



**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 Dutch Lake 3-3H, True North  
Vertical (TVD) Reference: KB @ 4878.0ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.0N, 0.0E)  
Measured Depth Reference: KB @ 4878.0ft (Original Well Elev)  
Calculation Method: Minimum Curvature

## WELL DETAILS: Dutch Lake 3-3H

| +N/-S | +E/-W | Northing   | Easting    | Latitude         | Longitude        |
|-------|-------|------------|------------|------------------|------------------|
| 0.0   | 0.0   | 1435387.48 | 3328882.56 | 40° 31' 21.061 N | 104° 19' 1.070 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   | 1289.1  | 4.34  | 237.82 | 1288.8 | -5.8   | -9.3   | 1.50  | 237.82 | -9.1   |              |
| 4   | 5404.7  | 4.34  | 237.82 | 5392.7 | -171.6 | -272.6 | 0.00  | 0.00   | -267.7 |              |
| 5   | 5693.8  | 0.00  | 0.00   | 5681.5 | -177.4 | -281.9 | 1.50  | 180.00 | -276.8 |              |
| 6   | 6193.8  | 0.00  | 0.00   | 6181.5 | -177.4 | -281.9 | 0.00  | 0.00   | -276.8 |              |
| 7   | 6948.4  | 90.55 | 89.40  | 6658.9 | -172.3 | 200.1  | 12.00 | 89.40  | 204.9  | DL 3-3 LP    |
| 8   | 11255.5 | 90.55 | 89.40  | 6617.6 | -127.1 | 4506.8 | 0.00  | 0.00   | 4508.6 | DL 3-3H 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

