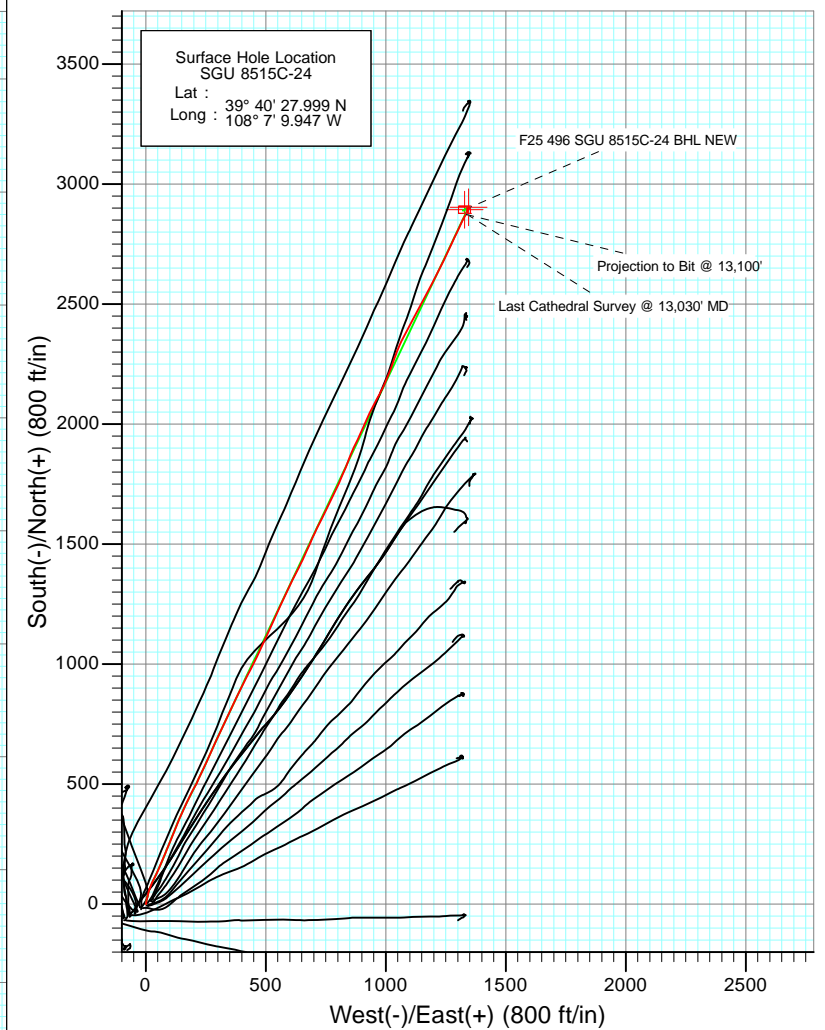
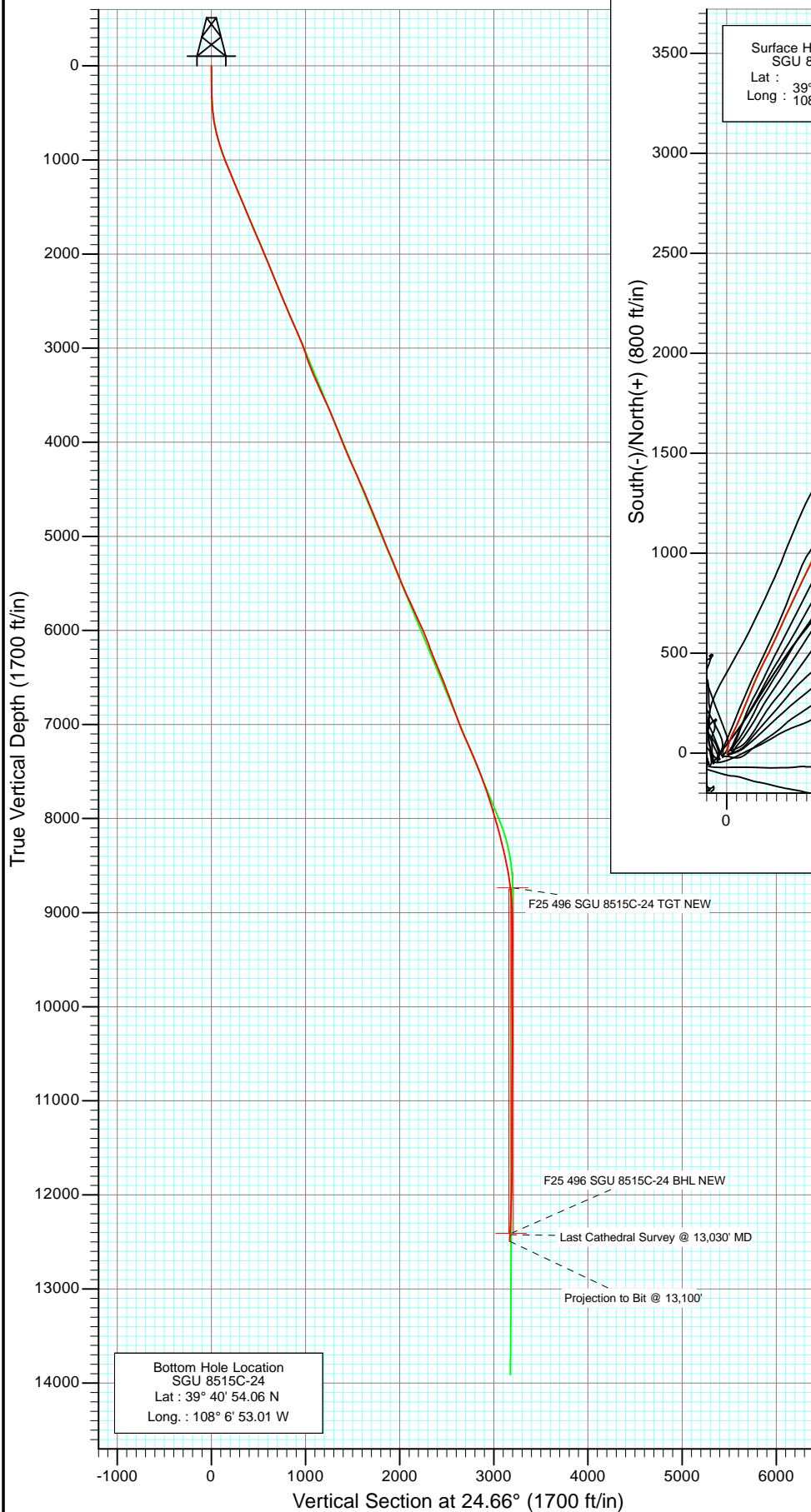




Project: Story Gulch
 Site: F25 496
 Well: SGU 8515C-24
 Wellbore: DD
 Design: FINAL



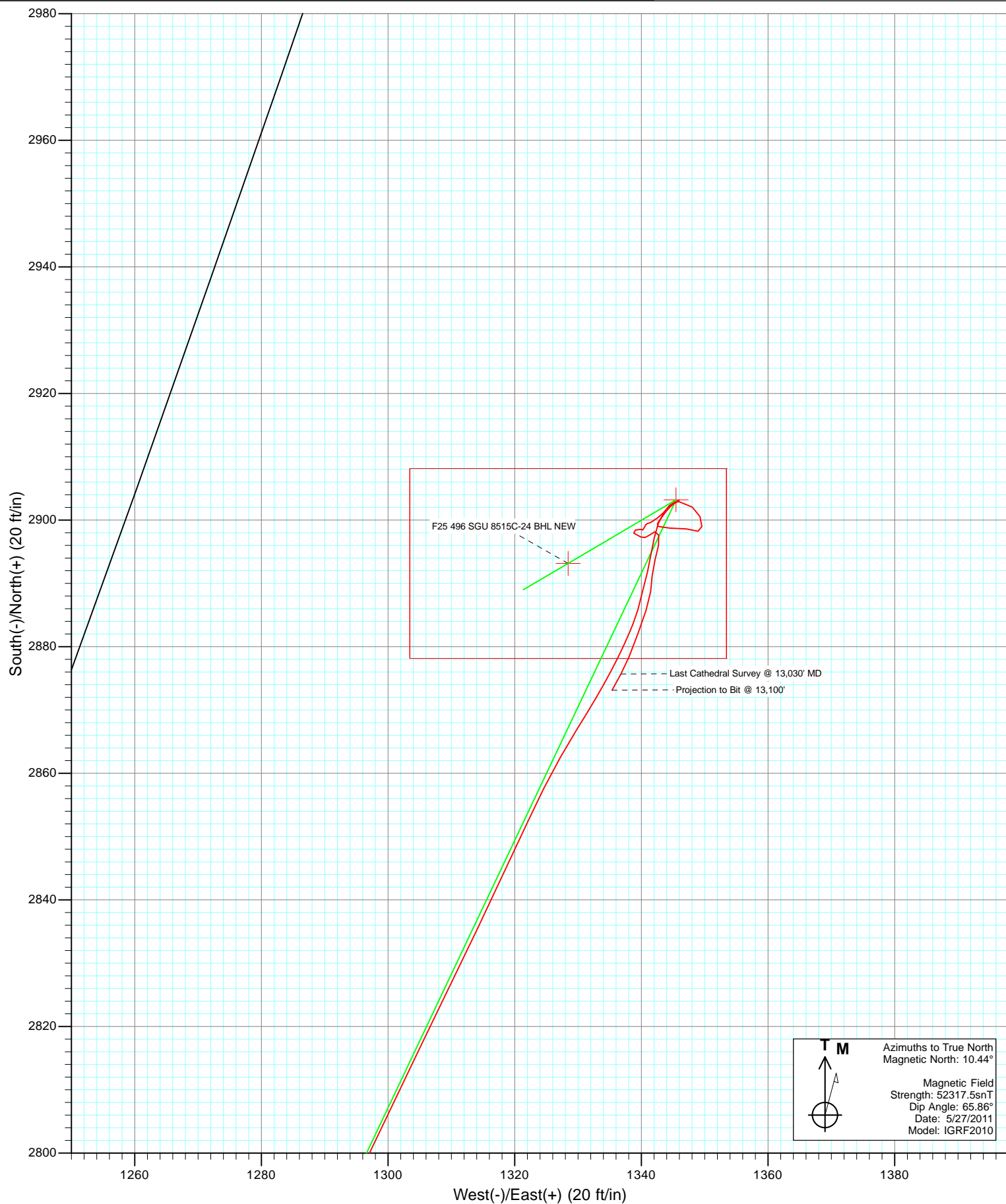
Azimuths to True North
 Magnetic North: 10.44°

Magnetic Field
 Strength: 52317.5nT
 Dip Angle: 65.86°
 Date: 5/27/2011
 Model: IGRF2010

Target	Azimuth	Origin	N/S	E/W	From TVD
F25 496 SGU 8515C-24 BHL NEW	24.66	Slot	0.0	0.0	0.0



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



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8515C-24
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8515C-24	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		F25 496			
Site Position:		Northing:	1,681,091.06 ft	Latitude:	39° 40' 27.102 N
From:	Lat/Long	Easting:	2,262,632.54 ft	Longitude:	108° 7' 11.756 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.65 °

Well	SGU 8515C-24					
Well Position	+N/-S	0.0 ft	Northing:	1,681,177.69 ft	Latitude:	39° 40' 27.999 N
	+E/-W	0.0 ft	Easting:	2,262,776.51 ft	Longitude:	108° 7' 9.947 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	5/27/2011	10.44	65.86	52,318

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	24.66	

Survey Program	Date	6/24/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
191.0	13,100.0	Survey #1 (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		
191.0	1.10	44.20	191.0	1.3	1.3	1.7	0.58	0.58		
222.0	0.90	27.40	222.0	1.7	1.6	2.3	1.14	-0.65		
252.0	1.30	11.70	252.0	2.3	1.8	2.8	1.66	1.33		
283.0	1.50	357.60	283.0	3.0	1.8	3.5	1.28	0.65		
314.0	1.80	348.70	314.0	3.9	1.7	4.3	1.27	0.97		
345.0	2.20	5.10	344.9	5.0	1.7	5.2	2.24	1.29		
