

# Continental Resources, Inc.

Weld County, CO  
Sec. 14-T8N-R62W  
Planck 1-14H

Plan A Rev 1

Design: Actual Surveys

## Sperry Drilling Services Standard Report

24 February, 2012

Well Coordinates: 1,488,580.52 N, 3,338,563.01 E (40° 40' 05.35" N, 104° 16' 46.25" W)  
Ground Level: 5,049.00 ft

|                               |                                  |
|-------------------------------|----------------------------------|
| Local Coordinate Origin:      | Centered on Well Planck 1-14H    |
| Viewing Datum:                | RKB 16' @ 5065.00ft (Cyclone 12) |
| TVDs to System:               | N                                |
| North Reference:              | True                             |
| Unit System:                  | API - US Survey Feet - Custom    |
| Geodetic Scale Factor Applied |                                  |
| Version: 2003.16 Build: 431   |                                  |

**HALLIBURTON**

**HALLIBURTON****Design Report for Planck 1-14H - Actual Surveys**

| Measured Depth (ft)                | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 0.00                               | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                  |
| 610.00                             | 0.22            | 110.11      | 610.00              | -0.40      | 1.10       | 0.40                  | 0.04                  |
| <b>First MWD Survey (Original)</b> |                 |             |                     |            |            |                       |                       |
| 701.00                             | 0.30            | 78.49       | 701.00              | -0.42      | 1.50       | 0.42                  | 0.18                  |
| 791.00                             | 0.46            | 97.85       | 791.00              | -0.42      | 2.09       | 0.42                  | 0.23                  |
| 882.00                             | 0.28            | 73.48       | 881.99              | -0.40      | 2.66       | 0.41                  | 0.26                  |
| 972.00                             | 0.28            | 96.85       | 971.99              | -0.37      | 3.09       | 0.37                  | 0.13                  |
| 1,064.00                           | 0.62            | 124.20      | 1,063.99            | -0.67      | 3.73       | 0.68                  | 0.43                  |
| 1,154.00                           | 0.77            | 110.93      | 1,153.98            | -1.16      | 4.69       | 1.17                  | 0.24                  |
| 1,245.00                           | 0.68            | 137.89      | 1,244.98            | -1.78      | 5.63       | 1.79                  | 0.38                  |
| 1,338.00                           | 0.57            | 146.25      | 1,337.97            | -2.58      | 6.25       | 2.59                  | 0.15                  |
| 1,430.00                           | 0.91            | 142.42      | 1,429.96            | -3.54      | 6.95       | 3.55                  | 0.37                  |
| 1,522.00                           | 0.75            | 148.73      | 1,521.95            | -4.63      | 7.71       | 4.64                  | 0.20                  |
| 1,613.00                           | 0.81            | 126.44      | 1,612.94            | -5.52      | 8.54       | 5.53                  | 0.34                  |
| 1,703.00                           | 0.91            | 129.92      | 1,702.93            | -6.36      | 9.60       | 6.37                  | 0.13                  |
| 1,794.00                           | 0.72            | 136.09      | 1,793.93            | -7.23      | 10.55      | 7.25                  | 0.23                  |
| 1,885.00                           | 0.85            | 115.99      | 1,884.92            | -7.94      | 11.55      | 7.96                  | 0.33                  |
| 1,975.00                           | 0.71            | 106.60      | 1,974.91            | -8.39      | 12.69      | 8.41                  | 0.21                  |
| 2,068.00                           | 0.74            | 103.50      | 2,067.90            | -8.70      | 13.82      | 8.72                  | 0.05                  |
| 2,163.00                           | 0.62            | 81.75       | 2,162.89            | -8.77      | 14.93      | 8.79                  | 0.30                  |
| 2,257.00                           | 0.85            | 93.47       | 2,256.89            | -8.74      | 16.13      | 8.76                  | 0.29                  |
| 2,350.00                           | 0.59            | 116.46      | 2,349.88            | -8.99      | 17.24      | 9.02                  | 0.41                  |
