

# **BILL BARRETT CORP**

**GARFIELD COUNTY, COLORADO NAD 1983**

**MDP #13**

**Federal 32A-20-691**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**15 April, 2010**

# BBC

## Planning Report

|                  |                                    |                                     |                                       |
|------------------|------------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | Compass                            | <b>Local Co-ordinate Reference:</b> | Well Federal 32A-20-691               |
| <b>Company:</b>  | BILL BARRETT CORP                  | <b>TVD Reference:</b>               | WELL @ 6453.00ft (Original Well Elev) |
| <b>Project:</b>  | GARFIELD COUNTY, COLORADO NAD 1983 | <b>MD Reference:</b>                | WELL @ 6453.00ft (Original Well Elev) |
| <b>Site:</b>     | MDP #13                            | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | Federal 32A-20-691                 | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                       |
| <b>Design:</b>   | Design #1                          |                                     |                                       |

|                    |                                    |                      |                |
|--------------------|------------------------------------|----------------------|----------------|
| <b>Project</b>     | GARFIELD COUNTY, COLORADO NAD 1983 |                      |                |
| <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 Central Zone              |                      |                |

|                              |          |                          |                    |
|------------------------------|----------|--------------------------|--------------------|
| <b>Site</b>                  | MDP #13  |                          |                    |
| <b>Site Position:</b>        |          | <b>Northing:</b>         | 1,618,522.157 ft   |
| <b>From:</b>                 | Lat/Long | <b>Easting:</b>          | 2,414,645.051 ft   |
| <b>Position Uncertainty:</b> | 0.00 ft  | <b>Slot Radius:</b>      | "                  |
|                              |          | <b>Latitude:</b>         | 39° 30' 47.770 N   |
|                              |          | <b>Longitude:</b>        | 107° 34' 29.7900 W |
|                              |          | <b>Grid Convergence:</b> | -1.31 °            |

|                             |                    |           |                            |
|-----------------------------|--------------------|-----------|----------------------------|
| <b>Well</b>                 | Federal 32A-20-691 |           |                            |
| <b>Well Position</b>        | <b>+N/-S</b>       | 2.01 ft   | <b>Northing:</b>           |
|                             | <b>+E/-W</b>       | -10.19 ft | <b>Easting:</b>            |
| <b>Position Uncertainty</b> |                    | 0.00 ft   | <b>Wellhead Elevation:</b> |
|                             |                    |           | <b>Latitude:</b>           |
|                             |                    |           | <b>Longitude:</b>          |
|                             |                    |           | <b>Ground Level:</b>       |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <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> |
|                  | BGGM2007          | 4/15/2010          | 10.37                  | 65.85                | 52,404                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Design #1                    |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PROTOTYPE         | <b>Tie On Depth:</b> | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 312.68               |

|                            |                        |                    |                            |                   |                   |                              |                             |                            |                |                    |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|-----------------------------|----------------------------|----------------|--------------------|
| <b>Plan Sections</b>       |                        |                    |                            |                   |                   |                              |                             |                            |                |                    |
| <b>Measured Depth (ft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> | <b>TFO (°)</b> | <b>Target</b>      |
| 0.00                       | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 0.00                         | 0.00                        | 0.00                       | 0.00           |                    |
| 770.00                     | 0.00                   | 0.00               | 770.00                     | 0.00              | 0.00              | 0.00                         | 0.00                        | 0.00                       | 0.00           |                    |
| 971.69                     | 5.04                   | 312.68             | 971.43                     | 6.01              | -6.52             | 2.50                         | 2.50                        | 0.00                       | 312.68         |                    |
| 4,353.63                   | 5.04                   | 312.68             | 4,340.28                   | 207.52            | -225.03           | 0.00                         | 0.00                        | 0.00                       | 0.00           |                    |
| 4,689.78                   | 0.00                   | 0.00               | 4,676.00                   | 217.54            | -235.89           | 1.50                         | -1.50                       | 0.00                       | 180.00         |                    |
| 7,689.78                   | 0.00                   | 0.00               | 7,676.00                   | 217.54            | -235.89           | 0.00                         | 0.00                        | 0.00                       | 0.00           | Federal 32A-20-691 |

