

BILL BARRETT CORP

Weld County, CO

State of Colorado 1S-66-36 Pad

STATE OF COLORADO 1S-66-36 1609 CH

Wellbore #1

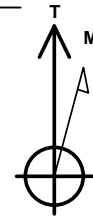
Plan: Design #1

Standard Planning Report

15 October, 2013

BILL BARRETT CORP
STATE OF COLORADO 1S-66-36 1609 CH
Weld County, CO

Geodetic System: US State Plane 1983
Zone: Colorado Northern Zone
WELL @ 5200.0usft (Original Well Elev)
Ground Level: 5180.0
Latitude: 39° 55' 30.112 N
Longitude: 104° 43' 56.690 W
Magnetic North is 8.49° East of True North (Magnetic Declination)



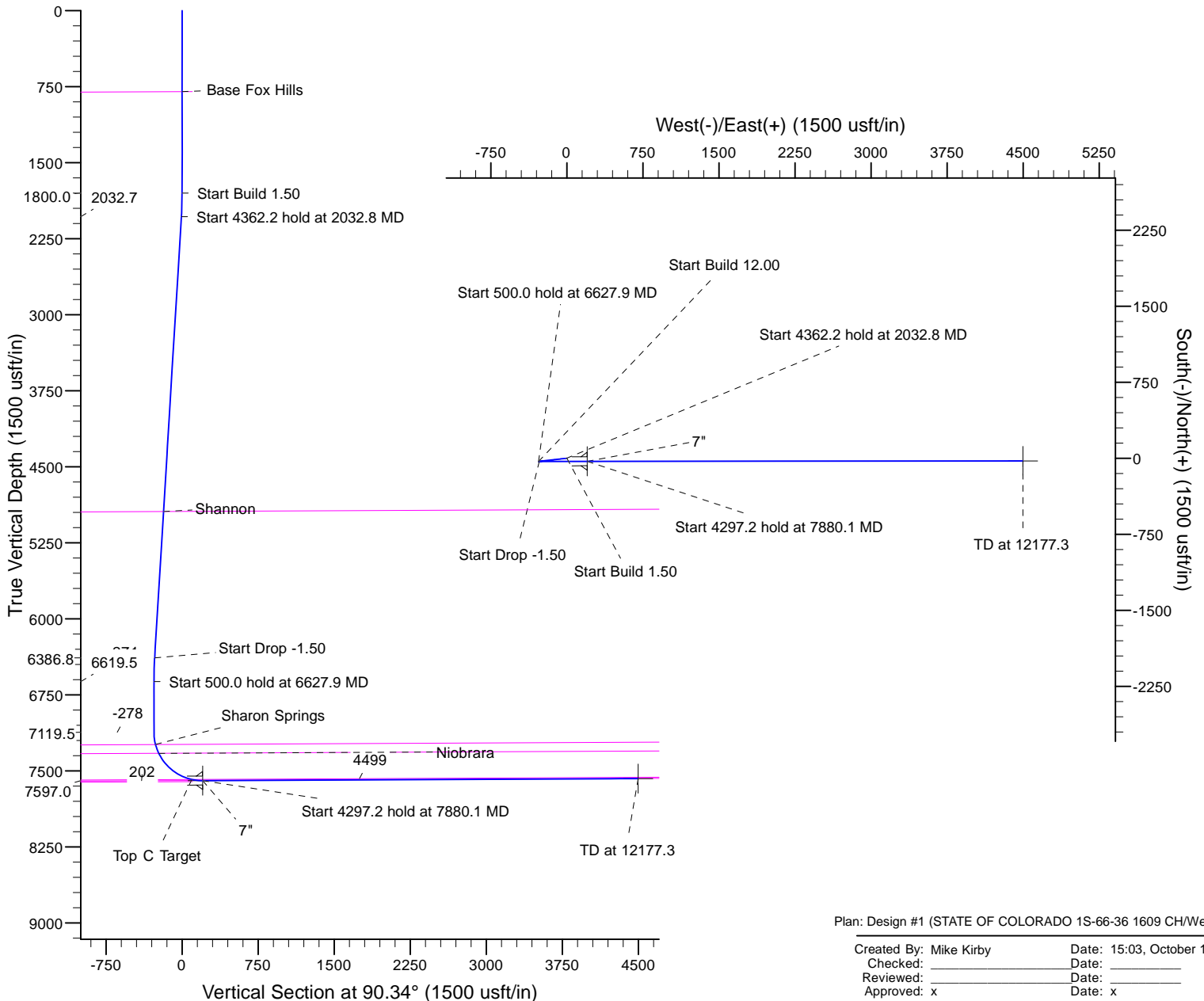
Azimuths to True North
Magnetic North: 8.49°

