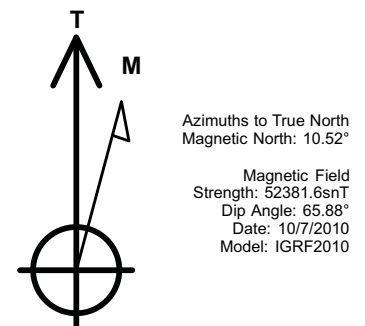
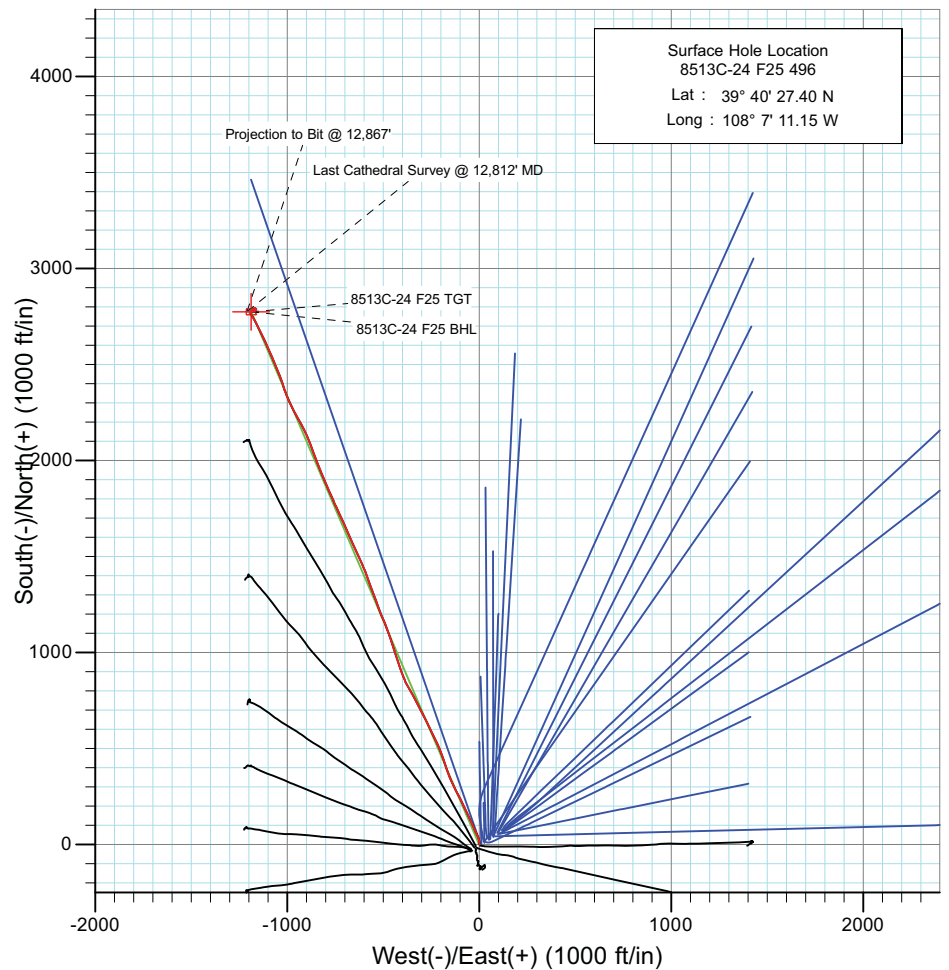
