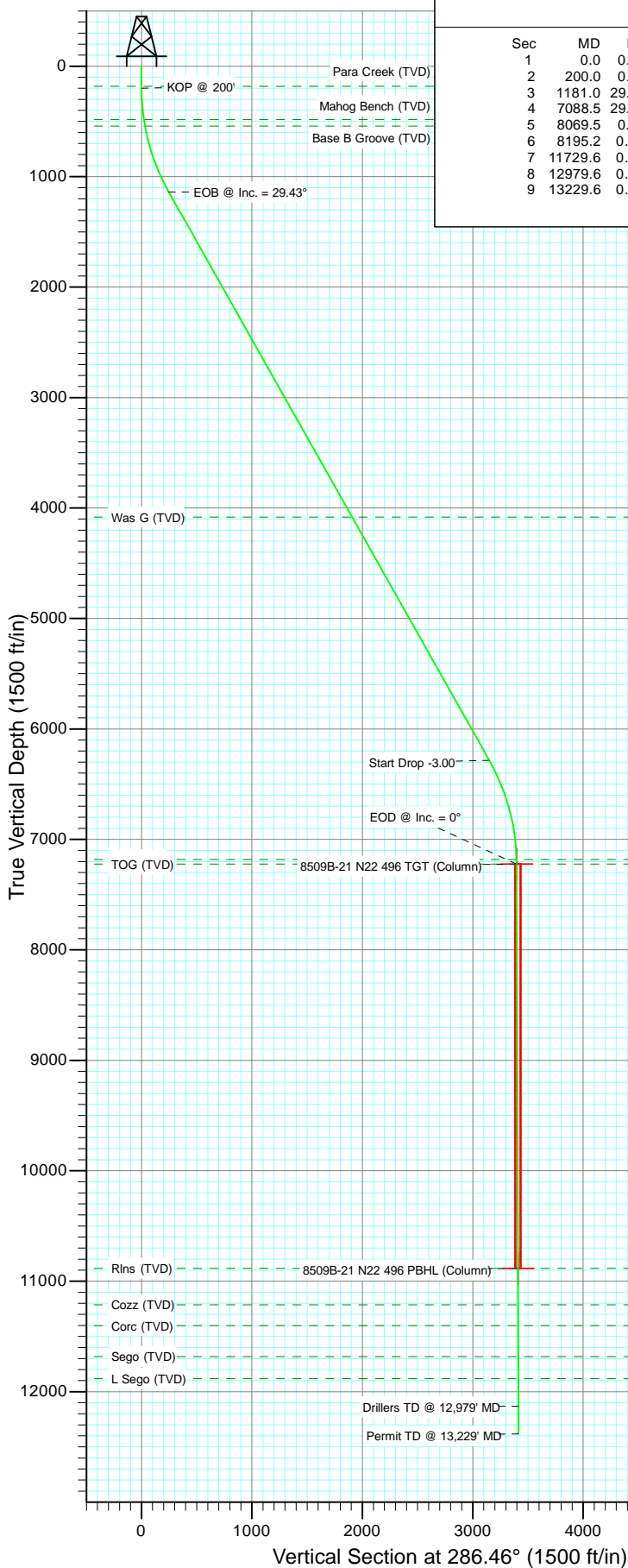
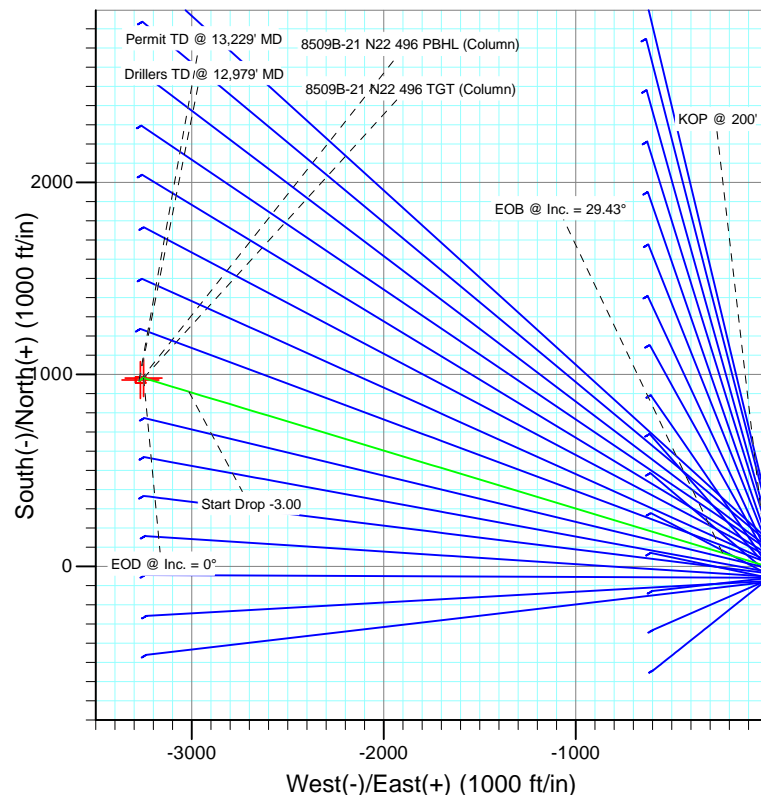




