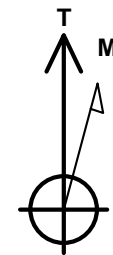
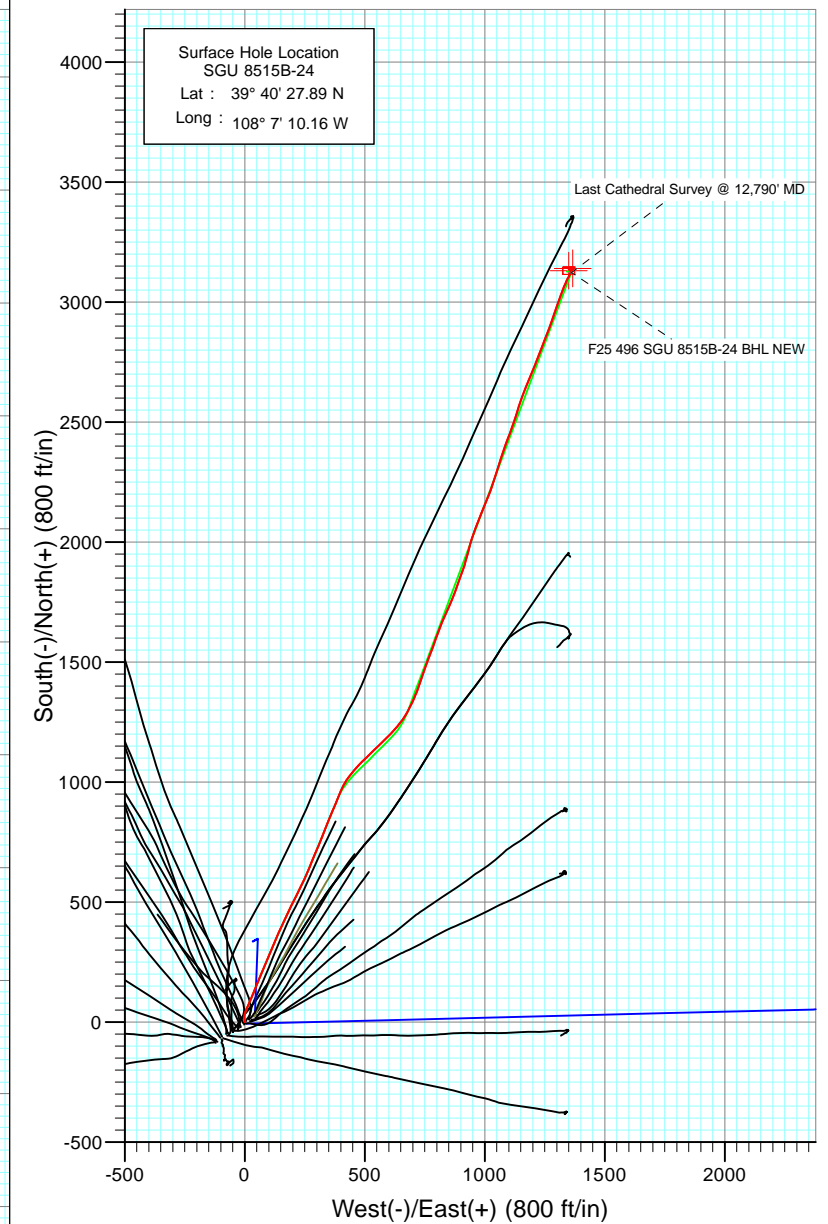
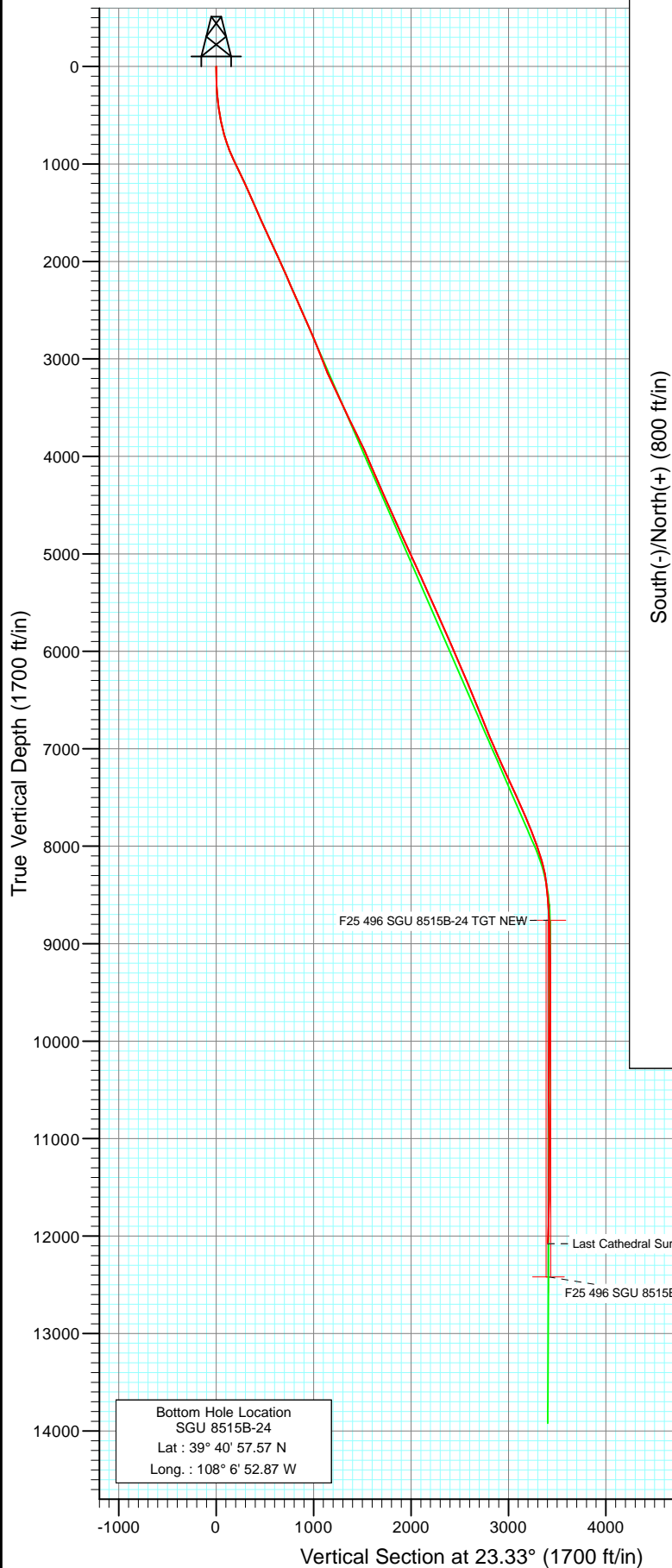




Project: Story Gulch  
 Site: F25 496  
 Well: SGU 8515B-24  
 Wellbore: DD  
 Design: DD



Azimuths to True North  
 Magnetic North: 10.44°

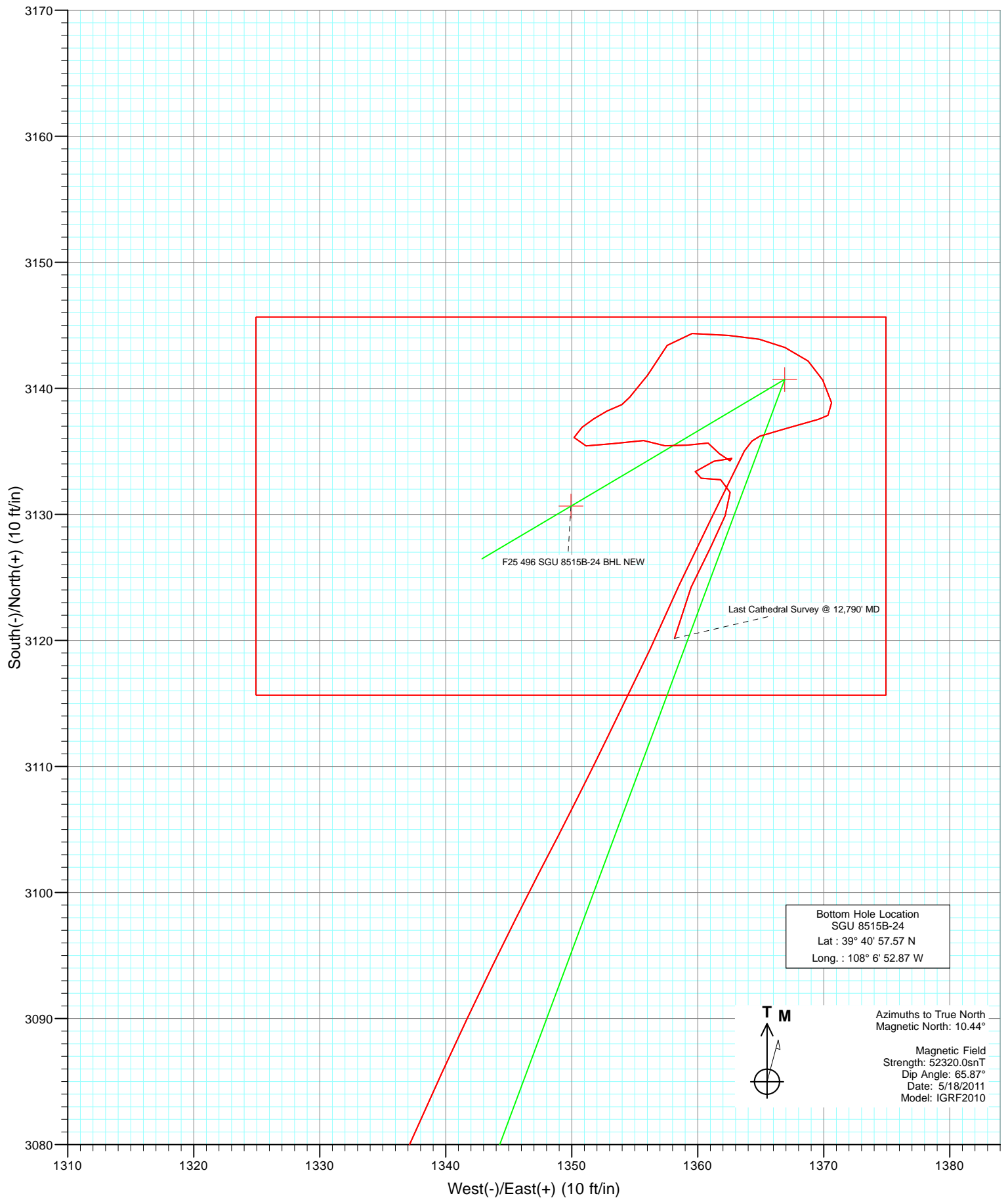
Magnetic Field  
 Strength: 52320.0snT  
 Dip Angle: 65.87°  
 Date: 5/18/2011  
 Model: IGRF2010

DESIGN DETAILS: DD  
 115029 (SH), 115208; BH  
 KBE @ 8320.0ft (Patterson 306)

Target	Azimuth	Origin	N/S	E/W	From TVD
F25 496 SGU 8515B-24 BHL NEW	23.33	Slot	0.0	0.0	0.0



Project: Story Gulch  
Site: F25 496  
Well: SGU 8515B-24  
Wellbore: DD  
Design: DD



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well SGU 8515B-24
<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>	SGU 8515B-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	USA EDM 5000 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	SGU 8515B-24					
Well Position	+N/-S	0.0 ft	Northing:	1,681,167.35 ft	Latitude:	39° 40' 27.89 N
	+E/-W	0.0 ft	Easting:	2,262,759.38 ft	Longitude:	108° 7' 10.16 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	5/18/2011	10.44	65.87	52,320

<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	23.33	

<b>Survey Program</b>	<b>Date</b>	5/29/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
160.0	12,790.0	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		
160.0	1.80	351.40	160.0	2.5	-0.4	2.1	1.12	1.12		
191.0	2.70	1.50	190.9	3.7	-0.4	3.2	3.16	2.90		
222.0	3.90	353.60	221.9	5.5	-0.5	4.8	4.13	3.87		
252.0	5.10	358.60	251.8	7.8	-0.7	6.9	4.20	4.00		
283.0	6.40	353.60	282.6	10.9	-0.9	9.7	4.49	4.19		
