



# Scientific Drilling

## Gyroscopic Survey Report

for  
COG

30-015-37581

|                    |                                          |
|--------------------|------------------------------------------|
| Well Location      | EDDY COUNTY, NEW MEXICO                  |
| Well Name          | WILD CAP STATE No.6H                     |
| Rig Name           | PATRIOT 6                                |
| Survey Date        | 10/13/2010                               |
| Latitude           | 32.62 deg                                |
| North Reference    | Grid North                               |
| Grid Correction    | -0.28 deg                                |
| Depth Reference    | RIB                                      |
| Calculation Method | Minimum Curvature                        |
| Section (VS) Ref   | 0.00N (ft), 0.00E (ft), 359.61Azim (deg) |
| Definitive Survey  | FINAL GYRO SURVEY                        |
| Operator           | ANGEL GUEBARA                            |

Comments



# Survey Report

| Well Name:   |      | WILD CAP STATE No.6H |         |        |          |         |           |                  |               |
|--------------|------|----------------------|---------|--------|----------|---------|-----------|------------------|---------------|
| Survey:      |      | FINAL GYRO SURVEY    |         |        |          |         |           |                  |               |
| Survey Date: |      | 10/13/2010           |         |        |          |         |           |                  |               |
| MD           | Inc  | Azim                 | TVD     | VS     | Northing | Easting | DLS       | Closure Distance | Closure Angle |
| ft           | deg  | deg                  | ft      | ft     | ft       | ft      | deg/100ft | ft               | deg           |
| 0.00         | 0.00 | 0.00                 | 0.00    | 0.00   | 0.00     | 0.00    | Invalid   | 0.00             | 0.00          |
| 100.00       | 0.12 | 121.81               | 100.00  | -0.06  | -0.05    | 0.09    | 0.12      | 0.10             | 121.81        |
| 200.00       | 0.09 | 164.40               | 200.00  | -0.19  | -0.19    | 0.20    | 0.08      | 0.27             | 133.36        |
| 300.00       | 0.64 | 168.03               | 300.00  | -0.81  | -0.81    | 0.33    | 0.55      | 0.87             | 157.53        |
| 400.00       | 0.90 | 158.30               | 399.99  | -2.09  | -2.08    | 0.74    | 0.29      | 2.21             | 160.43        |
| 500.00       | 0.96 | 165.00               | 499.98  | -3.63  | -3.62    | 1.25    | 0.12      | 3.83             | 160.99        |
| 600.00       | 0.80 | 169.45               | 599.96  | -5.12  | -5.11    | 1.59    | 0.17      | 5.35             | 162.71        |
| 700.00       | 0.81 | 168.59               | 699.95  | -6.50  | -6.48    | 1.86    | 0.01      | 6.74             | 164.02        |
| 800.00       | 0.72 | 156.93               | 799.94  | -7.77  | -7.75    | 2.24    | 0.18      | 8.07             | 163.87        |
| 900.00       | 0.69 | 161.36               | 899.94  | -8.92  | -8.90    | 2.68    | 0.06      | 9.30             | 163.24        |
| 1000.00      | 0.75 | 152.81               | 999.93  | -10.08 | -10.06   | 3.17    | 0.12      | 10.55            | 162.49        |
| 1100.00      | 0.96 | 157.99               | 1099.92 | -11.45 | -11.42   | 3.79    | 0.23      | 12.03            | 161.65        |
| 1200.00      | 0.53 | 191.88               | 1199.91 | -12.68 | -12.65   | 4.01    | 0.60      | 13.27            | 162.42        |
