

BILL BARRETT CORP

WELD COUNTY, COLORADO

4-63-3

70 Ranch 4-63-3-3340CH

Wellbore #1

Plan: Design #1

Standard Planning Report

17 June, 2013



Bill Barrett Corporation

SITE DETAILS: 4-63-3
Wattenberg

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

Site Latitude: 40° 20' 22.092 N
Site Longitude: 104° 25' 58.044 W

Positional Uncertainty: 0.0
Convergence: 0.69
Local North: True

WELL DETAILS: 70 Ranch 4-63-3-3340CH

Ground Level: 4559.0
Northing: 1368256.08 Easting: 3297487.77 Latitude: 40° 20' 21.660 N Longitude: 104° 25' 58.044 W Slot

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
70 Ranch 5-63-3-3340CH PBHL	6398.0	503.2	4521.4	40° 20' 26.628 N	104° 24' 59.652 W	Point
70 Ranch 5-63-3-3340CH LP	6418.0	557.4	384.7	40° 20' 27.168 N	104° 25' 53.076 W	Point

SECTION DETAILS

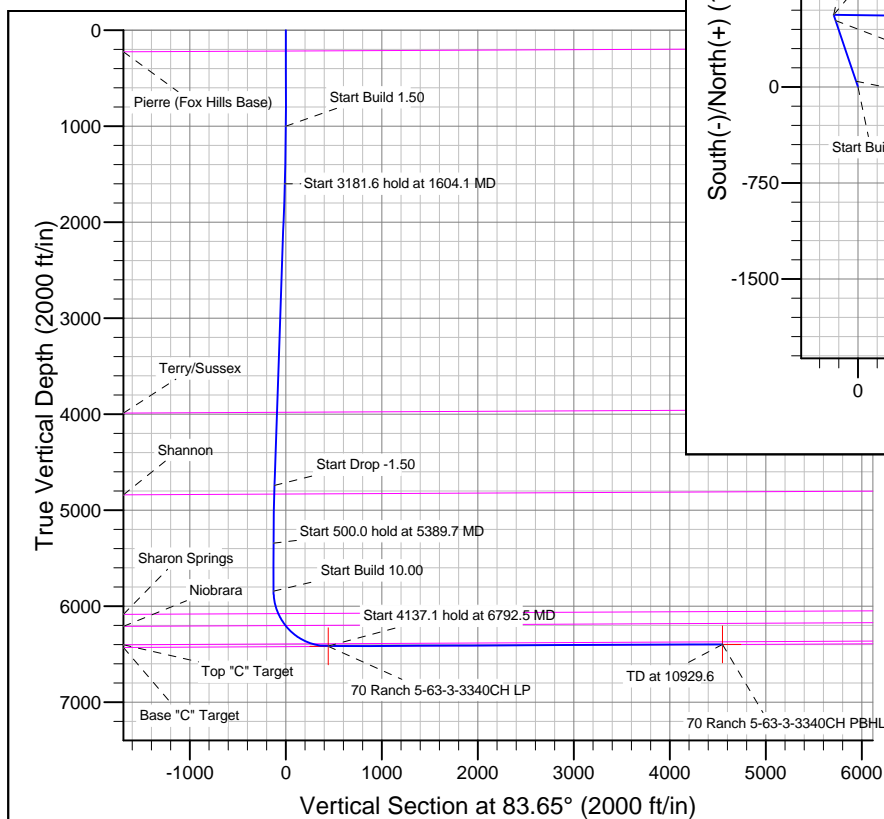
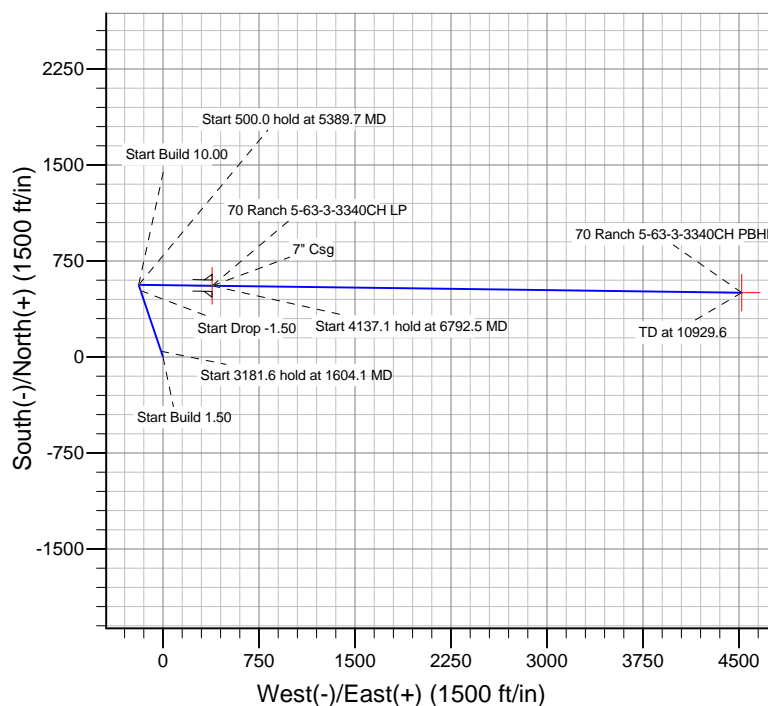
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1604.1	9.06	341.33	1601.6	45.2	-15.3	1.50	341.33	-10.2	
4	4785.7	9.06	341.33	4743.4	519.8	-175.7	0.00	0.00	-117.2	
5	5389.7	0.00	0.00	5345.0	565.0	-191.0	1.50	180.00	-127.3	
6	5889.7	0.00	0.00	5845.0	565.0	-191.0	0.00	0.00	-127.3	
7	6792.5	90.28	90.75	6418.0	557.4	384.7	10.00	90.75	444.0	
8	10929.6	90.28	90.75	6398.0	502.9	4521.4	0.00	0.00	4549.3	70 Ranch 5-63-3-3340CH PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
219.0	219.0	Base "C" Target
3980.7	4013.3	Pierre (Fox Hills Base)
4833.9	4877.1	Terry/Sussex
6078.7	6130.5	Shannon
6203.4	6276.9	Sharon Springs
6393.0	6620.0	Niobrara
		Top "C" Target