314.0	6.90	355.00	313.4	14.5	-1.3	12.8	1.70	1.61		
406.0	7.60	7.90	404.7	26.0	-0.9	23.5	1.92	0.76		
498.0	9.30	16.60	495.7	39.2	2.1	36.8	2.31	1.85		
590.0	12.00	23.20	586.1	55.1	8.0	53.7	3.22	2.93		
682.0	15.00	24.00	675.6	74.8	16.6	75.2	3.27	3.26		
775.0	18.40	23.10	764.6	99.3	27.2	101.9	3.67	3.66		
870.0	21.20	21.50	854.0	129.0	39.4	134.1	3.00	2.95		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well SGU 8515B-24
<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>	SGU 8515B-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
965.0	24.50	22.00	941.5	163.3	53.1	171.0	3.48	3.47	
1,060.0	25.60	22.70	1,027.6	200.5	68.4	211.2	1.20	1.16	
1,155.0	25.50	22.50	1,113.3	238.3	84.1	252.2	0.14	-0.11	
1,251.0	25.00	23.70	1,200.1	276.0	100.2	293.1	0.75	-0.52	
1,346.0	24.20	23.20	1,286.5	312.3	115.9	332.6	0.87	-0.84	
1,441.0	23.60	22.70	1,373.4	347.7	130.9	371.1	0.67	-0.63	
1,536.0	24.30	24.30	1,460.2	383.1	146.3	409.7	1.01	0.74	
1,631.0	23.50	25.80	1,547.0	417.9	162.6	448.2	1.06	-0.84	
1,725.0	24.00	25.20	1,633.1	452.1	178.9	486.0	0.59	0.53	
1,820.0	24.70	25.70	1,719.6	487.5	195.7	525.1	0.77	0.74	
1,916.0	25.70	26.20	1,806.5	524.2	213.6	566.0	1.07	1.04	
2,011.0	24.70	26.20	1,892.5	560.5	231.5	606.4	1.05	-1.05	
2,106.0	24.00	24.40	1,979.0	595.9	248.2	645.5	1.07	-0.74	
2,201.0	24.00	24.00	2,065.8	631.2	264.1	684.1	0.17	0.00	
2,297.0	23.50	21.60	2,153.7	666.8	279.1	722.8	1.13	-0.52	
2,392.0	23.50	22.60	2,240.8	701.9	293.3	760.7	0.42	0.00	
2,487.0	23.90	22.80	2,327.8	737.1	308.0	798.9	0.43	0.42	
2,582.0	23.90	21.70	2,414.6	772.7	322.6	837.3	0.47	0.00	
2,677.0	23.60	21.80	2,501.6	808.3	336.8	875.6	0.32	-0.32	
