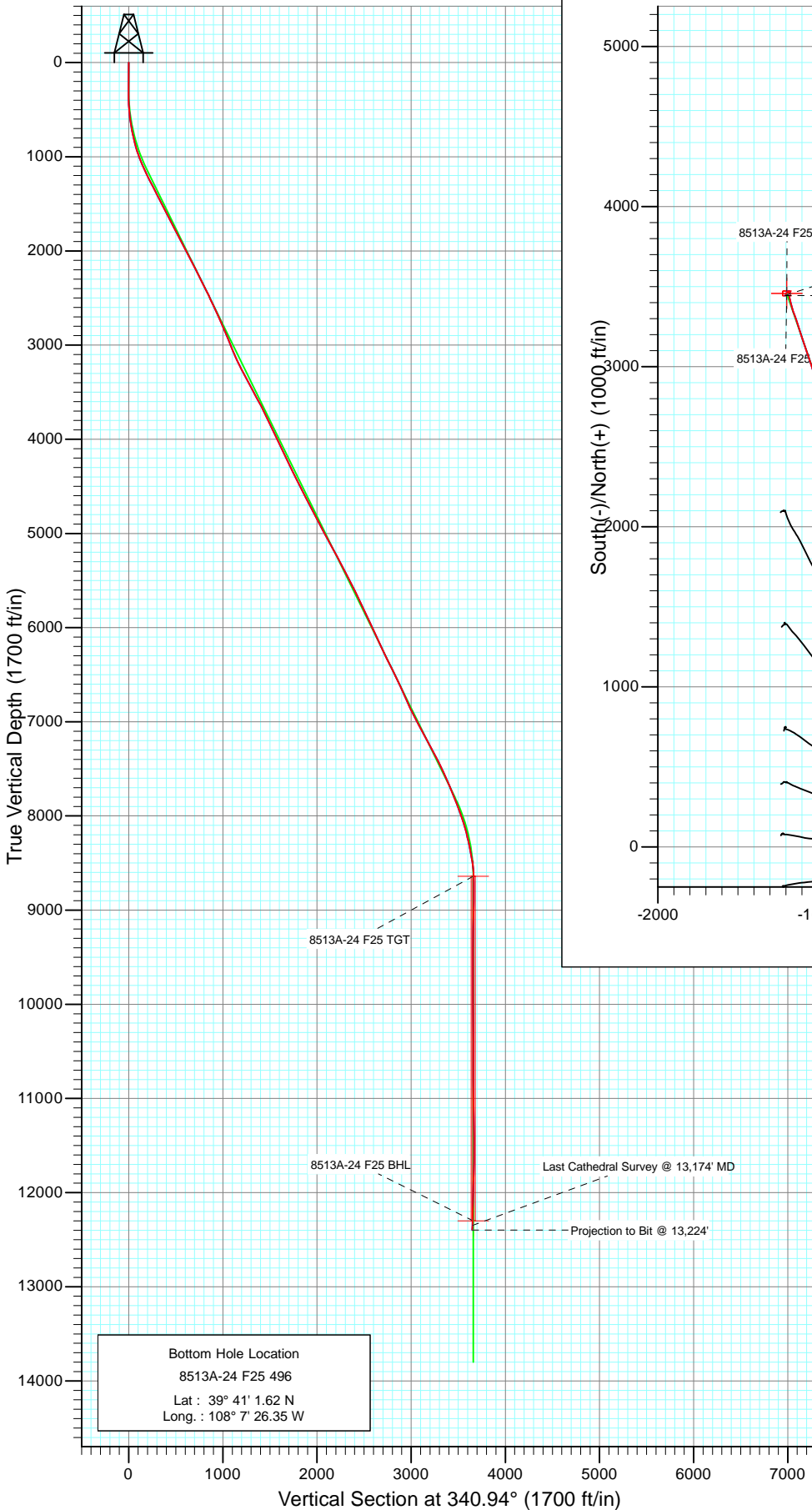