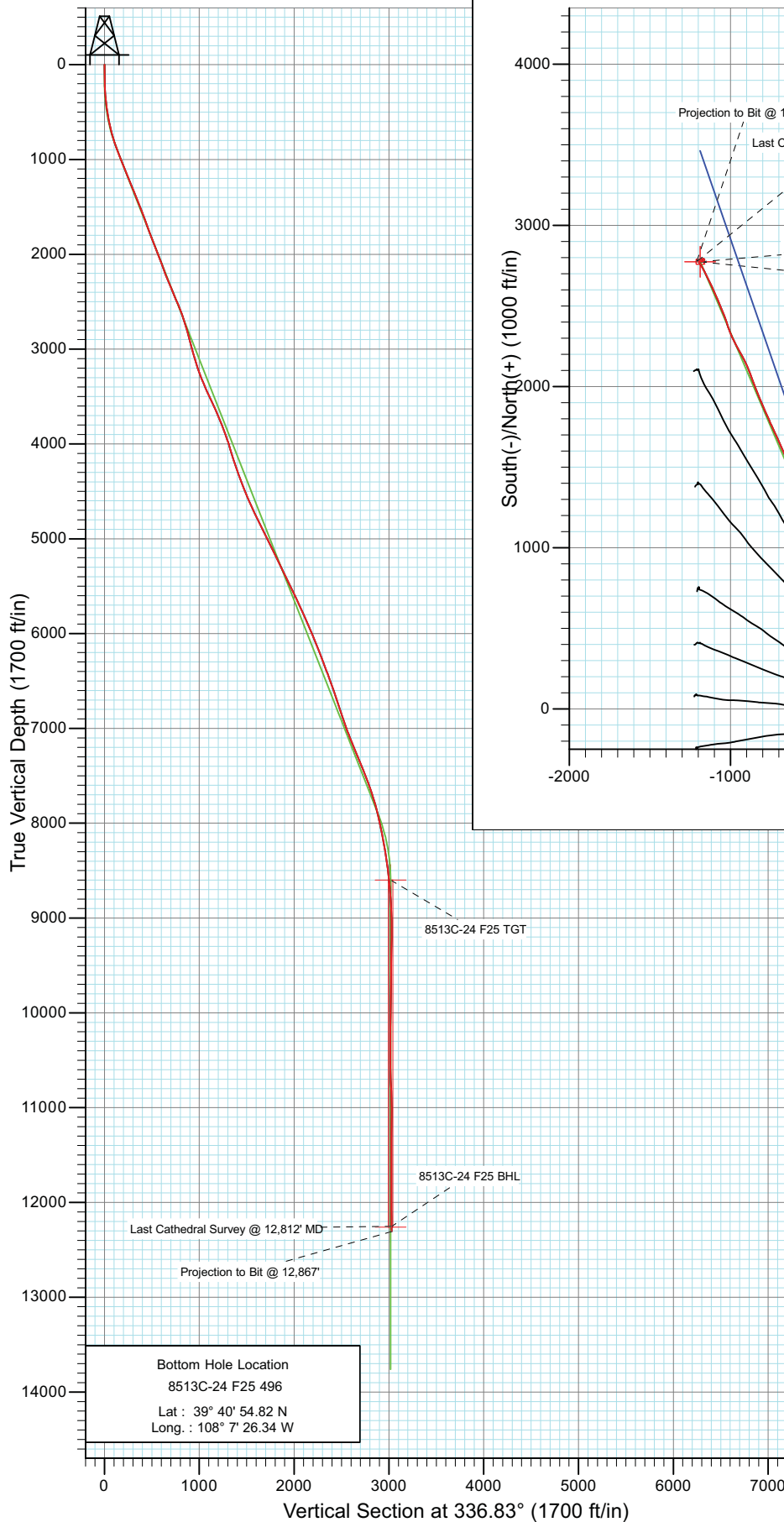