2,772.0	23.50	21.90	2,588.7	843.5	350.9	913.5	0.11	-0.11	
2,867.0	23.90	23.00	2,675.7	878.8	365.5	951.7	0.63	0.42	
2,963.0	23.60	22.10	2,763.5	914.5	380.3	990.4	0.49	-0.31	
2,990.0	23.30	22.00	2,788.3	924.5	384.4	1,001.1	1.12	-1.11	
3,079.0	21.80	22.40	2,870.5	956.1	397.3	1,035.2	1.69	-1.69	
3,171.0	21.50	27.80	2,956.0	986.8	411.6	1,069.1	2.19	-0.33	
3,262.0	21.00	35.60	3,040.8	1,014.8	428.9	1,101.7	3.15	-0.55	
3,354.0	23.30	39.60	3,126.0	1,042.2	450.1	1,135.3	2.99	2.50	
3,445.0	26.60	43.80	3,208.6	1,070.8	475.7	1,171.6	4.11	3.63	
3,537.0	27.60	46.00	3,290.5	1,100.5	505.3	1,210.6	1.54	1.09	
3,628.0	26.80	45.80	3,371.4	1,129.4	535.1	1,249.0	0.88	-0.88	
3,720.0	27.30	46.00	3,453.3	1,158.5	565.2	1,287.6	0.55	0.54	
3,811.0	26.80	45.60	3,534.4	1,187.4	594.9	1,325.9	0.58	-0.55	
3,903.0	26.70	41.20	3,616.5	1,217.5	623.3	1,364.7	2.15	-0.11	
3,994.0	26.50	37.30	3,697.9	1,249.0	649.1	1,403.9	1.93	-0.22	
4,086.0	26.40	31.60	3,780.3	1,282.7	672.2	1,444.1	2.76	-0.11	
4,177.0	26.50	24.70	3,861.8	1,318.4	691.3	1,484.4	3.38	0.11	
4,269.0	25.00	24.90	3,944.6	1,354.7	708.1	1,524.4	1.63	-1.63	
4,360.0	22.80	18.40	4,027.9	1,388.9	721.7	1,561.2	3.77	-2.42	
4,543.0	22.40	19.30	4,196.8	1,455.4	744.5	1,631.3	0.29	-0.22	
4,735.0	24.80	20.50	4,372.7	1,527.7	770.7	1,708.0	1.27	1.25	
4,827.0	24.40	21.00	4,456.4	1,563.5	784.2	1,746.2	0.49	-0.43	
4,919.0	24.80	19.60	4,540.0	1,599.4	797.5	1,784.5	0.77	0.43	
5,010.0	23.60	20.70	4,623.0	1,634.5	810.3	1,821.7	1.41	-1.32	
5,101.0	23.70	22.70	4,706.4	1,668.4	823.8	1,858.2	0.89	0.11	
5,193.0	24.80	24.30	4,790.3	1,703.0	838.9	1,896.0	1.39	1.20	
5,284.0	25.60	22.90	4,872.6	1,738.5	854.4	1,934.7	1.10	0.88	
