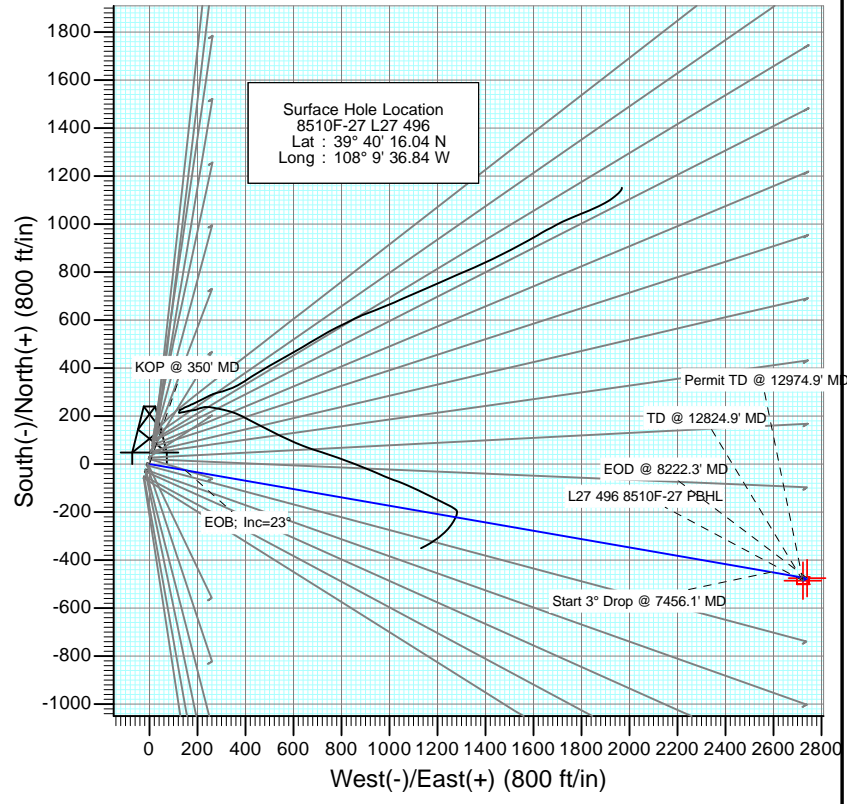


SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.0	
3	1116.7	23.00	99.85	1096.3	-26.0	149.6	3.00	99.85	151.8	
4	7456.1	23.00	99.85	6931.7	-449.5	2590.2	0.00	0.00	2628.9	
5	8222.8	0.00	0.00	7678.0	-475.5	2739.8	3.00	180.00	2780.7	L27 496 8510F-27 TGT
6	8322.3	0.25	239.52	7777.5	-475.6	2739.6	0.25	239.52	2780.6	
7	12824.9	0.25	239.52	12280.0	-485.5	2722.8	0.00	0.00	2765.7	L27 496 8510F-27 PBHL
8	12974.9	0.25	239.52	12430.0	-485.9	2722.2	0.00	0.00	2765.2	



DESIGN TARGET DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
L27 496 8510F-27 TGT	-475.5	2739.8	1679746.32	2253985.0239° 40' 11.34 N	108° 9' 1.80 W	
L27 496 8510F-27 PBHL	-485.5	2722.8	1679736.80	2253967.7139° 40' 11.24 N	108° 9' 2.02 W	