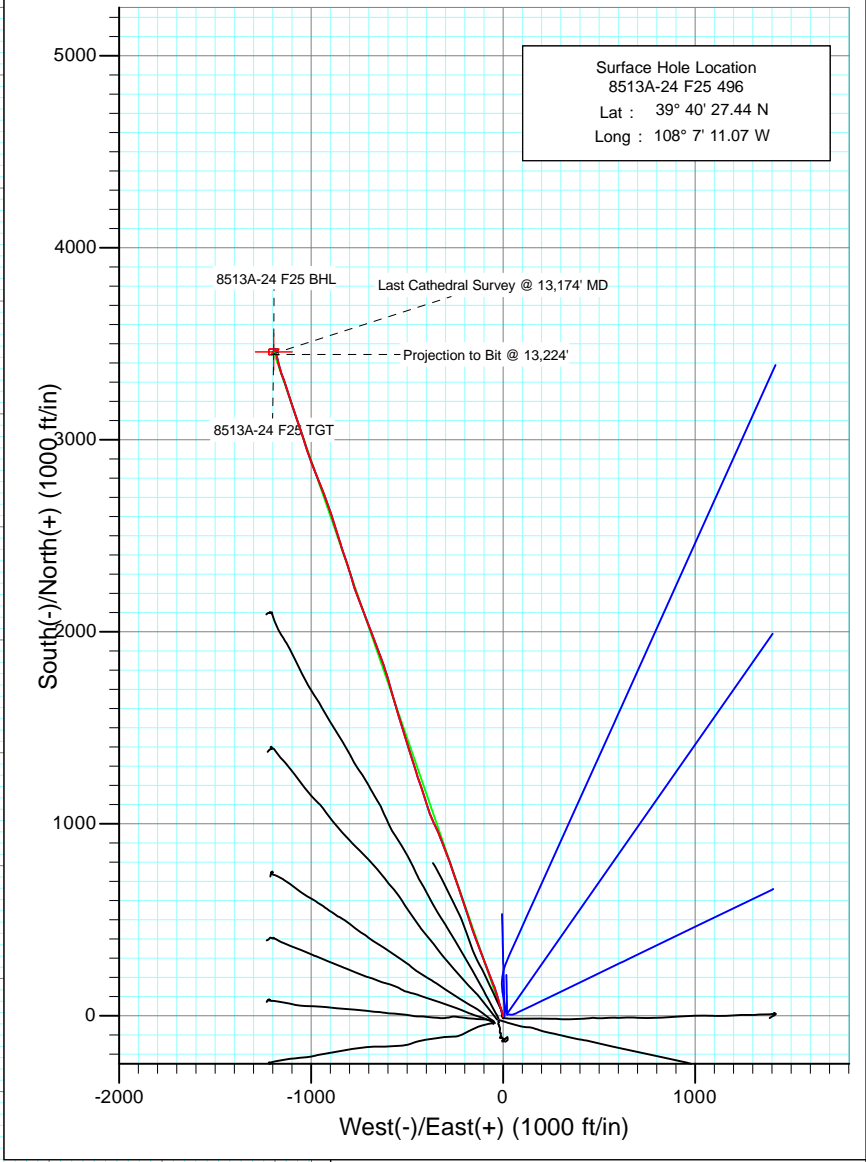




