



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 ANSCHUTZ EQUUS FARMS 4-62-16-0560BH, True North
Vertical (TVD) Reference: WELL @ 4539.0ft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: WELL @ 4539.0ft (Original Well Elev)
Calculation Method: Minimum Curvature

WELL DETAILS: ANSCHUTZ EQUUS FARMS 4-62-16-0560BH

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1361185.48	3327747.87	40° 19' 8.011 N	104° 19' 28.499 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	2097.8	21.96	279.33	2071.1	33.7	-205.0	2.00	279.33	26.9	
4	4566.1	21.96	279.33	4360.4	183.3	-1115.7	0.00	0.00	146.5	
5	5663.9	0.00	180.65	5431.5	217.0	-1320.7	2.00	180.00	173.4	
6	5913.9	0.00	180.65	5681.5	217.0	-1320.7	0.00	180.65	173.4	
7	6667.6	90.44	180.65	6159.0	-264.1	-1326.2	12.00	180.65	635.6	AEF 16-0560BH LP
8	10965.9	90.44	180.65	6126.0	-4562.0	-1375.2	0.00	0.00	4764.8	AEF 16-0560BH PBHL

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

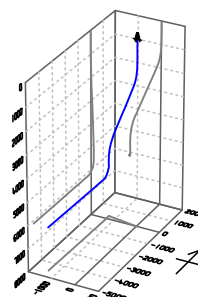
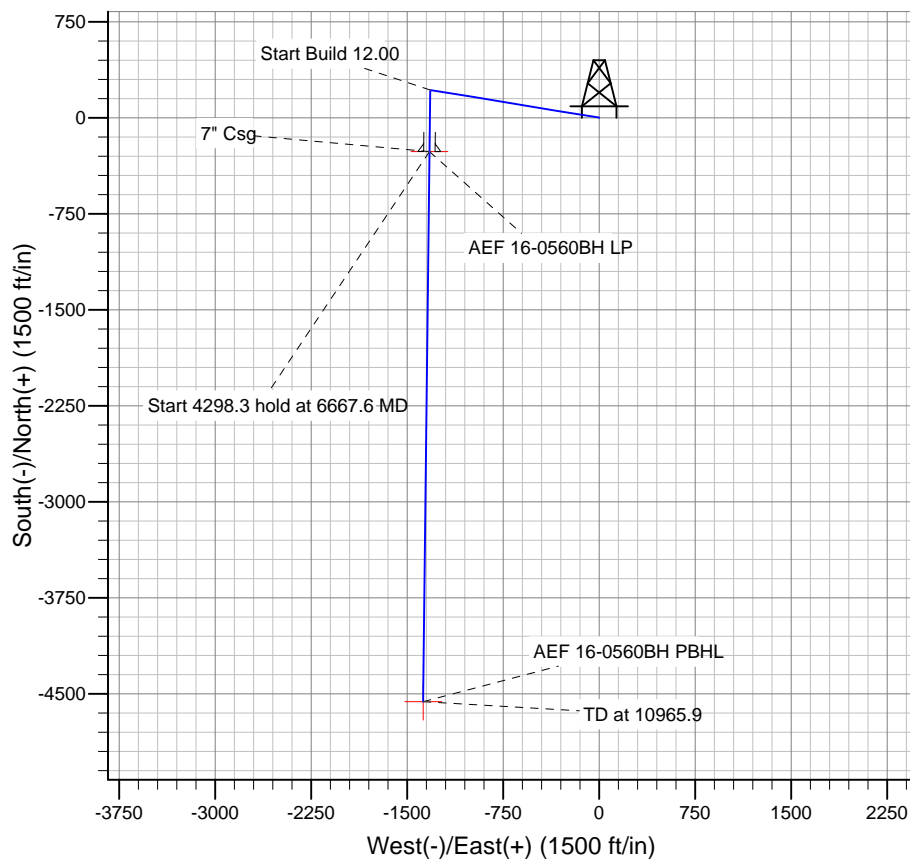
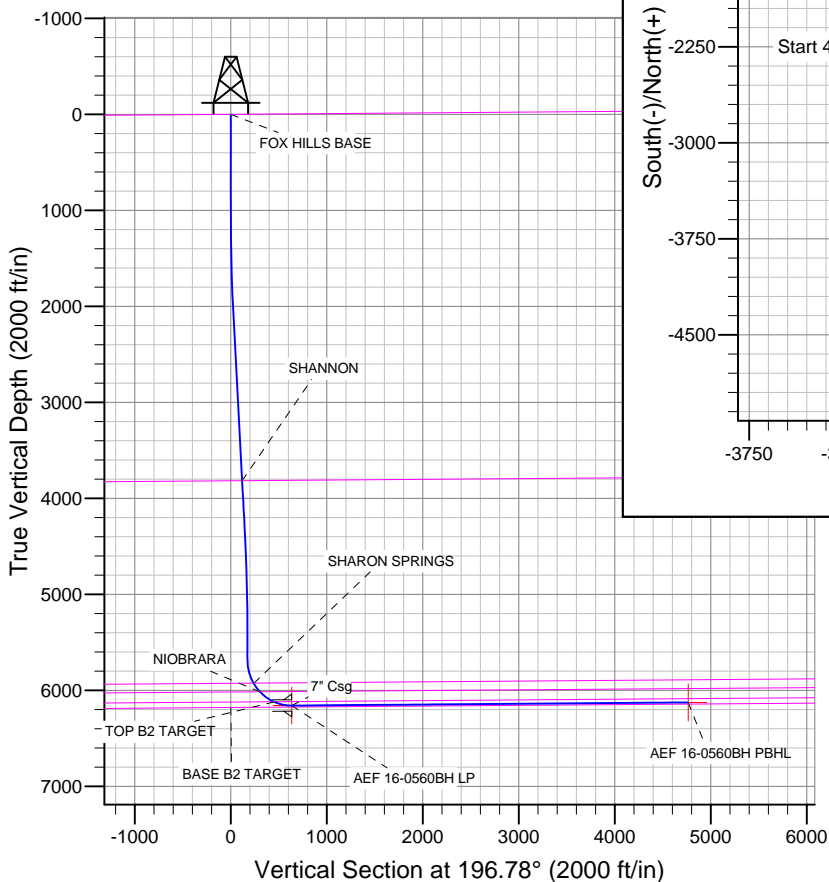
TVDPath	MDPath	Formation
		BASE B2 TARGET
		FOX HILLS BASE
3818.1	3981.3	SHANNON
5927.0	6171.7	SHARON SPRINGS
6017.5	6286.5	NIOBRARA
6121.3	6472.9	TOP B2 TARGET