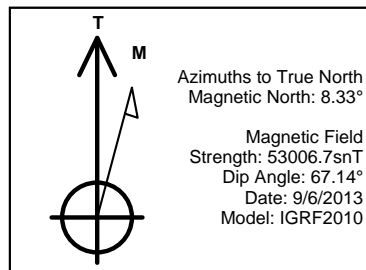
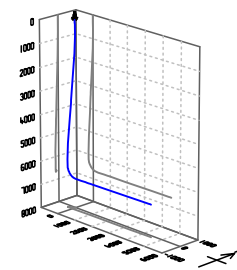
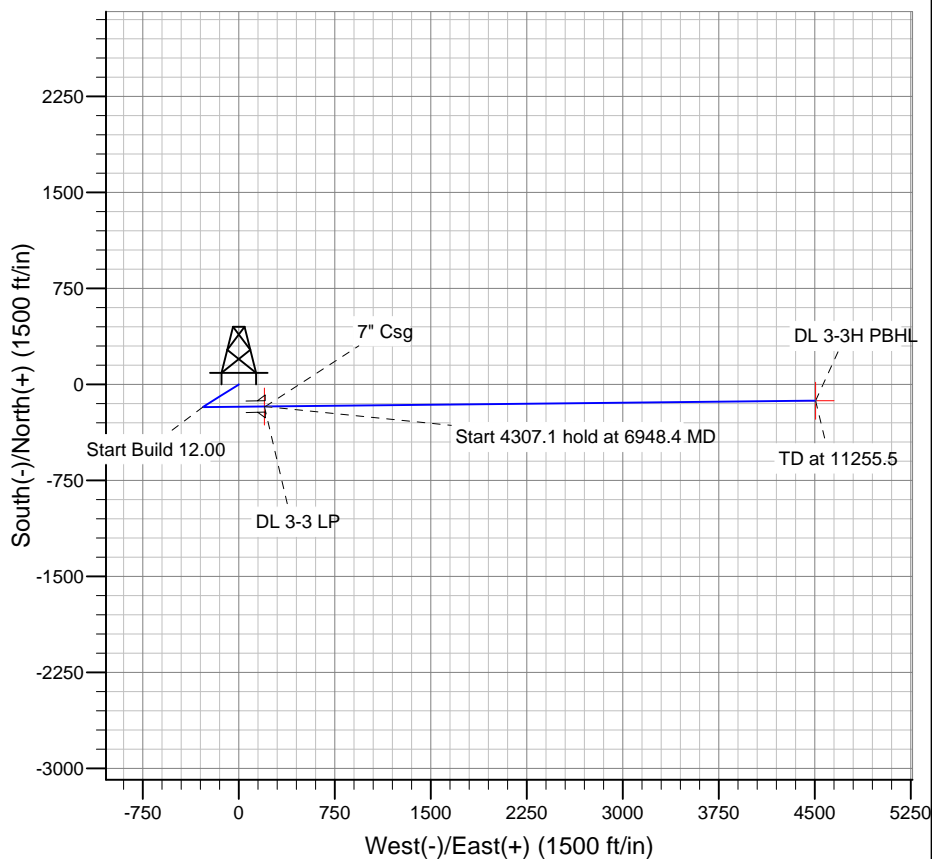
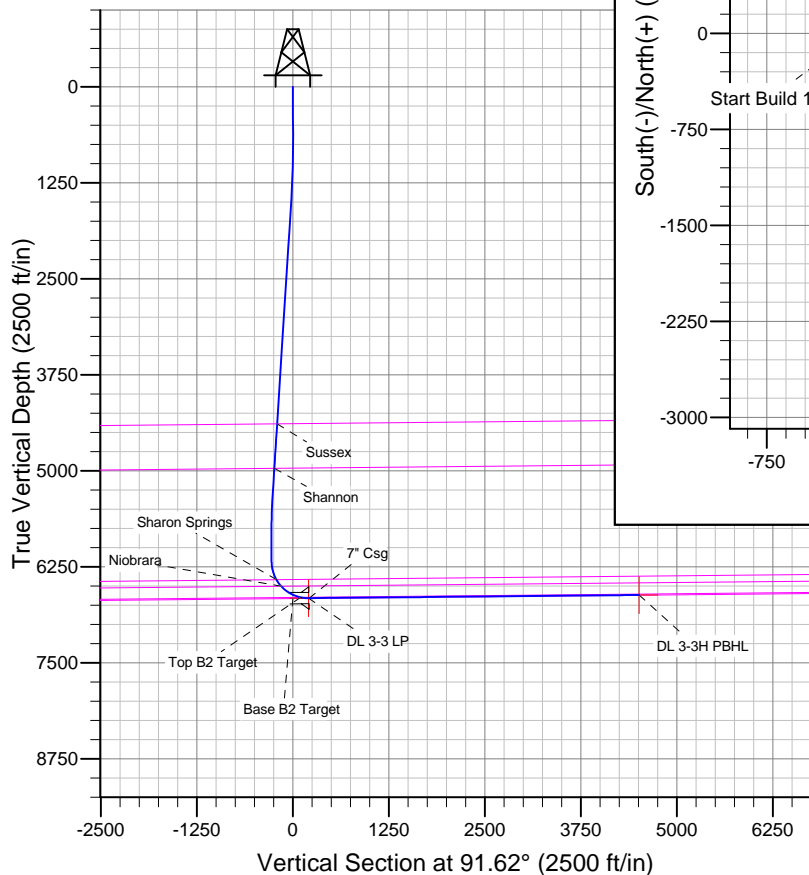
| TVDPath | MDPath | Formation      |
|---------|--------|----------------|
| 4389.0  | 4398.2 | Base B2 Target |
| 4969.4  | 4980.2 | Sussex         |
| 6419.1  | 6442.5 | Shannon        |
| 6504.5  | 6548.6 | Sharon Springs |
| 6648.1  | 6841.8 | Niobrara       |
| 6648.1  | 6841.8 | Top B2 Target  |

## CASING DETAILS

| TVD    | MD     | Name   | Size |
|--------|--------|--------|------|
| 6658.9 | 6955.0 | 7" Csg | 7    |

## WELLBORE TARGET DETAILS

| Name         | TVD    | +N/-S  | +E/-W  | Shape |
|--------------|--------|--------|--------|-------|
| DL 3-3H PBHL | 6618.0 | -127.1 | 4506.8 | Point |
| DL 3-3 LP    | 6659.0 | -172.3 | 200.2  | Point |



Azimuths to True North  
Magnetic North: 8.33°  
Magnetic Field  
Strength: 53006.7snT  
Dip Angle: 67.14°  
Date: 9/6/2013  
Model: IGRF2010