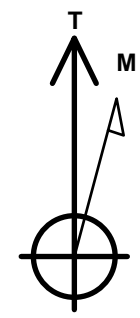
Project: Story Gulch
 Site: F25 496
 Well: 8513A-24 F25 496
 Wellbore: DD
 Design: FINAL



Bottom Hole Location
 8513A-24 F25 496
 Lat : 39° 41' 1.62 N
 Long. : 108° 7' 26.35 W



Surface Hole Location
 8513A-24 F25 496
 Lat : 39° 40' 27.44 N
 Long : 108° 7' 11.07 W



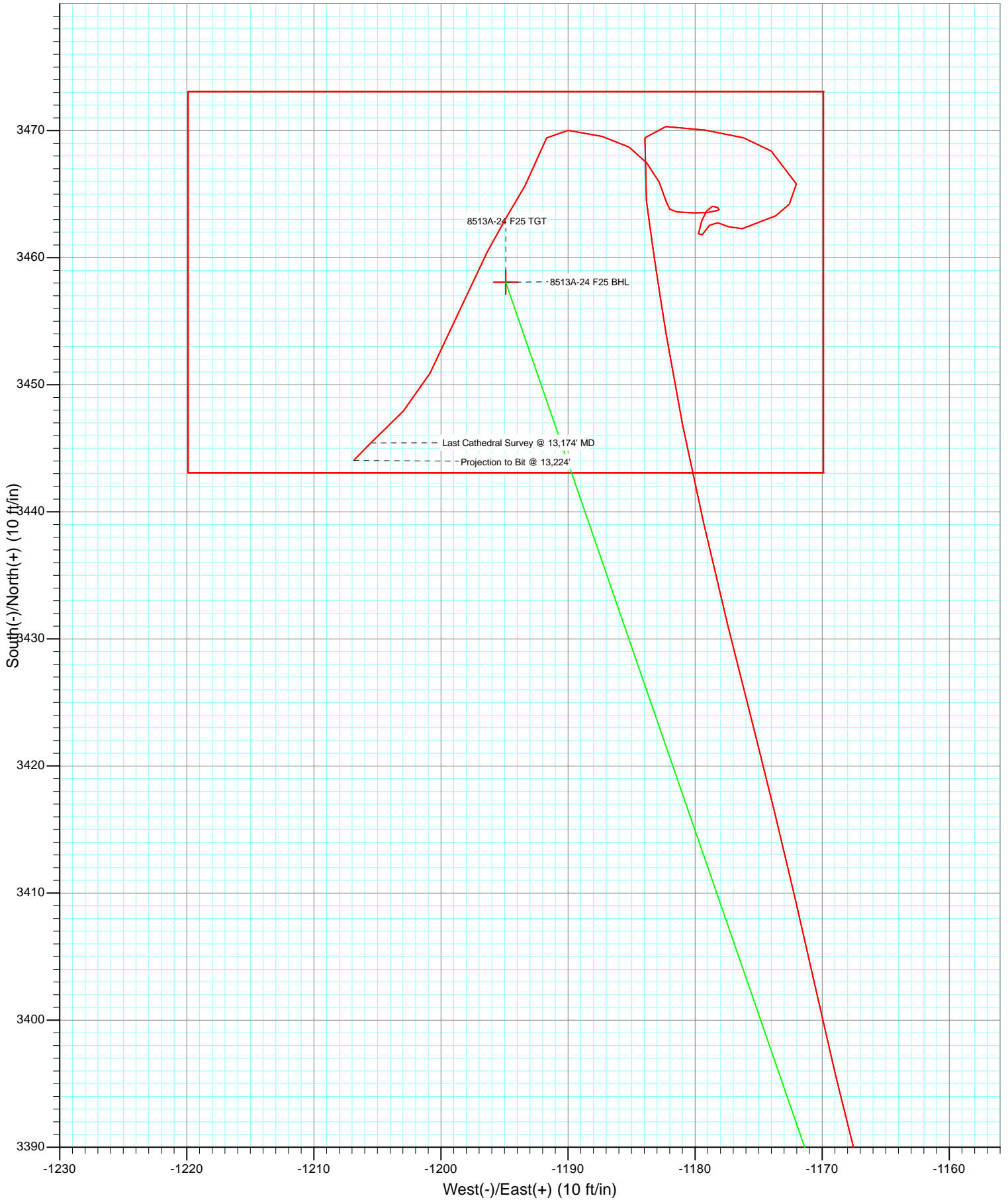
Azimuths to True North
 Magnetic North: 10.52°
 Magnetic Field
 Strength: 52379.4snT
 Dip Angle: 65.88°
 Date: 10/15/2010
 Model: IGRF2010

DESIGN DETAILS: DD
 Job #105184, 105449: KR
 KBE @ 8320.0ft (Patterson 306)

