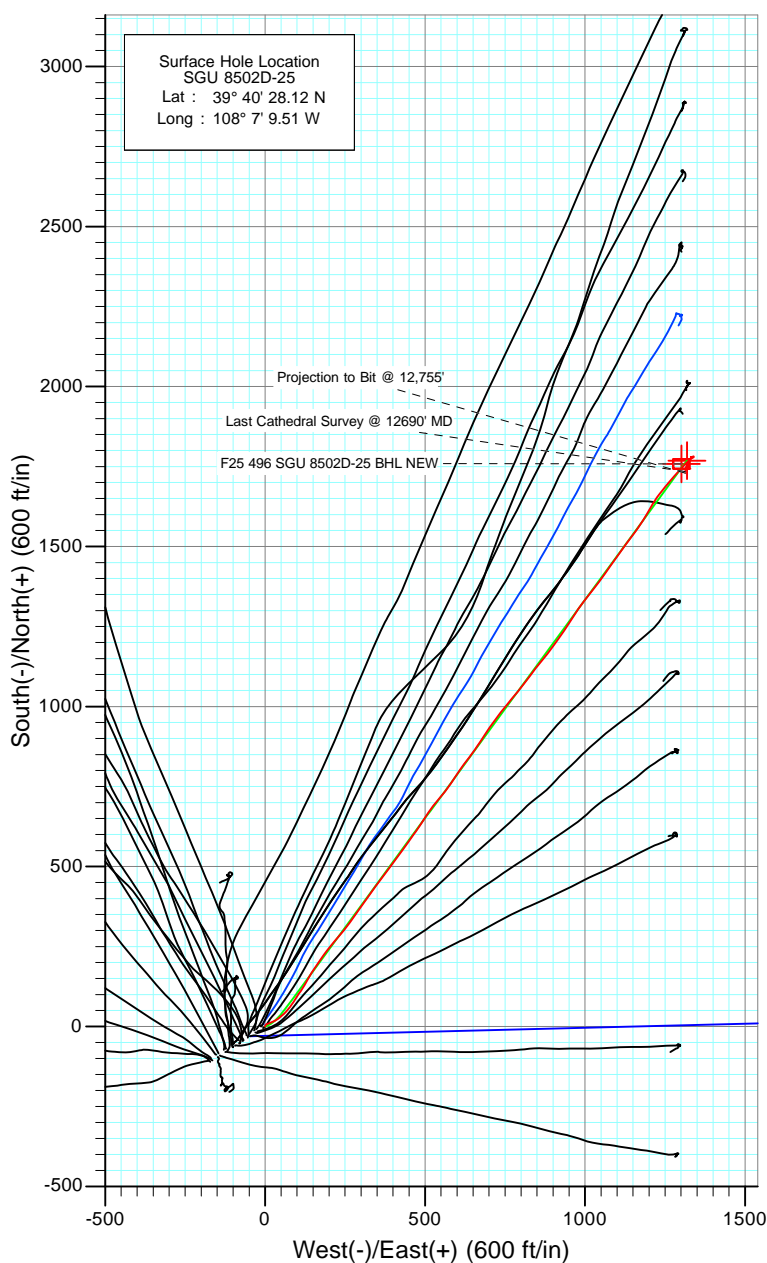
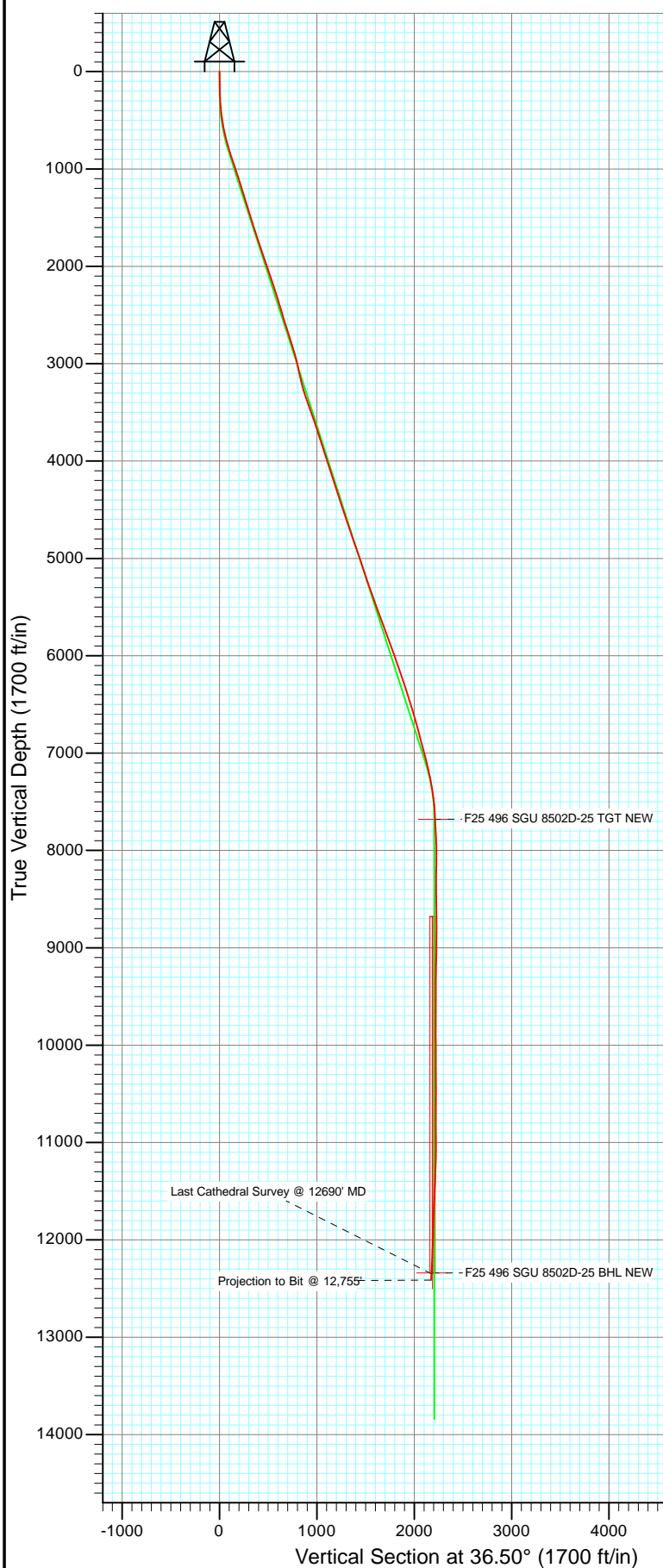




Project: Story Gulch
Site: F25 496
Well: SGU 8502D-25
Wellbore: DD
Design: FINAL



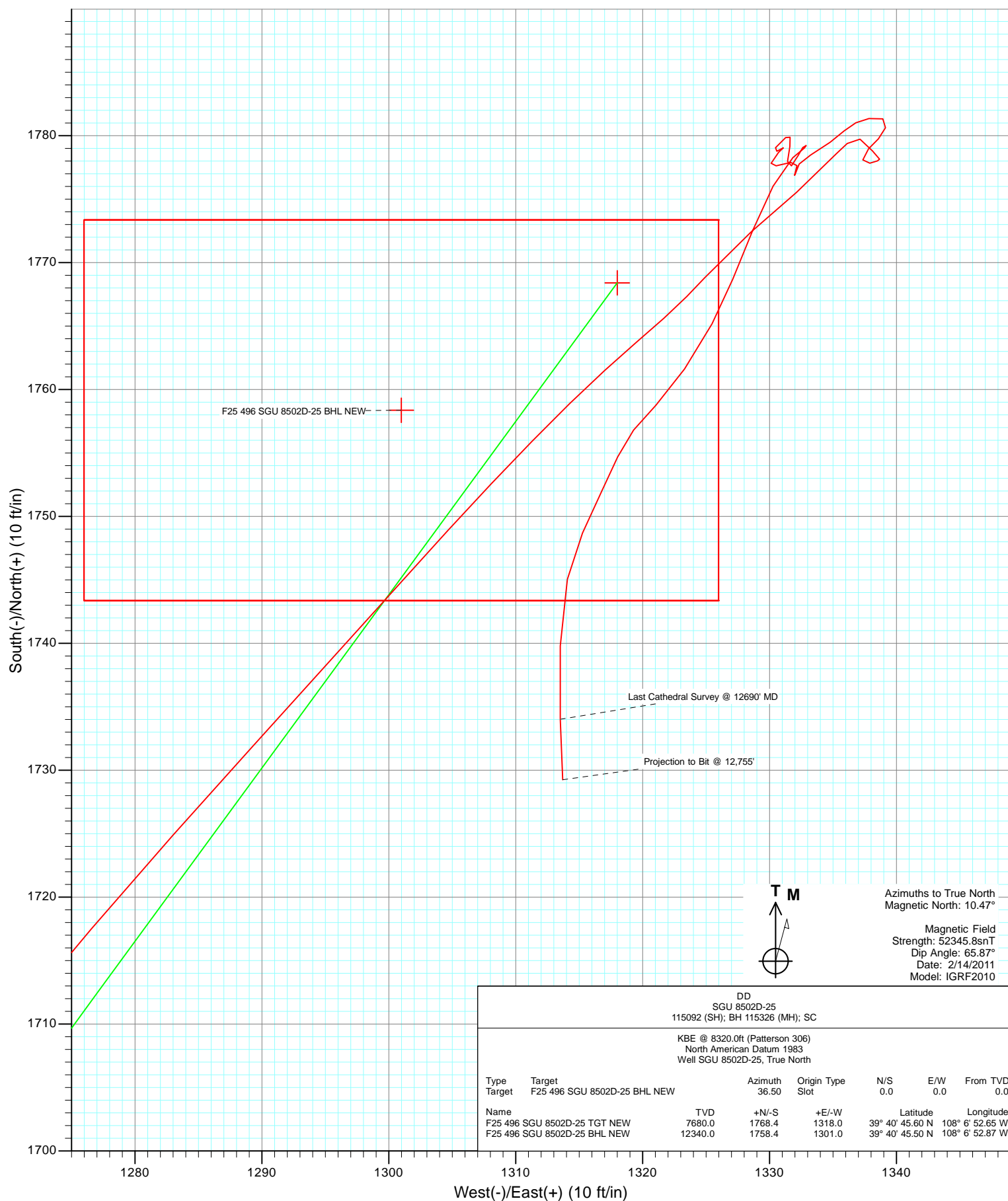
Azimuths to True North
Magnetic North: 10.47°

Magnetic Field
Strength: 52345.8nT
Dip Angle: 65.87°
Date: 2/14/2011
Model: IGRF2010

DD SGU 8502D-25					
KBE @ 8320.0ft (Patterson 306) North American Datum 1983 Well SGU 8502D-25, True North					
Target		Azimuth	Origin Type	N/S	E/W
F25 496 SGU 8502D-25 BHL NEW		36.50	Slot	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
F25 496 SGU 8502D-25 TGT NEW	7680.0	1768.4	1318.0	39° 40' 45.60 N	108° 6' 52.65 W
F25 496 SGU 8502D-25 BHL NEW	12340.0	1758.4	1301.0	39° 40' 45.50 N	108° 6' 52.87 W



Project: Story Gulch
Site: F25 496
Well: SGU 8502D-25
Wellbore: DD
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8502D-25
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8502D-25	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' 27.10 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 8502D-25					
Well Position	+N/-S	0.0 ft	Northing:	1,681,189.39 ft	Latitude:	39° 40' 28.12 N
	+E/-W	0.0 ft	Easting:	2,262,811.42 ft	Longitude:	108° 7' 9.51 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	2/14/2011	10.47	65.87	52,346

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	36.50	

Survey Program	Date	9/1/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
186.0	2,977.0	Survey #1 (DD)	MWD	Geolink MWD	
3,093.0	12,755.0	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		
186.0	1.70	18.10	186.0	2.6	0.9	2.6	0.91	0.91		
217.0	2.30	15.90	217.0	3.7	1.2	3.6	1.95	1.94		
