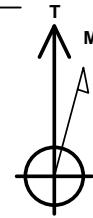


BILL BARRETT CORP
STATE OF COLORADO 1S-66-36 3340 CH
Adams County, CO

Geodetic System: US State Plane 1983
Zone: Colorado Northern Zone
WELL @ 5245.0usft (Original Well Elev)
Ground Level: 5225.0
Latitude: 39° 55' 0.903 N
Longitude: 104° 43' 56.852 W
Magnetic North is 8.49° East of True North (Magnetic Declination)



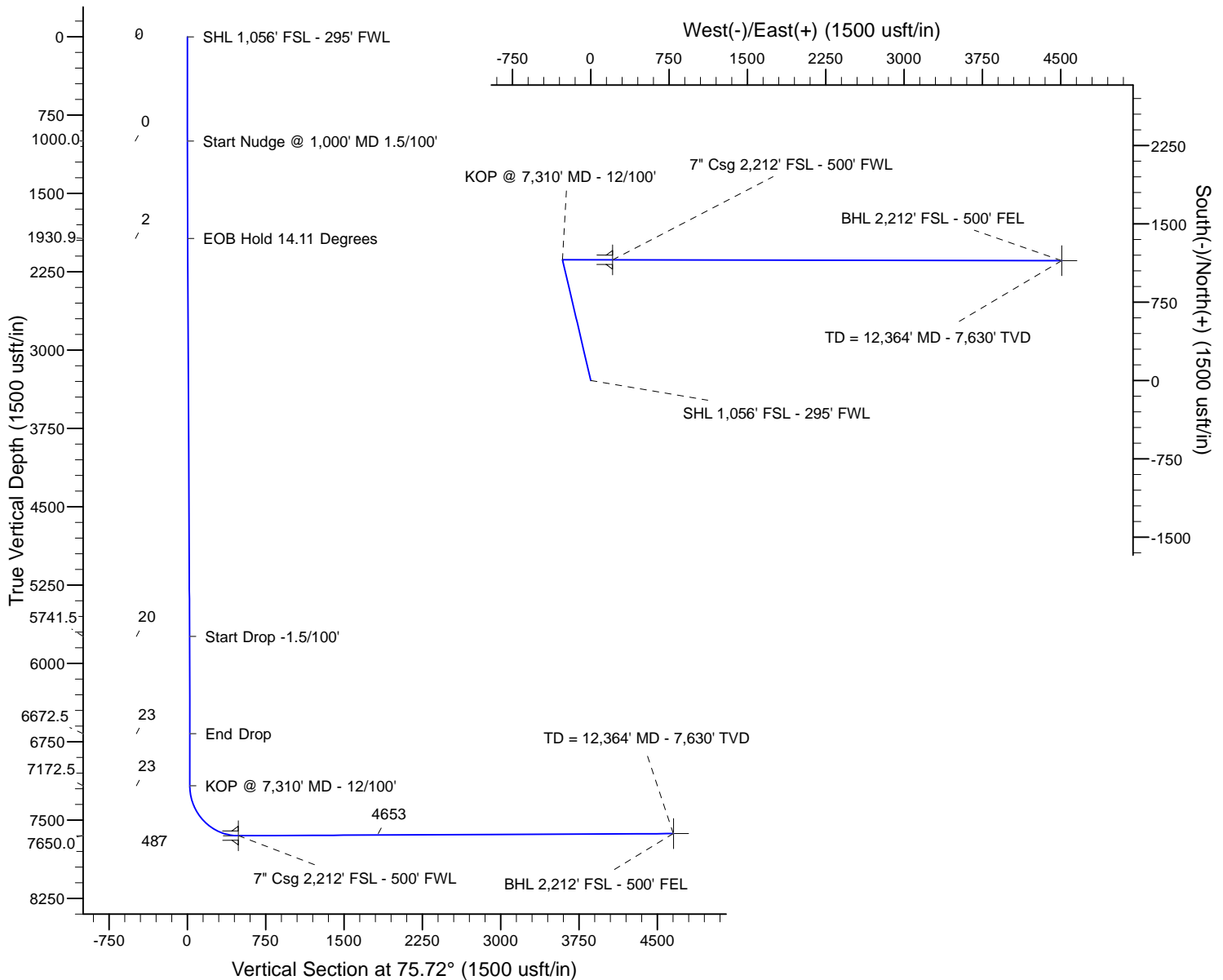
Azimuths to True North
Magnetic North: 8.49°