| 2,442.00                           | 0.68            | 117.91      | 2,441.87            | -9.46      | 18.15      | 9.49                  | 0.10                  |
| 2,473.00                           | 0.74            | 113.89      | 2,472.87            | -9.63      | 18.50      | 9.65                  | 0.25                  |
| 2,564.00                           | 0.56            | 92.99       | 2,563.87            | -9.89      | 19.48      | 9.92                  | 0.32                  |
| 2,658.00                           | 0.25            | 120.76      | 2,657.86            | -10.02     | 20.11      | 10.05                 | 0.38                  |
| 2,753.00                           | 0.31            | 176.52      | 2,752.86            | -10.38     | 20.31      | 10.41                 | 0.28                  |
| 2,847.00                           | 0.31            | 116.98      | 2,846.86            | -10.75     | 20.55      | 10.78                 | 0.33                  |
| 2,937.00                           | 0.44            | 127.16      | 2,936.86            | -11.07     | 21.04      | 11.10                 | 0.16                  |
| 3,030.00                           | 0.34            | 143.76      | 3,029.86            | -11.50     | 21.49      | 11.54                 | 0.16                  |
| 3,124.00                           | 0.44            | 165.93      | 3,123.86            | -12.08     | 21.74      | 12.11                 | 0.19                  |
| 3,218.00                           | 0.34            | 204.50      | 3,217.85            | -12.68     | 21.71      | 12.72                 | 0.29                  |
| 3,311.00                           | 0.19            | 212.25      | 3,310.85            | -13.07     | 21.52      | 13.10                 | 0.17                  |
| 3,405.00                           | 0.44            | 160.89      | 3,404.85            | -13.54     | 21.55      | 13.57                 | 0.38                  |
| 3,499.00                           | 0.44            | 166.38      | 3,498.85            | -14.23     | 21.75      | 14.26                 | 0.04                  |
| 3,593.00                           | 0.54            | 177.20      | 3,592.84            | -15.02     | 21.86      | 15.06                 | 0.14                  |
| 3,688.00                           | 0.50            | 211.33      | 3,687.84            | -15.82     | 21.67      | 15.86                 | 0.32                  |
| 3,781.00                           | 0.25            | 222.06      | 3,780.84            | -16.32     | 21.32      | 16.35                 | 0.28                  |
| 3,875.00                           | 0.71            | 208.84      | 3,874.84            | -16.98     | 20.90      | 17.02                 | 0.50                  |
| 3,968.00                           | 0.91            | 237.78      | 3,967.83            | -17.88     | 20.00      | 17.91                 | 0.48                  |
| 4,062.00                           | 0.90            | 244.99      | 4,061.81            | -18.59     | 18.70      | 18.62                 | 0.12                  |
| 4,156.00                           | 0.95            | 251.74      | 4,155.80            | -19.15     | 17.29      | 19.17                 | 0.13                  |
| 4,250.00                           | 0.80            | 254.51      | 4,249.79            | -19.57     | 15.92      | 19.59                 | 0.17                  |
| 4,343.00                           | 1.51            | 248.19      | 4,342.77            | -20.20     | 14.15      | 20.22                 | 0.77                  |
| 4,436.00                           | 1.05            | 267.66      | 4,435.75            | -20.69     | 12.16      | 20.71                 | 0.67                  |
| 4,529.00                           | 0.66            | 297.99      | 4,528.74            | -20.47     | 10.84      | 20.49                 | 0.63                  |
| 4,623.00                           | 0.88            | 299.15      | 4,622.73            | -19.86     | 9.73       | 19.88                 | 0.23                  |
| 4,718.00                           | 0.79            | 309.50      | 4,717.72            | -19.09     | 8.59       | 19.11                 | 0.18                  |
| 4,812.00                           | 0.77            | 317.63      | 4,811.71            | -18.21     | 7.66       | 18.23                 | 0.12                  |
| 4,906.00                           | 1.00            | 335.35      | 4,905.70            | -17.00     | 6.90       | 17.01                 | 0.38                  |