Project: Story Gulch
Site: S22-T4S-R96W (N22 496) (Column Pattern)
Well: 8509B-21 N22 496
Wellbore: DD
Design: Plan #1



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1181.0	29.43	286.81	1138.5	71.3	-235.9	3.00	286.81	246.5	
4	7088.5	29.43	286.81	6283.5	910.5	-3014.8	0.00	0.00	3149.2	
5	8069.5	0.00	0.00	7222.0	981.8	-3250.7	3.00	180.00	3395.7	8509B-21 N22 496 TGT (Column)
6	8195.2	0.31	239.59	7347.6	981.6	-3251.0	0.25	239.59	3395.9	
7	11729.6	0.31	239.59	10882.0	971.8	-3267.7	0.00	0.00	3409.2	8509B-21 N22 496 PBHL (Column)
8	12979.6	0.31	239.59	12132.0	968.4	-3273.6	0.00	0.00	3413.8	
9	13229.6	0.31	239.59	12382.0	967.7	-3274.8	0.00	0.00	3414.8	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
182.0	182.0	Para Creek (TVD)
482.0	483.0	Mahog Bench (TVD)
542.0	543.9	Base B Groove (TVD)
4082.0	4560.7	Was G (TVD)
7182.0	8029.5	WF (TVD)
7222.0	8069.5	TOG (TVD)
10882.0	11729.6	Rins (TVD)
11212.0	12059.6	Cozz (TVD)
11402.0	12249.6	Corc (TVD)
11682.0	12529.6	Sego (TVD)
11882.0	12729.6	L Sego (TVD)



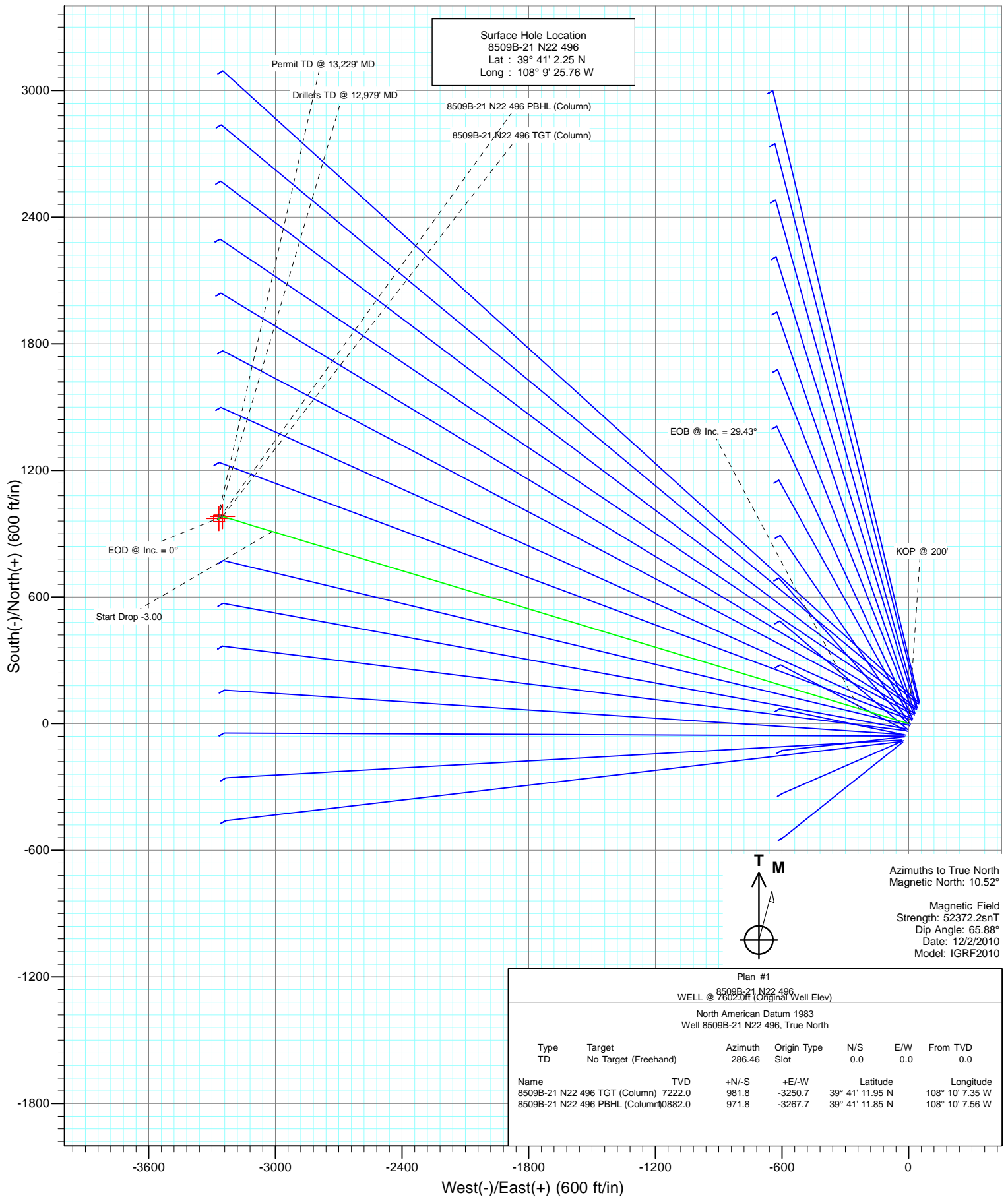
Azimuths to True North
Magnetic North: 10.52°