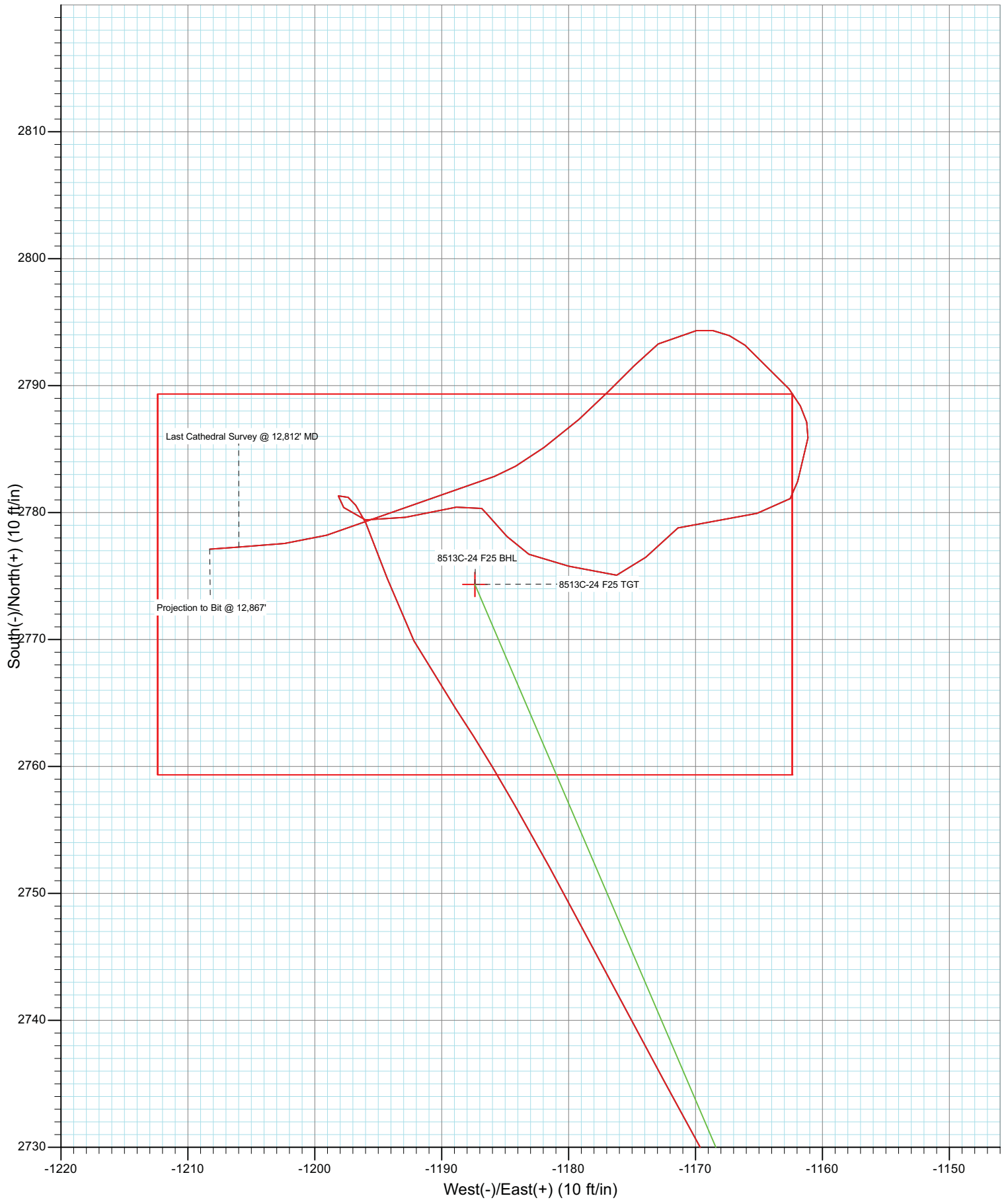
Project: Story Gulch  
 Site: F25 496  
 Well: 8513C-24 F25 496  
 Wellbore: DD  
 Design: FINAL