5,376.0	24.50	21.70	4,956.0	1,774.5	869.2	1,973.7	1.32	-1.20	
5,468.0	25.10	19.50	5,039.5	1,810.7	882.8	2,012.2	1.20	0.65	
5,559.0	23.70	20.00	5,122.3	1,846.0	895.5	2,049.7	1.56	-1.54	
5,651.0	24.90	19.70	5,206.2	1,881.7	908.3	2,087.5	1.31	1.30	
5,742.0	23.80	15.50	5,289.1	1,917.4	919.7	2,124.8	2.25	-1.21	
5,834.0	25.10	15.20	5,372.8	1,954.1	929.8	2,162.6	1.42	1.41	
5,925.0	23.80	15.50	5,455.7	1,990.4	939.7	2,199.9	1.44	-1.43	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well SGU 8515B-24
<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>	SGU 8515B-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
6,017.0	24.00	17.70	5,539.8	2,026.1	950.4	2,236.9	0.99	0.22	
6,108.0	24.50	20.50	5,622.8	2,061.5	962.6	2,274.1	1.38	0.55	
6,200.0	23.80	21.90	5,706.7	2,096.5	976.2	2,311.7	0.98	-0.76	
6,291.0	24.40	22.70	5,789.8	2,130.9	990.3	2,348.9	0.75	0.66	
6,383.0	24.30	21.80	5,873.6	2,166.0	1,004.7	2,386.8	0.42	-0.11	
6,475.0	23.50	22.10	5,957.7	2,200.6	1,018.6	2,424.1	0.88	-0.87	
6,566.0	23.10	18.20	6,041.3	2,234.4	1,031.0	2,460.0	1.75	-0.44	
6,658.0	22.70	17.40	6,126.0	2,268.5	1,042.0	2,495.6	0.55	-0.43	
6,749.0	23.00	17.60	6,209.9	2,302.2	1,052.6	2,530.8	0.34	0.33	
6,840.0	23.10	17.70	6,293.6	2,336.1	1,063.4	2,566.2	0.12	0.11	
6,932.0	22.90	18.70	6,378.3	2,370.3	1,074.6	2,602.0	0.48	-0.22	
7,024.0	22.90	19.40	6,463.1	2,404.1	1,086.3	2,637.7	0.30	0.00	
7,115.0	22.80	21.40	6,546.9	2,437.2	1,098.6	2,673.0	0.86	-0.11	
7,207.0	21.60	19.50	6,632.1	2,469.8	1,110.8	2,707.7	1.52	-1.30	
7,298.0	21.60	18.40	6,716.7	2,501.5	1,121.7	2,741.1	0.44	0.00	
7,390.0	22.10	17.70	6,802.1	2,534.0	1,132.3	2,775.2	0.61	0.54	