Target	Azimuth	Origin	N/S	E/W	From TVD
8513A-24 F25 BHL	340.94	Slot	0.0	0.0	0.0



Project: Story Gulch
Site: F25 496
Well: 8513A-24 F25 496
Wellbore: DD
Design: FINAL



Cathedral Energy

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8513A-24 F25 496
Project: Story Gulch	TVD Reference: KBE @ 8320.0ft (Patterson 306)
Site: F25 496	MD Reference: KBE @ 8320.0ft (Patterson 306)
Well: 8513A-24 F25 496	North Reference: True
Wellbore: DD	Survey Calculation Method: Minimum Curvature
Design: DD	Database: EDM 5000.1 US 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 F25 496			
Site Position:	Northing: 1,681,091.06 ft	Latitude: 39° 40' 27.10 N	
From: Lat/Long	Easting: 2,262,632.54 ft	Longitude: 108° 7' 11.76 W	
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: -1.65 °	

Well 8513A-24 F25 496					
Well Position	+N/-S 0.0 ft	Northing: 1,681,124.08 ft	Latitude: 39° 40' 27.44 N		
	+E/-W 0.0 ft	Easting: 2,262,687.44 ft	Longitude: 108° 7' 11.07 W		
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 8,298.0 ft		

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2010	10.52	65.88	52,379

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	340.94	

Survey Program		Date 10/27/2010
From (ft)	To (ft)	Survey (Wellbore)
282.0	13,224.0	Survey #1 (DD)
		Tool Name MWD
		Description 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	
282.0	0.50	214.50	282.0	-1.0	-0.7	-0.7	0.18	0.18	
312.0	0.50	147.90	312.0	-1.2	-0.7	-0.9	1.83	0.00	
343.0	0.10	150.90	343.0	-1.4	-0.6	-1.1	1.29	-1.29	
374.0	0.80	331.30	374.0	-1.2	-0.7	-0.9	2.90	2.26	
404.0	1.80	347.70	404.0	-0.6	-0.9	-0.2	3.52	3.33	
435.0	2.20	357.60	435.0	0.5	-1.0	0.8	1.70	1.29	
466.0	3.60	352.60	465.9	2.1	-1.2	2.3	4.58	4.52	
495.0	4.30	348.30	494.9	4.0	-1.5	4.3	2.62	2.41	
526.0	4.80	344.80	525.8	6.4	-2.1	6.8	1.84	1.61	
556.0	5.80	347.50	555.6	9.1	-2.8	9.5	3.43	3.33	
587.0	7.40	345.10	586.4	12.6	-3.6	13.1	5.24	5.16	
618.0	8.10	341.00	617.1	16.6	-4.8	17.2	2.88	2.26	

Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8513A-24 F25 496
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	8513A-24 F25 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US 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
648.0	9.30	341.10	646.8	20.9	-6.3	21.8	4.00	4.00	
678.0	9.70	343.60	676.4	25.6	-7.8	26.7	1.92	1.33	
709.0	10.30	343.90	706.9	30.7	-9.3	32.1	1.94	1.94	
804.0	12.80	343.70	800.0	49.0	-14.6	51.1	2.63	2.63	
899.0	15.70	343.70	892.0	71.5	-21.2	74.5	3.05	3.05	
994.0	20.00	344.60	982.5	99.5	-29.1	103.5	4.54	4.53	
1,089.0	22.90	340.80	1,070.9	132.6	-39.5	138.2	3.38	3.05	
1,184.0	25.10	337.90	1,157.7	168.7	-53.2	176.8	2.63	2.32	
1,279.0	26.90	338.90	1,243.0	207.4	-68.5	218.4	1.95	1.89	
1,374.0	27.40	339.80	1,327.6	248.0	-83.8	261.8	0.68	0.53	
1,469.0	27.50	338.90	1,411.9	289.0	-99.2	305.5	0.45	0.11	
1,565.0	27.30	339.20	1,497.1	330.2	-115.0	349.7	0.25	-0.21	
1,660.0	26.10	338.70	1,582.0	370.1	-130.3	392.4	1.29	-1.26	
1,755.0	27.50	338.70	1,666.8	410.0	-145.9	435.2	1.47	1.47	
1,850.0	27.70	341.70	1,751.0	451.4	-160.8	479.2	1.48	0.21	
1,945.0	28.30	342.10	1,834.8	493.8	-174.7	523.7	0.66	0.63	
2,040.0	27.40	342.50	1,918.8	536.1	-188.1	568.1	0.97	-0.95	
2,135.0	27.20	341.80	2,003.3	577.5	-201.5	611.7	0.40	-0.21	
2,230.0	27.70	341.20	2,087.6	619.1	-215.4	655.5	0.60	0.53	
2,325.0	27.00	340.30	2,171.9	660.3	-229.8	699.1	0.86	-0.74	
2,421.0	26.60	340.20	2,257.6	701.0	-244.4	742.4	0.42	-0.42	
2,516.0	26.80	341.10	2,342.5	741.3	-258.6	785.1	0.47	0.21	
2,610.0	26.40	341.80	2,426.5	781.2	-271.9	827.2	0.54	-0.43	
2,706.0	24.60	340.00	2,513.2	820.2	-285.4	868.5	2.04	-1.87	
2,801.0	24.40	339.00	2,599.6	857.1	-299.2	907.9	0.48	-0.21	
2,896.0	24.90	337.80	2,686.0	894.0	-313.8	947.4	0.74	0.53	
2,990.0	24.40	338.20	2,771.4	930.3	-328.5	986.6	0.56	-0.53	
3,092.0	21.60	336.60	2,865.3	967.1	-343.8	1,026.4	2.81	-2.75	
3,184.0	22.50	334.80	2,950.6	998.6	-358.0	1,060.8	1.22	0.98	
3,275.0	22.20	336.20	3,034.7	1,030.1	-372.4	1,095.2	0.67	-0.33	
3,367.0	23.50	341.60	3,119.5	1,063.4	-385.2	1,130.9	2.68	1.41	
3,459.0	26.90	342.90	3,202.8	1,100.7	-397.1	1,170.0	3.74	3.70	
3,550.0	27.30	341.30	3,283.8	1,140.1	-409.8	1,211.5	0.91	0.44	
3,642.0	28.80	341.20	3,365.0	1,181.1	-423.7	1,254.7	1.63	1.63	
3,734.0	27.40	341.30	3,446.1	1,222.1	-437.7	1,298.1	1.52	-1.52	
3,825.0	29.00	342.80	3,526.3	1,263.0	-450.9	1,341.1	1.92	1.76	
3,917.0	27.90	342.90	3,607.2	1,304.9	-463.8	1,384.9	1.20	-1.20	
4,009.0	26.20	341.90	3,689.1	1,344.8	-476.5	1,426.7	1.91	-1.85	
4,100.0	25.80	343.10	3,770.9	1,382.8	-488.5	1,466.6	0.73	-0.44	
4,192.0	26.20	343.50	3,853.6	1,421.5	-500.1	1,506.8	0.47	0.43	
4,284.0	26.20	342.00	3,936.2	1,460.3	-512.1	1,547.4	0.72	0.00	
4,373.0	24.30	341.00	4,016.7	1,496.3	-524.1	1,585.4	2.19	-2.13	
4,467.0	25.00	343.60	4,102.1	1,533.6	-536.0	1,624.6	1.37	0.74	
4,559.0	25.90	343.90	4,185.2	1,571.6	-547.1	1,664.1	0.99	0.98	
4,651.0	26.20	344.40	4,267.8	1,610.4	-558.1	1,704.4	0.40	0.33	
4,743.0	26.80	344.90	4,350.1	1,650.0	-569.0	1,745.4	0.70	0.65	
4,834.0	26.20	342.30	4,431.6	1,689.0	-580.5	1,785.9	1.44	-0.66	
4,926.0	26.50	344.70	4,514.0	1,728.1	-592.0	1,826.7	1.20	0.33	
5,017.0	27.30	342.70	4,595.2	1,767.6	-603.6	1,867.8	1.33	0.88	
5,108.0	27.30	342.70	4,676.1	1,807.5	-616.0	1,909.5	0.00	0.00	
5,200.0	27.80	339.30	4,757.6	1,847.7	-629.9	1,952.1	1.79	0.54	
5,292.0	27.20	339.70	4,839.2	1,887.5	-644.8	1,994.5	0.68	-0.65	
5,384.0	28.20	339.60	4,920.7	1,927.6	-659.6	2,037.3	1.09	1.09	

