



Bill Barrett Corporation

COMPANY DETAILS: BILL BARRETT CORP

Calculation Method: Minimum Curvature
Error System: ISCWSA
Scan Method: Closest Approach 3D
Error Surface: Elliptical Conic
Warning Method: Error Ratio

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Circle B 6-66-9-0164CH, True North
Vertical (TVD) Reference: KB @ 4837.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: KB @ 4837.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: Circle B 6-66-9-0164CH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1429169.31	3198834.0240° 30'	33.372 N	104° 47' 5.712 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	2229.0	18.43	279.38	2207.9	31.9	-193.4	1.50	279.38	23.0	
4	5463.3	18.43	279.38	5276.2	198.6	-1202.5	0.00	0.00	142.9	
5	6385.0	0.00	0.00	6182.1	222.5	-1347.5	2.00	180.00	160.2	
6	6885.0	0.00	0.00	6682.1	222.5	-1347.5	0.00	0.00	160.2	
7	7707.1	90.43	179.51	7203.0	-302.3	-1343.1	11.00	179.51	663.1	CB 0164CH LP
8	11930.7	90.43	179.51	7171.3	-4525.7	-1307.3	0.00	0.00	4710.7	

PROJECT DETAILS: WELD COUNTY, COLORADO

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

FORMATION TOP DETAILS

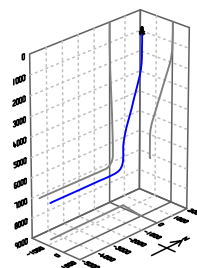
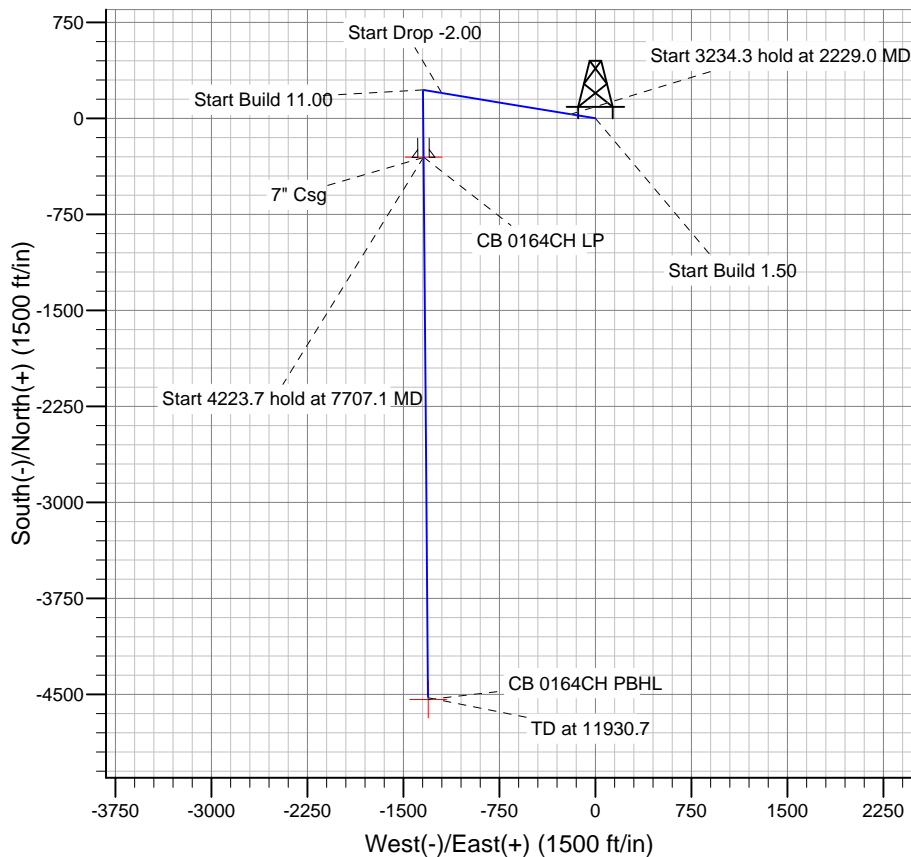
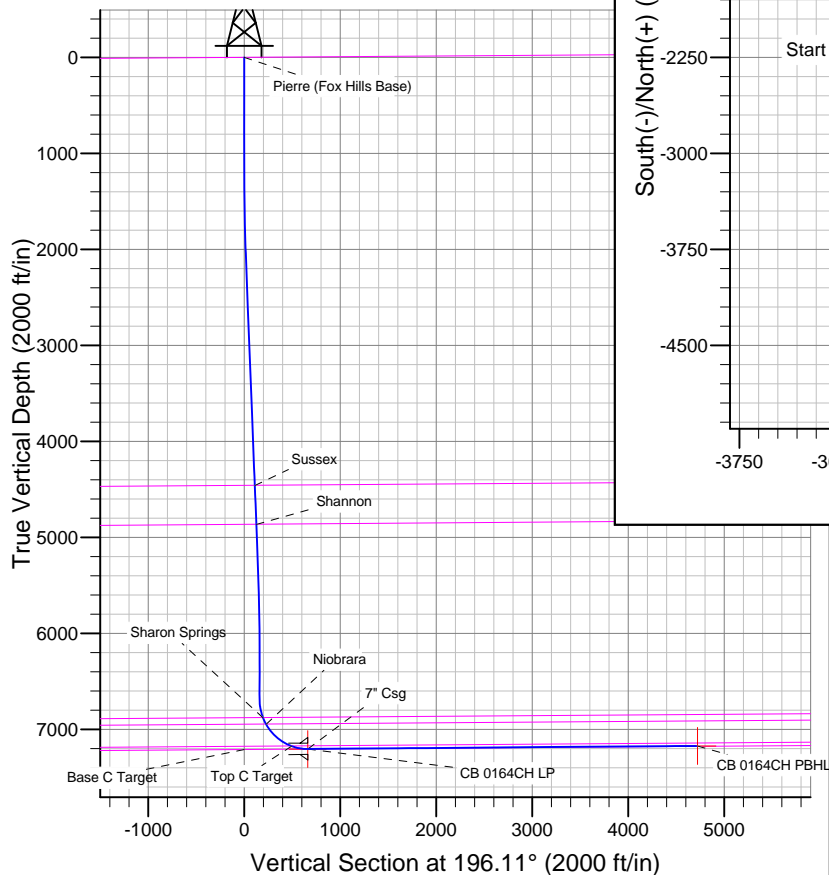
TVDPath	MDPath	Formation
		Base C Target
		Pierre (Fox Hills Base)
4459.2	4602.1	Sussex
4864.4	5029.2	Shannon
6879.5	7087.4	Sharon Springs
6946.2	7162.0	Niobrara
7174.1	7529.0	Top C Target