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
AEF 16-0560BH PBHL	6126.0	-4562.0	-1375.2	Point
AEF 16-0560BH LP	6159.0	-264.1	-1326.2	Point

CASING DETAILS

TVD	MD	Name	Size
6159.0	6667.6	7" Csg	7



Azimuths to True North
Magnetic North: 8.26°

Magnetic Field
Strength: 52858.1snT
Dip Angle: 66.96°
Date: 2/6/2014
Model: IGRF2010

BILL BARRETT CORP

WELD COUNTY, COLORADO

ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD

ANSCHUTZ EQUUS FARMS 4-62-16-0560BH

Wellbore #1

Plan: Design #1

Standard Planning Report

06 February, 2014

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well ANSCHUTZ EQUUS FARMS 4-62-16-0560BH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4539.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4539.0ft (Original Well Elev)
Site:	ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD	North Reference:	True
Well:	ANSCHUTZ EQUUS FARMS 4-62-16-0560BH	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						ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD											
Site Position:			Northing:			1,361,189.10ft			Latitude:			40° 19' 8.029 N					
From:			Lat/Long			Easting:			3,327,882.51 ft			Longitude:			104° 19' 26.760 W		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.76 °		

Well	ANSCHUTZ EQUUS FARMS 4-62-16-0560BH					
Well Position	+N/-S	-1.8 ft	Northing:	1,361,185.48 ft	Latitude:	40° 19' 8.011 N
	+E/-W	-134.7 ft	Easting:	3,327,747.87 ft	Longitude:	104° 19' 28.499 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,523.0 ft

Wellbore	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/6/2014	8.26	66.96	52,858

Design	Design #1
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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	196.78

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	
2,097.8	21.96	279.33	2,071.1	33.7	-205.0	2.00	2.00	0.00	279.33	
4,566.1	21.96	279.33	4,360.4	183.3	-1,115.7	0.00	0.00	0.00	0.00	
5,663.9	0.00	180.65	5,431.5	217.0	-1,320.7	2.00	-2.00	0.00	180.00	
5,913.9	0.00	180.65	5,681.5	217.0	-1,320.7	0.00	0.00	0.00	180.65	
6,667.6	90.44	180.65	6,159.0	-264.1	-1,326.2	12.00	12.00	0.00	180.65	AEF 16-0560BH LF
10,965.9	90.44	180.65	6,126.0	-4,562.0	-1,375.2	0.00	0.00	0.00	0.00	AEF 16-0560BH PE

Bill Barrett Corp

Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well ANSCHUTZ EQUUS FARMS 4-62-16-0560BH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4539.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4539.0ft (Original Well Elev)
Site:	ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD	North Reference:	True