| 1300.00      | 0.21 | 234.73               | 1299.91 | -13.24 | -13.21   | 3.76    | 0.40      | 13.74            | 164.11        |
| 1400.00      | 0.17 | 283.72               | 1399.91 | -13.31 | -13.29   | 3.46    | 0.16      | 13.73            | 165.40        |
| 1500.00      | 0.16 | 102.65               | 1499.91 | -13.30 | -13.28   | 3.45    | 0.33      | 13.72            | 165.44        |
| 1600.00      | 0.99 | 54.38                | 1599.90 | -12.84 | -12.81   | 4.28    | 0.89      | 13.51            | 161.50        |
| 1700.00      | 2.43 | 73.09                | 1699.86 | -11.74 | -11.69   | 7.01    | 1.52      | 13.63            | 149.04        |
| 1800.00      | 2.42 | 74.98                | 1799.77 | -10.60 | -10.53   | 11.08   | 0.08      | 15.28            | 133.54        |
| 1900.00      | 2.40 | 75.11                | 1899.68 | -9.54  | -9.44    | 15.14   | 0.02      | 17.85            | 121.94        |
| 2000.00      | 2.04 | 85.41                | 1999.60 | -8.89  | -8.76    | 18.95   | 0.53      | 20.87            | 114.81        |
| 2100.00      | 2.18 | 85.06                | 2099.53 | -8.61  | -8.45    | 22.62   | 0.14      | 24.15            | 110.49        |
| 2200.00      | 1.73 | 87.47                | 2199.48 | -8.40  | -8.22    | 26.02   | 0.46      | 27.29            | 107.53        |
| 2300.00      | 0.99 | 92.67                | 2299.45 | -8.39  | -8.19    | 28.39   | 0.75      | 29.55            | 106.10        |
| 2400.00      | 0.38 | 150.64               | 2399.44 | -8.72  | -8.52    | 29.42   | 0.85      | 30.63            | 106.16        |
| 2500.00      | 0.61 | 209.89               | 2499.44 | -9.47  | -9.28    | 29.31   | 0.53      | 30.75            | 107.56        |
| 2600.00      | 0.60 | 218.43               | 2599.43 | -10.34 | -10.15   | 28.72   | 0.09      | 30.46            | 109.45        |
| 2700.00      | 0.91 | 239.52               | 2699.42 | -11.15 | -10.96   | 27.71   | 0.41      | 29.80            | 111.58        |
| 2800.00      | 0.65 | 268.74               | 2799.41 | -11.56 | -11.38   | 26.46   | 0.47      | 28.80            | 113.27        |
| 2900.00      | 0.74 | 344.10               | 2899.41 | -10.94 | -10.76   | 25.71   | 0.86      | 27.87            | 112.72        |
| 3000.00      | 1.01 | 354.36               | 2999.40 | -9.44  | -9.26    | 25.44   | 0.31      | 27.08            | 110.01        |
| 3100.00      | 1.01 | 11.61                | 3099.38 | -7.70  | -7.53    | 25.53   | 0.30      | 26.62            | 106.42        |
| 3200.00      | 0.95 | 20.50                | 3199.37 | -6.07  | -5.89    | 26.00   | 0.16      | 26.66            | 102.76        |
| 3300.00      | 0.75 | 14.51                | 3299.36 | -4.66  | -4.48    | 26.45   | 0.22      | 26.83            | 99.62         |
| 3400.00      | 0.54 | 314.67               | 3399.35 | -3.70  | -3.52    | 26.28   | 0.67      | 26.52            | 97.62         |
| 3500.00      | 0.69 | 328.88               | 3499.34 | -2.85  | -2.67    | 25.64   | 0.21      | 25.78            | 95.95         |
| 3600.00      | 0.73 | 312.39               | 3599.34 | -1.89  | -1.72    | 24.85   | 0.21      | 24.91            | 93.97         |
| 3700.00      | 0.69 | 325.30               | 3699.33 | -0.96  | -0.80    | 24.04   | 0.17      | 24.05            | 91.90         |
| 3800.00      | 0.35 | 327.28               | 3799.32 | -0.20  | -0.04    | 23.53   | 0.33      | 23.53            | 90.10         |