Cathedral Energy

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well 8513A-24 F25 496
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	8513A-24 F25 496	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 5000.1 US 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
5,475.0	28.50	338.80	5,000.8	1,968.0	-675.0	2,080.5	0.53	0.33	
5,567.0	28.70	338.60	5,081.5	2,009.0	-691.0	2,124.5	0.24	0.22	
5,659.0	28.10	340.00	5,162.5	2,049.9	-706.4	2,168.2	0.97	-0.65	
5,750.0	28.90	339.00	5,242.4	2,090.6	-721.7	2,211.6	1.02	0.88	
5,842.0	27.20	338.80	5,323.6	2,131.0	-737.2	2,254.9	1.85	-1.85	
5,934.0	27.30	338.40	5,405.4	2,170.2	-752.6	2,297.0	0.23	0.11	
6,026.0	27.40	340.20	5,487.1	2,209.7	-767.5	2,339.2	0.91	0.11	
6,118.0	27.10	344.20	5,568.9	2,249.8	-780.4	2,381.3	2.02	-0.33	
6,209.0	25.20	343.10	5,650.6	2,288.3	-791.7	2,421.4	2.15	-2.09	
6,301.0	25.90	341.30	5,733.6	2,326.1	-803.8	2,461.0	1.14	0.76	
6,391.0	25.70	342.90	5,814.7	2,363.3	-815.9	2,500.2	0.80	-0.22	
6,483.0	25.00	340.70	5,897.8	2,400.7	-828.2	2,539.6	1.28	-0.76	
6,576.0	24.40	343.60	5,982.3	2,437.7	-840.1	2,578.4	1.45	-0.65	
6,666.0	25.60	341.30	6,063.9	2,474.0	-851.6	2,616.4	1.72	1.33	
6,758.0	24.90	342.00	6,147.1	2,511.2	-863.9	2,655.7	0.83	-0.76	
6,850.0	24.40	344.00	6,230.7	2,547.9	-875.1	2,694.0	1.06	-0.54	
6,941.0	25.80	342.20	6,313.1	2,584.8	-886.4	2,732.6	1.75	1.54	
7,033.0	27.70	340.80	6,395.2	2,624.1	-899.5	2,774.0	2.18	2.07	
7,125.0	25.40	340.50	6,477.5	2,662.9	-913.1	2,815.1	2.50	-2.50	
7,216.0	25.90	339.20	6,559.6	2,699.9	-926.7	2,854.5	0.83	0.55	
7,308.0	24.20	338.10	6,642.9	2,736.1	-940.9	2,893.4	1.92	-1.85	
7,400.0	24.20	339.30	6,726.8	2,771.3	-954.6	2,931.1	0.53	0.00	
7,491.0	24.50	338.10	6,809.7	2,806.2	-968.2	2,968.6	0.64	0.33	
7,583.0	26.70	337.80	6,892.7	2,843.1	-983.1	3,008.3	2.40	2.39	
7,675.0	27.30	339.40	6,974.7	2,882.0	-998.4	3,050.0	1.02	0.65	