Magnetic Field
Strength: 52372.2snT
Dip Angle: 65.88°
Date: 12/2/2010
Model: IGRF2010

Plan #1 8509B-21 N22 496 WELL @ 7602.0ft (Original Well Elev)						
North American Datum 1983 Well 8509B-21 N22 496, True North						
Type	Target	Azimuth	Origin	Type	N/S	E/W
TD	No Target (Freehand)	286.46	Slot		0.0	0.0
						From TVD
						0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
8509B-21 N22 496 TGT (Column)	7222.0	981.8	-3250.7	39° 41' 11.95 N	108° 10' 7.35 W	
8509B-21 N22 496 PBHL (Column)	10882.0	971.8	-3267.7	39° 41' 11.85 N	108° 10' 7.56 W	

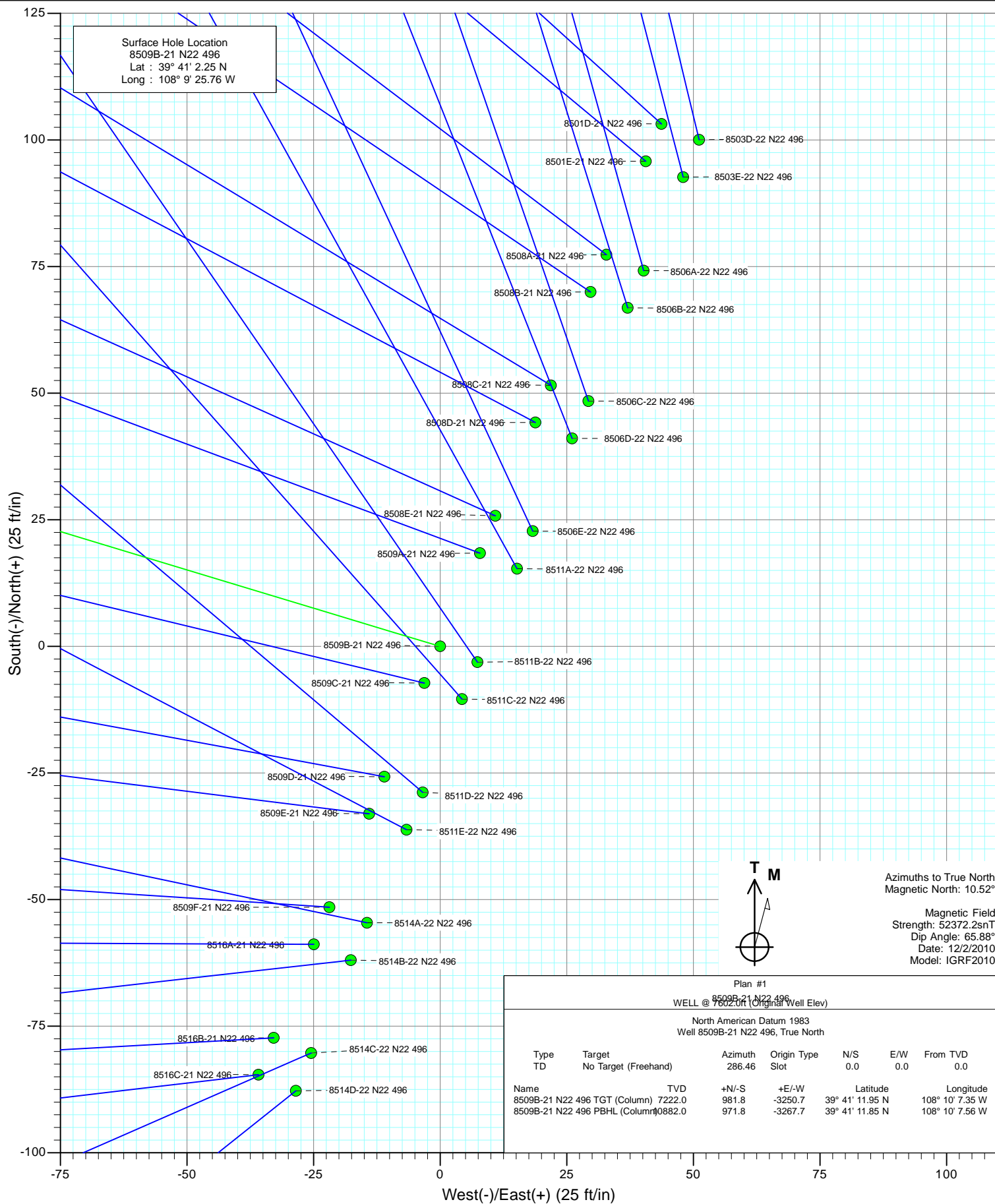


Project: Story Gulch
Site: S22-T4S-R96W (N22 496) (Column Pattern)
Well: 8509B-21 N22 496
Wellbore: DD
Design: Plan #1