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
CB 0164CH PBHL	7171.0	-4539.2	-1307.1	Point
CB 0164CH LP	7203.0	-302.3	-1343.1	Point

CASING DETAILS

TVD	MD	Name	Size
7202.9	7710.0	7" Csg	7



Azimuths to True North
Magnetic North: 8.61°

Magnetic Field
Strength: 52975.0snT
Dip Angle: 67.07°
Date: 6/17/2013
Model: IGRF2010

BILL BARRETT CORP

WELD COUNTY, COLORADO

Circle B 6-66-9 Pad

Circle B 6-66-9-0164CH

Wellbore #1

Plan: Design #1

Standard Planning Report

17 June, 2013

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Circle B 6-66-9-0164CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4837.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4837.0ft (Original Well Elev)
Site:	Circle B 6-66-9 Pad	North Reference:	True
Well:	Circle B 6-66-9-0164CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	WELD COUNTY, COLORADO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Circle B 6-66-9 Pad				
Site Position:		Northing:	1,429,169.21 ft	Latitude:	40° 30' 33.372 N
From:	Lat/Long	Easting:	3,198,820.12ft	Longitude:	104° 47' 5.892 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.46 °

Well	Circle B 6-66-9-0164CH					
Well Position	+N-S	0.0 ft	Northing:	1,429,169.31 ft	Latitude:	40° 30' 33.372 N
	+E-W	13.9 ft	Easting:	3,198,834.02 ft	Longitude:	104° 47' 5.712 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,814.0ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/17/2013	8.61	67.07	52,975