7,766.0	27.60	340.20	7,055.4	2,921.3	-1,012.9	3,091.9	0.52	0.33	
7,858.0	28.60	342.70	7,136.6	2,962.4	-1,026.6	3,135.3	1.68	1.09	
7,950.0	28.30	342.00	7,217.5	3,004.2	-1,039.9	3,179.1	0.49	-0.33	
8,041.0	28.50	341.20	7,297.5	3,045.2	-1,053.6	3,222.3	0.47	0.22	
8,133.0	27.30	341.50	7,378.8	3,086.0	-1,067.3	3,265.4	1.31	-1.30	
8,225.0	26.10	341.70	7,461.0	3,125.2	-1,080.4	3,306.7	1.31	-1.30	
8,316.0	25.10	341.70	7,543.1	3,162.6	-1,092.7	3,346.0	1.10	-1.10	
8,408.0	23.50	341.20	7,626.9	3,198.5	-1,104.8	3,383.9	1.75	-1.74	
8,500.0	22.60	342.40	7,711.6	3,232.7	-1,116.0	3,419.9	1.10	-0.98	
8,591.0	21.70	341.90	7,795.9	3,265.3	-1,126.6	3,454.2	1.01	-0.99	
8,682.0	20.80	341.20	7,880.7	3,296.6	-1,137.0	3,487.2	1.03	-0.99	
8,774.0	19.90	340.50	7,966.9	3,326.9	-1,147.5	3,519.2	1.01	-0.98	
8,866.0	17.80	341.10	8,054.0	3,354.9	-1,157.3	3,548.9	2.29	-2.28	
8,957.0	15.90	345.00	8,141.1	3,380.1	-1,165.0	3,575.3	2.43	-2.09	
9,049.0	13.60	347.50	8,230.0	3,402.9	-1,170.6	3,598.6	2.59	-2.50	
9,141.0	11.60	345.60	8,319.8	3,422.4	-1,175.2	3,618.5	2.22	-2.17	
9,232.0	10.30	347.10	8,409.2	3,439.2	-1,179.3	3,635.7	1.46	-1.43	
9,324.0	8.50	350.80	8,499.9	3,453.9	-1,182.3	3,650.6	2.06	-1.96	
9,415.0	5.00	352.90	8,590.3	3,464.5	-1,183.8	3,661.1	3.86	-3.85	
9,507.0	1.30	20.70	8,682.1	3,469.4	-1,183.9	3,665.9	4.24	-4.02	
9,599.0	1.60	94.60	8,774.1	3,470.3	-1,182.3	3,666.1	1.91	0.33	
9,691.0	2.30	95.50	8,866.1	3,470.0	-1,179.2	3,664.9	0.76	0.76	
9,782.0	1.60	110.00	8,957.0	3,469.4	-1,176.2	3,663.3	0.94	-0.77	
9,874.0	1.40	121.30	9,049.0	3,468.4	-1,174.0	3,661.6	0.39	-0.22	
10,057.0	0.90	177.40	9,231.9	3,465.8	-1,172.0	3,658.5	0.64	-0.27	
10,149.0	1.30	213.90	9,323.9	3,464.2	-1,172.6	3,657.2	0.86	0.43	
10,241.0	0.60	264.60	9,415.9	3,463.3	-1,173.6	3,656.7	1.12	-0.76	
10,332.0	1.10	240.40	9,506.9	3,462.8	-1,174.9	3,656.6	0.66	0.55	