309.0	3.70	62.60	308.8	6.8	4.3	8.0	2.94	1.52		
401.0	7.20	70.40	400.4	10.1	12.4	15.5	3.88	3.80		
493.0	9.60	67.30	491.4	15.0	24.9	26.9	2.65	2.61		
586.0	11.60	53.80	582.8	23.5	39.6	42.5	3.41	2.15		
678.0	14.00	47.90	672.5	36.4	55.3	62.2	2.97	2.61		
770.0	16.10	39.60	761.4	53.7	71.7	85.8	3.27	2.28		
865.0	18.50	33.80	852.1	76.4	88.5	114.1	3.11	2.53		
960.0	18.90	33.00	942.1	101.8	105.3	144.5	0.50	0.42		
1,056.0	18.10	32.10	1,033.1	127.5	121.7	174.9	0.88	-0.83		

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8502D-25
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8502D-25	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
1,151.0	17.50	29.30	1,123.6	152.5	136.5	203.7	1.10	-0.63	
1,246.0	17.50	33.10	1,214.2	176.9	151.3	232.2	1.20	0.00	
1,341.0	16.70	34.50	1,305.0	200.1	166.8	260.1	0.95	-0.84	
1,436.0	17.10	34.90	1,395.9	222.8	182.5	287.7	0.44	0.42	
1,532.0	17.80	39.30	1,487.5	245.7	199.9	316.4	1.56	0.73	
1,626.0	17.30	40.80	1,577.1	267.4	218.1	344.7	0.72	-0.53	
1,720.0	18.10	40.10	1,666.6	289.2	236.7	373.2	0.88	0.85	
1,816.0	18.30	37.40	1,757.8	312.6	255.4	403.2	0.90	0.21	
1,911.0	19.40	35.70	1,847.7	337.2	273.7	433.9	1.29	1.16	
2,006.0	19.10	35.50	1,937.4	362.7	291.9	465.2	0.32	-0.32	
2,101.0	19.00	35.00	2,027.2	388.0	309.8	496.2	0.20	-0.11	
2,197.0	18.30	35.10	2,118.2	413.2	327.5	526.9	0.73	-0.73	
2,292.0	17.80	36.40	2,208.5	437.0	344.6	556.3	0.68	-0.53	
2,387.0	17.50	37.10	2,299.0	460.1	361.9	585.1	0.39	-0.32	
2,482.0	17.20	37.20	2,389.7	482.7	379.0	613.5	0.32	-0.32	
2,577.0	16.80	35.50	2,480.6	505.1	395.5	641.2	0.67	-0.42	
2,672.0	17.10	35.80	2,571.4	527.6	411.6	668.9	0.33	0.32	