# **BILL BARRETT CORP**

**WELD COUNTY, COLORADO**

**Dutch Lake 3-3H**

**Well #1**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**06 September, 2013**

# Bill Barrett Corp

## Planning Report

|                  |                       |                                     |                                    |
|------------------|-----------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | Compass               | <b>Local Co-ordinate Reference:</b> | Well Well #1                       |
| <b>Company:</b>  | BILL BARRETT CORP     | <b>TVD Reference:</b>               | KB @ 4878.0ft (Original Well Elev) |
| <b>Project:</b>  | WELD COUNTY, COLORADO | <b>MD Reference:</b>                | KB @ 4878.0ft (Original Well Elev) |
| <b>Site:</b>     | Dutch Lake 3-3H       | <b>North Reference:</b>             | True                               |
| <b>Well:</b>     | Well #1               | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                                    |
| <b>Design:</b>   | Design #1             |                                     |                                    |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | WELD COUNTY, COLORADO     |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone    |                      |                |

|                       |          |                 |                 |            |                   |        |
|-----------------------|----------|-----------------|-----------------|------------|-------------------|--------|
| Site                  |          | Dutch Lake 3-3H |                 |            |                   |        |
| Site Position:        |          | Northing:       | 1,435,387.48 ft | Latitude:  | 40° 31' 21.061 N  |        |
| From:                 | Lat/Long | Easting:        | 3,328,882.56 ft | Longitude: | 104° 19' 1.070 W  |        |
| Position Uncertainty: |          | 0.0 ft          | Slot Radius:    | "          | Grid Convergence: | 0.76 ° |

| Well                 | Well #1 |        |                     |                 |               |                  |
|----------------------|---------|--------|---------------------|-----------------|---------------|------------------|
| Well Position        | +N-S    | 0.0 ft | Northing:           | 1,435,387.48 ft | Latitude:     | 40° 31' 21.061 N |
|                      | +E-W    | 0.0 ft | Easting:            | 3,328,882.56 ft | Longitude:    | 104° 19' 1.070 W |
| Position Uncertainty |         | 0.0 ft | Wellhead Elevation: | ft              | Ground Level: | 4,862.0 ft       |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 9/6/2013           | 8.33                   | 67.14                | 53,007                     |

|                          |                              |                   |                   |                      |     |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|-----|
| <b>Design</b>            | Design #1                    |                   |                   |                      |     |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |     |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              |                   | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                          | 0.0               | 0.0               | 91.62                |     |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |              |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|--------------|
| 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    |              |
| 1,289.1              | 4.34            | 237.82      | 1,288.8             | -5.8       | -9.3       | 1.50                  | 1.50                 | 0.00                | 237.82  |              |
| 5,404.7              | 4.34            | 237.82      | 5,392.7             | -171.6     | -272.6     | 0.00                  | 0.00                 | 0.00                | 0.00    |              |
| 5,693.8              | 0.00            | 0.00        | 5,681.5             | -177.4     | -281.9     | 1.50                  | -1.50                | 0.00                | 180.00  |              |
| 6,193.8              | 0.00            | 0.00        | 6,181.5             | -177.4     | -281.9     | 0.00                  | 0.00                 | 0.00                | 0.00    |              |
| 6,948.4              | 90.55           | 89.40       | 6,658.9             | -172.3     | 200.1      | 12.00                 | 12.00                | 0.00                | 89.40   | DL 3-3 LP    |
| 11,255.5             | 90.55           | 89.40       | 6,617.6             | -127.1     | 4,506.8    | 0.00                  | 0.00                 | 0.00                | 0.00    | DL 3-3H PBHL |