375.0	3.00	16.60	374.9	6.3	2.0	6.6	3.17	2.67		
406.0	3.20	12.30	405.9	7.9	2.4	8.2	0.99	0.65		
437.0	4.00	11.30	436.8	9.8	2.8	10.1	2.59	2.58		
468.0	5.10	10.90	467.7	12.3	3.2	12.5	3.55	3.55		
497.0	6.30	12.20	496.6	15.1	3.8	15.3	4.16	4.14		
559.0	8.70	12.20	558.0	23.0	5.5	23.2	3.87	3.87		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8515C-24
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8515C-24	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
651.0	11.80	12.60	648.5	39.0	9.0	39.2	3.37	3.37	
774.0	15.20	19.70	768.1	66.4	17.2	67.6	3.07	2.76	
869.0	17.40	24.90	859.3	91.0	27.4	94.2	2.78	2.32	
964.0	20.30	27.00	949.2	118.6	40.9	124.9	3.13	3.05	
1,060.0	22.50	23.90	1,038.6	150.3	55.9	159.9	2.58	2.29	
1,155.0	22.50	22.00	1,126.4	183.7	70.1	196.2	0.77	0.00	
1,250.0	21.40	21.60	1,214.5	216.7	83.2	231.7	1.17	-1.16	
1,345.0	23.60	22.90	1,302.2	250.3	97.0	268.0	2.37	2.32	
1,440.0	23.40	23.00	1,389.4	285.2	111.8	305.9	0.21	-0.21	
1,536.0	22.50	21.70	1,477.8	319.8	126.0	343.3	1.08	-0.94	
1,630.0	22.40	22.10	1,564.6	353.1	139.4	379.1	0.19	-0.11	
1,724.0	22.10	23.90	1,651.6	385.9	153.3	414.7	0.79	-0.32	
1,820.0	23.30	26.10	1,740.2	419.5	169.0	451.7	1.53	1.25	
1,915.0	24.30	27.40	1,827.1	453.7	186.3	490.0	1.19	1.05	
2,010.0	23.00	27.20	1,914.1	487.6	203.7	528.1	1.37	-1.37	
2,105.0	22.20	25.30	2,001.8	520.3	219.9	564.6	1.14	-0.84	
2,201.0	22.40	25.50	2,090.7	553.2	235.5	601.0	0.22	0.21	
2,296.0	22.20	24.90	2,178.6	585.8	250.9	637.1	0.32	-0.21	
2,391.0	22.10	23.50	2,266.6	618.5	265.6	672.9	0.57	-0.11	
2,486.0	22.10	23.60	2,354.6	651.2	279.8	708.6	0.04	0.00	
2,581.0	22.70	24.90	2,442.4	684.3	294.7	744.8	0.82	0.63	
2,676.0	22.80	25.00	2,530.0	717.6	310.2	781.5	0.11	0.11	