Design	Design #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	196.11

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,229.0	18.43	279.38	2,207.9	31.9	-193.4	1.50	1.50	0.00	279.38	
5,463.3	18.43	279.38	5,276.2	198.6	-1,202.5	0.00	0.00	0.00	0.00	
6,385.0	0.00	0.00	6,182.1	222.5	-1,347.5	2.00	-2.00	0.00	180.00	
6,885.0	0.00	0.00	6,682.1	222.5	-1,347.5	0.00	0.00	0.00	0.00	
7,707.1	90.43	179.51	7,203.0	-302.3	-1,343.1	11.00	11.00	0.00	179.51	CB 0164CH LP
11,930.7	90.43	179.51	7,171.3	-4,525.7	-1,307.3	0.00	0.00	0.00	0.00	

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Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Circle B 6-66-9-0164CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4837.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4837.0ft (Original Well Elev)
Site:	Circle B 6-66-9 Pad	North Reference:	True
Well:	Circle B 6-66-9-0164CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	1.50	279.38	1,100.0	0.2	-1.3	0.2	1.50	1.50	0.00
1,200.0	3.00	279.38	1,199.9	0.9	-5.2	0.6	1.50	1.50	0.00
1,300.0	4.50	279.38	1,299.7	1.9	-11.6	1.4	1.50	1.50	0.00
1,400.0	6.00	279.38	1,399.3	3.4	-20.6	2.5	1.50	1.50	0.00
1,500.0	7.50	279.38	1,498.6	5.3	-32.2	3.8	1.50	1.50	0.00
1,600.0	9.00	279.38	1,597.5	7.7	-46.4	5.5	1.50	1.50	0.00
1,700.0	10.50	279.38	1,696.1	10.4	-63.1	7.5	1.50	1.50	0.00
1,800.0	12.00	279.38	1,794.2	13.6	-82.4	9.8	1.50	1.50	0.00
1,900.0	13.50	279.38	1,891.7	17.2	-104.1	12.4	1.50	1.50	0.00
2,000.0	15.00	279.38	1,988.6	21.2	-128.4	15.3	1.50	1.50	0.00
2,100.0	16.50	279.38	2,084.9	25.6	-155.2	18.4	1.50	1.50	0.00
2,200.0	18.00	279.38	2,180.4	30.5	-184.5	21.9	1.50	1.50	0.00
2,229.0	18.43	279.38	2,207.9	31.9	-193.4	23.0	1.50	1.50	0.00
2,300.0	18.43	279.38	2,275.3	35.6	-215.5	25.6	0.00	0.00	0.00
2,400.0	18.43	279.38	2,370.1	40.7	-246.7	29.3	0.00	0.00	0.00
2,500.0	18.43	279.38	2,465.0	45.9	-277.9	33.0	0.00	0.00	0.00
2,600.0	18.43	279.38	2,559.9	51.0	-309.1	36.8	0.00	0.00	0.00
2,700.0	18.43	279.38	2,654.7	56.2	-340.3	40.5	0.00	0.00	0.00
2,800.0	18.43	279.38	2,749.6	61.3	-371.5	44.2	0.00	0.00	0.00
2,900.0	18.43	279.38	2,844.5	66.5	-402.7	47.9	0.00	0.00	0.00
3,000.0	18.43	279.38	2,939.3	71.7	-433.9	51.6	0.00	0.00	0.00
3,100.0	18.43	279.38	3,034.2	76.8	-465.1	55.3	0.00	0.00	0.00
3,200.0	18.43	279.38	3,129.1	82.0	-496.3	59.0	0.00	0.00	0.00
3,300.0	18.43	279.38	3,223.9	87.1	-527.5	62.7	0.00	0.00	0.00
3,400.0	18.43	279.38	3,318.8	92.3	-558.7	66.4	0.00	0.00	0.00
3,500.0	18.43	279.38	3,413.7	97.4	-589.9	70.1	0.00	0.00	0.00
3,600.0	18.43	279.38	3,508.6	102.6	-621.1	73.8	0.00	0.00	0.00
3,700.0	18.43	279.38	3,603.4	107.7	-652.3	77.6	0.00	0.00	0.00
3,800.0	18.43	279.38	3,698.3	112.9	-683.5	81.3	0.00	0.00	0.00
3,900.0	18.43	279.38	3,793.2	118.0	-714.7	85.0	0.00	0.00	0.00
4,000.0	18.43	279.38	3,888.0	123.2	-745.9	88.7	0.00	0.00	0.00
4,100.0	18.43	279.38	3,982.9	128.3	-777.1	92.4	0.00	0.00	0.00
4,200.0	18.43	279.38	4,077.8	133.5	-808.3	96.1	0.00	0.00	0.00
4,300.0	18.43	279.38	4,172.6	138.6	-839.5	99.8	0.00	0.00	0.00
4,400.0	18.43	279.38	4,267.5	143.8	-870.7	103.5	0.00	0.00	0.00
4,500.0	18.43	279.38	4,362.4	148.9	-901.9	107.2	0.00	0.00	0.00
4,600.0	18.43	279.38	4,457.2	154.1	-933.1	110.9	0.00	0.00	0.00
4,602.1	18.43	279.38	4,459.2	154.2	-933.8	111.0	0.00	0.00	0.00
Sussex									
4,700.0	18.43	279.38	4,552.1	159.2	-964.3	114.6	0.00	0.00	0.00
4,800.0	18.43	279.38	4,647.0	164.4	-995.5	118.3	0.00	0.00	0.00
4,900.0	18.43	279.38	4,741.8	169.5	-1,026.7	122.1	0.00	0.00	0.00
5,000.0	18.43	279.38	4,836.7	174.7	-1,057.9	125.8	0.00	0.00	0.00

