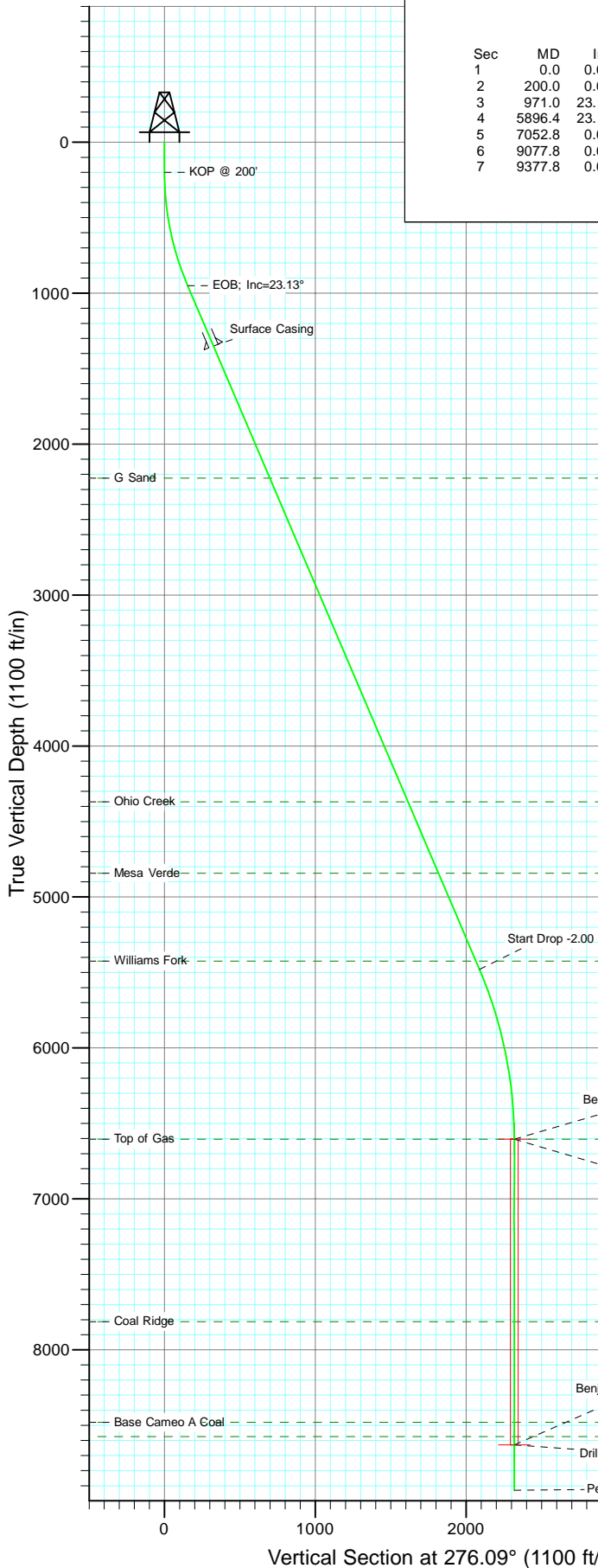
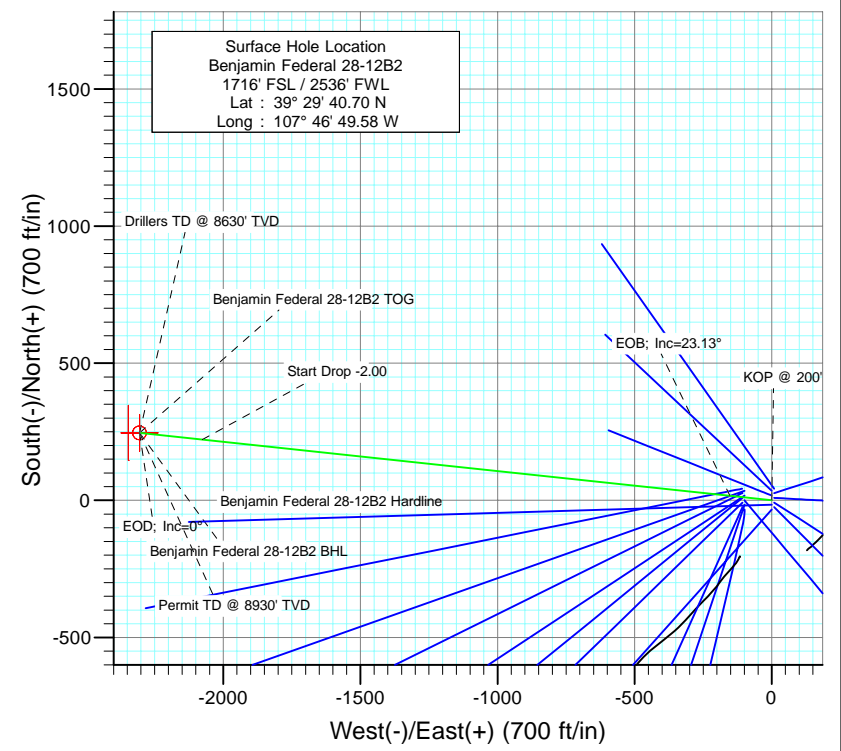