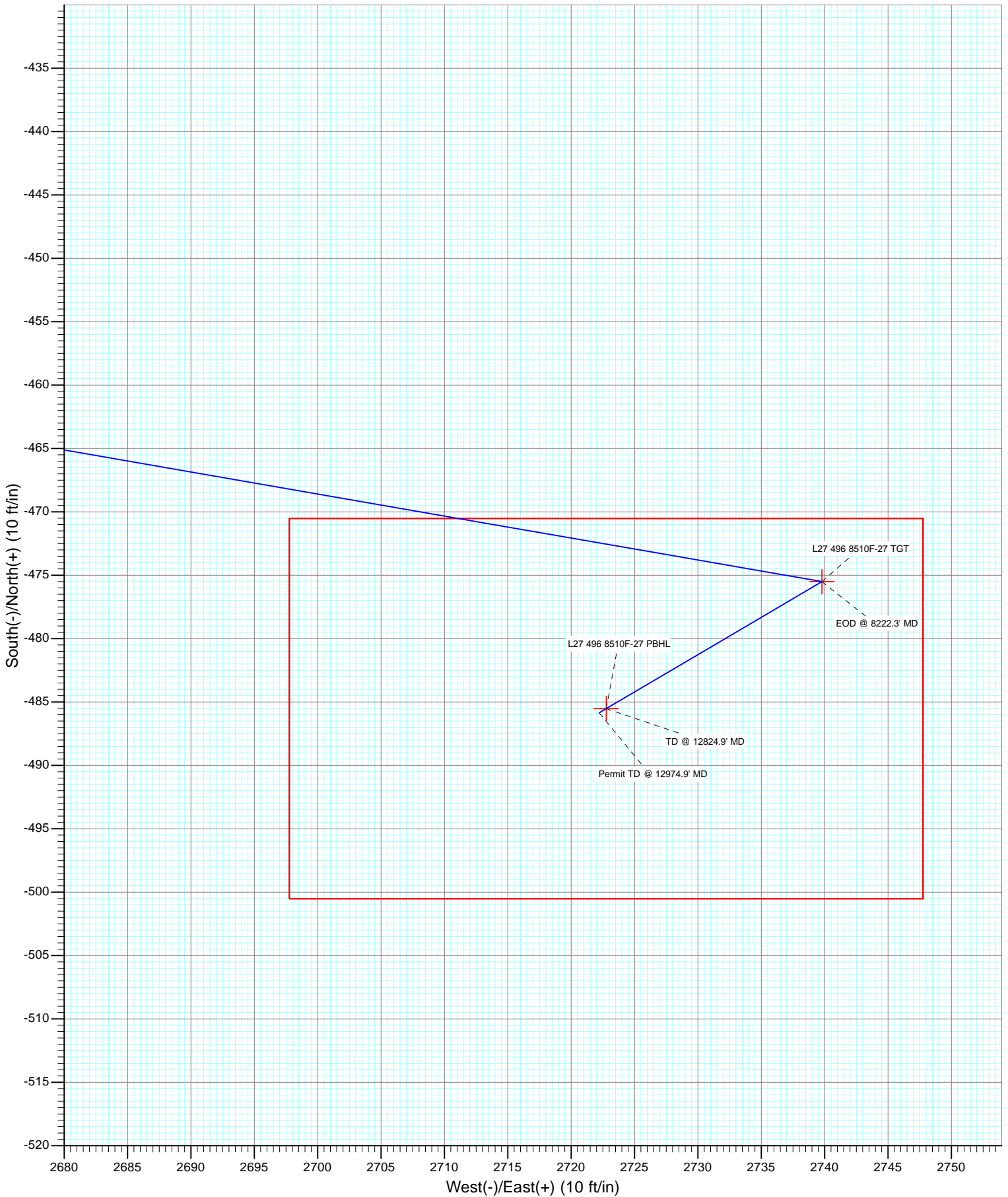
TVDPath	MDPath	Formation
1094.0	1114.2	A_GROOVE_TVD
1244.0	1277.2	B_GROOVE_TVD
1256.0	1290.2	B_GROOVE_BASE_TVD
2221.0	2338.6	GARDEN_GULCH_TVD
3226.0	3430.4	WASATCH_FM_TVD
5458.0	5855.1	WASATCH_G_TVD
7638.0	8182.8	WILLIAMS_FORK_TVD
7678.0	8222.8	TOG TVD
11045.0	11589.9	CAMEO_TVD
11401.0	11945.9	ROLLINS_TVD
11656.0	12200.9	COZZETTE_TVD
11842.0	12386.9	CORCORAN_TVD
12130.0	12674.9	UPPER_SEGO_TVD
12280.0	12824.9	SEGO_BASE_TARGET_TVD

M Azimuths to True North
 Magnetic North: 10.28°
 Magnetic Field
 Strength: 52177.5nT
 Dip Angle: 65.82°
 Date: 9/25/2012
 Model: IGRF2010

Plan #1
 8510F-27 L27 496
 12xxx; LR
 WELL @ 8136.0ft (Original Well Elev)
 Ground Elevation @ 8104.0
 North American Datum 1983
 Well 8510F-27 L27 496, True North



Project: Story Gulch
Site: S27-T4S-R96W (L27 496)
Well: 8510F-27 L27 496
Wellbore: DD
Design: Plan #1



Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB	Local Co-ordinate Reference: Well 8510F-27 L27 496
Company: EnCana Oil & Gas (USA) Inc	TVD Reference: WELL @ 8136.0ft (Original Well Elev)
Project: Story Gulch	MD Reference: WELL @ 8136.0ft (Original Well Elev)
Site: S27-T4S-R96W (L27 496)	North Reference: True
Well: 8510F-27 L27 496	Survey Calculation Method: Minimum Curvature
Wellbore: DD	
Design: Plan #1	

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 S27-T4S-R96W (L27 496)			
Site Position:	Northing: 1,680,404.44 ft	Latitude: 39° 40' 17.06 N	
From: Lat/Long	Easting: 2,251,282.88 ft	Longitude: 108° 9' 36.59 W	
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: -1.68 °	

Well 8510F-27 L27 496			
Well Position	+N/-S 0.0 ft	Northing: 1,680,301.83 ft	Latitude: 39° 40' 16.04 N
	+E/-W 0.0 ft	Easting: 2,251,260.32 ft	Longitude: 108° 9' 36.84 W
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 8,104.0 ft

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	9/25/2012	(°) 10.28	(°) 65.82	(nT) 52,178

Design Plan #1				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth: 0.0		
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	100.11

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,116.7	23.00	99.85	1,096.3	-26.0	149.6	3.00	3.00	0.00	99.85	
7,456.1	23.00	99.85	6,931.7	-449.5	2,590.2	0.00	0.00	0.00	0.00	
8,222.8	0.00	0.00	7,678.0	-475.5	2,739.8	3.00	-3.00	0.00	180.00	L27 496 8510F-27 TC
8,322.3	0.25	239.52	7,777.5	-475.6	2,739.6	0.25	0.25	-121.11	239.52	
12,824.9	0.25	239.52	12,280.0	-485.5	2,722.8	0.00	0.00	0.00	0.00	L27 496 8510F-27 PE
12,974.9	0.25	239.52	12,430.0	-485.9	2,722.2	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: Story Gulch
Site: S27-T4S-R96W (L27 496)
Well: 8510F-27 L27 496
Wellbore: DD
Design: Plan #1