7,481.0	23.20	18.30	6,886.1	2,567.3	1,143.1	2,810.1	1.24	1.21	
7,573.0	23.40	18.40	6,970.6	2,601.9	1,154.6	2,846.4	0.22	0.22	
7,664.0	23.80	22.70	7,054.0	2,636.0	1,167.4	2,882.7	1.94	0.44	
7,756.0	24.40	22.40	7,138.0	2,670.7	1,181.8	2,920.3	0.67	0.65	
7,847.0	25.20	21.80	7,220.6	2,706.0	1,196.1	2,958.5	0.92	0.88	
7,939.0	24.90	21.90	7,303.9	2,742.2	1,210.6	2,997.4	0.33	-0.33	
8,031.0	23.60	21.20	7,387.8	2,777.3	1,224.5	3,035.2	1.45	-1.41	
8,122.0	24.40	21.30	7,470.9	2,811.8	1,237.9	3,072.2	0.88	0.88	
8,214.0	24.10	21.20	7,554.8	2,847.0	1,251.6	3,109.9	0.33	-0.33	
8,305.0	23.50	20.50	7,638.1	2,881.3	1,264.7	3,146.6	0.73	-0.66	
8,397.0	23.20	19.30	7,722.5	2,915.6	1,277.1	3,183.0	0.61	-0.33	
8,488.0	22.90	19.40	7,806.3	2,949.3	1,288.9	3,218.6	0.33	-0.33	
8,580.0	21.10	19.00	7,891.6	2,981.8	1,300.2	3,252.9	1.96	-1.96	
8,672.0	20.30	18.90	7,977.6	3,012.6	1,310.8	3,285.4	0.87	-0.87	
8,763.0	18.40	22.10	8,063.5	3,040.8	1,321.3	3,315.5	2.39	-2.09	
8,855.0	15.20	21.30	8,151.6	3,065.5	1,331.2	3,342.0	3.49	-3.48	
8,946.0	12.60	24.80	8,239.9	3,085.6	1,339.7	3,363.9	3.00	-2.86	
9,038.0	9.40	27.40	8,330.2	3,101.4	1,347.3	3,381.4	3.52	-3.48	
9,129.0	6.20	25.90	8,420.3	3,112.4	1,352.9	3,393.7	3.52	-3.52	
9,221.0	3.30	25.60	8,512.0	3,119.3	1,356.2	3,401.3	3.15	-3.15	
9,312.0	3.70	23.20	8,602.8	3,124.3	1,358.5	3,406.9	0.47	0.44	
9,404.0	3.30	28.90	8,694.7	3,129.4	1,360.9	3,412.5	0.58	-0.43	
9,495.0	2.90	22.60	8,785.5	3,133.8	1,363.1	3,417.4	0.58	-0.44	
9,587.0	1.20	75.10	8,877.5	3,136.2	1,364.9	3,420.3	2.58	-1.85	
9,677.0	1.50	72.60	8,967.5	3,136.8	1,367.0	3,421.7	0.34	0.33	
9,769.0	1.90	75.40	9,059.4	3,137.5	1,369.6	3,423.4	0.44	0.43	