Well:	ANSCHUTZ EQUUS FARMS 4-62-16-0560BH	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	2.00	279.33	1,100.0	0.3	-1.7	0.2	2.00	2.00	0.00
1,200.0	4.00	279.33	1,199.8	1.1	-6.9	0.9	2.00	2.00	0.00
1,300.0	6.00	279.33	1,299.5	2.5	-15.5	2.0	2.00	2.00	0.00
1,400.0	8.00	279.33	1,398.7	4.5	-27.5	3.6	2.00	2.00	0.00
1,500.0	10.00	279.33	1,497.5	7.1	-42.9	5.6	2.00	2.00	0.00
1,600.0	12.00	279.33	1,595.6	10.2	-61.8	8.1	2.00	2.00	0.00
1,700.0	14.00	279.33	1,693.1	13.8	-84.0	11.0	2.00	2.00	0.00
1,800.0	16.00	279.33	1,789.6	18.0	-109.5	14.4	2.00	2.00	0.00
1,900.0	18.00	279.33	1,885.3	22.7	-138.4	18.2	2.00	2.00	0.00
2,000.0	20.00	279.33	1,979.8	28.0	-170.5	22.4	2.00	2.00	0.00
2,097.8	21.96	279.33	2,071.1	33.7	-205.0	26.9	2.00	2.00	0.00
2,100.0	21.96	279.33	2,073.2	33.8	-205.8	27.0	0.00	0.00	0.00
2,200.0	21.96	279.33	2,165.9	39.9	-242.7	31.9	0.00	0.00	0.00
2,300.0	21.96	279.33	2,258.7	46.0	-279.6	36.7	0.00	0.00	0.00
2,400.0	21.96	279.33	2,351.4	52.0	-316.5	41.6	0.00	0.00	0.00
2,500.0	21.96	279.33	2,444.2	58.1	-353.4	46.4	0.00	0.00	0.00
2,600.0	21.96	279.33	2,536.9	64.1	-390.3	51.2	0.00	0.00	0.00
2,700.0	21.96	279.33	2,629.7	70.2	-427.2	56.1	0.00	0.00	0.00
2,800.0	21.96	279.33	2,722.4	76.3	-464.1	60.9	0.00	0.00	0.00
2,900.0	21.96	279.33	2,815.1	82.3	-501.0	65.8	0.00	0.00	0.00
3,000.0	21.96	279.33	2,907.9	88.4	-537.9	70.6	0.00	0.00	0.00
3,100.0	21.96	279.33	3,000.6	94.5	-574.8	75.5	0.00	0.00	0.00
3,200.0	21.96	279.33	3,093.4	100.5	-611.7	80.3	0.00	0.00	0.00
3,300.0	21.96	279.33	3,186.1	106.6	-648.6	85.1	0.00	0.00	0.00
3,400.0	21.96	279.33	3,278.9	112.6	-685.5	90.0	0.00	0.00	0.00
3,500.0	21.96	279.33	3,371.6	118.7	-722.4	94.8	0.00	0.00	0.00
3,600.0	21.96	279.33	3,464.4	124.8	-759.2	99.7	0.00	0.00	0.00
3,700.0	21.96	279.33	3,557.1	130.8	-796.1	104.5	0.00	0.00	0.00
3,800.0	21.96	279.33	3,649.9	136.9	-833.0	109.4	0.00	0.00	0.00
3,900.0	21.96	279.33	3,742.6	143.0	-869.9	114.2	0.00	0.00	0.00
3,981.3	21.96	279.33	3,818.1	147.9	-899.9	118.2	0.00	0.00	0.00
SHANNON									
4,000.0	21.96	279.33	3,835.4	149.0	-906.8	119.1	0.00	0.00	0.00
4,100.0	21.96	279.33	3,928.1	155.1	-943.7	123.9	0.00	0.00	0.00
4,200.0	21.96	279.33	4,020.9	161.1	-980.6	128.7	0.00	0.00	0.00
4,300.0	21.96	279.33	4,113.6	167.2	-1,017.5	133.6	0.00	0.00	0.00
4,400.0	21.96	279.33	4,206.4	173.3	-1,054.4	138.4	0.00	0.00	0.00
4,500.0	21.96	279.33	4,299.1	179.3	-1,091.3	143.3	0.00	0.00	0.00
4,566.1	21.96	279.33	4,360.4	183.3	-1,115.7	146.5	0.00	0.00	0.00
4,600.0	21.28	279.33	4,391.9	185.4	-1,128.0	148.1	2.00	-2.00	0.00