Magnetic Field
Strength: 52627.5snT
Dip Angle: 66.58°
Date: 10/28/2013
Model: IGRF2010

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0
1940.4	14.11	346.82	1931.0	112.2	-26.3	1.50	346.82	2.2
5869.5	14.11	346.82	5741.5	1044.5	-244.6	0.00	0.00	20.5
6809.9	0.00	0.00	6672.5	1156.7	-270.9	1.50	180.00	22.7
7309.9	0.00	0.00	7172.5	1156.7	-270.9	0.00	0.00	22.7
8062.1	90.26	90.11	7650.0	1155.8	208.8	12.00	90.11	487.3
12363.5	90.26	90.11	7630.1	1147.5	4510.1	0.00	0.00	4653.8

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
845.0	845.0	Base Fox Hills
4995.0	5099.7	Shannon
7293.2	7432.0	Sharon Springs
7381.1	7525.8	Niobrara
7638.5	7955.2	Top C Target
7649.2	8032.3	Landing Point



Plan: Design #1 (STATE OF COLORADO 1S-66-36 3340 CH/Wellbore #

Created By: Mike Kirby Date: 15:02, October 28 2013
Checked: Date:
Reviewed: Date:
Approved: x Date: x

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 3340 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5245.0usft (Original Well Elev)
Project:	Adams County, CO	MD Reference:	WELL @ 5245.0usft (Original Well Elev)
Site:	State of Coloardo 36-1S-66W South Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 3340 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Adams County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		State of Coloardo 36-1S-66W South Pad			
Site Position:		Northing:	1,213,513.90 usft	Latitude:	39° 55' 0.903 N
From:	Map	Easting:	3,215,288.70 usft	Longitude:	104° 43' 56.852 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	STATE OF COLORADO 1S-66-36 3340 CH					
Well Position	+N/-S	120.0 usft	Northing:	1,213,633.90 usft	Latitude:	39° 55' 2.089 N
	+E/-W	0.3 usft	Easting:	3,215,288.00 usft	Longitude:	104° 43' 56.847 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,245.0 usft	Ground Level:	5,225.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/28/2013	8.49	66.58	52,628

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	75.72	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	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	
1,940.4	14.11	346.82	1,931.0	112.2	-26.3	1.50	1.50	0.00	346.82	
5,869.5	14.11	346.82	5,741.5	1,044.5	-244.6	0.00	0.00	0.00	0.00	
6,809.9	0.00	0.00	6,672.5	1,156.7	-270.9	1.50	-1.50	0.00	180.00	
7,309.9	0.00	0.00	7,172.5	1,156.7	-270.9	0.00	0.00	0.00	0.00	
8,062.1	90.27	90.11	7,650.0	1,155.8	208.8	12.00	12.00	0.00	90.11	
12,363.5	90.27	90.11	7,630.1	1,147.5	4,510.1	0.00	0.00	0.00	0.00	SOC 1S-66-36 3340 (