# Bill Barrett Corp

## Planning Report

|                  |                       |                                     |                                    |
|------------------|-----------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | Compass               | <b>Local Co-ordinate Reference:</b> | Well Well #1                       |
| <b>Company:</b>  | BILL BARRETT CORP     | <b>TVD Reference:</b>               | KB @ 4878.0ft (Original Well Elev) |
| <b>Project:</b>  | WELD COUNTY, COLORADO | <b>MD Reference:</b>                | KB @ 4878.0ft (Original Well Elev) |
| <b>Site:</b>     | Dutch Lake 3-3H       | <b>North Reference:</b>             | True                               |
| <b>Well:</b>     | Well #1               | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                                    |
| <b>Design:</b>   | 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            | 237.82      | 1,100.0             | -0.7       | -1.1       | -1.1                  | 1.50                  | 1.50                 | 0.00                |
| 1,200.0             | 3.00            | 237.82      | 1,199.9             | -2.8       | -4.4       | -4.4                  | 1.50                  | 1.50                 | 0.00                |
| 1,289.1             | 4.34            | 237.82      | 1,288.8             | -5.8       | -9.3       | -9.1                  | 1.50                  | 1.50                 | 0.00                |
| 1,300.0             | 4.34            | 237.82      | 1,299.7             | -6.3       | -10.0      | -9.8                  | 0.00                  | 0.00                 | 0.00                |
| 1,400.0             | 4.34            | 237.82      | 1,399.4             | -10.3      | -16.4      | -16.1                 | 0.00                  | 0.00                 | 0.00                |
| 1,500.0             | 4.34            | 237.82      | 1,499.1             | -14.3      | -22.8      | -22.3                 | 0.00                  | 0.00                 | 0.00                |
| 1,600.0             | 4.34            | 237.82      | 1,598.8             | -18.3      | -29.2      | -28.6                 | 0.00                  | 0.00                 | 0.00                |
| 1,700.0             | 4.34            | 237.82      | 1,698.5             | -22.4      | -35.6      | -34.9                 | 0.00                  | 0.00                 | 0.00                |
| 1,800.0             | 4.34            | 237.82      | 1,798.3             | -26.4      | -42.0      | -41.2                 | 0.00                  | 0.00                 | 0.00                |
| 1,900.0             | 4.34            | 237.82      | 1,898.0             | -30.4      | -48.4      | -47.5                 | 0.00                  | 0.00                 | 0.00                |
| 2,000.0             | 4.34            | 237.82      | 1,997.7             | -34.5      | -54.8      | -53.8                 | 0.00                  | 0.00                 | 0.00                |
| 2,100.0             | 4.34            | 237.82      | 2,097.4             | -38.5      | -61.2      | -60.0                 | 0.00                  | 0.00                 | 0.00                |
| 2,200.0             | 4.34            | 237.82      | 2,197.1             | -42.5      | -67.6      | -66.3                 | 0.00                  | 0.00                 | 0.00                |
| 2,300.0             | 4.34            | 237.82      | 2,296.8             | -46.5      | -74.0      | -72.6                 | 0.00                  | 0.00                 | 0.00                |
| 2,400.0             | 4.34            | 237.82      | 2,396.5             | -50.6      | -80.3      | -78.9                 | 0.00                  | 0.00                 | 0.00                |
| 2,500.0             | 4.34            | 237.82      | 2,496.3             | -54.6      | -86.7      | -85.2                 | 0.00                  | 0.00                 | 0.00                |
| 2,600.0             | 4.34            | 237.82      | 2,596.0             | -58.6      | -93.1      | -91.5                 | 0.00                  | 0.00                 | 0.00                |
| 2,700.0             | 4.34            | 237.82      | 2,695.7             | -62.6      | -99.5      | -97.7                 | 0.00                  | 0.00                 | 0.00                |
| 2,800.0             | 4.34            | 237.82      | 2,795.4             | -66.7      | -105.9     | -104.0                | 0.00                  | 0.00                 | 0.00                |