2,768.0	17.50	36.70	2,663.1	550.6	428.5	697.5	0.50	0.42	
2,863.0	17.80	35.40	2,753.6	573.9	445.4	726.3	0.52	0.32	
2,977.0	17.10	36.20	2,862.4	601.6	465.4	760.5	0.65	-0.61	Last Cathedral Survey @ 2,977' MD
3,093.0	13.80	32.10	2,974.2	627.1	482.9	791.3	2.99	-2.84	
3,184.0	12.00	36.00	3,062.9	644.0	494.2	811.6	2.20	-1.98	
3,276.0	13.00	30.60	3,152.7	660.6	505.1	831.5	1.67	1.09	
3,367.0	15.60	34.90	3,240.9	679.4	517.3	853.9	3.08	2.86	
3,459.0	18.00	41.60	3,328.9	700.2	533.8	880.4	3.35	2.61	
3,551.0	19.30	38.90	3,416.1	722.7	552.8	909.8	1.70	1.41	
3,642.0	20.50	35.50	3,501.7	747.4	571.5	940.7	1.83	1.32	
3,734.0	19.30	34.10	3,588.2	773.1	589.4	972.0	1.40	-1.30	
3,825.0	17.30	34.10	3,674.6	796.7	605.4	1,000.6	2.20	-2.20	
3,917.0	17.10	36.30	3,762.5	819.0	621.1	1,027.7	0.74	-0.22	
4,008.0	18.70	37.30	3,849.1	841.4	637.8	1,055.7	1.79	1.76	
4,100.0	19.10	35.20	3,936.1	865.4	655.4	1,085.5	0.86	0.43	
4,191.0	17.40	33.10	4,022.5	888.9	671.4	1,114.0	2.00	-1.87	
4,283.0	17.20	34.50	4,110.4	911.7	686.7	1,141.3	0.50	-0.22	
4,374.0	18.10	33.10	4,197.1	934.6	702.0	1,168.9	1.09	0.99	
4,466.0	17.70	37.50	4,284.6	957.7	718.3	1,197.1	1.53	-0.43	
4,558.0	18.70	38.30	4,372.0	980.4	736.0	1,225.8	1.12	1.09	
4,649.0	17.90	38.40	4,458.4	1,002.8	753.7	1,254.4	0.88	-0.88	
4,741.0	18.60	39.90	4,545.8	1,025.1	771.9	1,283.2	0.92	0.76	
4,832.0	18.50	37.70	4,632.1	1,047.7	790.0	1,312.1	0.78	-0.11	
4,924.0	18.80	38.90	4,719.2	1,070.7	808.3	1,341.5	0.53	0.33	
5,015.0	19.60	37.20	4,805.2	1,094.3	826.7	1,371.4	1.07	0.88	
5,107.0	20.00	37.70	4,891.7	1,119.0	845.7	1,402.6	0.47	0.43	
5,198.0	18.60	39.20	4,977.6	1,142.6	864.4	1,432.6	1.63	-1.54	
5,290.0	18.50	37.70	5,064.8	1,165.5	882.6	1,461.9	0.53	-0.11	