Magnetic Field
Strength: 52635.9snT
Dip Angle: 66.59°
Date: 10/15/2013
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
1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0
2032.8	3.49	263.64	2032.7	-0.8	-7.1	1.50	263.64	-7.0
6395.1	3.49	263.64	6386.8	-30.2	-271.1	0.00	0.00	-271.0
6627.9	0.00	0.00	6619.5	-31.0	-278.2	1.50	180.00	-278.0
7127.9	0.00	0.00	7119.5	-31.0	-278.2	0.00	0.00	-278.0
7880.1	90.27	89.95	7597.0	-30.6	201.5	12.00	89.95	201.7
12177.3	90.27	89.95	7577.0	-26.6	4498.6	0.00	0.00	4498.7

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
800.0	800.0	Base Fox Hills
4941.9	4947.4	Shannon
7240.2	7250.0	Sharon Springs
7328.1	7343.8	Niobrara
7585.6	7773.3	Top C Target
7596.2	7850.7	Landing Point



Plan: Design #1 (STATE OF COLORADO 1S-66-36 1609 CH/Wellbore #

Created By: Mike Kirby Date: 15:03, October 15 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 1609 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5200.0usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 5200.0usft (Original Well Elev)
Site:	State of Colorado 1S-66-36 Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 1609 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Weld 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 Colorado 1S-66-36 Pad				
Site Position:		Northing:	1,216,469.41 usft	Latitude:	39° 55' 30.112 N	
From:	Lat/Long	Easting:	3,215,275.68 usft	Longitude:	104° 43' 56.690 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	STATE OF COLORADO 1S-66-36 1609 CH					
Well Position	+N/-S	74.9 usft	Northing:	1,216,544.30 usft	Latitude:	39° 55' 30.852 N
	+E/-W	0.1 usft	Easting:	3,215,275.10 usft	Longitude:	104° 43' 56.690 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,180.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/15/2013	8.49	66.59	52,636

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	90.34

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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,032.8	3.49	263.64	2,032.7	-0.8	-7.1	1.50	1.50	0.00	263.64	
6,395.1	3.49	263.64	6,386.8	-30.2	-271.1	0.00	0.00	0.00	0.00	
6,627.9	0.00	0.00	6,619.5	-31.0	-278.2	1.50	-1.50	0.00	180.00	
7,127.9	0.00	0.00	7,119.5	-31.0	-278.2	0.00	0.00	0.00	0.00	
7,880.1	90.27	89.95	7,597.0	-30.6	201.5	12.00	12.00	0.00	89.95	
12,177.3	90.27	89.95	7,577.0	-26.6	4,498.6	0.00	0.00	0.00	0.00	SOC 1609CH PBHL