Local Co-ordinate Reference: Well 8510F-27 L27 496
TVD Reference: WELL @ 8136.0ft (Original Well Elev)
MD Reference: WELL @ 8136.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	KOP @ 350' MD
400.0	1.50	99.85	400.0	-0.1	0.6	0.7	3.00	3.00	
500.0	4.50	99.85	499.8	-1.0	5.8	5.9	3.00	3.00	
600.0	7.50	99.85	599.3	-2.8	16.1	16.3	3.00	3.00	
700.0	10.50	99.85	698.0	-5.5	31.5	32.0	3.00	3.00	
800.0	13.50	99.85	795.8	-9.0	52.0	52.8	3.00	3.00	
900.0	16.50	99.85	892.4	-13.4	77.5	78.6	3.00	3.00	
1,000.0	19.50	99.85	987.5	-18.7	107.9	109.5	3.00	3.00	
1,100.0	22.50	99.85	1,080.9	-24.9	143.2	145.4	3.00	3.00	
1,114.2	22.93	99.85	1,094.0	-25.8	148.7	150.9	3.00	3.00	A_GROOVE_TVD
1,116.7	23.00	99.85	1,096.3	-26.0	149.6	151.8	3.00	3.00	EOB; Inc=23°
1,200.0	23.00	99.85	1,172.9	-31.5	181.7	184.4	0.00	0.00	
1,277.2	23.00	99.85	1,244.0	-36.7	211.4	214.5	0.00	0.00	B_GROOVE_TVD
1,290.2	23.00	99.85	1,256.0	-37.6	216.4	219.6	0.00	0.00	B_GROOVE_BASE_TVD
1,300.0	23.00	99.85	1,265.0	-38.2	220.2	223.5	0.00	0.00	
1,400.0	23.00	99.85	1,357.0	-44.9	258.7	262.5	0.00	0.00	
1,500.0	23.00	99.85	1,449.1	-51.6	297.2	301.6	0.00	0.00	
1,600.0	23.00	99.85	1,541.2	-58.3	335.7	340.7	0.00	0.00	
1,700.0	23.00	99.85	1,633.2	-64.9	374.2	379.8	0.00	0.00	
1,800.0	23.00	99.85	1,725.3	-71.6	412.7	418.8	0.00	0.00	
1,900.0	23.00	99.85	1,817.3	-78.3	451.2	457.9	0.00	0.00	
2,000.0	23.00	99.85	1,909.4	-85.0	489.7	497.0	0.00	0.00	
2,100.0	23.00	99.85	2,001.4	-91.7	528.2	536.0	0.00	0.00	
2,200.0	23.00	99.85	2,093.5	-98.3	566.7	575.1	0.00	0.00	
2,300.0	23.00	99.85	2,185.5	-105.0	605.2	614.2	0.00	0.00	
2,338.6	23.00	99.85	2,221.0	-107.6	620.0	629.3	0.00	0.00	GARDEN_GULCH_TVD.
2,400.0	23.00	99.85	2,277.6	-111.7	643.7	653.3	0.00	0.00	
2,500.0	23.00	99.85	2,369.6	-118.4	682.2	692.3	0.00	0.00	
2,600.0	23.00	99.85	2,461.7	-125.1	720.7	731.4	0.00	0.00	
2,700.0	23.00	99.85	2,553.7	-131.8	759.2	770.5	0.00	0.00	
2,800.0	23.00	99.85	2,645.8	-138.4	797.6	809.6	0.00	0.00	
2,900.0	23.00	99.85	2,737.8	-145.1	836.1	848.6	0.00	0.00	
3,000.0	23.00	99.85	2,829.9	-151.8	874.6	887.7	0.00	0.00	
3,100.0	23.00	99.85	2,921.9	-158.5	913.1	926.8	0.00	0.00	
3,200.0	23.00	99.85	3,014.0	-165.2	951.6	965.9	0.00	0.00	
3,300.0	23.00	99.85	3,106.0	-171.8	990.1	1,004.9	0.00	0.00	
3,400.0	23.00	99.85	3,198.1	-178.5	1,028.6	1,044.0	0.00	0.00	
3,430.4	23.00	99.85	3,226.0	-180.6	1,040.3	1,055.9	0.00	0.00	WASATCH_FM_TVD
3,500.0	23.00	99.85	3,290.1	-185.2	1,067.1	1,083.1	0.00	0.00	
3,600.0	23.00	99.85	3,382.2	-191.9	1,105.6	1,122.2	0.00	0.00	
3,700.0	23.00	99.85	3,474.2	-198.6	1,144.1	1,161.2	0.00	0.00	
3,800.0	23.00	99.85	3,566.3	-205.2	1,182.6	1,200.3	0.00	0.00	
3,900.0	23.00	99.85	3,658.3	-211.9	1,221.1	1,239.4	0.00	0.00	
4,000.0	23.00	99.85	3,750.4	-218.6	1,259.6	1,278.4	0.00	0.00	
4,100.0	23.00	99.85	3,842.4	-225.3	1,298.1	1,317.5	0.00	0.00	
4,200.0	23.00	99.85	3,934.5	-232.0	1,336.6	1,356.6	0.00	0.00	
4,300.0	23.00	99.85	4,026.5	-238.7	1,375.1	1,395.7	0.00	0.00	
4,400.0	23.00	99.85	4,118.6	-245.3	1,413.6	1,434.7	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: EnCana Oil & Gas (USA) Inc
Project: Story Gulch
Site: S27-T4S-R96W (L27 496)
Well: 8510F-27 L27 496
Wellbore: DD
Design: Plan #1