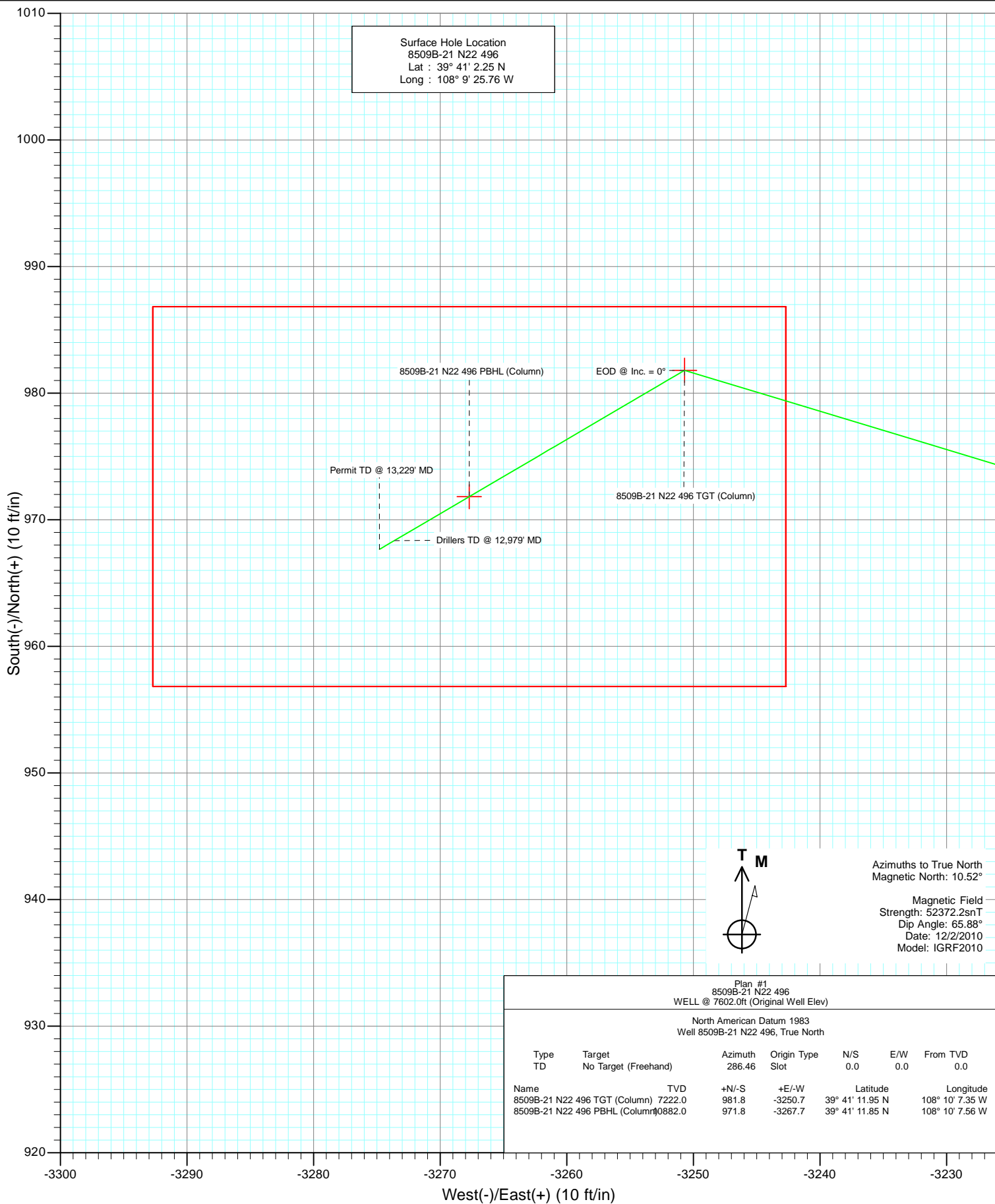


Project: Story Gulch
Site: S22-T4S-R96W (N22 496) (Column Pattern)
Well: 8509B-21 N22 496
Wellbore: DD
Design: Plan #1





Project: Story Gulch
Site: S22-T4S-R96W (N22 496) (Column Pattern)
Well: 8509B-21 N22 496
Wellbore: DD
Design: Plan #1



Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well 8509B-21 N22 496
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7602.0ft (Original Well Elev)
Project:	Story Gulch	MD Reference:	WELL @ 7602.0ft (Original Well Elev)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	North Reference:	True
Well:	8509B-21 N22 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		S22-T4S-R96W (N22 496) (Column Pattern)			
Site Position:		Northing:	1,685,048.56 ft	Latitude:	39° 41' 3.24 N
From:	Lat/Long	Easting:	2,252,316.79 ft	Longitude:	108° 9' 25.11 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.68 °

Well	8509B-21 N22 496					
Well Position	+N/-S	0.0 ft	Northing:	1,684,950.05 ft	Latitude:	39° 41' 2.25 N
	+E/-W	0.0 ft	Easting:	2,252,262.73 ft	Longitude:	108° 9' 25.76 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,569.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/2/2010	10.52	65.88	52,372