| 2,900.0             | 4.34            | 237.82      | 2,895.1             | -70.7      | -112.3     | -110.3                | 0.00                  | 0.00                 | 0.00                |
| 3,000.0             | 4.34            | 237.82      | 2,994.8             | -74.7      | -118.7     | -116.6                | 0.00                  | 0.00                 | 0.00                |
| 3,100.0             | 4.34            | 237.82      | 3,094.5             | -78.7      | -125.1     | -122.9                | 0.00                  | 0.00                 | 0.00                |
| 3,200.0             | 4.34            | 237.82      | 3,194.3             | -82.8      | -131.5     | -129.2                | 0.00                  | 0.00                 | 0.00                |
| 3,300.0             | 4.34            | 237.82      | 3,294.0             | -86.8      | -137.9     | -135.4                | 0.00                  | 0.00                 | 0.00                |
| 3,400.0             | 4.34            | 237.82      | 3,393.7             | -90.8      | -144.3     | -141.7                | 0.00                  | 0.00                 | 0.00                |
| 3,500.0             | 4.34            | 237.82      | 3,493.4             | -94.9      | -150.7     | -148.0                | 0.00                  | 0.00                 | 0.00                |
| 3,600.0             | 4.34            | 237.82      | 3,593.1             | -98.9      | -157.1     | -154.3                | 0.00                  | 0.00                 | 0.00                |
| 3,700.0             | 4.34            | 237.82      | 3,692.8             | -102.9     | -163.5     | -160.6                | 0.00                  | 0.00                 | 0.00                |
| 3,800.0             | 4.34            | 237.82      | 3,792.5             | -106.9     | -169.9     | -166.9                | 0.00                  | 0.00                 | 0.00                |
| 3,900.0             | 4.34            | 237.82      | 3,892.2             | -111.0     | -176.3     | -173.1                | 0.00                  | 0.00                 | 0.00                |
| 4,000.0             | 4.34            | 237.82      | 3,992.0             | -115.0     | -182.7     | -179.4                | 0.00                  | 0.00                 | 0.00                |
| 4,100.0             | 4.34            | 237.82      | 4,091.7             | -119.0     | -189.1     | -185.7                | 0.00                  | 0.00                 | 0.00                |
| 4,200.0             | 4.34            | 237.82      | 4,191.4             | -123.0     | -195.5     | -192.0                | 0.00                  | 0.00                 | 0.00                |
| 4,300.0             | 4.34            | 237.82      | 4,291.1             | -127.1     | -201.9     | -198.3                | 0.00                  | 0.00                 | 0.00                |
| 4,398.2             | 4.34            | 237.82      | 4,389.0             | -131.0     | -208.2     | -204.5                | 0.00                  | 0.00                 | 0.00                |
| <b>Sussex</b>       |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,400.0             | 4.34            | 237.82      | 4,390.8             | -131.1     | -208.3     | -204.6                | 0.00                  | 0.00                 | 0.00                |
| 4,500.0             | 4.34            | 237.82      | 4,490.5             | -135.1     | -214.7     | -210.9                | 0.00                  | 0.00                 | 0.00                |
| 4,600.0             | 4.34            | 237.82      | 4,590.2             | -139.2     | -221.1     | -217.1                | 0.00                  | 0.00                 | 0.00                |
| 4,700.0             | 4.34            | 237.82      | 4,690.0             | -143.2     | -227.5     | -223.4                | 0.00                  | 0.00                 | 0.00                |
| 4,800.0             | 4.34            | 237.82      | 4,789.7             | -147.2     | -233.9     | -229.7                | 0.00                  | 0.00                 | 0.00                |
| 4,900.0             | 4.34            | 237.82      | 4,889.4             | -151.2     | -240.3     | -236.0                | 0.00                  | 0.00                 | 0.00                |
| 4,980.2             | 4.34            | 237.82      | 4,969.4             | -154.5     | -245.5     | -241.0                | 0.00                  | 0.00                 | 0.00                |