5,381.0	18.60	37.10	5,151.1	1,188.5	900.1	1,490.8	0.24	0.11	
5,472.0	18.80	34.10	5,237.3	1,212.2	917.1	1,520.0	1.08	0.22	
5,564.0	19.50	34.40	5,324.2	1,237.2	934.1	1,550.1	0.77	0.76	
5,655.0	19.60	33.30	5,410.0	1,262.5	951.1	1,580.6	0.42	0.11	
5,747.0	19.80	32.00	5,496.6	1,288.6	967.8	1,611.5	0.52	0.22	
5,838.0	20.50	36.20	5,582.0	1,314.5	985.4	1,642.8	1.77	0.77	
5,930.0	20.70	39.10	5,668.1	1,340.1	1,005.1	1,675.2	1.13	0.22	
6,021.0	20.90	37.00	5,753.2	1,365.6	1,025.0	1,707.5	0.85	0.22	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8502D-25
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8502D-25	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
6,113.0	18.90	37.20	5,839.7	1,390.6	1,043.9	1,738.8	2.18	-2.17	
6,205.0	19.50	35.80	5,926.6	1,414.9	1,061.9	1,769.0	0.82	0.65	
6,296.0	20.00	34.80	6,012.2	1,440.0	1,079.7	1,799.8	0.66	0.55	
6,388.0	19.80	35.60	6,098.8	1,465.6	1,097.7	1,831.1	0.37	-0.22	
6,479.0	18.20	36.60	6,184.8	1,489.5	1,115.2	1,860.7	1.79	-1.76	
6,571.0	17.90	35.60	6,272.3	1,512.5	1,132.0	1,889.2	0.47	-0.33	
6,662.0	18.50	37.70	6,358.7	1,535.3	1,149.0	1,917.6	0.98	0.66	
6,754.0	18.50	33.50	6,446.0	1,559.1	1,165.9	1,946.8	1.45	0.00	
6,845.0	16.40	32.70	6,532.8	1,581.9	1,180.8	1,974.0	2.32	-2.31	
6,937.0	15.70	30.40	6,621.2	1,603.6	1,194.2	1,999.4	1.03	-0.76	
7,028.0	15.00	30.30	6,708.9	1,624.4	1,206.3	2,023.3	0.77	-0.77	
7,120.0	15.20	32.80	6,797.8	1,644.8	1,218.9	2,047.2	0.74	0.22	
7,211.0	16.00	38.20	6,885.4	1,664.7	1,233.1	2,071.6	1.82	0.88	
7,303.0	14.70	39.20	6,974.1	1,683.7	1,248.3	2,096.0	1.44	-1.41	
7,394.0	14.10	39.90	7,062.3	1,701.1	1,262.7	2,118.6	0.69	-0.66	