# BBC

## Planning Report

|                  |                                    |                                     |                                       |
|------------------|------------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | Compass                            | <b>Local Co-ordinate Reference:</b> | Well Federal 32A-20-691               |
| <b>Company:</b>  | BILL BARRETT CORP                  | <b>TVD Reference:</b>               | WELL @ 6453.00ft (Original Well Elev) |
| <b>Project:</b>  | GARFIELD COUNTY, COLORADO NAD 1983 | <b>MD Reference:</b>                | WELL @ 6453.00ft (Original Well Elev) |
| <b>Site:</b>     | MDP #13                            | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | Federal 32A-20-691                 | <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) |
| 0.00                | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 100.00              | 0.00            | 0.00        | 100.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 200.00              | 0.00            | 0.00        | 200.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 300.00              | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 400.00              | 0.00            | 0.00        | 400.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 500.00              | 0.00            | 0.00        | 500.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 600.00              | 0.00            | 0.00        | 600.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 700.00              | 0.00            | 0.00        | 700.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 770.00              | 0.00            | 0.00        | 770.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 9 5/8"              |                 |             |                     |            |            |                       |                       |                      |                     |
| 800.00              | 0.75            | 312.68      | 800.00              | 0.13       | -0.14      | 0.20                  | 2.50                  | 2.50                 | 0.00                |
| 900.00              | 3.25            | 312.68      | 899.93              | 2.50       | -2.71      | 3.69                  | 2.50                  | 2.50                 | 0.00                |
| 971.69              | 5.04            | 312.68      | 971.43              | 6.01       | -6.52      | 8.87                  | 2.50                  | 2.50                 | 0.00                |
| 1,000.00            | 5.04            | 312.68      | 999.63              | 7.70       | -8.35      | 11.36                 | 0.00                  | 0.00                 | 0.00                |
| 1,100.00            | 5.04            | 312.68      | 1,099.24            | 13.66      | -14.81     | 20.15                 | 0.00                  | 0.00                 | 0.00                |
| 1,200.00            | 5.04            | 312.68      | 1,198.86            | 19.62      | -21.27     | 28.94                 | 0.00                  | 0.00                 | 0.00                |
| 1,300.00            | 5.04            | 312.68      | 1,298.47            | 25.57      | -27.73     | 37.72                 | 0.00                  | 0.00                 | 0.00                |
| 1,400.00            | 5.04            | 312.68      | 1,398.08            | 31.53      | -34.19     | 46.51                 | 0.00                  | 0.00                 | 0.00                |
| 1,500.00            | 5.04            | 312.68      | 1,497.70            | 37.49      | -40.65     | 55.30                 | 0.00                  | 0.00                 | 0.00                |
| 1,600.00            | 5.04            | 312.68      | 1,597.31            | 43.45      | -47.11     | 64.09                 | 0.00                  | 0.00                 | 0.00                |
| 1,700.00            | 5.04            | 312.68      | 1,696.92            | 49.41      | -53.58     | 72.88                 | 0.00                  | 0.00                 | 0.00                |
| 1,800.00            | 5.04            | 312.68      | 1,796.53            | 55.37      | -60.04     | 81.67                 | 0.00                  | 0.00                 | 0.00                |
| 1,900.00            | 5.04            | 312.68      | 1,896.15            | 61.33      | -66.50     | 90.46                 | 0.00                  | 0.00                 | 0.00                |
| 2,000.00            | 5.04            | 312.68      | 1,995.76            | 67.28      | -72.96     | 99.25                 | 0.00                  | 0.00                 | 0.00                |
| 2,100.00            | 5.04            | 312.68      | 2,095.37            | 73.24      | -79.42     | 108.04                | 0.00                  | 0.00                 | 0.00                |
| 2,200.00            | 5.04            | 312.68      | 2,194.99            | 79.20      | -85.88     | 116.83                | 0.00                  | 0.00                 | 0.00                |