# Bill Barrett Corp

## Planning Report

|                  |                       |                                     |                                    |
|------------------|-----------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | Compass               | <b>Local Co-ordinate Reference:</b> | Well Well #1                       |
| <b>Company:</b>  | BILL BARRETT CORP     | <b>TVD Reference:</b>               | KB @ 4878.0ft (Original Well Elev) |
| <b>Project:</b>  | WELD COUNTY, COLORADO | <b>MD Reference:</b>                | KB @ 4878.0ft (Original Well Elev) |
| <b>Site:</b>     | Dutch Lake 3-3H       | <b>North Reference:</b>             | True                               |
| <b>Well:</b>     | Well #1               | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                                    |
| <b>Design:</b>   | 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) |
| <b>Shannon</b>        |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,000.0               | 4.34            | 237.82      | 4,989.1             | -155.3     | -246.7     | -242.3                | 0.00                  | 0.00                 | 0.00                |
| 5,100.0               | 4.34            | 237.82      | 5,088.8             | -159.3     | -253.1     | -248.6                | 0.00                  | 0.00                 | 0.00                |
| 5,200.0               | 4.34            | 237.82      | 5,188.5             | -163.3     | -259.5     | -254.8                | 0.00                  | 0.00                 | 0.00                |
| 5,300.0               | 4.34            | 237.82      | 5,288.2             | -167.3     | -265.9     | -261.1                | 0.00                  | 0.00                 | 0.00                |
| 5,400.0               | 4.34            | 237.82      | 5,388.0             | -171.4     | -272.3     | -267.4                | 0.00                  | 0.00                 | 0.00                |
| 5,404.7               | 4.34            | 237.82      | 5,392.7             | -171.6     | -272.6     | -267.7                | 0.00                  | 0.00                 | 0.00                |
| 5,500.0               | 2.91            | 237.82      | 5,487.7             | -174.8     | -277.7     | -272.7                | 1.50                  | -1.50                | 0.00                |
| 5,600.0               | 1.41            | 237.82      | 5,587.7             | -176.8     | -280.9     | -275.8                | 1.50                  | -1.50                | 0.00                |
| 5,693.8               | 0.00            | 0.00        | 5,681.5             | -177.4     | -281.9     | -276.8                | 1.50                  | -1.50                | 0.00                |
| 5,700.0               | 0.00            | 0.00        | 5,687.7             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 5,800.0               | 0.00            | 0.00        | 5,787.7             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 5,900.0               | 0.00            | 0.00        | 5,887.7             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 6,000.0               | 0.00            | 0.00        | 5,987.7             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 6,100.0               | 0.00            | 0.00        | 6,087.7             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 6,193.8               | 0.00            | 0.00        | 6,181.5             | -177.4     | -281.9     | -276.8                | 0.00                  | 0.00                 | 0.00                |
| 6,200.0               | 0.74            | 89.40       | 6,187.7             | -177.4     | -281.9     | -276.7                | 12.00                 | 12.00                | 0.00                |
| 6,300.0               | 12.74           | 89.40       | 6,286.8             | -177.3     | -270.1     | -265.0                | 12.00                 | 12.00                | 0.00                |
| 6,400.0               | 24.74           | 89.40       | 6,381.3             | -176.9     | -238.1     | -233.0                | 12.00                 | 12.00                | 0.00                |
| 6,442.5               | 29.85           | 89.40       | 6,419.1             | -176.7     | -218.6     | -213.5                | 12.00                 | 12.00                | 0.00                |
| <b>Sharon Springs</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,500.0               | 36.74           | 89.40       | 6,467.1             | -176.4     | -187.1     | -182.0                | 12.00                 | 12.00                | 0.00                |
| 6,548.6               | 42.57           | 89.40       | 6,504.5             | -176.1     | -156.1     | -151.0                | 12.00                 | 12.00                | 0.00                |
| <b>Niobrara</b>       |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,600.0               | 48.74           | 89.40       | 6,540.4             | -175.7     | -119.3     | -114.3                | 12.00                 | 12.00                | 0.00                |