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 3340 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5245.0usft (Original Well Elev)
Project:	Adams County, CO	MD Reference:	WELL @ 5245.0usft (Original Well Elev)
Site:	State of Coloardo 36-1S-66W South Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 3340 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
2.0	0.00	0.00	2.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 1,056' FSL - 295' FWL									
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
845.0	0.00	0.00	845.0	0.0	0.0	0.0	0.00	0.00	0.00
Base Fox Hills									
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 Nudge @ 1,000' MD 1.5/100'									
1,100.0	1.50	346.82	1,100.0	1.3	-0.3	0.0	1.50	1.50	0.00
1,200.0	3.00	346.82	1,199.9	5.1	-1.2	0.1	1.50	1.50	0.00
1,300.0	4.50	346.82	1,299.7	11.5	-2.7	0.2	1.50	1.50	0.00
1,400.0	6.00	346.82	1,399.3	20.4	-4.8	0.4	1.50	1.50	0.00
1,500.0	7.50	346.82	1,498.6	31.8	-7.5	0.6	1.50	1.50	0.00
1,600.0	9.00	346.82	1,597.5	45.8	-10.7	0.9	1.50	1.50	0.00
1,700.0	10.50	346.82	1,696.1	62.3	-14.6	1.2	1.50	1.50	0.00
1,800.0	12.00	346.82	1,794.2	81.3	-19.0	1.6	1.50	1.50	0.00
1,900.0	13.50	346.82	1,891.7	102.8	-24.1	2.0	1.50	1.50	0.00
1,940.4	14.11	346.82	1,930.9	112.1	-26.3	2.2	1.50	1.50	0.00
EOB Hold 14.11 Degrees									
2,000.0	14.11	346.82	1,988.7	126.3	-29.6	2.5	0.00	0.00	0.00
2,100.0	14.11	346.82	2,085.7	150.0	-35.1	2.9	0.00	0.00	0.00
2,200.0	14.11	346.82	2,182.7	173.7	-40.7	3.4	0.00	0.00	0.00
2,300.0	14.11	346.82	2,279.7	197.5	-46.2	3.9	0.00	0.00	0.00
2,400.0	14.11	346.82	2,376.7	221.2	-51.8	4.3	0.00	0.00	0.00
2,500.0	14.11	346.82	2,473.7	244.9	-57.4	4.8	0.00	0.00	0.00
2,600.0	14.11	346.82	2,570.6	268.7	-62.9	5.3	0.00	0.00	0.00
2,700.0	14.11	346.82	2,667.6	292.4	-68.5	5.7	0.00	0.00	0.00
2,800.0	14.11	346.82	2,764.6	316.1	-74.0	6.2	0.00	0.00	0.00
2,900.0	14.11	346.82	2,861.6	339.9	-79.6	6.7	0.00	0.00	0.00
3,000.0	14.11	346.82	2,958.6	363.6	-85.2	7.1	0.00	0.00	0.00
3,100.0	14.11	346.82	3,055.6	387.3	-90.7	7.6	0.00	0.00	0.00
3,200.0	14.11	346.82	3,152.5	411.1	-96.3	8.1	0.00	0.00	0.00
3,300.0	14.11	346.82	3,249.5	434.8	-101.8	8.5	0.00	0.00	0.00
3,400.0	14.11	346.82	3,346.5	458.5	-107.4	9.0	0.00	0.00	0.00
3,500.0	14.11	346.82	3,443.5	482.2	-112.9	9.5	0.00	0.00	0.00
3,600.0	14.11	346.82	3,540.5	506.0	-118.5	9.9	0.00	0.00	0.00
3,700.0	14.11	346.82	3,637.5	529.7	-124.1	10.4	0.00	0.00	0.00
3,800.0	14.11	346.82	3,734.4	553.4	-129.6	10.9	0.00	0.00	0.00
3,900.0	14.11	346.82	3,831.4	577.2	-135.2	11.3	0.00	0.00	0.00
4,000.0	14.11	346.82	3,928.4	600.9	-140.7	11.8	0.00	0.00	0.00
4,100.0	14.11	346.82	4,025.4	624.6	-146.3	12.2	0.00	0.00	0.00
4,200.0	14.11	346.82	4,122.4	648.4	-151.8	12.7	0.00	0.00	0.00
4,300.0	14.11	346.82	4,219.4	672.1	-157.4	13.2	0.00	0.00	0.00
4,400.0	14.11	346.82	4,316.4	695.8	-163.0	13.6	0.00	0.00	0.00
4,500.0	14.11	346.82	4,413.3	719.6	-168.5	14.1	0.00	0.00	0.00