CASING DETAILS

TVD	MD	Name	Size
6418.0	6792.5	7" Csg	7



Azimuths to True North
Magnetic North: 8.46°

Magnetic Field
Strength: 52965.8snT
Dip Angle: 67.00°
Date: 1/28/2013
Model: IGRF2010

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well 70 Ranch 4-63-3-3340CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4574.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4574.0ft (Original Well Elev)
Site:	4-63-3	North Reference:	True
Well:	70 Ranch 4-63-3-3340CH	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	4-63-3				
Site Position:		Northing:	1,368,299.81 ft	Latitude:	40° 20' 22.092 N
From:	Lat/Long	Easting:	3,297,487.24 ft	Longitude:	104° 25' 58.044 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.69 °

Well	70 Ranch 4-63-3-3340CH					
Well Position	+N/-S	-43.7 ft	Northing:	1,368,256.08 ft	Latitude:	40° 20' 21.660 N
	+E/-W	0.0 ft	Easting:	3,297,487.77 ft	Longitude:	104° 25' 58.044 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,559.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/28/2013	8.46	67.00	52,966

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	83.65

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	
1,604.1	9.06	341.33	1,601.6	45.2	-15.3	1.50	1.50	0.00	341.33	
4,785.7	9.06	341.33	4,743.4	519.8	-175.7	0.00	0.00	0.00	0.00	
5,389.7	0.00	0.00	5,345.0	565.0	-191.0	1.50	-1.50	0.00	180.00	
5,889.7	0.00	0.00	5,845.0	565.0	-191.0	0.00	0.00	0.00	0.00	
6,792.5	90.28	90.75	6,418.0	557.4	384.7	10.00	10.00	0.00	90.75	
10,929.6	90.28	90.75	6,398.0	502.9	4,521.4	0.00	0.00	0.00	0.00	70 Ranch 5-63-3-3340