7,486.0	12.80	40.60	7,151.7	1,717.5	1,276.5	2,139.9	1.42	-1.41	
7,577.0	11.60	42.40	7,240.7	1,731.9	1,289.3	2,159.1	1.38	-1.32	
7,669.0	10.50	41.80	7,331.0	1,745.0	1,301.1	2,176.6	1.20	-1.20	
7,760.0	8.40	44.30	7,420.7	1,755.9	1,311.3	2,191.5	2.35	-2.31	
7,852.0	5.80	49.70	7,512.0	1,763.7	1,319.5	2,202.6	2.91	-2.83	
7,944.0	3.50	41.40	7,603.7	1,768.8	1,324.9	2,210.0	2.60	-2.50	
8,035.0	3.00	50.10	7,694.6	1,772.4	1,328.6	2,215.1	0.77	-0.55	
8,127.0	2.90	47.90	7,786.5	1,775.5	1,332.1	2,219.7	0.16	-0.11	
8,218.0	2.60	43.50	7,877.3	1,778.6	1,335.3	2,224.0	0.40	-0.33	
8,310.0	0.70	130.80	7,969.3	1,779.7	1,337.1	2,226.0	2.89	-2.07	
8,401.0	1.00	135.20	8,060.3	1,778.8	1,338.1	2,225.8	0.34	0.33	
8,493.0	0.10	187.30	8,152.3	1,778.2	1,338.7	2,225.7	1.02	-0.98	
8,584.0	0.20	249.60	8,243.3	1,778.0	1,338.5	2,225.5	0.19	0.11	
8,676.0	0.60	254.30	8,335.3	1,777.8	1,337.9	2,224.9	0.44	0.43	
8,767.0	0.50	347.30	8,426.3	1,778.1	1,337.4	2,224.8	0.88	-0.11	
8,859.0	0.90	48.60	8,518.3	1,779.0	1,337.8	2,225.8	0.86	0.43	
8,950.0	0.50	36.40	8,609.3	1,779.8	1,338.6	2,226.9	0.47	-0.44	
9,042.0	0.80	30.60	8,701.3	1,780.6	1,339.1	2,227.9	0.33	0.33	
9,133.0	0.70	285.50	8,792.3	1,781.3	1,338.9	2,228.4	1.31	-0.11	
9,225.0	0.70	257.70	8,884.3	1,781.4	1,337.8	2,227.7	0.37	0.00	
9,315.0	0.70	245.70	8,974.3	1,781.0	1,336.8	2,226.8	0.16	0.00	
9,407.0	0.70	225.20	9,066.3	1,780.4	1,335.9	2,225.8	0.27	0.00	
9,498.0	1.10	234.40	9,157.2	1,779.5	1,334.8	2,224.4	0.47	0.44	
9,590.0	1.20	239.30	9,249.2	1,778.5	1,333.2	2,222.7	0.15	0.11	
9,681.0	0.30	199.40	9,340.2	1,777.8	1,332.3	2,221.6	1.09	-0.99	
9,773.0	0.80	202.50	9,432.2	1,776.9	1,332.0	2,220.7	0.54	0.54	