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 1609 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5200.0usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 5200.0usft (Original Well Elev)
Site:	State of Colorado 1S-66-36 Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 1609 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
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
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
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	1.50	263.64	1,900.0	-0.1	-1.3	-1.3	1.50	1.50	0.00
2,000.0	3.00	263.64	1,999.9	-0.6	-5.2	-5.2	1.50	1.50	0.00
2,032.8	3.49	263.64	2,032.7	-0.8	-7.1	-7.0	1.50	1.50	0.00
2,100.0	3.49	263.64	2,099.7	-1.2	-11.1	-11.1	0.00	0.00	0.00
2,200.0	3.49	263.64	2,199.5	-1.9	-17.2	-17.2	0.00	0.00	0.00
2,300.0	3.49	263.64	2,299.4	-2.6	-23.2	-23.2	0.00	0.00	0.00
2,400.0	3.49	263.64	2,399.2	-3.3	-29.3	-29.3	0.00	0.00	0.00
2,500.0	3.49	263.64	2,499.0	-3.9	-35.3	-35.3	0.00	0.00	0.00
2,600.0	3.49	263.64	2,598.8	-4.6	-41.4	-41.4	0.00	0.00	0.00
2,700.0	3.49	263.64	2,698.6	-5.3	-47.4	-47.4	0.00	0.00	0.00
2,800.0	3.49	263.64	2,798.4	-6.0	-53.5	-53.5	0.00	0.00	0.00
2,900.0	3.49	263.64	2,898.2	-6.6	-59.6	-59.5	0.00	0.00	0.00
3,000.0	3.49	263.64	2,998.1	-7.3	-65.6	-65.6	0.00	0.00	0.00
3,100.0	3.49	263.64	3,097.9	-8.0	-71.7	-71.6	0.00	0.00	0.00
3,200.0	3.49	263.64	3,197.7	-8.7	-77.7	-77.7	0.00	0.00	0.00
3,300.0	3.49	263.64	3,297.5	-9.3	-83.8	-83.7	0.00	0.00	0.00
3,400.0	3.49	263.64	3,397.3	-10.0	-89.8	-89.8	0.00	0.00	0.00
3,500.0	3.49	263.64	3,497.1	-10.7	-95.9	-95.8	0.00	0.00	0.00
3,600.0	3.49	263.64	3,596.9	-11.4	-101.9	-101.9	0.00	0.00	0.00
3,700.0	3.49	263.64	3,696.8	-12.0	-108.0	-107.9	0.00	0.00	0.00
3,800.0	3.49	263.64	3,796.6	-12.7	-114.0	-114.0	0.00	0.00	0.00
3,900.0	3.49	263.64	3,896.4	-13.4	-120.1	-120.0	0.00	0.00	0.00
4,000.0	3.49	263.64	3,996.2	-14.1	-126.1	-126.1	0.00	0.00	0.00
4,100.0	3.49	263.64	4,096.0	-14.7	-132.2	-132.1	0.00	0.00	0.00
4,200.0	3.49	263.64	4,195.8	-15.4	-138.3	-138.2	0.00	0.00	0.00
4,300.0	3.49	263.64	4,295.6	-16.1	-144.3	-144.2	0.00	0.00	0.00
4,400.0	3.49	263.64	4,395.5	-16.8	-150.4	-150.3	0.00	0.00	0.00
4,500.0	3.49	263.64	4,495.3	-17.4	-156.4	-156.3	0.00	0.00	0.00
4,600.0	3.49	263.64	4,595.1	-18.1	-162.5	-162.4	0.00	0.00	0.00
4,700.0	3.49	263.64	4,694.9	-18.8	-168.5	-168.4	0.00	0.00	0.00
4,800.0	3.49	263.64	4,794.7	-19.5	-174.6	-174.5	0.00	0.00	0.00
4,900.0	3.49	263.64	4,894.5	-20.1	-180.6	-180.5	0.00	0.00	0.00
4,947.4	3.49	263.64	4,941.9	-20.4	-183.5	-183.4	0.00	0.00	0.00