DESIGN DETAILS: DD					
105178 (SH), 105332 (MH): KR					
KBE @ 8320.0ft (Patterson 306)					
Target	Azimuth	Origin	N/S	E/W	From TVD
8513C-24 F25 BHL	336.83	Slot	0.0	0.0	0.0



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



# Cathedral Energy

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513C-24 F25 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Site:</b>	F25 496	<b>MD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Well:</b>	8513C-24 F25 496	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	EDM 5000.1 US Multi Users DB

<b>Project</b>	Story Gulch		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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	8513C-24 F25 496					
Well Position	+N/-S	0.0 ft	Northing:	1,681,119.96 ft	Latitude:	39° 40' 27.40 N
	+E/-W	0.0 ft	Easting:	2,262,680.55 ft	Longitude:	108° 7' 11.15 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,298.0 ft

<b>Wellbore</b>	DD				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	10/7/2010	10.52	65.88	52,382

<b>Design</b>	DD				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	336.83	

<b>Survey Program</b>	<b>Date</b>	11/10/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
193.0	12,867.0	Survey #1 (DD)	MWD	Geolink MWD	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
193.0	1.90	9.60	193.0	3.2	0.5	2.7	0.98	0.98		
254.0	3.10	9.10	253.9	5.8	1.0	4.9	1.97	1.97		
285.0	4.10	5.90	284.8	7.7	1.2	6.6	3.29	3.23		
315.0	4.30	359.20	314.8	9.9	1.3	8.6	1.77	0.67		
346.0	5.30	352.50	345.7	12.5	1.1	11.0	3.69	3.23		
377.0	5.80	354.70	376.5	15.5	0.8	13.9	1.75	1.61		
407.0	6.50	352.20	406.3	18.7	0.4	17.0	2.50	2.33		
438.0	7.90	347.50	437.1	22.5	-0.3	20.8	4.90	4.52		
469.0	8.60	345.60	467.8	26.8	-1.3	25.2	2.42	2.26		
498.0	9.20	343.70	496.4	31.1	-2.5	29.6	2.30	2.07		
529.0	9.60	340.20	527.0	35.9	-4.1	34.6	2.25	1.29		
559.0	10.20	336.90	556.6	40.7	-6.0	39.8	2.75	2.00		