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Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Circle B 6-66-9-0164CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4837.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4837.0ft (Original Well Elev)
Site:	Circle B 6-66-9 Pad	North Reference:	True
Well:	Circle B 6-66-9-0164CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)	Turn Rate (°/100ft)
5,029.2	18.43	279.38	4,864.4	176.2	-1,067.0	126.8	0.00	0.00	0.00
Shannon									
5,100.0	18.43	279.38	4,931.6	179.8	-1,089.1	129.5	0.00	0.00	0.00
5,200.0	18.43	279.38	5,026.5	185.0	-1,120.3	133.2	0.00	0.00	0.00
5,300.0	18.43	279.38	5,121.3	190.1	-1,151.5	136.9	0.00	0.00	0.00
5,400.0	18.43	279.38	5,216.2	195.3	-1,182.7	140.6	0.00	0.00	0.00
5,463.3	18.43	279.38	5,276.2	198.6	-1,202.5	142.9	0.00	0.00	0.00
5,500.0	17.70	279.38	5,311.1	200.4	-1,213.7	144.3	2.00	-2.00	0.00
5,600.0	15.70	279.38	5,406.9	205.1	-1,242.1	147.7	2.00	-2.00	0.00
5,700.0	13.70	279.38	5,503.6	209.2	-1,267.1	150.6	2.00	-2.00	0.00
5,800.0	11.70	279.38	5,601.2	212.8	-1,288.8	153.2	2.00	-2.00	0.00
5,900.0	9.70	279.38	5,699.4	215.8	-1,307.1	155.4	2.00	-2.00	0.00
6,000.0	7.70	279.38	5,798.3	218.3	-1,322.0	157.2	2.00	-2.00	0.00
6,100.0	5.70	279.38	5,897.6	220.2	-1,333.5	158.5	2.00	-2.00	0.00
6,200.0	3.70	279.38	5,997.3	221.5	-1,341.6	159.5	2.00	-2.00	0.00
6,300.0	1.70	279.38	6,097.1	222.3	-1,346.3	160.0	2.00	-2.00	0.00
6,385.0	0.00	0.00	6,182.1	222.5	-1,347.5	160.2	2.00	-2.00	0.00
6,400.0	0.00	0.00	6,197.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,297.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,397.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,497.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,597.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,885.0	0.00	0.00	6,682.1	222.5	-1,347.5	160.2	0.00	0.00	0.00
6,900.0	1.65	179.51	6,697.1	222.3	-1,347.5	160.4	11.00	11.00	0.00
7,000.0	12.65	179.51	6,796.2	209.9	-1,347.4	172.3	11.00	11.00	0.00
7,087.4	22.27	179.51	6,879.5	183.7	-1,347.2	197.4	11.00	11.00	0.00
Sharon Springs									
7,100.0	23.65	179.51	6,891.1	178.7	-1,347.1	202.1	11.00	11.00	0.00
7,162.0	30.47	179.51	6,946.2	150.6	-1,346.9	229.1	11.00	11.00	0.00
Niobrara									
7,200.0	34.65	179.51	6,978.3	130.1	-1,346.7	248.7	11.00	11.00	0.00
7,300.0	45.65	179.51	7,054.6	65.7	-1,346.2	310.4	11.00	11.00	0.00
7,400.0	56.65	179.51	7,117.2	-12.0	-1,345.5	385.0	11.00	11.00	0.00
7,500.0	67.65	179.51	7,163.9	-100.3	-1,344.8	469.6	11.00	11.00	0.00
7,529.0	70.84	179.51	7,174.1	-127.4	-1,344.5	495.6	11.00	11.00	0.00
Top C Target									
7,600.0	78.65	179.51	7,192.8	-195.9	-1,344.0	561.1	11.00	11.00	0.00
7,700.0	89.65	179.51	7,203.0	-295.2	-1,343.1	656.3	11.00	11.00	0.00
7,707.1	90.43	179.51	7,203.0	-302.3	-1,343.1	663.1	11.00	11.00	0.00
7,707.1	90.43	179.51	7,203.0	-302.3	-1,343.1	663.2	0.00	0.00	0.00
CB 0164CH LP									
7,710.0	90.43	179.51	7,202.9	-305.2	-1,343.0	665.9	0.00	0.00	0.00
7" Csg									
7,800.0	90.43	179.51	7,202.3	-395.2	-1,342.3	752.2	0.00	0.00	0.00
7,900.0	90.43	179.51	7,201.5	-495.2	-1,341.4	848.0	0.00	0.00	0.00
8,000.0	90.43	179.51	7,200.8	-595.2	-1,340.6	943.8	0.00	0.00	0.00
8,100.0	90.43	179.51	7,200.0	-695.2	-1,339.7	1,039.7	0.00	0.00	0.00
8,200.0	90.43	179.51	7,199.3	-795.2	-1,338.9	1,135.5	0.00	0.00	0.00
8,300.0	90.43	179.51	7,198.5	-895.2	-1,338.0	1,231.3	0.00	0.00	0.00
8,400.0	90.43	179.51	7,197.8	-995.1	-1,337.2	1,327.2	0.00	0.00	0.00
8,500.0	90.43	179.51	7,197.0	-1,095.1	-1,336.3	1,423.0	0.00	0.00	0.00
8,600.0	90.43	179.51	7,196.3	-1,195.1	-1,335.5	1,518.8	0.00	0.00	0.00
8,700.0	90.43	179.51	7,195.5	-1,295.1	-1,334.6	1,614.6	0.00	0.00	0.00