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 3340 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5245.0usft (Original Well Elev)
Project:	Adams County, CO	MD Reference:	WELL @ 5245.0usft (Original Well Elev)
Site:	State of Colorado 36-1S-66W South Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 3340 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	14.11	346.82	4,510.3	743.3	-174.1	14.6	0.00	0.00	0.00
4,700.0	14.11	346.82	4,607.3	767.0	-179.6	15.0	0.00	0.00	0.00
4,800.0	14.11	346.82	4,704.3	790.7	-185.2	15.5	0.00	0.00	0.00
4,900.0	14.11	346.82	4,801.3	814.5	-190.8	16.0	0.00	0.00	0.00
5,000.0	14.11	346.82	4,898.3	838.2	-196.3	16.4	0.00	0.00	0.00
5,099.7	14.11	346.82	4,995.0	861.9	-201.9	16.9	0.00	0.00	0.00
Shannon									
5,100.0	14.11	346.82	4,995.2	861.9	-201.9	16.9	0.00	0.00	0.00
5,200.0	14.11	346.82	5,092.2	885.7	-207.4	17.4	0.00	0.00	0.00
5,300.0	14.11	346.82	5,189.2	909.4	-213.0	17.8	0.00	0.00	0.00
5,400.0	14.11	346.82	5,286.2	933.1	-218.5	18.3	0.00	0.00	0.00
5,500.0	14.11	346.82	5,383.2	956.9	-224.1	18.8	0.00	0.00	0.00
5,600.0	14.11	346.82	5,480.2	980.6	-229.7	19.2	0.00	0.00	0.00
5,700.0	14.11	346.82	5,577.2	1,004.3	-235.2	19.7	0.00	0.00	0.00
5,800.0	14.11	346.82	5,674.1	1,028.1	-240.8	20.2	0.00	0.00	0.00
5,869.5	14.11	346.82	5,741.5	1,044.5	-244.6	20.5	0.00	0.00	0.00
Start Drop -1.5/100'									
5,900.0	13.65	346.82	5,771.1	1,051.7	-246.3	20.6	1.50	-1.50	0.00
6,000.0	12.15	346.82	5,868.6	1,073.4	-251.4	21.0	1.50	-1.50	0.00
6,100.0	10.65	346.82	5,966.6	1,092.6	-255.9	21.4	1.50	-1.50	0.00
6,200.0	9.15	346.82	6,065.2	1,109.4	-259.8	21.8	1.50	-1.50	0.00
6,300.0	7.65	346.82	6,164.1	1,123.6	-263.1	22.0	1.50	-1.50	0.00
6,400.0	6.15	346.82	6,263.4	1,135.3	-265.9	22.3	1.50	-1.50	0.00
6,500.0	4.65	346.82	6,362.9	1,144.5	-268.0	22.4	1.50	-1.50	0.00
6,600.0	3.15	346.82	6,462.7	1,151.1	-269.6	22.6	1.50	-1.50	0.00
6,700.0	1.65	346.82	6,562.6	1,155.2	-270.5	22.7	1.50	-1.50	0.00
6,800.0	0.15	346.82	6,662.6	1,156.7	-270.9	22.7	1.50	-1.50	0.00
6,809.9	0.00	346.82	6,672.5	1,156.7	-270.9	22.7	1.50	-1.50	0.00
End Drop									
6,900.0	0.00	0.00	6,762.6	1,156.7	-270.9	22.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,862.6	1,156.7	-270.9	22.7	0.00	0.00	0.00
7,100.0	0.00	0.00	6,962.6	1,156.7	-270.9	22.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,062.6	1,156.7	-270.9	22.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,162.6	1,156.7	-270.9	22.7	0.00	0.00	0.00
7,309.9	0.00	0.00	7,172.5	1,156.7	-270.9	22.7	0.00	0.00	0.00
KOP @ 7,310' MD - 12/100'									
7,400.0	10.81	90.11	7,262.0	1,156.7	-262.4	30.9	12.00	12.00	0.00
7,432.0	14.64	90.11	7,293.2	1,156.7	-255.4	37.7	12.00	12.00	0.00
Sharon Springs									
7,500.0	22.81	90.11	7,357.6	1,156.6	-233.6	58.8	12.00	12.00	0.00
7,525.8	25.90	90.11	7,381.1	1,156.6	-222.9	69.1	12.00	12.00	0.00
Niobrara									
7,600.0	34.81	90.11	7,445.1	1,156.5	-185.5	105.4	12.00	12.00	0.00
7,700.0	46.81	90.11	7,520.6	1,156.4	-120.2	168.6	12.00	12.00	0.00
7,800.0	58.81	90.11	7,580.9	1,156.3	-40.7	245.6	12.00	12.00	0.00
7,900.0	70.81	90.11	7,623.4	1,156.1	49.6	333.1	12.00	12.00	0.00
7,955.2	77.43	90.11	7,638.5	1,156.0	102.7	384.5	12.00	12.00	0.00
Top C Target									
8,000.0	82.81	90.11	7,646.2	1,155.9	146.8	427.3	12.00	12.00	0.00
8,032.3	86.69	90.11	7,649.2	1,155.8	179.0	458.5	12.00	12.00	0.00
Landing Point									
8,062.1	90.26	90.11	7,650.0	1,155.8	208.7	487.3	12.00	12.00	0.00