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Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4574.0ft (Original Well Elev)
Site:	4-63-3	North Reference:	True
Well:	70 Ranch 4-63-3-3340CH	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
219.0	0.00	0.00	219.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre (Fox Hills Base)									
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
Start Build 1.50									
1,100.0	1.50	341.33	1,100.0	1.2	-0.4	-0.3	1.50	1.50	0.00
1,200.0	3.00	341.33	1,199.9	5.0	-1.7	-1.1	1.50	1.50	0.00
1,300.0	4.50	341.33	1,299.7	11.2	-3.8	-2.5	1.50	1.50	0.00
1,400.0	6.00	341.33	1,399.3	19.8	-6.7	-4.5	1.50	1.50	0.00
1,500.0	7.50	341.33	1,498.6	31.0	-10.5	-7.0	1.50	1.50	0.00
1,600.0	9.00	341.33	1,597.5	44.6	-15.1	-10.0	1.50	1.50	0.00
1,604.1	9.06	341.33	1,601.6	45.2	-15.3	-10.2	1.50	1.50	0.00
Start 3181.6 hold at 1604.1 MD									
1,700.0	9.06	341.33	1,696.3	59.5	-20.1	-13.4	0.00	0.00	0.00
1,800.0	9.06	341.33	1,795.0	74.4	-25.1	-16.8	0.00	0.00	0.00
1,900.0	9.06	341.33	1,893.8	89.3	-30.2	-20.1	0.00	0.00	0.00
2,000.0	9.06	341.33	1,992.5	104.2	-35.2	-23.5	0.00	0.00	0.00
2,100.0	9.06	341.33	2,091.3	119.1	-40.3	-26.9	0.00	0.00	0.00
2,200.0	9.06	341.33	2,190.0	134.1	-45.3	-30.2	0.00	0.00	0.00
2,300.0	9.06	341.33	2,288.8	149.0	-50.4	-33.6	0.00	0.00	0.00
2,400.0	9.06	341.33	2,387.6	163.9	-55.4	-36.9	0.00	0.00	0.00
2,500.0	9.06	341.33	2,486.3	178.8	-60.4	-40.3	0.00	0.00	0.00
2,600.0	9.06	341.33	2,585.1	193.7	-65.5	-43.7	0.00	0.00	0.00
2,700.0	9.06	341.33	2,683.8	208.7	-70.5	-47.0	0.00	0.00	0.00
2,800.0	9.06	341.33	2,782.6	223.6	-75.6	-50.4	0.00	0.00	0.00
2,900.0	9.06	341.33	2,881.3	238.5	-80.6	-53.8	0.00	0.00	0.00
3,000.0	9.06	341.33	2,980.1	253.4	-85.7	-57.1	0.00	0.00	0.00
3,100.0	9.06	341.33	3,078.8	268.3	-90.7	-60.5	0.00	0.00	0.00
3,200.0	9.06	341.33	3,177.6	283.3	-95.7	-63.8	0.00	0.00	0.00
3,300.0	9.06	341.33	3,276.3	298.2	-100.8	-67.2	0.00	0.00	0.00
3,400.0	9.06	341.33	3,375.1	313.1	-105.8	-70.6	0.00	0.00	0.00
3,500.0	9.06	341.33	3,473.8	328.0	-110.9	-73.9	0.00	0.00	0.00
3,600.0	9.06	341.33	3,572.6	342.9	-115.9	-77.3	0.00	0.00	0.00
3,700.0	9.06	341.33	3,671.3	357.9	-121.0	-80.7	0.00	0.00	0.00
3,800.0	9.06	341.33	3,770.1	372.8	-126.0	-84.0	0.00	0.00	0.00
3,900.0	9.06	341.33	3,868.8	387.7	-131.0	-87.4	0.00	0.00	0.00
4,000.0	9.06	341.33	3,967.6	402.6	-136.1	-90.7	0.00	0.00	0.00
4,013.3	9.06	341.33	3,980.7	404.6	-136.7	-91.2	0.00	0.00	0.00
Terry/Sussex									
4,100.0	9.06	341.33	4,066.3	417.5	-141.1	-94.1	0.00	0.00	0.00
4,200.0	9.06	341.33	4,165.1	432.5	-146.2	-97.5	0.00	0.00	0.00
4,300.0	9.06	341.33	4,263.8	447.4	-151.2	-100.8	0.00	0.00	0.00
4,400.0	9.06	341.33	4,362.6	462.3	-156.3	-104.2	0.00	0.00	0.00
4,500.0	9.06	341.33	4,461.3	477.2	-161.3	-107.6	0.00	0.00	0.00
4,600.0	9.06	341.33	4,560.1	492.1	-166.3	-110.9	0.00	0.00	0.00