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Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4837.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4837.0ft (Original Well Elev)
Site:	Circle B 6-66-9 Pad	North Reference:	True
Well:	Circle B 6-66-9-0164CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)	Turn Rate (°/100ft)
8,800.0	90.43	179.51	7,194.8	-1,395.1	-1,333.8	1,710.5	0.00	0.00	0.00
8,900.0	90.43	179.51	7,194.0	-1,495.1	-1,333.0	1,806.3	0.00	0.00	0.00
9,000.0	90.43	179.51	7,193.3	-1,595.1	-1,332.1	1,902.1	0.00	0.00	0.00
9,100.0	90.43	179.51	7,192.5	-1,695.1	-1,331.3	1,998.0	0.00	0.00	0.00
9,200.0	90.43	179.51	7,191.8	-1,795.1	-1,330.4	2,093.8	0.00	0.00	0.00
9,300.0	90.43	179.51	7,191.0	-1,895.1	-1,329.6	2,189.6	0.00	0.00	0.00
9,400.0	90.43	179.51	7,190.3	-1,995.1	-1,328.7	2,285.5	0.00	0.00	0.00
9,500.0	90.43	179.51	7,189.5	-2,095.1	-1,327.9	2,381.3	0.00	0.00	0.00
9,600.0	90.43	179.51	7,188.8	-2,195.1	-1,327.0	2,477.1	0.00	0.00	0.00
9,700.0	90.43	179.51	7,188.0	-2,295.1	-1,326.2	2,573.0	0.00	0.00	0.00
9,800.0	90.43	179.51	7,187.2	-2,395.1	-1,325.3	2,668.8	0.00	0.00	0.00
9,900.0	90.43	179.51	7,186.5	-2,495.1	-1,324.5	2,764.6	0.00	0.00	0.00
10,000.0	90.43	179.51	7,185.7	-2,595.0	-1,323.6	2,860.4	0.00	0.00	0.00
10,100.0	90.43	179.51	7,185.0	-2,695.0	-1,322.8	2,956.3	0.00	0.00	0.00
10,200.0	90.43	179.51	7,184.2	-2,795.0	-1,321.9	3,052.1	0.00	0.00	0.00
10,300.0	90.43	179.51	7,183.5	-2,895.0	-1,321.1	3,147.9	0.00	0.00	0.00
10,400.0	90.43	179.51	7,182.7	-2,995.0	-1,320.3	3,243.8	0.00	0.00	0.00
10,500.0	90.43	179.51	7,182.0	-3,095.0	-1,319.4	3,339.6	0.00	0.00	0.00
10,600.0	90.43	179.51	7,181.2	-3,195.0	-1,318.6	3,435.4	0.00	0.00	0.00
10,700.0	90.43	179.51	7,180.5	-3,295.0	-1,317.7	3,531.3	0.00	0.00	0.00
10,800.0	90.43	179.51	7,179.7	-3,395.0	-1,316.9	3,627.1	0.00	0.00	0.00
10,900.0	90.43	179.51	7,179.0	-3,495.0	-1,316.0	3,722.9	0.00	0.00	0.00
11,000.0	90.43	179.51	7,178.2	-3,595.0	-1,315.2	3,818.8	0.00	0.00	0.00
11,100.0	90.43	179.51	7,177.5	-3,695.0	-1,314.3	3,914.6	0.00	0.00	0.00
11,200.0	90.43	179.51	7,176.7	-3,795.0	-1,313.5	4,010.4	0.00	0.00	0.00
11,300.0	90.43	179.51	7,176.0	-3,895.0	-1,312.6	4,106.3	0.00	0.00	0.00
11,400.0	90.43	179.51	7,175.2	-3,995.0	-1,311.8	4,202.1	0.00	0.00	0.00
11,500.0	90.43	179.51	7,174.5	-4,095.0	-1,310.9	4,297.9	0.00	0.00	0.00
11,600.0	90.43	179.51	7,173.7	-4,194.9	-1,310.1	4,393.7	0.00	0.00	0.00
11,700.0	90.43	179.51	7,173.0	-4,294.9	-1,309.2	4,489.6	0.00	0.00	0.00
11,800.0	90.43	179.51	7,172.2	-4,394.9	-1,308.4	4,585.4	0.00	0.00	0.00
11,900.0	90.43	179.51	7,171.5	-4,494.9	-1,307.6	4,681.2	0.00	0.00	0.00
11,930.7	90.43	179.51	7,171.3	-4,525.7	-1,307.3	4,710.7	0.00	0.00	0.00

CB 0164CH PBHL

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,710.0	7,202.9	7" Csg	7	8-3/4

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well Circle B 6-66-9-0164CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4837.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4837.0ft (Original Well Elev)
Site:	Circle B 6-66-9 Pad	North Reference:	True
Well:	Circle B 6-66-9-0164CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	0.0	Pierre (Fox Hills Base)		-0.43	179.51	
4,602.1	4,458.0	Sussex		-0.43	179.51	
5,029.2	4,863.0	Shannon		-0.43	179.51	
7,087.4	6,878.0	Sharon Springs		-0.43	179.51	
7,162.0	6,945.0	Niobrara		-0.43	179.51	
7,529.0	7,175.0	Top C Target		-0.43	179.51	
	7,210.0	Base C Target		-0.43	179.51	