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 3340 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5245.0usft (Original Well Elev)
Project:	Adams County, CO	MD Reference:	WELL @ 5245.0usft (Original Well Elev)
Site:	State of Colorado 36-1S-66W South Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 3340 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7" Csg 2,212' FSL - 500' FWL - 7"										
8,100.0	90.27	90.11	7,649.8	1,155.7	246.6	524.0	0.01	0.01	0.00	
8,200.0	90.27	90.11	7,649.3	1,155.5	346.6	620.9	0.00	0.00	0.00	
8,300.0	90.27	90.11	7,648.9	1,155.3	446.6	717.7	0.00	0.00	0.00	
8,400.0	90.27	90.11	7,648.4	1,155.1	546.6	814.6	0.00	0.00	0.00	
8,500.0	90.27	90.11	7,647.9	1,154.9	646.6	911.4	0.00	0.00	0.00	
8,600.0	90.27	90.11	7,647.5	1,154.7	746.6	1,008.3	0.00	0.00	0.00	
8,700.0	90.27	90.11	7,647.0	1,154.6	846.6	1,105.2	0.00	0.00	0.00	
8,800.0	90.27	90.11	7,646.5	1,154.4	946.6	1,202.0	0.00	0.00	0.00	
8,900.0	90.27	90.11	7,646.1	1,154.2	1,046.6	1,298.9	0.00	0.00	0.00	
9,000.0	90.27	90.11	7,645.6	1,154.0	1,146.6	1,395.8	0.00	0.00	0.00	
9,100.0	90.27	90.11	7,645.2	1,153.8	1,246.6	1,492.6	0.00	0.00	0.00	
9,200.0	90.27	90.11	7,644.7	1,153.6	1,346.6	1,589.5	0.00	0.00	0.00	
9,300.0	90.27	90.11	7,644.2	1,153.4	1,446.6	1,686.4	0.00	0.00	0.00	
9,400.0	90.27	90.11	7,643.8	1,153.2	1,546.6	1,783.2	0.00	0.00	0.00	
9,500.0	90.27	90.11	7,643.3	1,153.0	1,646.6	1,880.1	0.00	0.00	0.00	
9,600.0	90.27	90.11	7,642.8	1,152.8	1,746.6	1,976.9	0.00	0.00	0.00	
9,700.0	90.27	90.11	7,642.4	1,152.6	1,846.6	2,073.8	0.00	0.00	0.00	
9,800.0	90.27	90.11	7,641.9	1,152.4	1,946.6	2,170.7	0.00	0.00	0.00	
9,900.0	90.27	90.11	7,641.5	1,152.3	2,046.6	2,267.5	0.00	0.00	0.00	
10,000.0	90.27	90.11	7,641.0	1,152.1	2,146.6	2,364.4	0.00	0.00	0.00	
10,100.0	90.27	90.11	7,640.5	1,151.9	2,246.6	2,461.3	0.00	0.00	0.00	
10,200.0	90.27	90.11	7,640.1	1,151.7	2,346.6	2,558.1	0.00	0.00	0.00	
10,300.0	90.27	90.11	7,639.6	1,151.5	2,446.6	2,655.0	0.00	0.00	0.00	
10,400.0	90.27	90.11	7,639.1	1,151.3	2,546.6	2,751.9	0.00	0.00	0.00	
10,500.0	90.27	90.11	7,638.7	1,151.1	2,646.6	2,848.7	0.00	0.00	0.00	
10,600.0	90.27	90.11	7,638.2	1,150.9	2,746.6	2,945.6	0.00	0.00	0.00	
10,700.0	90.27	90.11	7,637.8	1,150.7	2,846.6	3,042.4	0.00	0.00	0.00	
10,800.0	90.27	90.11	7,637.3	1,150.5	2,946.6	3,139.3	0.00	0.00	0.00	
10,900.0	90.27	90.11	7,636.8	1,150.3	3,046.6	3,236.2	0.00	0.00	0.00	
11,000.0	90.27	90.11	7,636.4	1,150.1	3,146.6	3,333.0	0.00	0.00	0.00	
11,100.0	90.27	90.11	7,635.9	1,149.9	3,246.6	3,429.9	0.00	0.00	0.00	
11,200.0	90.27	90.11	7,635.4	1,149.8	3,346.6	3,526.8	0.00	0.00	0.00	
11,300.0	90.27	90.11	7,635.0	1,149.6	3,446.6	3,623.6	0.00	0.00	0.00	
11,400.0	90.27	90.11	7,634.5	1,149.4	3,546.6	3,720.5	0.00	0.00	0.00	
11,500.0	90.27	90.11	7,634.1	1,149.2	3,646.6	3,817.4	0.00	0.00	0.00	
11,600.0	90.27	90.11	7,633.6	1,149.0	3,746.6	3,914.2	0.00	0.00	0.00	
11,700.0	90.27	90.11	7,633.1	1,148.8	3,846.6	4,011.1	0.00	0.00	0.00	
11,800.0	90.27	90.11	7,632.7	1,148.6	3,946.6	4,107.9	0.00	0.00	0.00	
11,900.0	90.27	90.11	7,632.2	1,148.4	4,046.6	4,204.8	0.00	0.00	0.00	
12,000.0	90.27	90.11	7,631.7	1,148.2	4,146.6	4,301.7	0.00	0.00	0.00	
12,100.0	90.27	90.11	7,631.3	1,148.0	4,246.6	4,398.5	0.00	0.00	0.00	
12,200.0	90.27	90.11	7,630.8	1,147.8	4,346.6	4,495.4	0.00	0.00	0.00	
12,300.0	90.27	90.11	7,630.4	1,147.6	4,446.6	4,592.3	0.00	0.00	0.00	
12,363.0	90.27	90.11	7,630.1	1,147.5	4,509.6	4,653.3	0.00	0.00	0.00	
TD = 12,364' MD - 7,630' TVD - BHL 2,212' FSL - 500' FEL										
12,363.5	90.27	90.11	7,630.1	1,147.5	4,510.1	4,653.8	0.00	0.00	0.00	