9,864.0	0.70	21.30	9,523.2	1,776.9	1,332.0	2,220.6	1.65	-0.11	
9,956.0	0.30	356.20	9,615.2	1,777.6	1,332.2	2,221.4	0.49	-0.43	
10,047.0	0.60	271.80	9,706.2	1,777.9	1,331.7	2,221.3	0.71	0.33	
10,139.0	0.90	246.50	9,798.2	1,777.6	1,330.5	2,220.4	0.48	0.33	
10,230.0	0.70	28.30	9,889.2	1,777.8	1,330.1	2,220.3	1.66	-0.22	
10,322.0	0.60	39.90	9,981.2	1,778.7	1,330.7	2,221.3	0.18	-0.11	
10,413.0	0.10	100.40	10,072.2	1,779.0	1,331.1	2,221.9	0.61	-0.55	
10,505.0	0.80	247.00	10,164.2	1,778.8	1,330.6	2,221.3	0.96	0.76	
10,596.0	0.90	42.10	10,255.2	1,779.1	1,330.5	2,221.5	1.82	0.11	
10,688.0	0.50	50.20	10,347.2	1,779.9	1,331.3	2,222.6	0.45	-0.43	
10,779.0	0.30	169.10	10,438.2	1,779.9	1,331.6	2,222.8	0.77	-0.22	
10,871.0	0.60	187.10	10,530.2	1,779.2	1,331.6	2,222.3	0.36	0.33	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well SGU 8502D-25
Project:	Story Gulch	TVD Reference:	KBE @ 8320.0ft (Patterson 306)
Site:	F25 496	MD Reference:	KBE @ 8320.0ft (Patterson 306)
Well:	SGU 8502D-25	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
10,962.0	0.90	190.00	10,621.2	1,778.0	1,331.4	2,221.2	0.33	0.33	
11,054.0	0.70	51.20	10,713.2	1,777.6	1,331.7	2,221.1	1.63	-0.22	
11,145.0	0.60	10.40	10,804.1	1,778.4	1,332.3	2,222.1	0.51	-0.11	
11,237.0	0.40	60.40	10,896.1	1,779.1	1,332.6	2,222.8	0.50	-0.22	
11,328.0	0.00	242.20	10,987.1	1,779.2	1,332.9	2,223.1	0.44	-0.44	
11,420.0	0.30	218.20	11,079.1	1,779.0	1,332.8	2,222.8	0.33	0.33	
11,511.0	1.20	232.30	11,170.1	1,778.3	1,331.8	2,221.7	1.00	0.99	
11,603.0	2.30	205.80	11,262.1	1,776.0	1,330.3	2,218.9	1.45	1.20	
11,694.0	2.60	203.70	11,353.0	1,772.5	1,328.7	2,215.1	0.34	0.33	
11,786.0	2.50	200.90	11,444.9	1,768.7	1,327.1	2,211.2	0.17	-0.11	