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	286.46	

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,181.0	29.43	286.81	1,138.5	71.3	-235.9	3.00	3.00	0.00	286.81	
7,088.5	29.43	286.81	6,283.5	910.5	-3,014.8	0.00	0.00	0.00	0.00	
8,069.5	0.00	0.00	7,222.0	981.8	-3,250.7	3.00	-3.00	0.00	180.00	8509B-21 N22 496 TC
8,195.2	0.31	239.59	7,347.6	981.6	-3,251.0	0.25	0.25	-95.83	239.59	
11,729.6	0.31	239.59	10,882.0	971.8	-3,267.7	0.00	0.00	0.00	0.00	8509B-21 N22 496 PE
12,979.6	0.31	239.59	12,132.0	968.4	-3,273.6	0.00	0.00	0.00	0.00	
13,229.6	0.31	239.59	12,382.0	967.7	-3,274.8	0.00	0.00	0.00	0.00	

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well 8509B-21 N22 496
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7602.0ft (Original Well Elev)
Project:	Story Gulch	MD Reference:	WELL @ 7602.0ft (Original Well Elev)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	North Reference:	True
Well:	8509B-21 N22 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	
182.0	0.00	0.00	182.0	0.0	0.0	0.0	0.00	0.00	Para Creek (TVD)
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	KOP @ 200'
300.0	3.00	286.81	300.0	0.8	-2.5	2.6	3.00	3.00	
400.0	6.00	286.81	399.6	3.0	-10.0	10.5	3.00	3.00	
483.0	8.49	286.81	482.0	6.1	-20.0	20.9	3.00	3.00	Mahog Bench (TVD)
500.0	9.00	286.81	498.8	6.8	-22.5	23.5	3.00	3.00	
543.9	10.32	286.81	542.0	8.9	-29.6	30.9	3.00	3.00	Base B Groove (TVD)
600.0	12.00	286.81	597.1	12.1	-40.0	41.7	3.00	3.00	
700.0	15.00	286.81	694.3	18.8	-62.3	65.1	3.00	3.00	
800.0	18.00	286.81	790.2	27.0	-89.5	93.5	3.00	3.00	
900.0	21.00	286.81	884.4	36.7	-121.4	126.8	3.00	3.00	
1,000.0	24.00	286.81	976.8	47.7	-158.1	165.1	3.00	3.00	
1,100.0	27.00	286.81	1,067.1	60.2	-199.3	208.2	3.00	3.00	
1,181.0	29.43	286.81	1,138.5	71.3	-235.9	246.5	3.00	3.00	EOB @ Inc. = 29.43°
1,200.0	29.43	286.81	1,155.0	74.0	-244.9	255.8	0.00	0.00	
1,300.0	29.43	286.81	1,242.1	88.2	-291.9	304.9	0.00	0.00	
1,400.0	29.43	286.81	1,329.2	102.4	-338.9	354.1	0.00	0.00	
1,500.0	29.43	286.81	1,416.3	116.6	-386.0	403.2	0.00	0.00	
1,600.0	29.43	286.81	1,503.4	130.8	-433.0	452.3	0.00	0.00	
1,700.0	29.43	286.81	1,590.4	145.0	-480.1	501.5	0.00	0.00	
1,800.0	29.43	286.81	1,677.5	159.2	-527.1	550.6	0.00	0.00	
1,900.0	29.43	286.81	1,764.6	173.4	-574.1	599.7	0.00	0.00	
2,000.0	29.43	286.81	1,851.7	187.6	-621.2	648.9	0.00	0.00	
2,100.0	29.43	286.81	1,938.8	201.8	-668.2	698.0	0.00	0.00	
2,200.0	29.43	286.81	2,025.9	216.0	-715.3	747.2	0.00	0.00	
2,300.0	29.43	286.81	2,113.0	230.2	-762.3	796.3	0.00	0.00	
2,400.0	29.43	286.81	2,200.1	244.4	-809.3	845.4	0.00	0.00	
2,500.0	29.43	286.81	2,287.2	258.6	-856.4	894.6	0.00	0.00	
2,600.0	29.43	286.81	2,374.3	272.9	-903.4	943.7	0.00	0.00	
2,700.0	29.43	286.81	2,461.4	287.1	-950.5	992.8	0.00	0.00	
2,800.0	29.43	286.81	2,548.5	301.3	-997.5	1,042.0	0.00	0.00	
2,900.0	29.43	286.81	2,635.6	315.5	-1,044.5	1,091.1	0.00	0.00	
3,000.0	29.43	286.81	2,722.7	329.7	-1,091.6	1,140.2	0.00	0.00	
3,100.0	29.43	286.81	2,809.8	343.9	-1,138.6	1,189.4	0.00	0.00	
3,200.0	29.43	286.81	2,896.9	358.1	-1,185.6	1,238.5	0.00	0.00	
3,300.0	29.43	286.81	2,984.0	372.3	-1,232.7	1,287.7	0.00	0.00	
3,400.0	29.43	286.81	3,071.1	386.5	-1,279.7	1,336.8	0.00	0.00	
3,500.0	29.43	286.81	3,158.2	400.7	-1,326.8	1,385.9	0.00	0.00	
3,600.0	29.43	286.81	3,245.2	414.9	-1,373.8	1,435.1	0.00	0.00	
3,700.0	29.43	286.81	3,332.3	429.1	-1,420.8	1,484.2	0.00	0.00	
3,800.0	29.43	286.81	3,419.4	443.3	-1,467.9	1,533.3	0.00	0.00	
3,900.0	29.43	286.81	3,506.5	457.5	-1,514.9	1,582.5	0.00	0.00	
4,000.0	29.43	286.81	3,593.6	471.8	-1,562.0	1,631.6	0.00	0.00	
4,100.0	29.43	286.81	3,680.7	486.0	-1,609.0	1,680.8	0.00	0.00	
4,200.0	29.43	286.81	3,767.8	500.2	-1,656.0	1,729.9	0.00	0.00	
4,300.0	29.43	286.81	3,854.9	514.4	-1,703.1	1,779.0	0.00	0.00	
4,400.0	29.43	286.81	3,942.0	528.6	-1,750.1	1,828.2	0.00	0.00	
4,500.0	29.43	286.81	4,029.1	542.8	-1,797.2	1,877.3	0.00	0.00	
4,560.7	29.43	286.81	4,082.0	551.4	-1,825.7	1,907.1	0.00	0.00	Was G (TVD)
4,600.0	29.43	286.81	4,116.2	557.0	-1,844.2	1,926.4	0.00	0.00	