Planning Report

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Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5200.0usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 5200.0usft (Original Well Elev)
Site:	State of Colorado 1S-66-36 Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 1609 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)
Shannon									
5,000.0	3.49	263.64	4,994.3	-20.8	-186.7	-186.6	0.00	0.00	0.00
5,100.0	3.49	263.64	5,094.2	-21.5	-192.7	-192.6	0.00	0.00	0.00
5,200.0	3.49	263.64	5,194.0	-22.2	-198.8	-198.7	0.00	0.00	0.00
5,300.0	3.49	263.64	5,293.8	-22.8	-204.9	-204.7	0.00	0.00	0.00
5,400.0	3.49	263.64	5,393.6	-23.5	-210.9	-210.8	0.00	0.00	0.00
5,500.0	3.49	263.64	5,493.4	-24.2	-217.0	-216.8	0.00	0.00	0.00
5,600.0	3.49	263.64	5,593.2	-24.9	-223.0	-222.9	0.00	0.00	0.00
5,700.0	3.49	263.64	5,693.0	-25.5	-229.1	-228.9	0.00	0.00	0.00
5,800.0	3.49	263.64	5,792.9	-26.2	-235.1	-235.0	0.00	0.00	0.00
5,900.0	3.49	263.64	5,892.7	-26.9	-241.2	-241.0	0.00	0.00	0.00
6,000.0	3.49	263.64	5,992.5	-27.5	-247.2	-247.1	0.00	0.00	0.00
6,100.0	3.49	263.64	6,092.3	-28.2	-253.3	-253.1	0.00	0.00	0.00
6,200.0	3.49	263.64	6,192.1	-28.9	-259.3	-259.2	0.00	0.00	0.00
6,300.0	3.49	263.64	6,291.9	-29.6	-265.4	-265.2	0.00	0.00	0.00
6,395.1	3.49	263.64	6,386.8	-30.2	-271.1	-271.0	0.00	0.00	0.00
6,400.0	3.42	263.64	6,391.7	-30.2	-271.4	-271.3	1.50	-1.50	0.00
6,500.0	1.92	263.64	6,491.6	-30.8	-276.1	-275.9	1.50	-1.50	0.00
6,600.0	0.42	263.64	6,591.6	-31.0	-278.1	-277.9	1.50	-1.50	0.00
6,627.9	0.00	0.00	6,619.5	-31.0	-278.2	-278.0	1.50	-1.50	0.00
6,700.0	0.00	0.00	6,691.6	-31.0	-278.2	-278.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,791.6	-31.0	-278.2	-278.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,891.6	-31.0	-278.2	-278.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,991.6	-31.0	-278.2	-278.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,091.6	-31.0	-278.2	-278.0	0.00	0.00	0.00
7,127.9	0.00	0.00	7,119.5	-31.0	-278.2	-278.0	0.00	0.00	0.00
7,200.0	8.65	89.95	7,191.3	-31.0	-272.8	-272.6	12.00	12.00	0.00
7,250.0	14.65	89.95	7,240.2	-31.0	-262.7	-262.5	12.00	12.00	0.00
Sharon Springs									
7,300.0	20.65	89.95	7,287.9	-31.0	-247.5	-247.3	12.00	12.00	0.00
7,343.8	25.90	89.95	7,328.1	-31.0	-230.2	-230.0	12.00	12.00	0.00
Niobrara									
7,400.0	32.65	89.95	7,377.1	-30.9	-202.7	-202.6	12.00	12.00	0.00
7,500.0	44.65	89.95	7,455.1	-30.9	-140.4	-140.2	12.00	12.00	0.00
7,600.0	56.65	89.95	7,518.4	-30.8	-63.2	-63.0	12.00	12.00	0.00
7,700.0	68.65	89.95	7,564.2	-30.7	25.5	25.6	12.00	12.00	0.00
7,773.3	77.45	89.95	7,585.6	-30.7	95.5	95.7	12.00	12.00	0.00
Top C Target									
7,800.0	80.65	89.95	7,590.6	-30.6	121.7	121.9	12.00	12.00	0.00
7,850.7	86.73	89.95	7,596.2	-30.6	172.1	172.2	12.00	12.00	0.00
Landing Point									
7,880.1	90.27	89.95	7,597.0	-30.6	201.5	201.7	12.00	12.00	0.00
7"									
7,900.0	90.27	89.95	7,596.9	-30.5	221.4	221.6	0.00	0.00	0.00
8,000.0	90.27	89.95	7,596.4	-30.4	321.4	321.5	0.00	0.00	0.00
8,100.0	90.27	89.95	7,595.9	-30.4	421.4	421.5	0.00	0.00	0.00
8,200.0	90.27	89.95	7,595.5	-30.3	521.4	521.5	0.00	0.00	0.00
8,300.0	90.27	89.95	7,595.0	-30.2	621.4	621.5	0.00	0.00	0.00
8,400.0	90.27	89.95	7,594.5	-30.1	721.4	721.5	0.00	0.00	0.00
8,500.0	90.27	89.95	7,594.1	-30.0	821.4	821.5	0.00	0.00	0.00
8,600.0	90.27	89.95	7,593.6	-29.9	921.4	921.5	0.00	0.00	0.00
8,700.0	90.27	89.95	7,593.2	-29.8	1,021.4	1,021.5	0.00	0.00	0.00