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 3340 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5245.0usft (Original Well Elev)
Project:	Adams County, CO	MD Reference:	WELL @ 5245.0usft (Original Well Elev)
Site:	State of Colorado 36-1S-66W South Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 3340 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SOC 1S-66-36 3340 CH	0.00	0.00	7,630.0	1,147.5	4,510.1	1,214,820.40	3,219,788.00	39° 55' 13.425 N	104° 42' 58.960 W
- plan misses target center by 0.1usft at 12363.5usft MD (7630.1 TVD, 1147.5 N, 4510.1 E)									
- Point									
SOC 1S-66-36 3340 CH	0.00	0.00	7,650.0	1,155.8	208.8	1,214,791.46	3,215,486.80	39° 55' 13.511 N	104° 43' 54.167 W
- plan hits target center									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
8,062.1	7,650.0	7"	7	8-3/4

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
845.0	845.0	Base Fox Hills		-0.27	90.11
5,099.7	4,995.0	Shannon		-0.27	90.11
7,432.0	7,293.2	Sharon Springs		-0.27	90.11
7,525.8	7,381.1	Niobrara		-0.27	90.11
7,955.2	7,638.5	Top C Target		-0.27	90.11
8,032.3	7,649.2	Landing Point		-0.27	90.11

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2.0	2.0	0.0	0.0	SHL 1,056' FSL - 295' FWL
1,000.0	1,000.0	0.0	0.0	Start Nudge @ 1,000' MD 1.5/100'
1,940.4	1,930.9	112.1	-26.3	EOB Hold 14.11 Degrees
5,869.5	5,741.5	1,044.5	-244.6	Start Drop -1.5/100'
6,809.9	6,672.5	1,156.7	-270.9	End Drop
7,309.9	7,172.5	1,156.7	-270.9	KOP @ 7,310' MD - 12/100'
8,062.1	7,650.0	1,155.8	208.7	7" Csg 2,212' FSL - 500' FWL
12,363.0	7,630.1	1,147.5	4,509.6	TD = 12,364' MD - 7,630' TVD
12,363.0	7,630.1	1,147.5	4,509.6	BHL 2,212' FSL - 500' FEL