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Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well ANSCHUTZ EQUUS FARMS 4-62-16-0560BH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4539.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4539.0ft (Original Well Elev)
Site:	ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD	North Reference:	True
Well:	ANSCHUTZ EQUUS FARMS 4-62-16-0560BH	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	19.28	279.33	4,485.7	191.0	-1,162.2	152.6	2.00	-2.00	0.00
4,800.0	17.28	279.33	4,580.7	196.1	-1,193.1	156.6	2.00	-2.00	0.00
4,900.0	15.28	279.33	4,676.7	200.6	-1,220.8	160.3	2.00	-2.00	0.00
5,000.0	13.28	279.33	4,773.6	204.6	-1,245.1	163.5	2.00	-2.00	0.00
5,100.0	11.28	279.33	4,871.3	208.1	-1,266.1	166.2	2.00	-2.00	0.00
5,200.0	9.28	279.33	4,969.7	211.0	-1,283.7	168.5	2.00	-2.00	0.00
5,300.0	7.28	279.33	5,068.6	213.3	-1,297.9	170.4	2.00	-2.00	0.00
5,400.0	5.28	279.33	5,168.0	215.1	-1,308.7	171.8	2.00	-2.00	0.00
5,500.0	3.28	279.33	5,267.7	216.3	-1,316.1	172.8	2.00	-2.00	0.00
5,600.0	1.28	279.33	5,367.6	216.9	-1,320.0	173.3	2.00	-2.00	0.00
5,663.9	0.00	180.65	5,431.5	217.0	-1,320.7	173.4	2.00	-2.00	0.00
5,700.0	0.00	180.65	5,467.6	217.0	-1,320.7	173.4	0.00	0.00	0.00
5,800.0	0.00	180.65	5,567.6	217.0	-1,320.7	173.4	0.00	0.00	0.00
5,900.0	0.00	180.65	5,667.6	217.0	-1,320.7	173.4	0.00	0.00	0.00
5,913.9	0.00	180.65	5,681.5	217.0	-1,320.7	173.4	0.00	0.00	0.00
6,000.0	10.33	180.65	5,767.2	209.3	-1,320.8	180.8	12.00	12.00	0.00
6,100.0	22.33	180.65	5,863.0	181.2	-1,321.1	207.8	12.00	12.00	0.00
6,171.7	30.94	180.65	5,927.0	149.1	-1,321.5	238.7	12.00	12.00	0.00
SHARON SPRINGS									
6,200.0	34.33	180.65	5,950.8	133.9	-1,321.7	253.3	12.00	12.00	0.00
6,286.5	44.72	180.65	6,017.5	78.9	-1,322.3	306.1	12.00	12.00	0.00
NIOBRARA									
6,300.0	46.33	180.65	6,026.9	69.3	-1,322.4	315.4	12.00	12.00	0.00
6,400.0	58.33	180.65	6,087.9	-9.7	-1,323.3	391.3	12.00	12.00	0.00
6,472.9	67.08	180.65	6,121.3	-74.5	-1,324.0	453.4	12.00	12.00	0.00
TOP B2 TARGET									
6,500.0	70.33	180.65	6,131.2	-99.7	-1,324.3	477.7	12.00	12.00	0.00
6,600.0	82.33	180.65	6,154.7	-196.7	-1,325.4	570.9	12.00	12.00	0.00
6,667.6	90.44	180.65	6,159.0	-264.1	-1,326.2	635.6	12.00	12.00	0.00
7" Csg - AEF 16-0560BH LP									
6,700.0	90.44	180.65	6,158.8	-296.5	-1,326.6	666.8	0.01	0.01	0.00
6,800.0	90.44	180.65	6,158.0	-396.5	-1,327.7	762.8	0.00	0.00	0.00
6,900.0	90.44	180.65	6,157.2	-496.5	-1,328.8	858.9	0.00	0.00	0.00
7,000.0	90.44	180.65	6,156.4	-596.5	-1,330.0	955.0	0.00	0.00	0.00
7,100.0	90.44	180.65	6,155.7	-696.5	-1,331.1	1,051.0	0.00	0.00	0.00
7,200.0	90.44	180.65	6,154.9	-796.4	-1,332.3	1,147.1	0.00	0.00	0.00
7,300.0	90.44	180.65	6,154.1	-896.4	-1,333.4	1,243.1	0.00	0.00	0.00
7,400.0	90.44	180.65	6,153.4	-996.4	-1,334.6	1,339.2	0.00	0.00	0.00
7,500.0	90.44	180.65	6,152.6	-1,096.4	-1,335.7	1,435.3	0.00	0.00	0.00
7,600.0	90.44	180.65	6,151.8	-1,196.4	-1,336.8	1,531.3	0.00	0.00	0.00
7,700.0	90.44	180.65	6,151.1	-1,296.4	-1,338.0	1,627.4	0.00	0.00	0.00
7,800.0	90.44	180.65	6,150.3	-1,396.4	-1,339.1	1,723.5	0.00	0.00	0.00
7,900.0	90.44	180.65	6,149.5	-1,496.4	-1,340.3	1,819.5	0.00	0.00	0.00
8,000.0	90.44	180.65	6,148.8	-1,596.4	-1,341.4	1,915.6	0.00	0.00	0.00
8,100.0	90.44	180.65	6,148.0	-1,696.4	-1,342.5	2,011.7	0.00	0.00	0.00
8,200.0	90.44	180.65	6,147.2	-1,796.4	-1,343.7	2,107.7	0.00	0.00	0.00
8,300.0	90.44	180.65	6,146.5	-1,896.3	-1,344.8	2,203.8	0.00	0.00	0.00
8,400.0	90.44	180.65	6,145.7	-1,996.3	-1,346.0	2,299.9	0.00	0.00	0.00
8,500.0	90.44	180.65	6,144.9	-2,096.3	-1,347.1	2,395.9	0.00	0.00	0.00
8,600.0	90.44	180.65	6,144.2	-2,196.3	-1,348.2	2,492.0	0.00	0.00	0.00
8,700.0	90.44	180.65	6,143.4	-2,296.3	-1,349.4	2,588.0	0.00	0.00	0.00