Project: Mamm Creek
 Site: K28NW Pad
 Well: Benjamin Federal 28-12B2
 Wellbore: DD
 Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	971.0	23.13	276.09	950.2	16.3	-152.7	3.00	276.09	153.5	
4	5896.4	23.13	276.09	5479.7	221.5	-2076.5	0.00	0.00	2088.3	
5	7052.8	0.00	0.00	6605.0	246.0	-2305.4	2.00	180.00	2318.5	Benjamin Federal 28-12B2 TOG
6	9077.8	0.00	0.00	8630.0	246.0	-2305.4	0.00	0.00	2318.5	Benjamin Federal 28-12B2 BHL
7	9377.8	0.00	0.00	8930.0	246.0	-2305.4	0.00	0.00	2318.5	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
2226.0	2358.3	G Sand
4370.0	4689.7	Ohio Creek
4842.0	5202.9	Mesa Verde
5424.0	5835.8	Williams Fork
6605.0	7052.8	Top of Gas
7814.0	8261.8	Coal Ridge
8480.0	8927.8	Base Cameo A Coal
8575.0	9022.8	Rollins

Azimuths to True North
Magnetic North: 10.36°

Magnetic Field
Strength: 52406.0snT
Dip Angle: 65.82°
Date: 6/23/2010
Model: IGRF200510

Plan #1 Benjamin Federal 28-12B2 (2000 FSL - 240 FWL) Job #10xxx: KR						
WELL @ 5965.0ft (Original Well Elev) North American Datum 1983 Well Benjamin Federal 28-12B2, True North						
Name	Type	Target	TVD	+N/-S	+E/-W	Latitude Longitude
Benjamin Federal 28-12B2 BHL	Target	Benjamin Federal 28-12B2 BHL	276.09	246.0	-2305.439° 29'	43.13 N 107° 47' 18.99 W

Cathedral Energy Services

Planning Report

Database: EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference: Well Benjamin Federal 28-12B2
Company: EnCana Oil & Gas (USA) Inc	TVD Reference: WELL @ 5965.0ft (Original Well Elev)
Project: Mamm Creek	MD Reference: WELL @ 5965.0ft (Original Well Elev)
Site: K28NW Pad	North Reference: True
Well: Benjamin Federal 28-12B2	Survey Calculation Method: Minimum Curvature
Wellbore: DD	
Design: Plan #1	

Project Mamm Creek		
Map System: US State Plane 1983	System Datum: Mean Sea Level	
Geo Datum: North American Datum 1983		
Map Zone: Colorado Central Zone		

Site K28NW Pad					
Site Position:	Northing:	1,613,160.16 ft	Latitude:	39.494711	
From: Lat/Long	Easting:	2,356,412.22 ft	Longitude:	-107.780819	
Position Uncertainty: 0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.44 °	

Well Benjamin Federal 28-12B2					
Well Position	+N/-S	0.0 ft	Northing:	1,613,131.16 ft	Latitude: 39.494639
	+E/-W	0.0 ft	Easting:	2,356,518.92 ft	Longitude: -107.780439
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level: 5,943.0 ft

Wellbore DD					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF200510	6/23/2010	(°) 10.36	(°) 65.82	(nT) 52,406