| 2,300.00            | 5.04            | 312.68      | 2,294.60            | 85.16      | -92.34     | 125.61                | 0.00                  | 0.00                 | 0.00                |
| 2,400.00            | 5.04            | 312.68      | 2,394.21            | 91.12      | -98.80     | 134.40                | 0.00                  | 0.00                 | 0.00                |
| 2,500.00            | 5.04            | 312.68      | 2,493.83            | 97.08      | -105.26    | 143.19                | 0.00                  | 0.00                 | 0.00                |
| 2,600.00            | 5.04            | 312.68      | 2,593.44            | 103.03     | -111.72    | 151.98                | 0.00                  | 0.00                 | 0.00                |
| 2,700.00            | 5.04            | 312.68      | 2,693.05            | 108.99     | -118.18    | 160.77                | 0.00                  | 0.00                 | 0.00                |
| 2,800.00            | 5.04            | 312.68      | 2,792.66            | 114.95     | -124.65    | 169.56                | 0.00                  | 0.00                 | 0.00                |
| 2,900.00            | 5.04            | 312.68      | 2,892.28            | 120.91     | -131.11    | 178.35                | 0.00                  | 0.00                 | 0.00                |
| 3,000.00            | 5.04            | 312.68      | 2,991.89            | 126.87     | -137.57    | 187.14                | 0.00                  | 0.00                 | 0.00                |
| 3,100.00            | 5.04            | 312.68      | 3,091.50            | 132.83     | -144.03    | 195.93                | 0.00                  | 0.00                 | 0.00                |
| 3,200.00            | 5.04            | 312.68      | 3,191.12            | 138.78     | -150.49    | 204.72                | 0.00                  | 0.00                 | 0.00                |
| 3,300.00            | 5.04            | 312.68      | 3,290.73            | 144.74     | -156.95    | 213.50                | 0.00                  | 0.00                 | 0.00                |
| 3,400.00            | 5.04            | 312.68      | 3,390.34            | 150.70     | -163.41    | 222.29                | 0.00                  | 0.00                 | 0.00                |
| 3,500.00            | 5.04            | 312.68      | 3,489.96            | 156.66     | -169.87    | 231.08                | 0.00                  | 0.00                 | 0.00                |
| 3,600.00            | 5.04            | 312.68      | 3,589.57            | 162.62     | -176.33    | 239.87                | 0.00                  | 0.00                 | 0.00                |
| 3,700.00            | 5.04            | 312.68      | 3,689.18            | 168.58     | -182.79    | 248.66                | 0.00                  | 0.00                 | 0.00                |
| 3,800.00            | 5.04            | 312.68      | 3,788.79            | 174.53     | -189.26    | 257.45                | 0.00                  | 0.00                 | 0.00                |
| 3,807.23            | 5.04            | 312.68      | 3,796.00            | 174.97     | -189.72    | 258.08                | 0.00                  | 0.00                 | 0.00                |
| Mesaverde           |                 |             |                     |            |            |                       |                       |                      |                     |
| 3,900.00            | 5.04            | 312.68      | 3,888.41            | 180.49     | -195.72    | 266.24                | 0.00                  | 0.00                 | 0.00                |
| 4,000.00            | 5.04            | 312.68      | 3,988.02            | 186.45     | -202.18    | 275.03                | 0.00                  | 0.00                 | 0.00                |
| 4,100.00            | 5.04            | 312.68      | 4,087.63            | 192.41     | -208.64    | 283.82                | 0.00                  | 0.00                 | 0.00                |
| 4,200.00            | 5.04            | 312.68      | 4,187.25            | 198.37     | -215.10    | 292.60                | 0.00                  | 0.00                 | 0.00                |
| 4,300.00            | 5.04            | 312.68      | 4,286.86            | 204.33     | -221.56    | 301.39                | 0.00                  | 0.00                 | 0.00                |
| 4,353.63            | 5.04            | 312.68      | 4,340.28            | 207.52     | -225.03    | 306.11                | 0.00                  | 0.00                 | 0.00                |
| 4,400.00            | 4.35            | 312.68      | 4,386.50            | 210.10     | -227.81    | 309.90                | 1.50                  | -1.50                | 0.00                |
| 4,500.00            | 2.85            | 312.68      | 4,486.30            | 214.35     | -232.43    | 316.18                | 1.50                  | -1.50                | 0.00                |
| 4,600.00            | 1.35            | 312.68      | 4,586.23            | 216.83     | -235.12    | 319.83                | 1.50                  | -1.50                | 0.00                |