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Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4574.0ft (Original Well Elev)
Site:	4-63-3	North Reference:	True
Well:	70 Ranch 4-63-3-3340CH	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)
4,700.0	9.06	341.33	4,658.9	507.1	-171.4	-114.3	0.00	0.00	0.00
4,785.7	9.06	341.33	4,743.4	519.8	-175.7	-117.2	0.00	0.00	0.00
Start Drop -1.50									
4,800.0	8.85	341.33	4,757.6	521.9	-176.4	-117.6	1.50	-1.50	0.00
4,877.1	7.69	341.33	4,833.9	532.5	-180.0	-120.0	1.50	-1.50	0.00
Shannon									
4,900.0	7.35	341.33	4,856.6	535.3	-180.9	-120.6	1.50	-1.50	0.00
5,000.0	5.85	341.33	4,955.9	546.2	-184.6	-123.1	1.50	-1.50	0.00
5,100.0	4.35	341.33	5,055.5	554.6	-187.4	-125.0	1.50	-1.50	0.00
5,200.0	2.85	341.33	5,155.3	560.5	-189.5	-126.3	1.50	-1.50	0.00
5,300.0	1.35	341.33	5,255.3	564.0	-190.6	-127.1	1.50	-1.50	0.00
5,389.7	0.00	0.00	5,345.0	565.0	-191.0	-127.3	1.50	-1.50	20.81
Start 500.0 hold at 5389.7 MD									
5,400.0	0.00	0.00	5,355.3	565.0	-191.0	-127.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,455.3	565.0	-191.0	-127.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,555.3	565.0	-191.0	-127.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,655.3	565.0	-191.0	-127.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,755.3	565.0	-191.0	-127.3	0.00	0.00	0.00
5,889.7	0.00	0.00	5,845.0	565.0	-191.0	-127.3	0.00	0.00	0.00
Start Build 10.00									
5,900.0	1.03	90.75	5,855.3	565.0	-190.9	-127.2	10.00	10.00	0.00
6,000.0	11.03	90.75	5,954.6	564.9	-180.4	-116.8	10.00	10.00	0.00
6,100.0	21.03	90.75	6,050.6	564.5	-152.8	-89.5	10.00	10.00	0.00
6,130.5	24.07	90.76	6,078.7	564.3	-141.1	-77.9	10.00	10.00	0.00
Sharon Springs									
6,200.0	31.03	90.75	6,140.3	563.9	-109.0	-46.0	10.00	10.00	0.00
6,276.9	38.71	90.75	6,203.4	563.3	-65.1	-2.4	10.00	10.00	0.00
Niobrara									
6,300.0	41.03	90.75	6,221.1	563.1	-50.3	12.3	10.00	10.00	0.00
6,400.0	51.03	90.75	6,290.4	562.2	21.6	83.6	10.00	10.00	0.00
6,500.0	61.03	90.75	6,346.3	561.1	104.4	165.8	10.00	10.00	0.00
6,600.0	71.03	90.75	6,386.8	559.9	195.7	256.4	10.00	10.00	0.00
6,620.0	73.02	90.75	6,393.0	559.6	214.7	275.2	10.00	10.00	0.00
Top "C" Target									
6,700.0	81.03	90.75	6,410.9	558.6	292.6	352.5	10.00	10.00	0.00
6,792.5	90.28	90.75	6,418.0	557.4	384.7	444.0	10.00	10.00	0.00
Start 4137.1 hold at 6792.5 MD - 7" Csg									
6,800.0	90.28	90.75	6,417.9	557.3	392.2	451.4	0.00	0.00	0.00
6,900.0	90.28	90.75	6,417.4	556.0	492.2	550.6	0.00	0.00	0.00
7,000.0	90.28	90.75	6,417.0	554.7	592.2	649.9	0.00	0.00	0.00
7,100.0	90.28	90.75	6,416.5	553.4	692.2	749.1	0.00	0.00	0.00
7,200.0	90.28	90.75	6,416.0	552.0	792.2	848.3	0.00	0.00	0.00
7,300.0	90.28	90.75	6,415.5	550.7	892.2	947.6	0.00	0.00	0.00
7,400.0	90.28	90.75	6,415.0	549.4	992.2	1,046.8	0.00	0.00	0.00
7,500.0	90.28	90.75	6,414.5	548.1	1,092.1	1,146.0	0.00	0.00	0.00
7,600.0	90.28	90.75	6,414.1	546.8	1,192.1	1,245.3	0.00	0.00	0.00
7,700.0	90.28	90.75	6,413.6	545.4	1,292.1	1,344.5	0.00	0.00	0.00
7,800.0	90.28	90.75	6,413.1	544.1	1,392.1	1,443.7	0.00	0.00	0.00
7,900.0	90.28	90.75	6,412.6	542.8	1,492.1	1,543.0	0.00	0.00	0.00
8,000.0	90.28	90.75	6,412.1	541.5	1,592.1	1,642.2	0.00	0.00	0.00
8,100.0	90.28	90.75	6,411.6	540.2	1,692.1	1,741.4	0.00	0.00	0.00
8,200.0	90.28	90.75	6,411.2	538.9	1,792.1	1,840.7	0.00	0.00	0.00
8,300.0	90.28	90.75	6,410.7	537.5	1,892.1	1,939.9	0.00	0.00	0.00