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	276.09	

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	
971.0	23.13	276.09	950.2	16.3	-152.7	3.00	3.00	0.00	276.09	
5,896.4	23.13	276.09	5,479.7	221.5	-2,076.5	0.00	0.00	0.00	0.00	
7,052.8	0.00	0.00	6,605.0	246.0	-2,305.4	2.00	-2.00	0.00	180.00	Benjamin Federal 28-
9,077.8	0.00	0.00	8,630.0	246.0	-2,305.4	0.00	0.00	0.00	0.00	Benjamin Federal 28-
9,377.8	0.00	0.00	8,930.0	246.0	-2,305.4	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-12B2
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-12B2	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	Benjamin Federal 28-12B2 Hardline
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	KOP @ 200'
300.0	3.00	276.09	300.0	0.3	-2.6	2.6	3.00	3.00	
400.0	6.00	276.09	399.6	1.1	-10.4	10.5	3.00	3.00	
500.0	9.00	276.09	498.8	2.5	-23.4	23.5	3.00	3.00	
600.0	12.00	276.09	597.1	4.4	-41.5	41.7	3.00	3.00	
700.0	15.00	276.09	694.3	6.9	-64.7	65.1	3.00	3.00	
800.0	18.00	276.09	790.2	9.9	-92.9	93.5	3.00	3.00	
900.0	21.00	276.09	884.4	13.5	-126.1	126.9	3.00	3.00	
971.0	23.13	276.09	950.2	16.3	-152.7	153.5	3.00	3.00	EOB; Inc=23.13°
1,000.0	23.13	276.09	976.9	17.5	-164.0	164.9	0.00	0.00	
1,100.0	23.13	276.09	1,068.9	21.7	-203.0	204.2	0.00	0.00	
1,200.0	23.13	276.09	1,160.8	25.8	-242.1	243.5	0.00	0.00	
1,300.0	23.13	276.09	1,252.8	30.0	-281.2	282.8	0.00	0.00	
1,400.0	23.13	276.09	1,344.7	34.2	-320.2	322.0	0.00	0.00	
1,406.0	23.13	276.09	1,350.3	34.4	-322.6	324.4	0.00	0.00	Surface Casing
1,500.0	23.13	276.09	1,436.7	38.3	-359.3	361.3	0.00	0.00	
1,600.0	23.13	276.09	1,528.7	42.5	-398.3	400.6	0.00	0.00	
1,700.0	23.13	276.09	1,620.6	46.7	-437.4	439.9	0.00	0.00	
1,800.0	23.13	276.09	1,712.6	50.8	-476.5	479.2	0.00	0.00	
1,900.0	23.13	276.09	1,804.6	55.0	-515.5	518.4	0.00	0.00	
2,000.0	23.13	276.09	1,896.5	59.2	-554.6	557.7	0.00	0.00	
2,100.0	23.13	276.09	1,988.5	63.3	-593.6	597.0	0.00	0.00	
2,200.0	23.13	276.09	2,080.4	67.5	-632.7	636.3	0.00	0.00	
2,300.0	23.13	276.09	2,172.4	71.7	-671.8	675.6	0.00	0.00	
2,358.3	23.13	276.09	2,226.0	74.1	-694.5	698.5	0.00	0.00	G Sand
2,400.0	23.13	276.09	2,264.4	75.8	-710.8	714.8	0.00	0.00	
2,500.0	23.13	276.09	2,356.3	80.0	-749.9	754.1	0.00	0.00	
2,600.0	23.13	276.09	2,448.3	84.2	-788.9	793.4	0.00	0.00	
2,700.0	23.13	276.09	2,540.2	88.3	-828.0	832.7	0.00	0.00	
2,800.0	23.13	276.09	2,632.2	92.5	-867.1	872.0	0.00	0.00	
2,900.0	23.13	276.09	2,724.2	96.7	-906.1	911.3	0.00	0.00	
3,000.0	23.13	276.09	2,816.1	100.8	-945.2	950.5	0.00	0.00	
3,100.0	23.13	276.09	2,908.1	105.0	-984.2	989.8	0.00	0.00	
3,200.0	23.13	276.09	3,000.1	109.2	-1,023.3	1,029.1	0.00	0.00	
3,300.0	23.13	276.09	3,092.0	113.3	-1,062.4	1,068.4	0.00	0.00	
3,400.0	23.13	276.09	3,184.0	117.5	-1,101.4	1,107.7	0.00	0.00	
3,500.0	23.13	276.09	3,275.9	121.7	-1,140.5	1,146.9	0.00	0.00	
3,600.0	23.13	276.09	3,367.9	125.8	-1,179.5	1,186.2	0.00	0.00	
3,700.0	23.13	276.09	3,459.9	130.0	-1,218.6	1,225.5	0.00	0.00	
3,800.0	23.13	276.09	3,551.8	134.2	-1,257.6	1,264.8	0.00	0.00	
3,900.0	23.13	276.09	3,643.8	138.3	-1,296.7	1,304.1	0.00	0.00	
4,000.0	23.13	276.09	3,735.8	142.5	-1,335.8	1,343.3	0.00	0.00	
4,100.0	23.13	276.09	3,827.7	146.7	-1,374.8	1,382.6	0.00	0.00	
4,200.0	23.13	276.09	3,919.7	150.9	-1,413.9	1,421.9	0.00	0.00	
4,300.0	23.13	276.09	4,011.6	155.0	-1,452.9	1,461.2	0.00	0.00	
4,400.0	23.13	276.09	4,103.6	159.2	-1,492.0	1,500.5	0.00	0.00	
4,500.0	23.13	276.09	4,195.6	163.4	-1,531.1	1,539.8	0.00	0.00	
4,600.0	23.13	276.09	4,287.5	167.5	-1,570.1	1,579.0	0.00	0.00	
4,689.7	23.13	276.09	4,370.0	171.3	-1,605.2	1,614.3	0.00	0.00	Ohio Creek
4,700.0	23.13	276.09	4,379.5	171.7	-1,609.2	1,618.3	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Benjamin Federal 28-12B2
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 5965.0ft (Original Well Elev)