2,771.0	23.10	26.90	2,617.5	750.9	326.4	818.6	0.84	0.32	
2,867.0	23.30	25.70	2,705.7	784.8	343.2	856.4	0.53	0.21	
2,960.0	23.90	24.40	2,809.3	825.7	362.3	901.6	0.70	0.53	
3,089.0	22.80	25.60	2,909.4	864.9	380.6	944.8	1.10	-1.01	
3,181.0	20.10	24.60	2,995.0	895.4	394.8	978.4	2.96	-2.93	
3,272.0	18.30	26.60	3,080.9	922.4	407.8	1,008.4	2.11	-1.98	
3,364.0	20.20	28.60	3,167.8	949.2	421.8	1,038.6	2.19	2.07	
3,455.0	22.00	26.90	3,252.7	978.2	437.1	1,071.4	2.09	1.98	
3,547.0	24.60	26.90	3,337.1	1,010.7	453.5	1,107.7	2.83	2.83	
3,638.0	24.70	25.80	3,419.9	1,044.7	470.4	1,145.7	0.52	0.11	
3,730.0	24.30	26.00	3,503.6	1,079.0	487.0	1,183.8	0.44	-0.43	
3,821.0	24.70	23.90	3,586.4	1,113.2	502.9	1,221.5	1.05	0.44	
3,913.0	22.90	23.20	3,670.6	1,147.2	517.8	1,258.6	1.98	-1.96	
4,004.0	21.50	22.40	3,754.8	1,178.9	531.1	1,293.0	1.57	-1.54	
4,096.0	22.20	25.70	3,840.2	1,210.2	545.1	1,327.2	1.54	0.76	
4,187.0	22.80	26.10	3,924.3	1,241.5	560.3	1,362.0	0.68	0.66	
4,279.0	21.50	24.20	4,009.5	1,272.9	575.0	1,396.7	1.61	-1.41	
4,370.0	22.10	25.60	4,094.0	1,303.5	589.3	1,430.5	0.87	0.66	
4,462.0	24.30	27.00	4,178.5	1,336.0	605.3	1,466.7	2.47	2.39	
4,553.0	24.80	26.10	4,261.3	1,369.8	622.2	1,504.5	0.69	0.55	
4,645.0	23.60	26.80	4,345.2	1,403.6	639.0	1,542.2	1.34	-1.30	
4,736.0	24.10	24.60	4,428.4	1,436.8	655.0	1,579.0	1.12	0.55	
4,828.0	23.30	24.10	4,512.7	1,470.4	670.2	1,616.0	0.90	-0.87	
4,920.0	23.50	23.00	4,597.1	1,503.9	684.8	1,652.5	0.52	0.22	
5,103.0	21.60	26.70	4,766.1	1,567.6	714.2	1,722.7	1.30	-1.04	
5,194.0	22.30	26.90	4,850.5	1,598.0	729.6	1,756.6	0.77	0.77	
5,286.0	21.90	26.10	4,935.8	1,629.0	745.0	1,791.2	0.54	-0.43	