9,860.0	1.30	335.70	9,150.4	3,138.9	1,370.6	3,425.0	2.72	-0.66	
9,952.0	1.10	342.70	9,242.4	3,140.7	1,369.9	3,426.4	0.27	-0.22	
10,044.0	1.40	306.70	9,334.3	3,142.2	1,368.8	3,427.3	0.90	0.33	
10,135.0	1.30	293.40	9,425.3	3,143.2	1,366.9	3,427.6	0.36	-0.11	
10,227.0	1.40	282.50	9,517.3	3,143.9	1,364.9	3,427.4	0.30	0.11	
10,318.0	1.70	272.50	9,608.3	3,144.2	1,362.4	3,426.7	0.44	0.33	
10,410.0	1.90	273.30	9,700.2	3,144.4	1,359.6	3,425.7	0.22	0.22	
10,502.0	1.40	203.40	9,792.2	3,143.4	1,357.6	3,424.0	2.10	-0.54	
10,593.0	2.20	219.80	9,883.1	3,141.0	1,356.0	3,421.3	1.04	0.88	
10,685.0	0.60	216.90	9,975.1	3,139.3	1,354.6	3,419.1	1.74	-1.74	
10,776.0	0.50	237.20	10,066.1	3,138.7	1,354.0	3,418.3	0.24	-0.11	

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	EnCana Oil & Gas (USA) Inc	<b>Local Co-ordinate Reference:</b>	Well SGU 8515B-24
<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>	SGU 8515B-24	<b>North Reference:</b>	True
<b>Wellbore:</b>	DD	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	DD	<b>Database:</b>	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
10,868.0	1.10	251.30	10,158.1	3,138.2	1,352.8	3,417.4	0.68	0.65	
10,960.0	0.50	212.10	10,250.1	3,137.6	1,351.8	3,416.4	0.85	-0.65	
11,051.0	1.00	244.90	10,341.1	3,136.9	1,350.8	3,415.4	0.70	0.55	
11,143.0	0.60	168.60	10,433.1	3,136.1	1,350.2	3,414.4	1.13	-0.43	
11,234.0	1.10	103.00	10,524.1	3,135.4	1,351.1	3,414.2	1.11	0.55	
11,326.0	1.70	73.50	10,616.0	3,135.6	1,353.3	3,415.2	1.00	0.65	
11,417.0	1.40	97.40	10,707.0	3,135.9	1,355.7	3,416.4	0.78	-0.33	
11,509.0	0.80	115.30	10,799.0	3,135.4	1,357.4	3,416.7	0.74	-0.65	