Project:	Mamm Creek	MD Reference:	WELL @ 5965.0ft (Original Well Elev)
Site:	K28NW Pad	North Reference:	True
Well:	Benjamin Federal 28-12B2	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
4,800.0	23.13	276.09	4,471.4	175.9	-1,648.2	1,657.6	0.00	0.00	
4,900.0	23.13	276.09	4,563.4	180.0	-1,687.3	1,696.9	0.00	0.00	
5,000.0	23.13	276.09	4,655.4	184.2	-1,726.4	1,736.2	0.00	0.00	
5,100.0	23.13	276.09	4,747.3	188.4	-1,765.4	1,775.4	0.00	0.00	
5,200.0	23.13	276.09	4,839.3	192.5	-1,804.5	1,814.7	0.00	0.00	
5,202.9	23.13	276.09	4,842.0	192.6	-1,805.6	1,815.9	0.00	0.00	Mesa Verde
5,300.0	23.13	276.09	4,931.3	196.7	-1,843.5	1,854.0	0.00	0.00	
5,400.0	23.13	276.09	5,023.2	200.9	-1,882.6	1,893.3	0.00	0.00	
5,500.0	23.13	276.09	5,115.2	205.0	-1,921.7	1,932.6	0.00	0.00	
5,600.0	23.13	276.09	5,207.1	209.2	-1,960.7	1,971.8	0.00	0.00	
5,700.0	23.13	276.09	5,299.1	213.4	-1,999.8	2,011.1	0.00	0.00	
5,800.0	23.13	276.09	5,391.1	217.5	-2,038.8	2,050.4	0.00	0.00	
5,835.8	23.13	276.09	5,424.0	219.0	-2,052.8	2,064.5	0.00	0.00	Williams Fork
5,896.4	23.13	276.09	5,479.7	221.5	-2,076.5	2,088.3	0.00	0.00	Start Drop -2.00
5,900.0	23.06	276.09	5,483.0	221.7	-2,077.9	2,089.7	2.00	-2.00	
6,000.0	21.06	276.09	5,575.7	225.7	-2,115.2	2,127.2	2.00	-2.00	
6,100.0	19.06	276.09	5,669.6	229.3	-2,149.3	2,161.5	2.00	-2.00	
6,200.0	17.06	276.09	5,764.7	232.6	-2,180.2	2,192.5	2.00	-2.00	
6,300.0	15.06	276.09	5,860.8	235.5	-2,207.7	2,220.2	2.00	-2.00	
6,400.0	13.06	276.09	5,957.8	238.1	-2,231.8	2,244.5	2.00	-2.00	
6,500.0	11.06	276.09	6,055.6	240.3	-2,252.6	2,265.4	2.00	-2.00	
6,600.0	9.06	276.09	6,154.1	242.2	-2,269.9	2,282.8	2.00	-2.00	
6,700.0	7.06	276.09	6,253.1	243.7	-2,283.9	2,296.8	2.00	-2.00	
6,800.0	5.06	276.09	6,352.5	244.8	-2,294.4	2,307.4	2.00	-2.00	
6,900.0	3.06	276.09	6,452.2	245.5	-2,301.4	2,314.5	2.00	-2.00	
7,000.0	1.06	276.09	6,552.2	245.9	-2,305.0	2,318.0	2.00	-2.00	
7,052.8	0.00	0.00	6,605.0	246.0	-2,305.4	2,318.5	2.00	-2.00	EOD; Inc=0° - Top of Gas - Benjamin Federal 2
7,100.0	0.00	0.00	6,652.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,200.0	0.00	0.00	6,752.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,300.0	0.00	0.00	6,852.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,400.0	0.00	0.00	6,952.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,500.0	0.00	0.00	7,052.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,600.0	0.00	0.00	7,152.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,700.0	0.00	0.00	7,252.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,800.0	0.00	0.00	7,352.2	246.0	-2,305.4	2,318.5	0.00	0.00	
7,900.0	0.00	0.00	7,452.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,000.0	0.00	0.00	7,552.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,100.0	0.00	0.00	7,652.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,200.0	0.00	0.00	7,752.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,261.8	0.00	0.00	7,814.0	246.0	-2,305.4	2,318.5	0.00	0.00	Coal Ridge
8,300.0	0.00	0.00	7,852.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,400.0	0.00	0.00	7,952.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,500.0	0.00	0.00	8,052.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,600.0	0.00	0.00	8,152.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,700.0	0.00	0.00	8,252.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,800.0	0.00	0.00	8,352.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,900.0	0.00	0.00	8,452.2	246.0	-2,305.4	2,318.5	0.00	0.00	
8,927.8	0.00	0.00	8,480.0	246.0	-2,305.4	2,318.5	0.00	0.00	Base Cameo A Coal
9,000.0	0.00	0.00	8,552.2	246.0	-2,305.4	2,318.5	0.00	0.00	
9,022.8	0.00	0.00	8,575.0	246.0	-2,305.4	2,318.5	0.00	0.00	Rollins
9,077.8	0.00	0.00	8,630.0	246.0	-2,305.4	2,318.5	0.00	0.00	Drillers TD @ 8630' TVD - Benjamin Federal 28
9,100.0	0.00	0.00	8,652.2	246.0	-2,305.4	2,318.5	0.00	0.00	