Local Co-ordinate Reference: Well 8510F-27 L27 496
TVD Reference: WELL @ 8136.0ft (Original Well Elev)
MD Reference: WELL @ 8136.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,500.0	23.00	99.85	4,210.6	-252.0	1,452.1	1,473.8	0.00	0.00	
4,600.0	23.00	99.85	4,302.7	-258.7	1,490.6	1,512.9	0.00	0.00	
4,700.0	23.00	99.85	4,394.7	-265.4	1,529.1	1,552.0	0.00	0.00	
4,800.0	23.00	99.85	4,486.8	-272.1	1,567.6	1,591.0	0.00	0.00	
4,900.0	23.00	99.85	4,578.8	-278.7	1,606.1	1,630.1	0.00	0.00	
5,000.0	23.00	99.85	4,670.9	-285.4	1,644.6	1,669.2	0.00	0.00	
5,100.0	23.00	99.85	4,762.9	-292.1	1,683.1	1,708.3	0.00	0.00	
5,200.0	23.00	99.85	4,855.0	-298.8	1,721.6	1,747.3	0.00	0.00	
5,300.0	23.00	99.85	4,947.0	-305.5	1,760.1	1,786.4	0.00	0.00	
5,400.0	23.00	99.85	5,039.1	-312.2	1,798.6	1,825.5	0.00	0.00	
5,500.0	23.00	99.85	5,131.1	-318.8	1,837.1	1,864.6	0.00	0.00	
5,600.0	23.00	99.85	5,223.2	-325.5	1,875.6	1,903.6	0.00	0.00	
5,700.0	23.00	99.85	5,315.2	-332.2	1,914.1	1,942.7	0.00	0.00	
5,800.0	23.00	99.85	5,407.3	-338.9	1,952.6	1,981.8	0.00	0.00	
5,855.1	23.00	99.85	5,458.0	-342.6	1,973.8	2,003.3	0.00	0.00	WASATCH_G_TVD
5,900.0	23.00	99.85	5,499.3	-345.6	1,991.1	2,020.8	0.00	0.00	
6,000.0	23.00	99.85	5,591.4	-352.2	2,029.6	2,059.9	0.00	0.00	
6,100.0	23.00	99.85	5,683.4	-358.9	2,068.1	2,099.0	0.00	0.00	
6,200.0	23.00	99.85	5,775.5	-365.6	2,106.6	2,138.1	0.00	0.00	
6,300.0	23.00	99.85	5,867.5	-372.3	2,145.1	2,177.1	0.00	0.00	
6,400.0	23.00	99.85	5,959.6	-379.0	2,183.6	2,216.2	0.00	0.00	
6,500.0	23.00	99.85	6,051.6	-385.7	2,222.1	2,255.3	0.00	0.00	
6,600.0	23.00	99.85	6,143.7	-392.3	2,260.6	2,294.4	0.00	0.00	
6,700.0	23.00	99.85	6,235.7	-399.0	2,299.1	2,333.4	0.00	0.00	
6,800.0	23.00	99.85	6,327.8	-405.7	2,337.6	2,372.5	0.00	0.00	
6,900.0	23.00	99.85	6,419.8	-412.4	2,376.1	2,411.6	0.00	0.00	
7,000.0	23.00	99.85	6,511.9	-419.1	2,414.6	2,450.7	0.00	0.00	
7,100.0	23.00	99.85	6,603.9	-425.7	2,453.1	2,489.7	0.00	0.00	
7,200.0	23.00	99.85	6,696.0	-432.4	2,491.6	2,528.8	0.00	0.00	
7,300.0	23.00	99.85	6,788.0	-439.1	2,530.1	2,567.9	0.00	0.00	
7,400.0	23.00	99.85	6,880.1	-445.8	2,568.6	2,607.0	0.00	0.00	
7,456.1	23.00	99.85	6,931.7	-449.5	2,590.2	2,628.9	0.00	0.00	Start 3° Drop @ 7456.1' MD
7,500.0	21.69	99.85	6,972.3	-452.4	2,606.6	2,645.6	3.00	-3.00	
7,600.0	18.69	99.85	7,066.1	-458.3	2,640.6	2,680.1	3.00	-3.00	
7,700.0	15.69	99.85	7,161.7	-463.3	2,669.7	2,709.6	3.00	-3.00	
7,800.0	12.69	99.85	7,258.6	-467.5	2,693.9	2,734.1	3.00	-3.00	
7,900.0	9.69	99.85	7,356.7	-470.8	2,713.0	2,753.5	3.00	-3.00	
8,000.0	6.69	99.85	7,455.7	-473.3	2,727.0	2,767.7	3.00	-3.00	
8,100.0	3.69	99.85	7,555.2	-474.8	2,735.9	2,776.8	3.00	-3.00	
8,182.8	1.20	99.85	7,638.0	-475.4	2,739.4	2,780.3	3.00	-3.00	WILLIAMS_FORK_TVD
8,200.0	0.69	99.85	7,655.2	-475.5	2,739.7	2,780.6	3.00	-3.00	
8,222.8	0.00	0.00	7,678.0	-475.5	2,739.8	2,780.7	3.00	-3.00	EOD @ 8222.3' MD - TOG TVD
8,300.0	0.19	239.52	7,755.2	-475.6	2,739.7	2,780.6	0.25	0.25	
8,322.3	0.25	239.52	7,777.5	-475.6	2,739.6	2,780.6	0.25	0.25	
8,400.0	0.25	239.52	7,855.2	-475.8	2,739.3	2,780.3	0.00	0.00	
8,500.0	0.25	239.52	7,955.2	-476.0	2,738.9	2,780.0	0.00	0.00	
8,600.0	0.25	239.52	8,055.2	-476.2	2,738.6	2,779.6	0.00	0.00	
8,700.0	0.25	239.52	8,155.2	-476.4	2,738.2	2,779.3	0.00	0.00	
8,800.0	0.25	239.52	8,255.2	-476.7	2,737.8	2,779.0	0.00	0.00	
8,900.0	0.25	239.52	8,355.2	-476.9	2,737.5	2,778.7	0.00	0.00	
9,000.0	0.25	239.52	8,455.2	-477.1	2,737.1	2,778.3	0.00	0.00	
9,100.0	0.25	239.52	8,555.2	-477.3	2,736.7	2,778.0	0.00	0.00	