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well 8509B-21 N22 496
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7602.0ft (Original Well Elev)
Project:	Story Gulch	MD Reference:	WELL @ 7602.0ft (Original Well Elev)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	North Reference:	True
Well:	8509B-21 N22 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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
4,700.0	29.43	286.81	4,203.3	571.2	-1,891.2	1,975.6	0.00	0.00	
4,800.0	29.43	286.81	4,290.4	585.4	-1,938.3	2,024.7	0.00	0.00	
4,900.0	29.43	286.81	4,377.5	599.6	-1,985.3	2,073.8	0.00	0.00	
5,000.0	29.43	286.81	4,464.6	613.8	-2,032.3	2,123.0	0.00	0.00	
5,100.0	29.43	286.81	4,551.7	628.0	-2,079.4	2,172.1	0.00	0.00	
5,200.0	29.43	286.81	4,638.8	642.2	-2,126.4	2,221.3	0.00	0.00	
5,300.0	29.43	286.81	4,725.9	656.4	-2,173.5	2,270.4	0.00	0.00	
5,400.0	29.43	286.81	4,813.0	670.7	-2,220.5	2,319.5	0.00	0.00	
5,500.0	29.43	286.81	4,900.0	684.9	-2,267.5	2,368.7	0.00	0.00	
5,600.0	29.43	286.81	4,987.1	699.1	-2,314.6	2,417.8	0.00	0.00	
5,700.0	29.43	286.81	5,074.2	713.3	-2,361.6	2,466.9	0.00	0.00	
5,800.0	29.43	286.81	5,161.3	727.5	-2,408.7	2,516.1	0.00	0.00	
5,900.0	29.43	286.81	5,248.4	741.7	-2,455.7	2,565.2	0.00	0.00	
6,000.0	29.43	286.81	5,335.5	755.9	-2,502.7	2,614.4	0.00	0.00	
6,100.0	29.43	286.81	5,422.6	770.1	-2,549.8	2,663.5	0.00	0.00	
6,200.0	29.43	286.81	5,509.7	784.3	-2,596.8	2,712.6	0.00	0.00	
6,300.0	29.43	286.81	5,596.8	798.5	-2,643.9	2,761.8	0.00	0.00	
6,400.0	29.43	286.81	5,683.9	812.7	-2,690.9	2,810.9	0.00	0.00	
6,500.0	29.43	286.81	5,771.0	826.9	-2,737.9	2,860.0	0.00	0.00	
6,600.0	29.43	286.81	5,858.1	841.1	-2,785.0	2,909.2	0.00	0.00	
6,700.0	29.43	286.81	5,945.2	855.3	-2,832.0	2,958.3	0.00	0.00	
6,800.0	29.43	286.81	6,032.3	869.6	-2,879.1	3,007.4	0.00	0.00	
6,900.0	29.43	286.81	6,119.4	883.8	-2,926.1	3,056.6	0.00	0.00	
7,000.0	29.43	286.81	6,206.5	898.0	-2,973.1	3,105.7	0.00	0.00	
7,088.5	29.43	286.81	6,283.5	910.5	-3,014.8	3,149.2	0.00	0.00	Start Drop -3.00
7,100.0	29.09	286.81	6,293.6	912.2	-3,020.1	3,154.8	3.00	-3.00	
7,200.0	26.09	286.81	6,382.2	925.6	-3,064.5	3,201.1	3.00	-3.00	
7,300.0	23.09	286.81	6,473.1	937.6	-3,104.3	3,242.7	3.00	-3.00	
7,400.0	20.09	286.81	6,566.1	948.2	-3,139.5	3,279.5	3.00	-3.00	
7,500.0	17.09	286.81	6,660.9	957.4	-3,170.0	3,311.4	3.00	-3.00	
7,600.0	14.09	286.81	6,757.2	965.2	-3,195.7	3,338.2	3.00	-3.00	
7,700.0	11.09	286.81	6,854.8	971.5	-3,216.6	3,360.0	3.00	-3.00	
7,800.0	8.09	286.81	6,953.4	976.3	-3,232.5	3,376.7	3.00	-3.00	
7,900.0	5.09	286.81	7,052.7	979.6	-3,243.5	3,388.2	3.00	-3.00	
8,000.0	2.09	286.81	7,152.5	981.4	-3,249.5	3,394.4	3.00	-3.00	
8,029.5	1.20	286.81	7,182.0	981.7	-3,250.3	3,395.3	3.00	-3.00	WF (TVD)
8,069.5	0.00	0.00	7,222.0	981.8	-3,250.7	3,395.7	3.00	-3.00	EOD @ Inc. = 0° - TOG (TVD) - 8509B-21 N22
8,100.0	0.08	239.59	7,252.5	981.8	-3,250.7	3,395.7	0.25	0.25	
8,195.2	0.31	239.59	7,347.6	981.6	-3,251.0	3,395.9	0.25	0.25	
8,200.0	0.31	239.59	7,352.5	981.6	-3,251.0	3,395.9	0.00	0.00	
8,300.0	0.31	239.59	7,452.5	981.3	-3,251.5	3,396.3	0.00	0.00	
8,400.0	0.31	239.59	7,552.5	981.1	-3,252.0	3,396.7	0.00	0.00	
8,500.0	0.31	239.59	7,652.5	980.8	-3,252.4	3,397.0	0.00	0.00	
8,600.0	0.31	239.59	7,752.5	980.5	-3,252.9	3,397.4	0.00	0.00	
8,700.0	0.31	239.59	7,852.5	980.2	-3,253.4	3,397.8	0.00	0.00	
8,800.0	0.31	239.59	7,952.5	980.0	-3,253.9	3,398.2	0.00	0.00	
8,900.0	0.31	239.59	8,052.5	979.7	-3,254.3	3,398.5	0.00	0.00	
9,000.0	0.31	239.59	8,152.5	979.4	-3,254.8	3,398.9	0.00	0.00	
9,100.0	0.31	239.59	8,252.5	979.1	-3,255.3	3,399.3	0.00	0.00	
9,200.0	0.31	239.59	8,352.5	978.8	-3,255.7	3,399.7	0.00	0.00	
9,300.0	0.31	239.59	8,452.5	978.6	-3,256.2	3,400.0	0.00	0.00	
9,400.0	0.31	239.59	8,552.5	978.3	-3,256.7	3,400.4	0.00	0.00	