| 6,700.0               | 60.74           | 89.40       | 6,598.0             | -174.8     | -37.8      | -32.9                 | 12.00                 | 12.00                | 0.00                |
| 6,800.0               | 72.74           | 89.40       | 6,637.5             | -173.9     | 53.9       | 58.8                  | 12.00                 | 12.00                | 0.00                |
| 6,841.8               | 77.76           | 89.40       | 6,648.1             | -173.4     | 94.3       | 99.2                  | 12.00                 | 12.00                | 0.00                |
| <b>Top B2 Target</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,900.0               | 84.74           | 89.40       | 6,657.0             | -172.8     | 151.8      | 156.6                 | 12.00                 | 12.00                | 0.00                |
| 6,948.5               | 90.55           | 89.40       | 6,658.9             | -172.3     | 200.2      | 204.9                 | 11.99                 | 11.99                | 0.00                |
| <b>DL 3-3 LP</b>      |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,955.0               | 90.55           | 89.40       | 6,658.9             | -172.2     | 206.7      | 211.5                 | 0.00                  | 0.00                 | 0.00                |
| <b>7" Csg</b>         |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,000.0               | 90.55           | 89.40       | 6,658.4             | -171.8     | 251.7      | 256.4                 | 0.00                  | 0.00                 | 0.00                |
| 7,100.0               | 90.55           | 89.40       | 6,657.5             | -170.7     | 351.7      | 356.4                 | 0.00                  | 0.00                 | 0.00                |
| 7,200.0               | 90.55           | 89.40       | 6,656.5             | -169.7     | 451.7      | 456.3                 | 0.00                  | 0.00                 | 0.00                |
| 7,300.0               | 90.55           | 89.40       | 6,655.6             | -168.6     | 551.7      | 556.2                 | 0.00                  | 0.00                 | 0.00                |
| 7,400.0               | 90.55           | 89.40       | 6,654.6             | -167.6     | 651.7      | 656.1                 | 0.00                  | 0.00                 | 0.00                |
| 7,500.0               | 90.55           | 89.40       | 6,653.6             | -166.5     | 751.6      | 756.0                 | 0.00                  | 0.00                 | 0.00                |
| 7,600.0               | 90.55           | 89.40       | 6,652.7             | -165.5     | 851.6      | 856.0                 | 0.00                  | 0.00                 | 0.00                |
| 7,700.0               | 90.55           | 89.40       | 6,651.7             | -164.4     | 951.6      | 955.9                 | 0.00                  | 0.00                 | 0.00                |
| 7,800.0               | 90.55           | 89.40       | 6,650.8             | -163.4     | 1,051.6    | 1,055.8               | 0.00                  | 0.00                 | 0.00                |
| 7,900.0               | 90.55           | 89.40       | 6,649.8             | -162.3     | 1,151.6    | 1,155.7               | 0.00                  | 0.00                 | 0.00                |
| 8,000.0               | 90.55           | 89.40       | 6,648.8             | -161.3     | 1,251.6    | 1,255.6               | 0.00                  | 0.00                 | 0.00                |
| 8,100.0               | 90.55           | 89.40       | 6,647.9             | -160.2     | 1,351.6    | 1,355.6               | 0.00                  | 0.00                 | 0.00                |
| 8,200.0               | 90.55           | 89.40       | 6,646.9             | -159.2     | 1,451.6    | 1,455.5               | 0.00                  | 0.00                 | 0.00                |
| 8,300.0               | 90.55           | 89.40       | 6,646.0             | -158.1     | 1,551.6    | 1,555.4               | 0.00                  | 0.00                 | 0.00                |
| 8,400.0               | 90.55           | 89.40       | 6,645.0             | -157.1     | 1,651.6    | 1,655.3               | 0.00                  | 0.00                 | 0.00                |
| 8,500.0               | 90.55           | 89.40       | 6,644.0             | -156.0     | 1,751.5    | 1,755.2               | 0.00                  | 0.00                 | 0.00                |
| 8,600.0               | 90.55           | 89.40       | 6,643.1             | -155.0     | 1,851.5    | 1,855.2               | 0.00                  | 0.00                 | 0.00                |
| 8,700.0               | 90.55           | 89.40       | 6,642.1             | -153.9     | 1,951.5    | 1,955.1               | 0.00                  | 0.00                 | 0.00                |
| 8,800.0               | 90.55           | 89.40       | 6,641.2             | -152.9     | 2,051.5    | 2,055.0               | 0.00                  | 0.00                 | 0.00                |