Cathedral Energy Services

Planning Report

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TVD Reference: WELL @ 8136.0ft (Original Well Elev)
MD Reference: WELL @ 8136.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,200.0	0.25	239.52	8,655.2	-477.5	2,736.3	2,777.7	0.00	0.00	
9,300.0	0.25	239.52	8,755.2	-477.8	2,736.0	2,777.3	0.00	0.00	
9,400.0	0.25	239.52	8,855.2	-478.0	2,735.6	2,777.0	0.00	0.00	
9,500.0	0.25	239.52	8,955.2	-478.2	2,735.2	2,776.7	0.00	0.00	
9,600.0	0.25	239.52	9,055.1	-478.4	2,734.8	2,776.4	0.00	0.00	
9,700.0	0.25	239.52	9,155.1	-478.6	2,734.5	2,776.0	0.00	0.00	
9,800.0	0.25	239.52	9,255.1	-478.9	2,734.1	2,775.7	0.00	0.00	
9,900.0	0.25	239.52	9,355.1	-479.1	2,733.7	2,775.4	0.00	0.00	
10,000.0	0.25	239.52	9,455.1	-479.3	2,733.3	2,775.0	0.00	0.00	
10,100.0	0.25	239.52	9,555.1	-479.5	2,733.0	2,774.7	0.00	0.00	
10,200.0	0.25	239.52	9,655.1	-479.7	2,732.6	2,774.4	0.00	0.00	
10,300.0	0.25	239.52	9,755.1	-480.0	2,732.2	2,774.0	0.00	0.00	
10,400.0	0.25	239.52	9,855.1	-480.2	2,731.8	2,773.7	0.00	0.00	
10,500.0	0.25	239.52	9,955.1	-480.4	2,731.5	2,773.4	0.00	0.00	
10,600.0	0.25	239.52	10,055.1	-480.6	2,731.1	2,773.1	0.00	0.00	
10,700.0	0.25	239.52	10,155.1	-480.8	2,730.7	2,772.7	0.00	0.00	
10,800.0	0.25	239.52	10,255.1	-481.1	2,730.3	2,772.4	0.00	0.00	
10,900.0	0.25	239.52	10,355.1	-481.3	2,730.0	2,772.1	0.00	0.00	
11,000.0	0.25	239.52	10,455.1	-481.5	2,729.6	2,771.7	0.00	0.00	
11,100.0	0.25	239.52	10,555.1	-481.7	2,729.2	2,771.4	0.00	0.00	
11,200.0	0.25	239.52	10,655.1	-481.9	2,728.8	2,771.1	0.00	0.00	
11,300.0	0.25	239.52	10,755.1	-482.2	2,728.5	2,770.7	0.00	0.00	
11,400.0	0.25	239.52	10,855.1	-482.4	2,728.1	2,770.4	0.00	0.00	
11,500.0	0.25	239.52	10,955.1	-482.6	2,727.7	2,770.1	0.00	0.00	
11,589.9	0.25	239.52	11,045.0	-482.8	2,727.4	2,769.8	0.00	0.00	CAMEO_TVD
11,600.0	0.25	239.52	11,055.1	-482.8	2,727.4	2,769.8	0.00	0.00	
11,700.0	0.25	239.52	11,155.1	-483.0	2,727.0	2,769.4	0.00	0.00	
11,800.0	0.25	239.52	11,255.1	-483.3	2,726.6	2,769.1	0.00	0.00	
11,900.0	0.25	239.52	11,355.1	-483.5	2,726.2	2,768.8	0.00	0.00	
11,945.9	0.25	239.52	11,401.0	-483.6	2,726.1	2,768.6	0.00	0.00	ROLLINS_TVD
12,000.0	0.25	239.52	11,455.1	-483.7	2,725.9	2,768.4	0.00	0.00	
12,100.0	0.25	239.52	11,555.1	-483.9	2,725.5	2,768.1	0.00	0.00	
12,200.0	0.25	239.52	11,655.1	-484.1	2,725.1	2,767.8	0.00	0.00	
12,200.9	0.25	239.52	11,656.0	-484.1	2,725.1	2,767.8	0.00	0.00	COZZETTE_TVD
12,300.0	0.25	239.52	11,755.1	-484.4	2,724.7	2,767.5	0.00	0.00	
12,386.9	0.25	239.52	11,842.0	-484.6	2,724.4	2,767.2	0.00	0.00	CORCORAN_TVD
12,400.0	0.25	239.52	11,855.1	-484.6	2,724.4	2,767.1	0.00	0.00	
12,500.0	0.25	239.52	11,955.1	-484.8	2,724.0	2,766.8	0.00	0.00	
12,600.0	0.25	239.52	12,055.1	-485.0	2,723.6	2,766.5	0.00	0.00	
12,674.9	0.25	239.52	12,130.0	-485.2	2,723.3	2,766.2	0.00	0.00	UPPER_SEGO_TVD
12,700.0	0.25	239.52	12,155.1	-485.2	2,723.2	2,766.1	0.00	0.00	
12,800.0	0.25	239.52	12,255.1	-485.5	2,722.9	2,765.8	0.00	0.00	
12,824.9	0.25	239.52	12,280.0	-485.5	2,722.8	2,765.7	0.00	0.00	TD @ 12824.9' MD - SEGO_BASE_TARGET_1
12,900.0	0.25	239.52	12,355.1	-485.7	2,722.5	2,765.5	0.00	0.00	
12,974.9	0.25	239.52	12,430.0	-485.9	2,722.2	2,765.2	0.00	0.00	Permit TD @ 12974.9' MD

Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well 8510F-27 L27 496
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 8136.0ft (Original Well Elev)
Project:	Story Gulch	MD Reference:	WELL @ 8136.0ft (Original Well Elev)
Site:	S27-T4S-R96W (L27 496)	North Reference:	True
Well:	8510F-27 L27 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
L27 496 8510F-27 TGT - plan hits target center - Point	0.00	0.00	7,678.0	-475.5	2,739.8	1,679,746.32	2,253,985.02	39° 40' 11.34 N	108° 9' 1.80 W
L27 496 8510F-27 PBHL - plan hits target center - Rectangle (sides W30.0 H50.0 D0.0)	0.00	0.00	12,280.0	-485.5	2,722.8	1,679,736.80	2,253,967.71	39° 40' 11.24 N	108° 9' 2.02 W

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
1,114.2	1,094.0	A_GROOVE_TVD				
1,277.2	1,244.0	B_GROOVE_TVD				
1,290.2	1,256.0	B_GROOVE_BASE_TVD				
2,338.6	2,221.0	GARDEN_GULCH_TVD.				
3,430.4	3,226.0	WASATCH_FM_TVD				
5,855.1	5,458.0	WASATCH_G_TVD				
8,182.8	7,638.0	WILLIAMS_FORK_TVD				
8,222.8	7,678.0	TOG TVD				
11,589.9	11,045.0	CAMEO_TVD				
11,945.9	11,401.0	ROLLINS_TVD				
12,200.9	11,656.0	COZZETTE_TVD				
12,386.9	11,842.0	CORCORAN_TVD				
12,674.9	12,130.0	UPPER_SEGO_TVD				
12,824.9	12,280.0	SEGO_BASE_TARGET_TVD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
350.0	350.0	0.0	0.0	KOP @ 350' MD	
1,116.7	1,096.3	-26.0	149.6	EOB; Inc=23°	
7,456.1	6,931.7	-449.5	2,590.2	Start 3° Drop @ 7456.1' MD	
8,222.8	7,678.0	-475.5	2,739.8	EOD @ 8222.3' MD	
12,824.9	12,280.0	-475.6	2,739.6	TD @ 12824.9' MD	
12,974.9	12,430.0	-485.5	2,722.8	Permit TD @ 12974.9' MD	