# BBC

## Planning Report

|                  |                                    |                                     |                                       |
|------------------|------------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | Compass                            | <b>Local Co-ordinate Reference:</b> | Well Federal 32A-20-691               |
| <b>Company:</b>  | BILL BARRETT CORP                  | <b>TVD Reference:</b>               | WELL @ 6453.00ft (Original Well Elev) |
| <b>Project:</b>  | GARFIELD COUNTY, COLORADO NAD 1983 | <b>MD Reference:</b>                | WELL @ 6453.00ft (Original Well Elev) |
| <b>Site:</b>     | MDP #13                            | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | Federal 32A-20-691                 | <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) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 4,669.78            | 0.30            | 312.68      | 4,656.00            | 217.51     | -235.85    | 320.84                | 1.50                  | -1.50                | 0.00                |
| <b>Price Coal</b>   |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,689.78            | 0.00            | 0.00        | 4,676.00            | 217.54     | -235.89    | 320.89                | 1.50                  | -1.50                | 0.00                |
| 4,700.00            | 0.00            | 0.00        | 4,686.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 4,789.78            | 0.00            | 0.00        | 4,776.00            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| <b>Top Gas</b>      |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,800.00            | 0.00            | 0.00        | 4,786.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 4,900.00            | 0.00            | 0.00        | 4,886.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,000.00            | 0.00            | 0.00        | 4,986.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,100.00            | 0.00            | 0.00        | 5,086.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,200.00            | 0.00            | 0.00        | 5,186.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,300.00            | 0.00            | 0.00        | 5,286.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,400.00            | 0.00            | 0.00        | 5,386.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,500.00            | 0.00            | 0.00        | 5,486.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,600.00            | 0.00            | 0.00        | 5,586.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,700.00            | 0.00            | 0.00        | 5,686.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,800.00            | 0.00            | 0.00        | 5,786.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 5,900.00            | 0.00            | 0.00        | 5,886.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,000.00            | 0.00            | 0.00        | 5,986.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,100.00            | 0.00            | 0.00        | 6,086.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,200.00            | 0.00            | 0.00        | 6,186.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,300.00            | 0.00            | 0.00        | 6,286.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,400.00            | 0.00            | 0.00        | 6,386.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,500.00            | 0.00            | 0.00        | 6,486.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,600.00            | 0.00            | 0.00        | 6,586.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,700.00            | 0.00            | 0.00        | 6,686.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,800.00            | 0.00            | 0.00        | 6,786.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 6,900.00            | 0.00            | 0.00        | 6,886.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,000.00            | 0.00            | 0.00        | 6,986.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,100.00            | 0.00            | 0.00        | 7,086.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,200.00            | 0.00            | 0.00        | 7,186.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,300.00            | 0.00            | 0.00        | 7,286.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,389.78            | 0.00            | 0.00        | 7,376.00            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| <b>Rollins</b>      |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,400.00            | 0.00            | 0.00        | 7,386.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,500.00            | 0.00            | 0.00        | 7,486.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,600.00            | 0.00            | 0.00        | 7,586.22            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| 7,689.78            | 0.00            | 0.00        | 7,676.00            | 217.54     | -235.89    | 320.89                | 0.00                  | 0.00                 | 0.00                |
| <b>TD</b>           |                 |             |                     |            |            |                       |                       |                      |                     |

### Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (") | Hole Diameter (") |
|---------------------|---------------------|--------|---------------------|-------------------|
| 770.00              | 770.00              | 9 5/8" | 9-5/8               | 12-1/4            |

# BBC

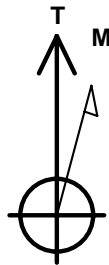
## Planning Report

|                  |                                    |                                     |                                       |
|------------------|------------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | Compass                            | <b>Local Co-ordinate Reference:</b> | Well Federal 32A-20-691               |
| <b>Company:</b>  | BILL BARRETT CORP                  | <b>TVD Reference:</b>               | WELL @ 6453.00ft (Original Well Elev) |
| <b>Project:</b>  | GARFIELD COUNTY, COLORADO NAD 1983 | <b>MD Reference:</b>                | WELL @ 6453.00ft (Original Well Elev) |
| <b>Site:</b>     | MDP #13                            | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | Federal 32A-20-691                 | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | Wellbore #1                        |                                     |                                       |
| <b>Design:</b>   | Design #1                          |                                     |                                       |