11,600.0	1.50	74.30	10,890.0	3,135.5	1,359.1	3,417.4	1.14	0.77	
11,692.0	0.70	105.90	10,982.0	3,135.7	1,360.8	3,418.2	1.06	-0.87	
11,783.0	1.00	151.90	11,072.9	3,134.8	1,361.7	3,417.8	0.79	0.33	
11,875.0	0.60	72.00	11,164.9	3,134.3	1,362.6	3,417.6	1.17	-0.43	
11,966.0	0.40	276.90	11,255.9	3,134.4	1,362.7	3,417.8	1.07	-0.22	
12,058.0	1.40	257.00	11,347.9	3,134.2	1,361.3	3,417.1	1.12	1.09	
12,149.0	0.90	214.70	11,438.9	3,133.4	1,359.8	3,415.7	1.05	-0.55	
12,241.0	1.10	84.80	11,530.9	3,132.9	1,360.3	3,415.4	1.97	0.22	
12,332.0	0.90	106.60	11,621.9	3,132.8	1,361.8	3,415.9	0.47	-0.22	
12,424.0	1.00	176.30	11,713.9	3,131.7	1,362.6	3,415.3	1.18	0.11	
12,516.0	1.40	202.80	11,805.9	3,129.9	1,362.2	3,413.5	0.73	0.43	
12,607.0	2.00	206.40	11,896.8	3,127.5	1,361.1	3,410.8	0.67	0.66	
12,699.0	2.50	205.50	11,988.7	3,124.2	1,359.5	3,407.2	0.54	0.54	
12,790.0	2.90	191.70	12,079.6	3,120.2	1,358.2	3,402.9	0.84	0.44	Last Cathedral Survey @ 12,790' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
F25 496 SGU 8515B-24	0.00	0.00	12,420.0	3,130.7	1,349.9	1,684,257.79	2,264,199.03	39° 40' 58.83 N	108° 6' 52.90 W
- survey misses target center by 340.6ft at 12790.0ft MD (12079.6 TVD, 3120.2 N, 1358.2 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
F25 496 SGU 8515B-24	0.00	0.00	8,760.0	3,140.7	1,366.9	1,684,267.34	2,264,216.26	39° 40' 58.93 N	108° 6' 52.68 W
- survey misses target center by 9.2ft at 9469.9ft MD (8760.5 TVD, 3132.6 N, 1362.6 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,790.0	12,079.6	3,120.2	1,358.2	Last Cathedral Survey @ 12,790' MD

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