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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)
8,400.0	90.28	90.75	6,410.2	536.2	1,992.1	2,039.1	0.00	0.00	0.00
8,500.0	90.28	90.75	6,409.7	534.9	2,092.0	2,138.4	0.00	0.00	0.00
8,600.0	90.28	90.75	6,409.2	533.6	2,192.0	2,237.6	0.00	0.00	0.00
8,700.0	90.28	90.75	6,408.8	532.3	2,292.0	2,336.8	0.00	0.00	0.00
8,800.0	90.28	90.75	6,408.3	531.0	2,392.0	2,436.1	0.00	0.00	0.00
8,900.0	90.28	90.75	6,407.8	529.6	2,492.0	2,535.3	0.00	0.00	0.00
9,000.0	90.28	90.75	6,407.3	528.3	2,592.0	2,634.5	0.00	0.00	0.00
9,100.0	90.28	90.75	6,406.8	527.0	2,692.0	2,733.7	0.00	0.00	0.00
9,200.0	90.28	90.75	6,406.3	525.7	2,792.0	2,833.0	0.00	0.00	0.00
9,300.0	90.28	90.75	6,405.9	524.4	2,892.0	2,932.2	0.00	0.00	0.00
9,400.0	90.28	90.75	6,405.4	523.0	2,992.0	3,031.4	0.00	0.00	0.00
9,500.0	90.28	90.75	6,404.9	521.7	3,091.9	3,130.7	0.00	0.00	0.00
9,600.0	90.28	90.75	6,404.4	520.4	3,191.9	3,229.9	0.00	0.00	0.00
9,700.0	90.28	90.75	6,403.9	519.1	3,291.9	3,329.1	0.00	0.00	0.00
9,800.0	90.28	90.75	6,403.4	517.8	3,391.9	3,428.4	0.00	0.00	0.00
9,900.0	90.28	90.75	6,403.0	516.5	3,491.9	3,527.6	0.00	0.00	0.00
10,000.0	90.28	90.75	6,402.5	515.1	3,591.9	3,626.8	0.00	0.00	0.00
10,100.0	90.28	90.75	6,402.0	513.8	3,691.9	3,726.1	0.00	0.00	0.00
10,200.0	90.28	90.75	6,401.5	512.5	3,791.9	3,825.3	0.00	0.00	0.00
10,300.0	90.28	90.75	6,401.0	511.2	3,891.9	3,924.5	0.00	0.00	0.00
10,400.0	90.28	90.75	6,400.6	509.9	3,991.9	4,023.8	0.00	0.00	0.00
10,500.0	90.28	90.75	6,400.1	508.6	4,091.9	4,123.0	0.00	0.00	0.00
10,600.0	90.28	90.75	6,399.6	507.2	4,191.8	4,222.2	0.00	0.00	0.00
10,700.0	90.28	90.75	6,399.1	505.9	4,291.8	4,321.5	0.00	0.00	0.00
10,800.0	90.28	90.75	6,398.6	504.6	4,391.8	4,420.7	0.00	0.00	0.00
10,900.0	90.28	90.75	6,398.1	503.3	4,491.8	4,519.9	0.00	0.00	0.00
10,929.6	90.28	90.75	6,398.0	502.9	4,521.4	4,549.3	0.00	0.00	0.00
TD at 10929.6									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
70 Ranch 5-63-3-3340C - hit/miss target - Shape	0.00	0.00	6,418.0	557.4	384.7	1,368,818.06	3,297,865.71	40° 20' 27.168 N	104° 25' 53.076 W
- plan misses by 0.1ft at 6792.5ft MD (6418.0 TVD, 557.4 N, 384.7 E)									
- Point									
70 Ranch 5-63-3-3340C - hit/miss target - Shape	0.00	0.00	6,398.0	503.2	4,521.4	1,368,813.61	3,302,002.77	40° 20' 26.628 N	104° 24' 59.652 W
- plan misses by 0.3ft at 10929.6ft MD (6398.0 TVD, 502.9 N, 4521.4 E)									
- Point									

