884.9	241.9	-464.7	523.9	0.56	0.43	
5,008.0	7.70	296.00	4,976.0	248.0	-475.8	536.6	0.98	-0.54	
5,099.0	6.90	292.50	5,066.3	252.7	-486.3	548.1	1.01	-0.88	
5,191.0	8.10	298.30	5,157.5	257.9	-497.2	560.1	1.54	1.30	
5,283.0	6.90	301.30	5,248.7	263.9	-507.6	572.1	1.37	-1.30	
5,375.0	8.30	303.80	5,339.9	270.4	-517.8	584.2	1.56	1.52	
5,466.0	8.30	303.40	5,429.9	277.7	-528.8	597.3	0.06	0.00	
5,557.0	7.10	300.30	5,520.1	284.2	-539.1	609.4	1.39	-1.32	
5,649.0	6.70	291.90	5,611.4	289.0	-549.0	620.4	1.18	-0.43	
5,740.0	6.60	294.40	5,701.8	293.2	-558.7	630.9	0.34	-0.11	
5,832.0	5.30	290.30	5,793.3	296.8	-567.5	640.4	1.49	-1.41	
5,923.0	5.40	289.60	5,883.9	299.7	-575.5	648.8	0.13	0.11	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8511E-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:	8511E-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
6,014.0	5.90	311.50	5,974.5	304.3	-583.0	657.6	2.42	0.55	
6,106.0	5.80	312.90	6,066.0	310.6	-589.9	666.7	0.19	-0.11	
6,198.0	3.00	308.30	6,157.7	315.2	-595.2	673.5	3.07	-3.04	
6,289.0	1.40	170.90	6,248.7	315.6	-596.9	675.2	4.55	-1.76	
6,380.0	2.20	160.70	6,339.7	312.9	-596.2	673.3	0.94	0.88	
6,471.0	0.20	211.20	6,430.6	311.1	-595.7	672.0	2.28	-2.20	
6,563.0	0.80	312.10	6,522.6	311.4	-596.2	672.7	0.94	0.65	
6,655.0	0.90	305.40	6,614.6	312.2	-597.3	674.0	0.15	0.11	
6,747.0	0.40	291.40	6,706.6	312.8	-598.2	675.0	0.57	-0.54	
6,838.0	0.50	297.60	6,797.6	313.1	-598.8	675.7	0.12	0.11	
6,930.0	0.50	300.40	6,889.6	313.4	-599.5	676.5	0.03	0.00	
7,021.0	0.40	149.60	6,980.6	313.4	-599.7	676.7	0.96	-0.11	
7,113.0	0.60	158.40	7,072.6	312.6	-599.4	676.0	0.23	0.22	
7,204.0	0.70	155.00	7,163.6	311.7	-599.0	675.2	0.12	0.11	
7,296.0	0.80	171.40	7,255.6	310.6	-598.6	674.4	0.26	0.11	
7,388.0	1.00	228.70	7,347.6	309.4	-599.2	674.3	0.96	0.22	
7,479.0	1.70	256.80	7,438.6	308.6	-601.1	675.6	1.04	0.77	
7,571.0	0.90	222.50	7,530.5	307.7	-602.9	676.8	1.18	-0.87	
7,663.0	1.90	1.30	7,622.5	308.7	-603.3	677.7	2.87	1.09	
7,846.0	1.90	306.40	7,805.4	313.5	-605.7	682.0	0.96	0.00	
7,938.0	0.40	246.20	7,897.4	314.3	-607.2	683.8	1.89	-1.63	
8,029.0	0.60	223.20	7,988.4	313.8	-607.8	684.1	0.31	0.22	
8,121.0	1.00	205.10	8,080.4	312.8	-608.5	684.2	0.51	0.43	
8,213.0	0.40	265.70	8,172.4	312.0	-609.2	684.4	0.95	-0.65	
8,304.0	1.50	27.20	8,263.4	313.0	-609.0	684.7	1.92	1.21	
8,396.0	1.30	3.80	8,355.4	315.2	-608.3	685.1	0.65	-0.22	
8,488.0	0.80	0.80	8,447.3	316.8	-608.3	685.8	0.55	-0.54	