Planning Report

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Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5200.0usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 5200.0usft (Original Well Elev)
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Well:	STATE OF COLORADO 1S-66-36 1609 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)	
8,800.0	90.27	89.95	7,592.7	-29.7	1,121.4	1,121.5	0.00	0.00	0.00	
8,900.0	90.27	89.95	7,592.2	-29.6	1,221.4	1,221.5	0.00	0.00	0.00	
9,000.0	90.27	89.95	7,591.8	-29.5	1,321.4	1,321.5	0.00	0.00	0.00	
9,100.0	90.27	89.95	7,591.3	-29.4	1,421.4	1,421.5	0.00	0.00	0.00	
9,200.0	90.27	89.95	7,590.8	-29.3	1,521.4	1,521.5	0.00	0.00	0.00	
9,300.0	90.27	89.95	7,590.4	-29.2	1,621.4	1,621.5	0.00	0.00	0.00	
9,400.0	90.27	89.95	7,589.9	-29.2	1,721.4	1,721.5	0.00	0.00	0.00	
9,500.0	90.27	89.95	7,589.4	-29.1	1,821.4	1,821.5	0.00	0.00	0.00	
9,600.0	90.27	89.95	7,589.0	-29.0	1,921.4	1,921.5	0.00	0.00	0.00	
9,700.0	90.27	89.95	7,588.5	-28.9	2,021.4	2,021.5	0.00	0.00	0.00	
9,800.0	90.27	89.95	7,588.0	-28.8	2,121.4	2,121.5	0.00	0.00	0.00	
9,900.0	90.27	89.95	7,587.6	-28.7	2,221.4	2,221.5	0.00	0.00	0.00	
10,000.0	90.27	89.95	7,587.1	-28.6	2,321.4	2,321.5	0.00	0.00	0.00	
10,100.0	90.27	89.95	7,586.7	-28.5	2,421.4	2,421.5	0.00	0.00	0.00	
10,200.0	90.27	89.95	7,586.2	-28.4	2,521.3	2,521.5	0.00	0.00	0.00	
10,300.0	90.27	89.95	7,585.7	-28.3	2,621.3	2,621.5	0.00	0.00	0.00	
10,400.0	90.27	89.95	7,585.3	-28.2	2,721.3	2,721.5	0.00	0.00	0.00	
10,500.0	90.27	89.95	7,584.8	-28.1	2,821.3	2,821.5	0.00	0.00	0.00	
10,600.0	90.27	89.95	7,584.3	-28.0	2,921.3	2,921.5	0.00	0.00	0.00	
10,700.0	90.27	89.95	7,583.9	-27.9	3,021.3	3,021.5	0.00	0.00	0.00	
10,800.0	90.27	89.95	7,583.4	-27.9	3,121.3	3,121.5	0.00	0.00	0.00	
10,900.0	90.27	89.95	7,582.9	-27.8	3,221.3	3,221.4	0.00	0.00	0.00	
11,000.0	90.27	89.95	7,582.5	-27.7	3,321.3	3,321.4	0.00	0.00	0.00	
11,100.0	90.27	89.95	7,582.0	-27.6	3,421.3	3,421.4	0.00	0.00	0.00	
11,200.0	90.27	89.95	7,581.5	-27.5	3,521.3	3,521.4	0.00	0.00	0.00	
11,300.0	90.27	89.95	7,581.1	-27.4	3,621.3	3,621.4	0.00	0.00	0.00	
11,400.0	90.27	89.95	7,580.6	-27.3	3,721.3	3,721.4	0.00	0.00	0.00	
11,500.0	90.27	89.95	7,580.2	-27.2	3,821.3	3,821.4	0.00	0.00	0.00	
11,600.0	90.27	89.95	7,579.7	-27.1	3,921.3	3,921.4	0.00	0.00	0.00	
11,700.0	90.27	89.95	7,579.2	-27.0	4,021.3	4,021.4	0.00	0.00	0.00	
11,800.0	90.27	89.95	7,578.8	-26.9	4,121.3	4,121.4	0.00	0.00	0.00	
11,900.0	90.27	89.95	7,578.3	-26.8	4,221.3	4,221.4	0.00	0.00	0.00	
12,000.0	90.27	89.95	7,577.8	-26.7	4,321.3	4,321.4	0.00	0.00	0.00	
12,100.0	90.27	89.95	7,577.4	-26.7	4,421.3	4,421.4	0.00	0.00	0.00	
12,177.3	90.27	89.95	7,577.0	-26.6	4,498.6	4,498.7	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
SOC 1609CH PBHL	0.00	0.00	7,577.0	-26.6	4,498.6	1,216,556.64	3,219,773.80	39° 55' 30.585 N	104° 42' 58.945 W
- plan hits target center									
- Point									
SOC 1609CH LP	0.00	0.00	7,597.0	-30.6	201.5	1,216,515.44	3,215,476.86	39° 55' 30.549 N	104° 43' 54.103 W
- plan misses target center by 0.1usft at 7880.1usft MD (7597.0 TVD, -30.6 N, 201.5 E)									
- Point									

Planning Report

Database:	Rocky Mountain R5000 Database	Local Co-ordinate Reference:	Well STATE OF COLORADO 1S-66-36 1609 CH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 5200.0usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	WELL @ 5200.0usft (Original Well Elev)
Site:	State of Colorado 1S-66-36 Pad	North Reference:	True
Well:	STATE OF COLORADO 1S-66-36 1609 CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
7,880.1	7,597.0	7"	7	8-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
800.0	800.0	Base Fox Hills		-0.27	89.95	
4,947.4	4,941.9	Shannon		-0.27	89.95	
7,250.0	7,240.2	Sharon Springs		-0.27	89.95	
7,343.8	7,328.1	Niobrara		-0.27	89.95	
7,773.3	7,585.6	Top C Target		-0.27	89.95	
7,850.7	7,596.2	Landing Point		-0.27	89.95	