Cathedral Energy

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well 8509B-21 N22 496
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 7602.0ft (Original Well Elev)
Project:	Story Gulch	MD Reference:	WELL @ 7602.0ft (Original Well Elev)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	North Reference:	True
Well:	8509B-21 N22 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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
9,500.0	0.31	239.59	8,652.5	978.0	-3,257.2	3,400.8	0.00	0.00	
9,600.0	0.31	239.59	8,752.5	977.7	-3,257.6	3,401.2	0.00	0.00	
9,700.0	0.31	239.59	8,852.4	977.5	-3,258.1	3,401.5	0.00	0.00	
9,800.0	0.31	239.59	8,952.4	977.2	-3,258.6	3,401.9	0.00	0.00	
9,900.0	0.31	239.59	9,052.4	976.9	-3,259.1	3,402.3	0.00	0.00	
10,000.0	0.31	239.59	9,152.4	976.6	-3,259.5	3,402.7	0.00	0.00	
10,100.0	0.31	239.59	9,252.4	976.3	-3,260.0	3,403.0	0.00	0.00	
10,200.0	0.31	239.59	9,352.4	976.1	-3,260.5	3,403.4	0.00	0.00	
10,300.0	0.31	239.59	9,452.4	975.8	-3,260.9	3,403.8	0.00	0.00	
10,400.0	0.31	239.59	9,552.4	975.5	-3,261.4	3,404.2	0.00	0.00	
10,500.0	0.31	239.59	9,652.4	975.2	-3,261.9	3,404.5	0.00	0.00	
10,600.0	0.31	239.59	9,752.4	975.0	-3,262.4	3,404.9	0.00	0.00	
10,700.0	0.31	239.59	9,852.4	974.7	-3,262.8	3,405.3	0.00	0.00	
10,800.0	0.31	239.59	9,952.4	974.4	-3,263.3	3,405.7	0.00	0.00	
10,900.0	0.31	239.59	10,052.4	974.1	-3,263.8	3,406.0	0.00	0.00	
11,000.0	0.31	239.59	10,152.4	973.8	-3,264.3	3,406.4	0.00	0.00	
11,100.0	0.31	239.59	10,252.4	973.6	-3,264.7	3,406.8	0.00	0.00	
11,200.0	0.31	239.59	10,352.4	973.3	-3,265.2	3,407.2	0.00	0.00	
11,300.0	0.31	239.59	10,452.4	973.0	-3,265.7	3,407.5	0.00	0.00	
11,400.0	0.31	239.59	10,552.4	972.7	-3,266.1	3,407.9	0.00	0.00	
11,500.0	0.31	239.59	10,652.4	972.5	-3,266.6	3,408.3	0.00	0.00	
11,600.0	0.31	239.59	10,752.4	972.2	-3,267.1	3,408.7	0.00	0.00	
11,700.0	0.31	239.59	10,852.4	971.9	-3,267.6	3,409.0	0.00	0.00	
11,729.6	0.31	239.59	10,882.0	971.8	-3,267.7	3,409.2	0.00	0.00	Rins (TVD) - 8509B-21 N22 496 PBHL (Column
11,800.0	0.31	239.59	10,952.4	971.6	-3,268.0	3,409.4	0.00	0.00	
11,900.0	0.31	239.59	11,052.4	971.3	-3,268.5	3,409.8	0.00	0.00	
12,000.0	0.31	239.59	11,152.4	971.1	-3,269.0	3,410.2	0.00	0.00	
12,059.6	0.31	239.59	11,212.0	970.9	-3,269.3	3,410.4	0.00	0.00	Cozz (TVD)
12,100.0	0.31	239.59	11,252.4	970.8	-3,269.5	3,410.5	0.00	0.00	
12,200.0	0.31	239.59	11,352.4	970.5	-3,269.9	3,410.9	0.00	0.00	