8,580.0	0.50	308.30	8,539.3	317.7	-608.6	686.5	0.69	-0.33	
8,671.0	0.80	310.90	8,630.3	318.4	-609.4	687.5	0.33	0.33	
8,762.0	0.80	271.70	8,721.3	318.8	-610.5	688.7	0.59	0.00	
8,854.0	0.90	284.90	8,813.3	319.0	-611.8	690.0	0.24	0.11	
9,037.0	0.90	274.30	8,996.3	319.5	-614.6	692.7	0.09	0.00	
9,219.0	2.00	273.00	9,178.2	319.8	-619.2	696.9	0.60	0.60	
9,311.0	0.40	174.20	9,270.2	319.5	-620.8	698.2	2.28	-1.74	
9,402.0	1.10	92.20	9,361.2	319.2	-619.9	697.2	1.23	0.77	
9,493.0	0.50	146.10	9,452.2	318.8	-618.8	696.1	0.99	-0.66	
9,585.0	0.70	183.90	9,544.2	317.9	-618.6	695.5	0.47	0.22	
9,676.0	0.90	212.40	9,635.2	316.8	-619.0	695.4	0.48	0.22	
9,768.0	1.60	238.60	9,727.2	315.5	-620.5	696.1	0.96	0.76	
9,860.0	1.70	245.30	9,819.1	314.3	-622.9	697.6	0.24	0.11	
9,951.0	1.10	246.50	9,910.1	313.3	-624.9	699.0	0.66	-0.66	
10,043.0	1.50	319.40	10,002.1	313.9	-626.5	700.6	1.71	0.43	
10,135.0	1.40	315.10	10,094.0	315.6	-628.0	702.8	0.16	-0.11	
10,226.0	1.50	305.00	10,185.0	317.1	-629.8	705.1	0.30	0.11	
10,318.0	1.50	315.70	10,277.0	318.6	-631.6	707.4	0.30	0.00	
10,409.0	0.50	277.40	10,368.0	319.5	-632.9	708.9	1.26	-1.10	
10,500.0	0.80	243.60	10,459.0	319.3	-633.8	709.7	0.52	0.33	
10,592.0	1.40	248.80	10,550.9	318.6	-635.4	710.8	0.66	0.65	
10,775.0	2.50	241.80	10,733.8	315.9	-641.1	714.5	0.61	0.60	
11,050.0	2.80	241.70	11,008.5	309.9	-652.3	721.7	0.11	0.11	
11,146.0	2.70	235.20	11,104.4	307.5	-656.2	724.0	0.34	-0.10	Last Cathedral Survey @ 11,146' MD Projection to Bit @ 11,216'
11,216.0	2.70	235.20	11,174.4	305.6	-658.9	725.6	0.00	0.00	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8511E-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:	8511E-22 N22 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
8511E-22 N22 496 PBH	0.00	0.00	11,002.0	304.6	-618.6	1,685,236.64	2,251,645.61	39° 41' 4.90 N	108° 9' 33.76 W
- actual wellpath misses target center by 33.8ft at 11042.2ft MD (11000.8 TVD, 310.1 N, -651.9 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
8511E-22 N22 496 TGT	0.00	0.00	7,342.0	314.6	-601.6	1,685,246.12	2,251,662.89	39° 41' 5.00 N	108° 9' 33.54 W
- actual wellpath misses target center by 5.7ft at 7382.4ft MD (7341.9 TVD, 309.5 N, -599.1 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,071.0	2,062.3	79.0	-153.2	Last Cathedral Survey @ 2,071' MD
11,146.0	11,104.4	307.5	-656.2	Last Cathedral Survey @ 11,146' MD
11,216.0	11,174.4	305.6	-658.9	Projection to Bit @ 11,216'

Checked By: _____ Approved By: _____ Date: _____