# Cathedral Energy

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513C-24 F25 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Site:</b>	F25 496	<b>MD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Well:</b>	8513C-24 F25 496	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
590.0	10.60	335.30	587.0	45.8	-8.3	45.4	1.59	1.29	
621.0	11.30	333.10	617.5	51.1	-10.8	51.3	2.63	2.26	
651.0	12.70	332.40	646.8	56.7	-13.7	57.5	4.69	4.67	
681.0	13.90	333.90	676.0	62.8	-16.8	64.4	4.16	4.00	
712.0	14.70	335.90	706.1	69.8	-20.0	72.0	3.03	2.58	
742.0	15.30	336.30	735.0	76.9	-23.2	79.8	2.03	2.00	
774.0	16.30	337.20	765.8	84.9	-26.6	88.5	3.22	3.12	
902.0	20.70	335.10	887.2	122.0	-43.1	129.1	3.48	3.44	
997.0	21.10	334.80	975.9	152.7	-57.5	163.0	0.44	0.42	
1,092.0	22.10	334.70	1,064.3	184.3	-72.4	197.9	1.05	1.05	
1,187.0	22.20	333.90	1,152.3	216.6	-87.9	233.7	0.33	0.11	
1,282.0	22.40	332.60	1,240.1	248.8	-104.1	269.7	0.56	0.21	
1,377.0	22.30	333.20	1,328.0	280.9	-120.6	305.7	0.26	-0.11	
1,472.0	22.20	332.90	1,415.9	313.0	-136.9	341.6	0.16	-0.11	
1,568.0	21.50	337.40	1,505.0	345.4	-151.9	377.3	1.89	-0.73	
1,663.0	20.70	341.80	1,593.7	377.4	-163.9	411.4	1.87	-0.84	
1,758.0	19.60	341.60	1,682.9	408.5	-174.1	444.1	1.16	-1.16	
1,853.0	19.50	340.60	1,772.4	438.6	-184.4	475.8	0.37	-0.11	
1,948.0	21.80	340.70	1,861.3	470.2	-195.5	509.2	2.42	2.42	
2,043.0	22.20	337.00	1,949.4	503.3	-208.4	544.7	1.52	0.42	
2,138.0	20.00	335.10	2,038.0	534.6	-222.2	578.9	2.42	-2.32	
2,233.0	19.90	333.50	2,127.3	563.8	-236.3	611.3	0.58	-0.11	
2,328.0	21.50	333.60	2,216.2	593.9	-251.2	644.8	1.68	1.68	
2,423.0	22.90	333.20	2,304.1	626.0	-267.3	680.7	1.48	1.47	
2,518.0	23.50	333.80	2,391.4	659.5	-284.0	718.0	0.68	0.63	
2,610.0	21.80	333.50	2,476.3	691.2	-299.7	753.4	1.85	-1.85	
2,706.0	21.80	333.30	2,565.5	723.1	-315.7	789.0	0.08	0.00	
2,801.0	20.40	331.90	2,654.1	753.4	-331.4	823.1	1.57	-1.47	
2,896.0	17.80	329.40	2,743.9	780.6	-346.6	854.0	2.87	-2.74	
2,975.0	15.60	327.30	2,819.5	799.9	-358.5	876.4	2.89	-2.78	
3,090.0	14.00	332.30	2,930.7	825.2	-373.3	905.5	1.78	-1.39	
3,181.0	15.10	336.20	3,018.8	845.8	-383.2	928.4	1.62	1.21	
3,273.0	16.00	339.60	3,107.4	868.7	-392.5	953.0	1.39	0.98	
3,365.0	18.60	338.70	3,195.3	894.2	-402.2	980.4	2.84	2.83	
3,456.0	21.50	341.30	3,280.7	923.5	-412.8	1,011.5	3.33	3.19	
3,548.0	23.20	340.60	3,365.8	956.6	-424.3	1,046.4	1.87	1.85	
3,640.0	24.50	342.70	3,450.0	991.9	-436.0	1,083.4	1.69	1.41	
3,732.0	25.30	343.10	3,533.4	1,028.9	-447.4	1,122.0	0.89	0.87	
3,824.0	24.70	341.20	3,616.8	1,065.9	-459.3	1,160.7	1.09	-0.65	
3,915.0	22.70	339.90	3,700.1	1,100.4	-471.4	1,197.2	2.27	-2.20	
4,007.0	21.10	338.90	3,785.5	1,132.6	-483.5	1,231.4	1.79	-1.74	
4,099.0	21.00	336.90	3,871.3	1,163.2	-495.9	1,264.5	0.79	-0.11	
4,191.0	19.00	337.60	3,957.8	1,192.2	-508.1	1,295.9	2.19	-2.17	
4,282.0	15.80	339.30	4,044.6	1,217.5	-518.1	1,323.1	3.56	-3.52	
4,374.0	17.70	340.50	4,132.7	1,242.4	-527.2	1,349.6	2.10	2.07	
4,466.0	19.40	340.60	4,219.9	1,270.0	-537.0	1,378.8	1.85	1.85	
4,557.0	19.40	339.10	4,305.8	1,298.4	-547.4	1,409.0	0.55	0.00	
4,649.0	20.60	339.70	4,392.2	1,327.8	-558.4	1,440.4	1.32	1.30	
4,741.0	21.70	339.10	4,478.0	1,358.9	-570.1	1,473.6	1.22	1.20	
4,832.0	23.00	340.90	4,562.2	1,391.4	-581.9	1,508.1	1.61	1.43	
4,924.0	24.00	337.80	4,646.5	1,425.7	-594.9	1,544.8	1.73	1.09	
5,015.0	25.10	335.90	4,729.3	1,460.5	-609.8	1,582.6	1.49	1.21	
5,106.0	26.40	336.00	4,811.3	1,496.6	-625.9	1,622.1	1.43	1.43	