| Formations          |                     |            |           |         |                   |  |
|---------------------|---------------------|------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name       | Lithology | Dip (°) | Dip Direction (°) |  |
| 3,807.23            | 3,796.00            | Mesaverde  |           | 0.00    |                   |  |
| 4,669.78            | 4,656.00            | Price Coal |           | 0.00    |                   |  |
| 4,789.78            | 4,776.00            | Top Gas    |           | 0.00    |                   |  |
| 7,389.78            | 7,376.00            | Rollins    |           | 0.00    |                   |  |
| 7,689.78            | 7,676.00            | TD         |           | 0.00    |                   |  |

## WELL DETAILS: Federal 32A-20-691

Ground Level: 0.00  
+N/-S+E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 1618524.404 2414634.392 30' 47.70"N 104' 29.9200 W



Azimuths to True North  
Magnetic North: 10.37°

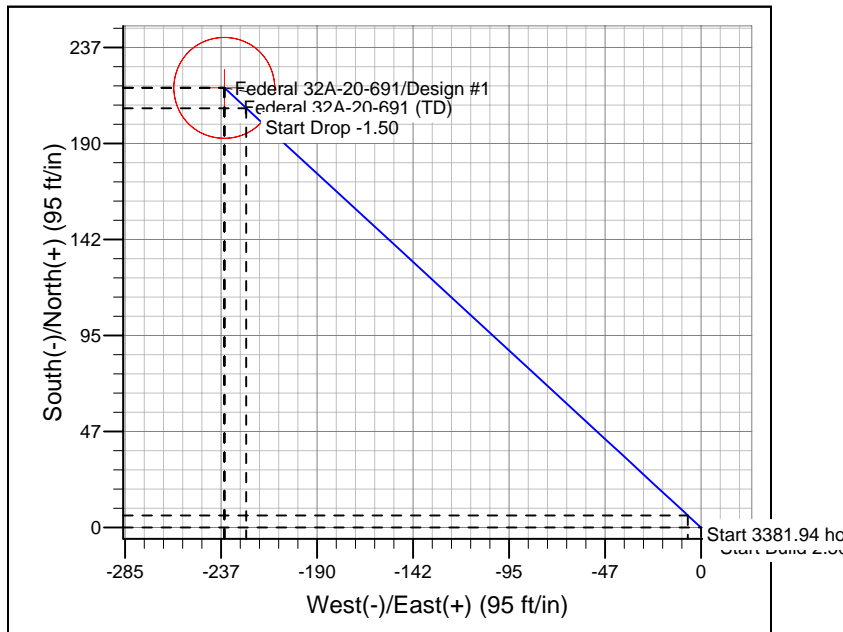
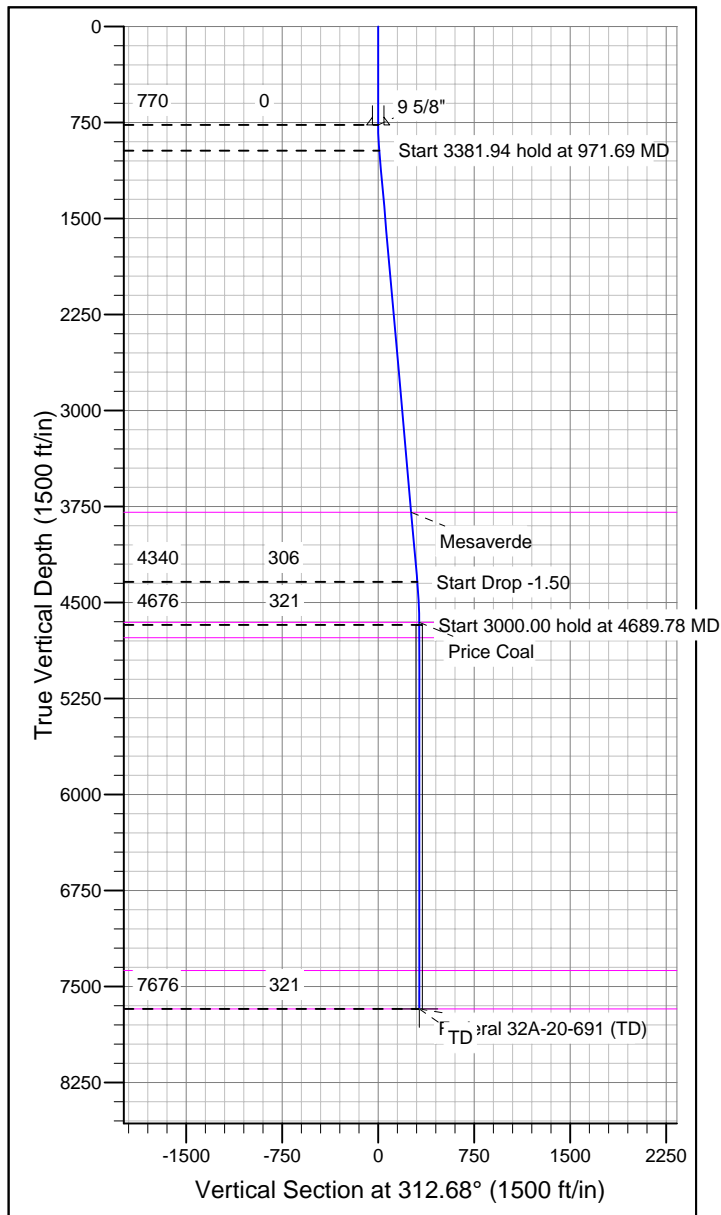
Magnetic Field  
Strength: 52404.0snT  
Dip Angle: 65.85°  
Date: 4/15/2010  
Model: BGGM2007