5,378.0	22.00	26.20	5,021.1	1,659.8	760.2	1,825.6	0.12	0.11	
5,469.0	22.20	25.10	5,105.4	1,690.7	775.0	1,859.8	0.51	0.22	
5,561.0	23.00	26.20	5,190.4	1,722.6	790.3	1,895.2	0.98	0.87	
5,652.0	22.20	23.60	5,274.4	1,754.3	805.0	1,930.2	1.41	-0.88	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8515C-24
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8515C-24	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
5,744.0	21.90	24.10	5,359.6	1,785.9	819.0	1,964.7	0.38	-0.33	
5,836.0	21.70	21.90	5,445.1	1,817.3	832.3	1,998.8	0.91	-0.22	
5,927.0	23.60	20.60	5,529.0	1,850.0	845.0	2,033.8	2.16	2.09	
6,018.0	24.00	23.90	5,612.3	1,883.9	858.9	2,070.5	1.53	0.44	
6,110.0	24.50	26.30	5,696.2	1,918.1	875.0	2,108.3	1.20	0.54	
6,202.0	24.60	23.60	5,779.9	1,952.8	891.1	2,146.5	1.22	0.11	
6,293.0	25.30	24.10	5,862.4	1,987.9	906.6	2,184.9	0.80	0.77	
6,385.0	24.50	24.40	5,945.8	2,023.2	922.5	2,223.6	0.88	-0.87	
6,476.0	22.30	25.90	6,029.3	2,055.9	937.9	2,259.7	2.50	-2.42	
6,568.0	21.10	28.20	6,114.8	2,086.2	953.3	2,293.7	1.60	-1.30	
6,659.0	20.20	29.00	6,200.0	2,114.4	968.7	2,325.7	1.04	-0.99	
6,751.0	22.30	26.30	6,285.7	2,144.0	984.1	2,359.0	2.52	2.28	
6,842.0	23.30	22.70	6,369.6	2,176.0	998.7	2,394.3	1.89	1.10	
6,933.0	22.50	22.50	6,453.4	2,208.7	1,012.3	2,429.7	0.88	-0.88	
7,025.0	20.70	19.20	6,539.0	2,240.4	1,024.4	2,463.4	2.36	-1.96	
7,116.0	21.60	19.50	6,623.8	2,271.3	1,035.3	2,496.1	1.00	0.99	
7,208.0	19.90	21.90	6,709.9	2,301.8	1,046.8	2,528.6	2.07	-1.85	
7,299.0	20.40	23.00	6,795.3	2,330.8	1,058.7	2,560.0	0.69	0.55	
7,391.0	20.30	27.60	6,881.6	2,359.7	1,072.4	2,591.9	1.74	-0.11	
7,482.0	20.40	27.50	6,966.9	2,387.8	1,087.0	2,623.5	0.12	0.11	