# Cathedral Energy

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513C-24 F25 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Site:</b>	F25 496	<b>MD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Well:</b>	8513C-24 F25 496	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
5,198.0	26.50	335.20	4,893.6	1,533.9	-642.8	1,663.1	0.40	0.11	
5,290.0	25.50	335.20	4,976.3	1,570.5	-659.7	1,703.4	1.09	-1.09	
5,382.0	26.70	336.40	5,058.9	1,607.4	-676.3	1,743.9	1.42	1.30	
5,473.0	26.60	335.90	5,140.3	1,644.7	-692.8	1,784.7	0.27	-0.11	
5,565.0	26.40	335.10	5,222.6	1,682.1	-709.8	1,825.7	0.44	-0.22	
5,657.0	26.80	335.80	5,304.9	1,719.6	-726.9	1,866.9	0.55	0.43	
5,748.0	25.80	334.90	5,386.5	1,756.2	-743.8	1,907.2	1.18	-1.10	
5,840.0	24.90	336.50	5,469.6	1,792.1	-760.0	1,946.6	1.23	-0.98	
5,932.0	25.70	336.50	5,552.8	1,828.2	-775.6	1,985.9	0.87	0.87	
6,024.0	26.40	335.90	5,635.4	1,865.1	-792.0	2,026.3	0.81	0.76	
6,116.0	23.80	336.50	5,718.7	1,900.8	-807.7	2,065.3	2.84	-2.83	
6,207.0	23.30	338.90	5,802.2	1,934.5	-821.5	2,101.7	1.19	-0.55	
6,299.0	23.70	338.00	5,886.5	1,968.6	-835.0	2,138.3	0.58	0.43	
6,391.0	23.00	340.00	5,971.0	2,002.6	-848.1	2,174.8	1.15	-0.76	
6,482.0	22.20	339.30	6,055.0	2,035.4	-860.2	2,209.7	0.93	-0.88	
6,574.0	20.90	337.60	6,140.6	2,066.8	-872.6	2,243.5	1.57	-1.41	
6,666.0	21.50	340.50	6,226.3	2,097.9	-884.5	2,276.7	1.31	0.65	
6,758.0	20.80	335.20	6,312.2	2,128.6	-897.0	2,309.8	2.21	-0.76	
6,849.0	21.50	335.10	6,397.0	2,158.4	-910.8	2,342.7	0.77	0.77	
6,941.0	19.60	330.90	6,483.2	2,187.2	-925.4	2,374.9	2.61	-2.07	
7,033.0	20.00	330.30	6,569.7	2,214.3	-940.7	2,405.9	0.49	0.43	
7,124.0	18.10	331.40	6,655.7	2,240.3	-955.2	2,435.4	2.12	-2.09	
7,216.0	18.50	332.90	6,743.1	2,265.8	-968.7	2,464.2	0.67	0.43	
7,308.0	18.20	332.90	6,830.4	2,291.6	-981.8	2,493.1	0.33	-0.33	
7,399.0	19.60	336.80	6,916.5	2,318.3	-994.3	2,522.5	2.07	1.54	
7,491.0	19.70	339.20	7,003.2	2,347.0	-1,005.9	2,553.4	0.88	0.11	
7,583.0	21.50	342.10	7,089.3	2,377.5	-1,016.6	2,585.7	2.25	1.96	
7,674.0	22.20	342.10	7,173.7	2,409.7	-1,027.0	2,619.4	0.77	0.77	
7,766.0	22.00	337.90	7,259.0	2,442.2	-1,038.8	2,654.0	1.73	-0.22	
7,858.0	23.50	337.50	7,343.8	2,475.1	-1,052.3	2,689.6	1.64	1.63	
7,949.0	22.00	337.60	7,427.7	2,507.7	-1,065.8	2,724.7	1.65	-1.65	
8,041.0	21.10	336.40	7,513.3	2,538.8	-1,079.0	2,758.5	1.09	-0.98	
8,133.0	19.30	335.50	7,599.6	2,567.8	-1,091.9	2,790.3	1.99	-1.96	
8,224.0	18.00	336.30	7,685.9	2,594.3	-1,103.8	2,819.4	1.46	-1.43	
8,316.0	16.80	336.20	7,773.7	2,619.5	-1,114.9	2,846.9	1.30	-1.30	
8,408.0	14.20	334.50	7,862.3	2,641.9	-1,125.1	2,871.5	2.87	-2.83	
8,500.0	12.80	332.00	7,951.8	2,661.1	-1,134.8	2,892.9	1.65	-1.52	
8,590.0	11.60	332.70	8,039.7	2,677.9	-1,143.6	2,911.9	1.34	-1.33	
8,682.0	11.00	334.90	8,129.9	2,694.1	-1,151.6	2,929.9	0.80	-0.65	
8,774.0	10.20	334.00	8,220.4	2,709.3	-1,158.8	2,946.8	0.89	-0.87	
8,865.0	9.10	331.60	8,310.1	2,722.9	-1,165.8	2,962.0	1.29	-1.21	
8,957.0	8.50	331.50	8,401.0	2,735.3	-1,172.5	2,976.0	0.65	-0.65	
9,049.0	7.80	332.20	8,492.1	2,746.8	-1,178.7	2,989.0	0.77	-0.76	
9,140.0	6.80	330.10	8,582.3	2,756.9	-1,184.2	3,000.5	1.14	-1.10	
9,232.0	4.30	326.20	8,673.9	2,764.5	-1,188.9	3,009.3	2.75	-2.72	
9,324.0	3.60	330.90	8,765.7	2,769.9	-1,192.2	3,015.6	0.84	-0.76	
9,415.0	3.20	343.40	8,856.5	2,774.8	-1,194.3	3,020.9	0.92	-0.44	
9,509.0	2.50	333.20	8,950.4	2,779.2	-1,196.0	3,025.6	0.92	-0.74	
9,600.0	0.70	297.60	9,041.4	2,781.2	-1,197.4	3,028.0	2.17	-1.98	
9,692.0	0.40	241.80	9,133.4	2,781.3	-1,198.1	3,028.4	0.63	-0.33	
9,784.0	1.30	137.20	9,225.3	2,780.4	-1,197.7	3,027.4	1.58	0.98	
9,875.0	1.30	102.40	9,316.3	2,779.4	-1,196.0	3,025.8	0.85	0.00	
9,967.0	2.70	78.50	9,408.3	2,779.6	-1,192.9	3,024.8	1.74	1.52	