# Survey Report

| Well Name:   |      | WILD CAP STATE No.6H |         |       |          |         |           |                  |               |
|--------------|------|----------------------|---------|-------|----------|---------|-----------|------------------|---------------|
| Survey:      |      | FINAL GYRO SURVEY    |         |       |          |         |           |                  |               |
| Survey Date: |      | 10/13/2010           |         |       |          |         |           |                  |               |
| MD           | Inc  | Azim                 | TVD     | VS    | Northing | Easting | DLS       | Closure Distance | Closure Angle |
| ft           | deg  | deg                  | ft      | ft    | ft       | ft      | deg/100ft | ft               | deg           |
| 3900.00      | 0.31 | 350.05               | 3899.32 | 0.33  | 0.49     | 23.31   | 0.14      | 23.32            | 88.81         |
| 4000.00      | 0.22 | 359.60               | 3999.32 | 0.79  | 0.95     | 23.26   | 0.10      | 23.28            | 87.66         |
| 4100.00      | 0.33 | 339.61               | 4099.32 | 1.26  | 1.42     | 23.16   | 0.14      | 23.21            | 86.50         |
| 4200.00      | 0.21 | 12.90                | 4199.32 | 1.71  | 1.87     | 23.10   | 0.19      | 23.18            | 85.38         |
| 4300.00      | 0.19 | 353.70               | 4299.32 | 2.06  | 2.21     | 23.13   | 0.07      | 23.23            | 84.53         |
| 4400.00      | 0.12 | 347.69               | 4399.32 | 2.33  | 2.48     | 23.09   | 0.07      | 23.22            | 83.86         |
| 4500.00      | 0.27 | 353.27               | 4499.32 | 2.67  | 2.82     | 23.04   | 0.16      | 23.21            | 83.01         |
| 4600.00      | 0.26 | 51.45                | 4599.32 | 3.05  | 3.20     | 23.19   | 0.26      | 23.41            | 82.13         |
| 4700.00      | 0.23 | 6.29                 | 4699.32 | 3.39  | 3.55     | 23.39   | 0.19      | 23.66            | 81.37         |
| 4800.00      | 0.11 | 39.44                | 4799.32 | 3.67  | 3.83     | 23.48   | 0.15      | 23.79            | 80.74         |
| 4900.00      | 0.22 | 340.41               | 4899.32 | 3.92  | 4.08     | 23.48   | 0.18      | 23.83            | 80.13         |
| 5000.00      | 0.35 | 3.14                 | 4999.31 | 4.41  | 4.57     | 23.43   | 0.17      | 23.87            | 78.97         |
| 5100.00      | 0.34 | 41.22                | 5099.31 | 4.93  | 5.09     | 23.64   | 0.23      | 24.19            | 77.84         |
| 5200.00      | 0.34 | 27.94                | 5199.31 | 5.41  | 5.58     | 23.98   | 0.08      | 24.62            | 76.90         |
| 5300.00      | 0.47 | 330.45               | 5299.31 | 6.03  | 6.19     | 23.91   | 0.40      | 24.70            | 75.48         |
| 5400.00      | 0.23 | 11.53                | 5399.31 | 6.58  | 6.74     | 23.75   | 0.33      | 24.69            | 74.15         |
| 5500.00      | 0.34 | 334.44               | 5499.31 | 7.05  | 7.21     | 23.66   | 0.21      | 24.74            | 73.05         |
| 5600.00      | 0.42 | 348.20               | 5599.30 | 7.69  | 7.85     | 23.46   | 0.12      | 24.73            | 71.51         |
| 5700.00      | 0.42 | 348.17               | 5699.30 | 8.41  | 8.57     | 23.31   | 0.01      | 24.83            | 69.82         |
| 5800.00      | 0.46 | 8.05                 | 5799.30 | 9.16  | 9.32     | 23.29   | 0.16      | 25.08            | 68.19         |
| 5900.00      | 0.41 | 344.26               | 5899.30 | 9.90  | 10.06    | 23.25   | 0.19      | 25.33            | 66.60         |
| 6000.00      | 0.51 | 344.56               | 5999.29 | 10.67 | 10.83    | 23.03   | 0.11      | 25.45            | 64.81         |
| 6100.00      | 0.55 | 4.87                 | 6099.29 | 11.58 | 11.74    | 22.95   | 0.19      | 25.78            | 62.91         |
| 6200.00      | 0.46 | 336.81               | 6199.28 | 12.43 | 12.58    | 22.84   | 0.26      | 26.07            | 61.15         |
| 6300.00      | 0.52 | 353.47               | 6299.28 | 13.25 | 13.40    | 22.63   | 0.16      | 26.30            | 59.36         |
| 6400.00      | 0.61 | 359.72               | 6399.28 | 14.24 | 14.39    | 22.57   | 0.11      | 26.77            | 57.48         |
| 6500.00      | 0.54 | 335.61               | 6499.27 | 15.20 | 15.36    | 22.37   | 0.25      | 27.14            | 55.54         |
| 6600.00      | 0.54 | 357.12               | 6599.27 | 16.10 | 16.25    | 22.16   | 0.20      | 27.48            | 53.74         |
| 6700.00      | 0.61 | 2.55                 | 6699.26 | 17.10 | 17.25    | 22.16   | 0.09      | 28.08            | 52.09         |
| 6800.00      | 0.64 | 3.41                 | 6799.26 | 18.19 | 18.34    | 22.21   | 0.03      | 28.81            | 50.45         |
| 6900.00      | 0.44 | 355.13               | 6899.25 | 19.13 | 19.28    | 22.21   | 0.21      | 29.42            | 49.04         |
| 7000.00      | 0.41 | 328.33               | 6999.25 | 19.82 | 19.97    | 21.99   | 0.20      | 29.71            | 47.76         |
| 7100.00      | 0.35 | 326.48               | 7099.25 | 20.38 | 20.53    | 21.64   | 0.06      | 29.83            | 46.51         |
| 7200.00      | 0.12 | 347.19               | 7199.25 | 20.73 | 20.88    | 21.45   | 0.24      | 29.93            | 45.78         |
| 7300.00      | 0.13 | 265.47               | 7299.25 | 20.82 | 20.97    | 21.32   | 0.16      | 29.90            | 45.47         |
| 7400.00      | 0.10 | 246.16               | 7399.24 | 20.78 | 20.92    | 21.12   | 0.05      | 29.73            | 45.27         |
| 7500.00      | 0.16 | 276.30               | 7499.24 | 20.76 | 20.90    | 20.90   | 0.09      | 29.56            | 45.00         |
| 7600.00      | 0.19 | 235.07               | 7599.24 | 20.68 | 20.82    | 20.62   | 0.13      | 29.31            | 44.73         |