12,249.6	0.31	239.59	11,402.0	970.4	-3,270.2	3,411.1	0.00	0.00	Corc (TVD)
12,300.0	0.31	239.59	11,452.4	970.2	-3,270.4	3,411.3	0.00	0.00	
12,400.0	0.31	239.59	11,552.4	970.0	-3,270.9	3,411.7	0.00	0.00	
12,500.0	0.31	239.59	11,652.4	969.7	-3,271.4	3,412.0	0.00	0.00	
12,529.6	0.31	239.59	11,682.0	969.6	-3,271.5	3,412.2	0.00	0.00	Sego (TVD)
12,600.0	0.31	239.59	11,752.4	969.4	-3,271.8	3,412.4	0.00	0.00	
12,700.0	0.31	239.59	11,852.4	969.1	-3,272.3	3,412.8	0.00	0.00	
12,729.6	0.31	239.59	11,882.0	969.0	-3,272.4	3,412.9	0.00	0.00	L Sego (TVD)
12,800.0	0.31	239.59	11,952.4	968.9	-3,272.8	3,413.2	0.00	0.00	
12,900.0	0.31	239.59	12,052.4	968.6	-3,273.2	3,413.5	0.00	0.00	
12,979.6	0.31	239.59	12,132.0	968.4	-3,273.6	3,413.8	0.00	0.00	Drillers TD @ 12,979' MD
13,000.0	0.31	239.59	12,152.4	968.3	-3,273.7	3,413.9	0.00	0.00	
13,100.0	0.31	239.59	12,252.4	968.0	-3,274.2	3,414.3	0.00	0.00	
13,200.0	0.31	239.59	12,352.4	967.7	-3,274.7	3,414.7	0.00	0.00	
13,229.6	0.31	239.59	12,382.0	967.7	-3,274.8	3,414.8	0.00	0.00	Permit TD @ 13,229' MD

Cathedral Energy

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Project:	Story Gulch	MD Reference:	WELL @ 7602.0ft (Original Well Elev)
Site:	S22-T4S-R96W (N22 496) (Column Pattern)	North Reference:	True
Well:	8509B-21 N22 496	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
8509B-21 N22 496 PBH	0.00	0.00	10,882.0	971.8	-3,267.7	1,686,017.02	2,249,024.85	39° 41' 11.85 N	108° 10' 7.56 W
- plan hits target center									
- Rectangle (sides W30.0 H50.0 D0.0)									
8509B-21 N22 496 TGT	0.00	0.00	7,222.0	981.8	-3,250.7	1,686,026.50	2,249,042.14	39° 41' 11.95 N	108° 10' 7.35 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
182.0	182.0	Para Creek (TVD)				
483.0	482.0	Mahog Bench (TVD)				
543.9	542.0	Base B Groove (TVD)				
4,560.7	4,082.0	Was G (TVD)				
8,029.5	7,182.0	WF (TVD)				
8,069.5	7,222.0	TOG (TVD)				
11,729.6	10,882.0	Rlms (TVD)				
12,059.6	11,212.0	Cozz (TVD)				
12,249.6	11,402.0	Corc (TVD)				
12,529.6	11,682.0	Sego (TVD)				
12,729.6	11,882.0	L Sego (TVD)				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200'
1,181.0	1,138.5	71.3	-235.9	EOB @ Inc. = 29.43°
7,088.5	6,283.5	910.5	-3,014.8	Start Drop -3.00
8,069.5	7,222.0	981.8	-3,250.7	EOD @ Inc. = 0°
12,979.6	12,132.0	981.6	-3,251.0	Drillers TD @ 12,979' MD
13,229.6	12,382.0	971.8	-3,267.7	Permit TD @ 13,229' MD