7,573.0	22.30	29.40	7,051.6	2,416.9	1,102.8	2,656.6	2.22	2.09	
7,665.0	24.20	28.20	7,136.2	2,448.7	1,120.3	2,692.8	2.13	2.07	
7,756.0	24.70	28.30	7,219.0	2,481.9	1,138.1	2,730.4	0.55	0.55	
7,848.0	23.30	28.50	7,303.0	2,514.8	1,155.9	2,767.7	1.52	-1.52	
7,939.0	22.30	27.80	7,386.9	2,545.9	1,172.6	2,802.9	1.14	-1.10	
8,030.0	21.50	27.00	7,471.4	2,576.0	1,188.2	2,836.8	0.94	-0.88	
8,122.0	20.40	26.90	7,557.3	2,605.3	1,203.1	2,869.7	1.20	-1.20	
8,213.0	19.60	26.90	7,642.8	2,633.1	1,217.2	2,900.8	0.88	-0.88	
8,304.0	18.40	26.80	7,728.8	2,659.5	1,230.6	2,930.4	1.32	-1.32	
8,395.0	17.60	26.00	7,815.4	2,684.7	1,243.1	2,958.5	0.92	-0.88	
8,488.0	16.90	25.70	7,904.2	2,709.5	1,255.1	2,986.1	0.76	-0.75	
8,579.0	16.40	24.60	7,991.4	2,733.1	1,266.2	3,012.2	0.65	-0.55	
8,671.0	15.50	23.90	8,079.8	2,756.2	1,276.6	3,037.4	1.00	-0.98	
8,762.0	14.80	25.70	8,167.7	2,777.8	1,286.5	3,061.2	0.93	-0.77	
8,854.0	13.70	25.00	8,256.8	2,798.2	1,296.2	3,083.9	1.21	-1.20	
8,945.0	13.10	26.10	8,345.4	2,817.3	1,305.3	3,104.9	0.72	-0.66	
9,037.0	12.40	25.50	8,435.1	2,835.5	1,314.2	3,125.2	0.77	-0.76	
9,128.0	11.30	24.70	8,524.2	2,852.4	1,322.1	3,143.9	1.22	-1.21	
9,220.0	9.40	32.10	8,614.7	2,867.0	1,329.9	3,160.4	2.52	-2.07	
9,311.0	6.60	26.60	8,704.8	2,878.0	1,336.2	3,173.0	3.19	-3.08	
9,403.0	4.10	16.60	8,796.4	2,885.9	1,339.5	3,181.5	2.89	-2.72	
9,494.0	3.60	11.80	8,887.2	2,891.8	1,341.0	3,187.5	0.65	-0.55	
9,586.0	3.20	10.40	8,979.0	2,897.1	1,342.0	3,192.8	0.44	-0.43	
9,677.0	2.60	33.80	9,069.9	2,901.3	1,343.6	3,197.3	1.44	-0.66	
9,769.0	1.50	97.70	9,161.8	2,902.9	1,346.0	3,199.8	2.57	-1.20	
9,860.0	1.40	127.60	9,252.8	2,902.1	1,348.1	3,199.9	0.83	-0.11	