## Survey Report

Well Name: WILD CAP STATE No.6H

Survey: FINAL GYRO SURVEY

Survey Date: 10/13/2010

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | Northing<br>ft | Easting<br>ft | DLS<br>deg/100ft | Closure Distance<br>ft | Closure Angle<br>deg |
|----------|------------|-------------|-----------|----------|----------------|---------------|------------------|------------------------|----------------------|
| 7700.00  | 0.23       | 236.82      | 7699.24   | 20.48    | 20.62          | 20.32         | 0.04             | 28.95                  | 44.59                |
| 7800.00  | 0.37       | 205.01      | 7799.24   | 20.08    | 20.21          | 20.02         | 0.22             | 28.45                  | 44.72                |
| 7900.00  | 0.83       | 193.95      | 7899.24   | 19.08    | 19.22          | 19.71         | 0.47             | 27.52                  | 45.72                |
| 8000.00  | 0.78       | 197.98      | 7999.23   | 17.74    | 17.87          | 19.32         | 0.08             | 26.32                  | 47.24                |
| 8100.00  | 0.62       | 198.73      | 8099.22   | 16.59    | 16.72          | 18.94         | 0.16             | 25.26                  | 48.57                |
| 8200.00  | 0.65       | 187.20      | 8199.21   | 15.52    | 15.65          | 18.70         | 0.13             | 24.38                  | 50.08                |
| 8300.00  | 0.41       | 173.45      | 8299.21   | 14.60    | 14.73          | 18.67         | 0.27             | 23.78                  | 51.73                |
| 8400.00  | 0.25       | 222.19      | 8399.21   | 14.08    | 14.21          | 18.56         | 0.31             | 23.38                  | 52.57                |
| 8500.00  | 0.63       | 298.78      | 8499.20   | 14.19    | 14.31          | 17.93         | 0.62             | 22.94                  | 51.41                |
| 8600.00  | 0.53       | 323.67      | 8599.20   | 14.83    | 14.95          | 17.18         | 0.27             | 22.77                  | 48.97                |
| 8677.00  | 0.41       | 342.91      | 8676.20   | 15.38    | 15.50          | 16.88         | 0.25             | 22.92                  | 47.45                |