# Bill Barrett Corp

## Planning Report

|                  |                       |                                     |                                    |
|------------------|-----------------------|-------------------------------------|------------------------------------|
| <b>Database:</b> | Compass               | <b>Local Co-ordinate Reference:</b> | Well Well #1                       |
| <b>Company:</b>  | BILL BARRETT CORP     | <b>TVD Reference:</b>               | KB @ 4878.0ft (Original Well Elev) |
| <b>Project:</b>  | WELD COUNTY, COLORADO | <b>MD Reference:</b>                | KB @ 4878.0ft (Original Well Elev) |
| <b>Site:</b>     | Dutch Lake 3-3H       | <b>North Reference:</b>             | True                               |
| <b>Well:</b>     | Well #1               | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                                    |
| <b>Design:</b>   | 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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 8,900.0             | 90.55           | 89.40       | 6,640.2             | -151.8     | 2,151.5    | 2,154.9               | 0.00                  | 0.00                 | 0.00                |
| 9,000.0             | 90.55           | 89.40       | 6,639.3             | -150.8     | 2,251.5    | 2,254.9               | 0.00                  | 0.00                 | 0.00                |
| 9,100.0             | 90.55           | 89.40       | 6,638.3             | -149.7     | 2,351.5    | 2,354.8               | 0.00                  | 0.00                 | 0.00                |
| 9,200.0             | 90.55           | 89.40       | 6,637.3             | -148.7     | 2,451.5    | 2,454.7               | 0.00                  | 0.00                 | 0.00                |
| 9,300.0             | 90.55           | 89.40       | 6,636.4             | -147.6     | 2,551.5    | 2,554.6               | 0.00                  | 0.00                 | 0.00                |
| 9,400.0             | 90.55           | 89.40       | 6,635.4             | -146.6     | 2,651.5    | 2,654.5               | 0.00                  | 0.00                 | 0.00                |
| 9,500.0             | 90.55           | 89.40       | 6,634.5             | -145.5     | 2,751.4    | 2,754.5               | 0.00                  | 0.00                 | 0.00                |
| 9,600.0             | 90.55           | 89.40       | 6,633.5             | -144.5     | 2,851.4    | 2,854.4               | 0.00                  | 0.00                 | 0.00                |
| 9,700.0             | 90.55           | 89.40       | 6,632.5             | -143.4     | 2,951.4    | 2,954.3               | 0.00                  | 0.00                 | 0.00                |
| 9,800.0             | 90.55           | 89.40       | 6,631.6             | -142.4     | 3,051.4    | 3,054.2               | 0.00                  | 0.00                 | 0.00                |
| 9,900.0             | 90.55           | 89.40       | 6,630.6             | -141.3     | 3,151.4    | 3,154.1               | 0.00                  | 0.00                 | 0.00                |
| 10,000.0            | 90.55           | 89.40       | 6,629.7             | -140.3     | 3,251.4    | 3,254.1               | 0.00                  | 0.00                 | 0.00                |
| 10,100.0            | 90.55           | 89.40       | 6,628.7             | -139.2     | 3,351.4    | 3,354.0               | 0.00                  | 0.00                 | 0.00                |
| 10,200.0            | 90.55           | 89.40       | 6,627.7             | -138.2     | 3,451.4    | 3,453.9               | 0.00                  | 0.00                 | 0.00                |
| 10,300.0            | 90.55           | 89.40       | 6,626.8             | -137.1     | 3,551.4    | 3,553.8               | 0.00                  | 0.00                 | 0.00                |
| 10,400.0            | 90.55           | 89.40       | 6,625.8             | -136.1     | 3,651.4    | 3,653.7               | 0.00                  | 0.00                 | 0.00                |
| 10,500.0            | 90.55           | 89.40       | 6,624.9             | -135.0     | 3,751.3    | 3,753.7               | 0.00                  | 0.00                 | 0.00                |
| 10,600.0            | 90.55           | 89.40       | 6,623.9             | -134.0     | 3,851.3    | 3,853.6               | 0.00                  | 0.00                 | 0.00                |
| 10,700.0            | 90.55           | 89.40       | 6,622.9             | -132.9     | 3,951.3    | 3,953.5               | 0.00                  | 0.00                 | 0.00                |
| 10,800.0            | 90.55           | 89.40       | 6,622.0             | -131.9     | 4,051.3    | 4,053.4               | 0.00                  | 0.00                 | 0.00                |
| 10,900.0            | 90.55           | 89.40       | 6,621.0             | -130.8     | 4,151.3    | 4,153.3               | 0.00                  | 0.00                 | 0.00                |
| 11,000.0            | 90.55           | 89.40       | 6,620.1             | -129.8     | 4,251.3    | 4,253.3               | 0.00                  | 0.00                 | 0.00                |
| 11,100.0            | 90.55           | 89.40       | 6,619.1             | -128.7     | 4,351.3    | 4,353.2               | 0.00                  | 0.00                 | 0.00                |
| 11,200.0            | 90.55           | 89.40       | 6,618.1             | -127.7     | 4,451.3    | 4,453.1               | 0.00                  | 0.00                 | 0.00                |
| 11,255.5            | 90.55           | 89.40       | 6,617.6             | -127.1     | 4,506.8    | 4,508.6               | 0.00                  | 0.00                 | 0.00                |
| DL 3-3H PBHL        |                 |             |                     |            |            |                       |                       |                      |                     |

### Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|--------|---------------------|-------------------|
| 6,955.0             | 6,658.9             | 7" Csg | 7                   | 8-3/4             |

### Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name           | Lithology | Dip (°) | Dip Direction (°) |
|---------------------|---------------------|----------------|-----------|---------|-------------------|
| 4,398.2             | 4,387.0             | Sussex         |           | -0.55   | 89.40             |
| 4,980.2             | 4,967.0             | Shannon        |           | -0.55   | 89.40             |
| 6,442.5             | 6,417.0             | Sharon Springs |           | -0.55   | 89.40             |
| 6,548.6             | 6,503.0             | Niobrara       |           | -0.55   | 89.40             |
| 6,841.8             | 6,649.0             | Top B2 Target  |           | -0.55   | 89.40             |
|                     | 6,664.0             | Base B2 Target |           | -0.55   | 89.40             |