9,952.0	1.10	157.80	9,344.8	2,900.6	1,349.3	3,199.0	0.77	-0.33	
10,037.0	1.10	180.60	9,429.8	2,899.0	1,349.6	3,197.7	0.51	0.00	
10,127.0	0.80	280.40	9,519.8	2,898.2	1,349.0	3,196.8	1.63	-0.33	
10,219.0	1.50	281.80	9,611.7	2,898.6	1,347.1	3,196.3	0.76	0.76	
10,310.0	1.90	265.80	9,702.7	2,898.7	1,344.5	3,195.3	0.68	0.44	
10,402.0	0.60	320.70	9,794.7	2,899.0	1,342.6	3,194.8	1.77	-1.41	
10,493.0	1.00	42.00	9,885.7	2,900.0	1,342.9	3,195.8	1.19	0.44	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8515C-24
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8515C-24	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
10,585.0	1.10	31.30	9,977.7	2,901.3	1,343.9	3,197.4	0.24	0.11	
10,677.0	0.70	54.10	10,069.6	2,902.4	1,344.8	3,198.8	0.58	-0.43	
10,768.0	0.40	64.10	10,160.6	2,902.9	1,345.5	3,199.5	0.34	-0.33	
10,860.0	0.30	50.70	10,252.6	2,903.2	1,346.0	3,200.0	0.14	-0.11	
10,951.0	0.50	242.30	10,343.6	2,903.1	1,345.8	3,199.9	0.87	0.22	
11,042.0	0.80	227.60	10,434.6	2,902.5	1,345.0	3,199.0	0.37	0.33	
11,225.0	1.20	229.20	10,617.6	2,900.4	1,342.6	3,196.1	0.22	0.22	
11,316.0	0.50	251.80	10,708.6	2,899.7	1,341.5	3,194.9	0.84	-0.77	
11,408.0	0.20	252.00	10,800.6	2,899.5	1,341.0	3,194.5	0.33	-0.33	
11,499.0	0.20	219.40	10,891.6	2,899.3	1,340.7	3,194.3	0.12	0.00	
11,590.0	0.50	202.90	10,982.6	2,898.8	1,340.5	3,193.7	0.34	0.33	
11,682.0	0.10	280.40	11,074.6	2,898.5	1,340.2	3,193.3	0.53	-0.43	
11,773.0	0.30	286.60	11,165.6	2,898.5	1,339.9	3,193.3	0.22	0.22	
11,865.0	0.80	254.90	11,257.6	2,898.4	1,339.1	3,192.8	0.62	0.54	
11,956.0	0.60	133.70	11,348.6	2,897.9	1,338.8	3,192.3	1.34	-0.22	
12,047.0	1.00	110.10	11,439.6	2,897.3	1,339.9	3,192.2	0.56	0.44	