11,877.0	2.40	209.00	11,535.8	1,765.2	1,325.5	2,207.4	0.40	-0.11	
11,969.0	2.80	213.20	11,627.7	1,761.6	1,323.3	2,203.2	0.48	0.43	
12,060.0	1.80	226.50	11,718.7	1,758.8	1,321.1	2,199.6	1.24	-1.10	
12,152.0	1.50	216.40	11,810.6	1,756.8	1,319.3	2,197.0	0.45	-0.33	
12,243.0	1.60	205.30	11,901.6	1,754.7	1,318.0	2,194.5	0.35	0.11	
12,335.0	2.20	204.70	11,993.5	1,751.9	1,316.8	2,191.5	0.65	0.65	
12,426.0	2.30	204.70	12,084.5	1,748.7	1,315.3	2,188.0	0.11	0.11	
12,518.0	2.50	192.00	12,176.4	1,745.0	1,314.1	2,184.4	0.62	0.22	
12,610.0	4.10	182.40	12,268.2	1,739.8	1,313.5	2,179.9	1.83	1.74	
12,690.0	4.20	177.70	12,348.0	1,734.0	1,313.5	2,175.2	0.44	0.12	Last Cathedral Survey @ 12690' MD
12,755.0	4.20	177.70	12,412.9	1,729.3	1,313.7	2,171.5	0.00	0.00	Projection to Bit @ 12,755'

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 8502D-25	0.00	0.00	7,680.0	1,768.4	1,318.0	1,682,919.07	2,264,179.85	39° 40' 45.60 N	108° 6' 52.65 W
- actual wellpath misses target center by 10.6ft at 8019.9ft MD (7679.5 TVD, 1771.9 N, 1328.0 E)									
- Point									
F25 496 SGU 8502D-25	0.00	0.00	12,340.0	1,758.4	1,301.0	1,682,909.52	2,264,162.57	39° 40' 45.50 N	108° 6' 52.87 W
- actual wellpath misses target center by 26.8ft at 12680.2ft MD (12338.3 TVD, 1734.7 N, 1313.5 E)									
- Rectangle (sides W30.0 H50.0 D0.0)									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,977.0	2,862.4	601.6	465.4	Last Cathedral Survey @ 2,977' MD
12,690.0	12,348.0	1,734.0	1,313.5	Last Cathedral Survey @ 12690' MD
12,755.0	12,412.9	1,729.3	1,313.7	Projection to Bit @ 12,755'

Checked By: _____ Approved By: _____ Date: _____