Cathedral Energy Services

Planning Report

Database: EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference: Well Benjamin Federal 28-12B2
Company: EnCana Oil & Gas (USA) Inc	TVD Reference: WELL @ 5965.0ft (Original Well Elev)
Project: Mamm Creek	MD Reference: WELL @ 5965.0ft (Original Well Elev)
Site: K28NW Pad	North Reference: True
Well: Benjamin Federal 28-12B2	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
9,200.0	0.00	0.00	8,752.2	246.0	-2,305.4	2,318.5	0.00	0.00	
9,300.0	0.00	0.00	8,852.2	246.0	-2,305.4	2,318.5	0.00	0.00	
9,377.8	0.00	0.00	8,930.0	246.0	-2,305.4	2,318.5	0.00	0.00	Permit TD @ 8930' TVD

Targets											
Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Benjamin Federal 28-12	- plan hits target center	- Point	0.00	0.00	6,605.0	246.0	-2,305.4	1,613,434.92	2,354,220.38	39.495314	-107.788608
Benjamin Federal 28-12	- plan misses target center by 8936.0ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)	- Polygon	0.00	0.00	-8,630.0	246.0	-2,305.4	1,613,434.92	2,354,220.38	39.495314	-107.788608
		Point 1			-8,630.0	100.0	-40.0	1,613,535.89	2,354,182.90		
		Point 2			-8,630.0	-100.0	-40.0	1,613,335.95	2,354,177.88		
Benjamin Federal 28-12	- plan hits target center	- Circle (radius 25.0)	0.00	0.00	8,630.0	246.0	-2,305.4	1,613,434.92	2,354,220.38	39.495314	-107.788608

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,406.0	1,350.3	Surface Casing				

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,358.3	2,226.0	G Sand				
4,689.7	4,370.0	Ohio Creek				
5,202.9	4,842.0	Mesa Verde				
5,835.8	5,424.0	Williams Fork				
7,052.8	6,605.0	Top of Gas				
8,261.8	7,814.0	Coal Ridge				
8,927.8	8,480.0	Base Cameo A Coal				
9,022.8	8,575.0	Rollins				

Cathedral Energy Services

Planning Report

Database: EDM 5000.1 US Multi Users DB Company: EnCana Oil & Gas (USA) Inc Project: Mamm Creek Site: K28NW Pad Well: Benjamin Federal 28-12B2 Wellbore: DD Design: Plan #1	Local Co-ordinate Reference: TVD Reference: WELL @ 5965.0ft (Original Well Elev) MD Reference: WELL @ 5965.0ft (Original Well Elev) North Reference: True Survey Calculation Method: Minimum Curvature	Well Benjamin Federal 28-12B2 WELL @ 5965.0ft (Original Well Elev) WELL @ 5965.0ft (Original Well Elev) True Minimum Curvature
---	---	--

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP @ 200'
971.0	950.2	16.3	-152.7	EOB; Inc=23.13°
5,896.4	5,479.7	221.5	-2,076.5	Start Drop -2.00
7,052.8	6,605.0	246.0	-2,305.4	EOD; Inc=0°
9,077.8	8,630.0	246.0	-2,305.4	Drillers TD @ 8630' TVD
9,377.8	8,930.0	246.0	-2,305.4	Permit TD @ 8930' TVD