12,139.0	0.90	45.40	11,531.6	2,897.6	1,341.2	3,192.9	1.11	-0.11	
12,230.0	0.60	78.50	11,622.6	2,898.2	1,342.1	3,193.8	0.57	-0.33	
12,321.0	0.80	168.50	11,713.5	2,897.6	1,342.7	3,193.6	1.10	0.22	
12,412.0	1.30	188.30	11,804.5	2,896.0	1,342.7	3,192.1	0.67	0.55	
12,503.0	1.70	197.00	11,895.5	2,893.7	1,342.2	3,189.8	0.50	0.44	
12,595.0	1.50	182.70	11,987.4	2,891.2	1,341.7	3,187.3	0.48	-0.22	
12,686.0	1.60	187.90	12,078.4	2,888.7	1,341.5	3,185.0	0.19	0.11	
12,777.0	2.30	198.20	12,169.4	2,885.7	1,340.7	3,182.0	0.86	0.77	
12,869.0	2.50	199.70	12,261.3	2,882.1	1,339.5	3,178.1	0.23	0.22	
12,960.0	2.50	202.40	12,352.2	2,878.4	1,338.1	3,174.2	0.13	0.00	
13,030.0	2.40	208.50	12,422.2	2,875.7	1,336.8	3,171.2	0.40	-0.14	Last Cathedral Survey @ 13,030' MD Projection to Bit @ 13,100'
13,100.0	2.40	208.50	12,492.1	2,873.1	1,335.4	3,168.3	0.00	0.00	

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
F25 496 SGU 8515C-24	0.00	0.00	12,410.0	2,893.2	1,328.5	1,684,031.37	2,264,187.82	39° 40' 56.592 N	108° 6' 52.955 W
- hit/miss target									
- Shape									
- actual wellpath misses target center by 19.1ft at 13017.3ft MD (12409.5 TVD, 2876.2 N, 1337.0 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									
F25 496 SGU 8515C-24	0.00	0.00	8,735.0	2,903.2	1,345.5	1,684,040.90	2,264,205.15	39° 40' 56.691 N	108° 6' 52.737 W
- actual wellpath misses target center by 23.5ft at 9343.6ft MD (8737.2 TVD, 2881.1 N, 1337.7 E)									
- Point									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
13,030.0	12,422.2	2,875.7	1,336.8	Last Cathedral Survey @ 13,030' MD	
13,100.0	12,492.1	2,873.1	1,335.4	Projection to Bit @ 13,100'	

Checked By: _____ Approved By: _____ Date: _____