## SECTION DETAILS

| Sec | MD      | Inc  | Azi    | TVD     | +N/-S  | +E/-W   | DLeg | TFace  | VSec   | Target                  |
|-----|---------|------|--------|---------|--------|---------|------|--------|--------|-------------------------|
| 1   | 0.00    | 0.00 | 0.00   | 0.00    | 0.00   | 0.00    | 0.00 | 0.00   | 0.00   |                         |
|     | 770.00  | 0.00 | 0.00   | 770.00  | 0.00   | 0.00    | 0.00 | 0.00   | 0.00   |                         |
|     | 971.69  | 5.04 | 312.68 | 971.43  | 6.01   | -6.52   | 2.50 | 312.68 | 8.87   |                         |
|     | 4353.63 | 5.04 | 312.68 | 4340.28 | 207.52 | -225.03 | 0.00 | 0.00   | 306.11 |                         |
|     | 4689.78 | 0.00 | 0.00   | 4676.00 | 217.54 | -235.89 | 1.50 | 180.00 | 320.89 |                         |
|     | 7676.00 | 0.00 | 0.00   | 7676.00 | 217.54 | -235.89 | 0.00 | 0.00   | 320.89 | Federal 32A-20-691 (TD) |

## WELLBORE TARGET DETAILS

| Name                    | TVD     | +N/-S  | +E/-W   | Shape                  |
|-------------------------|---------|--------|---------|------------------------|
| Federal 32A-20-691 (TD) | 7676.00 | 217.54 | -235.89 | Circle (Radius: 25.00) |



## CASING DETAILS

| TVD    | MD     | Name   | Size  |
|--------|--------|--------|-------|
| 770.00 | 770.00 | 9 5/8" | 9-5/8 |

## FORMATION TOP DETAILS

| TVDPATH | MDPATH  | Formation  |
|---------|---------|------------|
| 3796.00 | 3807.23 | Mesaverde  |
| 4656.00 | 4669.78 | Price Coal |
| 4776.00 | 4789.78 | Top Gas    |
| 7376.00 | 7389.78 | Rollins    |
| 7676.00 | 7689.78 | TD         |

## REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Federal 32A-20-691, True North  
Vertical (TVD) Reference: WELL @ 6453.00ft (Original Well Elev)  
Section (VS) Reference: Slot - (0.00N, 0.00E)  
Measured Depth Reference: WELL @ 6453.00ft (Original Well Elev)  
Calculation Method: Minimum Curvature