# Cathedral Energy

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well 8513C-24 F25 496
<b>Project:</b>	Story Gulch	<b>TVD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Site:</b>	F25 496	<b>MD Reference:</b>	KBE @ 8320.0ft (Patterson 306)
<b>Well:</b>	8513C-24 F25 496	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
10,059.0	2.40	79.20	9,500.2	2,780.4	-1,188.8	3,023.9	0.33	-0.33	
10,150.0	0.60	164.10	9,591.1	2,780.3	-1,186.8	3,023.0	2.66	-1.98	
10,242.0	0.30	61.70	9,683.1	2,780.0	-1,186.5	3,022.6	0.79	-0.33	
10,426.0	1.50	149.60	9,867.1	2,778.1	-1,184.9	3,020.2	0.83	0.65	
10,517.0	1.50	108.80	9,958.1	2,776.7	-1,183.1	3,018.3	1.15	0.00	
10,609.0	2.60	105.30	10,050.0	2,775.8	-1,180.0	3,016.2	1.20	1.20	
10,701.0	2.20	95.00	10,142.0	2,775.1	-1,176.2	3,014.0	0.64	-0.43	
10,792.0	2.10	19.70	10,232.9	2,776.5	-1,173.9	3,014.4	2.89	-0.11	
10,884.0	2.60	69.70	10,324.8	2,778.8	-1,171.4	3,015.6	2.21	0.54	
11,023.0	2.70	89.10	10,463.7	2,779.9	-1,165.1	3,014.2	0.65	0.07	
11,112.0	1.60	24.20	10,552.6	2,781.1	-1,162.5	3,014.2	2.79	-1.24	
11,159.0	2.00	23.30	10,599.6	2,782.5	-1,161.9	3,015.2	0.85	0.85	
11,254.0	2.30	4.70	10,694.5	2,785.9	-1,161.1	3,018.0	0.79	0.32	
11,345.0	3.30	321.10	10,785.4	2,789.7	-1,162.6	3,022.2	2.50	1.10	
11,436.0	2.90	307.70	10,876.3	2,793.2	-1,166.1	3,026.7	0.91	-0.44	
11,528.0	2.50	262.20	10,968.2	2,794.3	-1,169.9	3,029.3	2.30	-0.43	
11,620.0	1.60	232.70	11,060.2	2,793.3	-1,172.9	3,029.5	1.48	-0.98	
11,712.0	1.60	222.60	11,152.1	2,791.6	-1,174.8	3,028.6	0.31	0.00	
11,804.0	2.00	227.10	11,244.1	2,789.5	-1,176.9	3,027.6	0.46	0.43	
11,895.0	2.00	226.10	11,335.0	2,787.3	-1,179.2	3,026.5	0.04	0.00	
11,987.0	2.40	235.40	11,427.0	2,785.1	-1,181.9	3,025.5	0.58	0.43	
12,078.0	1.00	239.50	11,517.9	2,783.7	-1,184.2	3,025.1	1.54	-1.54	
12,170.0	1.30	247.80	11,609.9	2,782.9	-1,185.8	3,025.0	0.37	0.33	
12,629.0	2.20	252.40	12,068.7	2,778.2	-1,199.1	3,025.9	0.20	0.20	
12,720.0	2.10	265.50	12,159.6	2,777.6	-1,202.4	3,026.6	0.55	-0.11	
12,812.0	2.40	265.70	12,251.5	2,777.3	-1,206.0	3,027.8	0.33	0.33	Last Cathedral Survey @ 12,812' MD
12,867.0	2.40	265.70	12,306.5	2,777.1	-1,208.3	3,028.5	0.00	0.00	Projection to Bit @ 12,867'

### Targets

#### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
8513C-24 F25 BHL - survey misses target center by 20.6ft at 12812.0ft MD (12251.5 TVD, 2777.3 N, -1206.0 E) - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	12,260.0	2,774.3	-1,187.4	1,683,927.38	2,261,573.66	39° 40' 54.82 N	108° 7' 26.34 W
8513C-24 F25 TGT - survey misses target center by 15.7ft at 9159.2ft MD (8601.4 TVD, 2758.8 N, -1185.3 E) - Point	0.00	0.00	8,600.0	2,774.3	-1,187.4	1,683,927.38	2,261,573.66	39° 40' 54.82 N	108° 7' 26.34 W

### Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
12,812.0	12,251.5	2,777.3	-1,206.0	Last Cathedral Survey @ 12,812' MD
12,867.0	12,306.5	2,777.1	-1,208.3	Projection to Bit @ 12,867'

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_