Cathedral Energy

Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well 8513A-24 F25 496
Project: Story Gulch	TVD Reference: KBE @ 8320.0ft (Patterson 306)
Site: F25 496	MD Reference: KBE @ 8320.0ft (Patterson 306)
Well: 8513A-24 F25 496	North Reference: True
Wellbore: DD	Survey Calculation Method: Minimum Curvature
Design: DD	Database: EDM 5000.1 US 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
10,424.0	0.80	260.90	9,598.9	3,462.3	-1,176.3	3,656.6	0.49	-0.33	
10,516.0	0.60	299.40	9,690.9	3,462.4	-1,177.3	3,657.1	0.54	-0.22	
10,607.0	0.60	280.50	9,781.9	3,462.7	-1,178.2	3,657.7	0.22	0.00	
10,699.0	0.40	211.70	9,873.9	3,462.6	-1,178.9	3,657.7	0.64	-0.22	
10,790.0	0.80	221.10	9,964.9	3,461.8	-1,179.4	3,657.2	0.45	0.44	
10,882.0	0.70	14.10	10,056.9	3,461.9	-1,179.7	3,657.3	1.59	-0.11	
10,974.0	0.60	13.80	10,148.9	3,462.9	-1,179.5	3,658.2	0.11	-0.11	
11,065.0	0.50	39.60	10,239.9	3,463.7	-1,179.1	3,658.8	0.29	-0.11	
11,157.0	0.30	70.60	10,331.9	3,464.0	-1,178.6	3,659.0	0.31	-0.22	
11,249.0	0.30	132.20	10,423.9	3,464.0	-1,178.2	3,658.8	0.33	0.00	
11,340.0	0.10	241.40	10,514.9	3,463.8	-1,178.1	3,658.6	0.38	-0.22	
11,431.0	0.20	259.00	10,605.9	3,463.7	-1,178.3	3,658.6	0.12	0.11	
11,523.0	0.70	259.30	10,697.9	3,463.6	-1,179.0	3,658.7	0.54	0.54	
11,615.0	0.70	277.00	10,789.8	3,463.5	-1,180.2	3,659.0	0.23	0.00	
11,707.0	0.90	271.40	10,881.8	3,463.6	-1,181.4	3,659.5	0.23	0.22	
11,798.0	1.00	351.80	10,972.8	3,464.4	-1,182.3	3,660.6	1.35	0.11	
11,890.0	1.10	329.00	11,064.8	3,466.0	-1,182.8	3,662.2	0.46	0.11	
11,982.0	1.10	325.00	11,156.8	3,467.4	-1,183.8	3,663.9	0.08	0.00	
12,074.0	1.30	301.10	11,248.8	3,468.7	-1,185.2	3,665.6	0.58	0.22	
12,165.0	1.60	283.80	11,339.7	3,469.5	-1,187.3	3,667.1	0.58	0.33	
12,257.0	1.80	276.70	11,431.7	3,470.0	-1,190.0	3,668.4	0.32	0.22	
12,349.0	1.00	197.70	11,523.7	3,469.4	-1,191.7	3,668.4	2.05	-0.87	
12,532.0	1.60	208.70	11,706.6	3,465.7	-1,193.4	3,665.4	0.35	0.33	
12,624.0	1.90	211.80	11,798.6	3,463.2	-1,194.8	3,663.5	0.34	0.33	
12,716.0	2.10	206.40	11,890.5	3,460.4	-1,196.4	3,661.4	0.30	0.22	
12,991.0	2.30	204.20	12,165.3	3,450.9	-1,200.9	3,653.8	0.08	0.07	
13,083.0	2.30	226.50	12,257.3	3,447.9	-1,203.0	3,651.7	0.97	0.00	
13,174.0	2.20	224.50	12,348.2	3,445.4	-1,205.5	3,650.2	0.14	-0.11	Last Cathedral Survey @ 13,174' MD
13,224.0	2.20	224.50	12,398.2	3,444.1	-1,206.9	3,649.4	0.00	0.00	Projection to Bit @ 13,224'

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8513A-24 F25 TGT - hit/miss target - Shape	0.00	0.00	8,640.0	3,458.1	-1,194.9	1,684,615.17	2,261,592.75	39° 41' 1.62 N	108° 7' 26.35 W
- survey misses target center by 14.6ft at 9464.3ft MD (8639.5 TVD, 3467.9 N, -1184.1 E)									
- Point									
8513A-24 F25 BHL - survey misses target center by 14.6ft at 13125.2ft MD (12299.4 TVD, 3446.8 N, -1204.2 E)	0.00	0.00	12,300.0	3,458.1	-1,194.9	1,684,615.17	2,261,592.75	39° 41' 1.62 N	108° 7' 26.35 W
- Rectangle (sides W30.0 H50.0 D0.0)									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
13,174.0	12,348.2	3,445.4	-1,205.5	Last Cathedral Survey @ 13,174' MD
13,224.0	12,398.2	3,444.1	-1,206.9	Projection to Bit @ 13,224'

Checked By: _____	Approved By: _____	Date: _____
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