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well 70 Ranch 4-63-3-3340CH
Company:	BILL BARRETT CORP	TVD Reference:	KB @ 4574.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4574.0ft (Original Well Elev)
Site:	4-63-3	North Reference:	True
Well:	70 Ranch 4-63-3-3340CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
219.0	219.0	Pierre (Fox Hills Base)		-0.28	90.75	
4,013.3	3,980.0	Terry/Sussex		-0.28	90.75	
4,877.1	4,833.0	Shannon		-0.28	90.75	
6,130.5	6,078.0	Sharon Springs		-0.28	90.75	
6,276.9	6,203.0	Niobrara		-0.28	90.75	
6,620.0	6,394.0	Top "C" Target		-0.28	90.75	
	6,422.0	Base "C" Target		-0.28	90.75	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.0	1,000.0	0.0	0.0	Start Build 1.50	
1,604.1	1,601.6	45.2	-15.3	Start 3181.6 hold at 1604.1 MD	
4,785.7	4,743.4	519.8	-175.7	Start Drop -1.50	
5,389.7	5,345.0	565.0	-191.0	Start 500.0 hold at 5389.7 MD	
5,889.7	5,845.0	565.0	-191.0	Start Build 10.00	
6,792.5	6,418.0	557.4	384.7	Start 4137.1 hold at 6792.5 MD	
10,929.6	6,398.0	502.9	4,521.4	TD at 10929.6	