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Planning Report

Database:	Compass	Local Co-ordinate Reference:	Well ANSCHUTZ EQUUS FARMS 4-62-16-0560BH
Company:	BILL BARRETT CORP	TVD Reference:	WELL @ 4539.0ft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	WELL @ 4539.0ft (Original Well Elev)
Site:	ANSCHUTZ EQUUS FARMS 4-62-16 NE PAD	North Reference:	True
Well:	ANSCHUTZ EQUUS FARMS 4-62-16-0560BH	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	90.44	180.65	6,142.6	-2,396.3	-1,350.5	2,684.1	0.00	0.00	0.00
8,900.0	90.44	180.65	6,141.9	-2,496.3	-1,351.7	2,780.2	0.00	0.00	0.00
9,000.0	90.44	180.65	6,141.1	-2,596.3	-1,352.8	2,876.2	0.00	0.00	0.00
9,100.0	90.44	180.65	6,140.3	-2,696.3	-1,353.9	2,972.3	0.00	0.00	0.00
9,200.0	90.44	180.65	6,139.6	-2,796.3	-1,355.1	3,068.4	0.00	0.00	0.00
9,300.0	90.44	180.65	6,138.8	-2,896.2	-1,356.2	3,164.4	0.00	0.00	0.00
9,400.0	90.44	180.65	6,138.0	-2,996.2	-1,357.4	3,260.5	0.00	0.00	0.00
9,500.0	90.44	180.65	6,137.3	-3,096.2	-1,358.5	3,356.6	0.00	0.00	0.00
9,600.0	90.44	180.65	6,136.5	-3,196.2	-1,359.7	3,452.6	0.00	0.00	0.00
9,700.0	90.44	180.65	6,135.7	-3,296.2	-1,360.8	3,548.7	0.00	0.00	0.00
9,800.0	90.44	180.65	6,135.0	-3,396.2	-1,361.9	3,644.8	0.00	0.00	0.00
9,900.0	90.44	180.65	6,134.2	-3,496.2	-1,363.1	3,740.8	0.00	0.00	0.00
10,000.0	90.44	180.65	6,133.4	-3,596.2	-1,364.2	3,836.9	0.00	0.00	0.00
10,100.0	90.44	180.65	6,132.6	-3,696.2	-1,365.4	3,932.9	0.00	0.00	0.00
10,200.0	90.44	180.65	6,131.9	-3,796.2	-1,366.5	4,029.0	0.00	0.00	0.00
10,300.0	90.44	180.65	6,131.1	-3,896.2	-1,367.6	4,125.1	0.00	0.00	0.00
10,400.0	90.44	180.65	6,130.3	-3,996.1	-1,368.8	4,221.1	0.00	0.00	0.00
10,500.0	90.44	180.65	6,129.6	-4,096.1	-1,369.9	4,317.2	0.00	0.00	0.00
10,600.0	90.44	180.65	6,128.8	-4,196.1	-1,371.1	4,413.3	0.00	0.00	0.00
10,700.0	90.44	180.65	6,128.0	-4,296.1	-1,372.2	4,509.3	0.00	0.00	0.00
10,800.0	90.44	180.65	6,127.3	-4,396.1	-1,373.3	4,605.4	0.00	0.00	0.00
10,900.0	90.44	180.65	6,126.5	-4,496.1	-1,374.5	4,701.5	0.00	0.00	0.00
10,965.9	90.44	180.65	6,126.0	-4,562.0	-1,375.2	4,764.8	0.00	0.00	0.00
AEF 16-0560BH PBHL									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,667.6	6,159.0	7" Csg	7	8-3/4

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	0.0	FOX HILLS BASE		-0.44	180.65
3,981.3	3,817.0	SHANNON		-0.44	180.65
6,171.7	5,926.0	SHARON SPRINGS		-0.44	180.65
6,286.5	6,017.0	NIOBRARA		-0.44	180.65
6,472.9	6,122.0	TOP B2 TARGET		-0.44	180.65
	6,179.0	BASE B2 TARGET		-0.44	180.65