**HALLIBURTON****Design Report for Planck 1-14H - Actual Surveys**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 4,999.00            | 1.24            | 340.40      | 4,998.68            | -15.32     | 6.22       | 15.33                 | 0.28                  |
| 5,093.00            | 1.43            | 319.39      | 5,092.66            | -13.47     | 5.12       | 13.48                 | 0.55                  |
| 5,187.00            | 1.64            | 320.07      | 5,186.62            | -11.55     | 3.49       | 11.55                 | 0.22                  |
| 5,280.00            | 1.17            | 334.41      | 5,279.60            | -9.67      | 2.22       | 9.67                  | 0.63                  |
| 5,374.00            | 0.75            | 330.36      | 5,373.58            | -8.27      | 1.51       | 8.27                  | 0.45                  |
| 5,468.00            | 0.22            | 20.69       | 5,467.58            | -7.56      | 1.26       | 7.57                  | 0.67                  |
| 5,561.00            | 0.12            | 24.55       | 5,560.58            | -7.31      | 1.37       | 7.31                  | 0.11                  |
| 5,654.00            | 0.26            | 65.54       | 5,653.58            | -7.13      | 1.60       | 7.14                  | 0.20                  |
| 5,748.00            | 0.40            | 109.15      | 5,747.58            | -7.15      | 2.10       | 7.16                  | 0.30                  |
| 5,841.00            | 0.50            | 114.96      | 5,840.57            | -7.43      | 2.78       | 7.43                  | 0.12                  |
| 5,934.00            | 0.49            | 116.61      | 5,933.57            | -7.78      | 3.50       | 7.79                  | 0.02                  |
| 6,027.00            | 0.47            | 103.38      | 6,026.57            | -8.05      | 4.23       | 8.05                  | 0.12                  |
| 6,121.00            | 0.57            | 139.86      | 6,120.56            | -8.49      | 4.91       | 8.50                  | 0.36                  |
| 6,175.00            | 0.57            | 130.90      | 6,174.56            | -8.87      | 5.28       | 8.88                  | 0.16                  |
| 6,215.00            | 1.01            | 154.08      | 6,214.56            | -9.32      | 5.59       | 9.33                  | 1.34                  |
| 6,247.00            | 3.99            | 179.95      | 6,246.52            | -10.69     | 5.71       | 10.70                 | 9.73                  |
| 6,278.00            | 7.86            | 184.55      | 6,277.35            | -13.88     | 5.54       | 13.89                 | 12.57                 |
| 6,309.00            | 11.83           | 181.37      | 6,307.89            | -19.17     | 5.30       | 19.18                 | 12.92                 |
| 6,340.00            | 15.26           | 177.77      | 6,338.02            | -26.43     | 5.38       | 26.44                 | 11.39                 |
| 6,371.00            | 18.40           | 178.04      | 6,367.69            | -35.40     | 5.71       | 35.41                 | 10.13                 |
| 6,402.00            | 21.58           | 179.50      | 6,396.82            | -45.99     | 5.93       | 46.00                 | 10.38                 |
| 6,434.00            | 25.32           | 182.25      | 6,426.17            | -58.72     | 5.71       | 58.73                 | 12.17                 |
| 6,465.00            | 29.00           | 182.28      | 6,453.75            | -72.85     | 5.15       | 72.86                 | 11.87                 |
| 6,495.00            | 32.26           | 182.96      | 6,479.56            | -88.12     | 4.45       | 88.13                 | 10.93                 |
| 6,527.00            | 36.25           | 182.87      | 6,506.01            | -106.11    | 3.53       | 106.11                | 12.47                 |
| 6,558.00            | 39.45           | 182.42      | 6,530.48            | -125.10    | 2.66       | 125.11                | 10.36                 |
| 6,590.00            | 42.51           | 180.86      | 6,554.64            | -146.08    | 2.06       | 146.08                | 10.08                 |
| 6,621.00            | 45.58           | 181.29      | 6,576.92            | -167.62    | 1.66       | 167.63                | 9.95                  |
| 6,653.00            | 49.05           | 182.41      | 6,598.61            | -191.13    | 0.89       | 191.13                | 11.14                 |
| 6,684.00            | 53.42           | 181.46      | 6,618.01            | -215.28    | 0.08       | 215.28                | 14.30                 |
| 6,715.00            | 56.38           | 182.54      | 6,635.84            | -240.62    | -0.81      | 240.62                | 9.96                  |
| 6,746.00            | 58.43           | 182.76      | 6,652.54            | -266.71    | -2.02      | 266.71                | 6.64                  |
| 6,775.00            | 60.00           | 181.71      | 6,667.38            | -291.61    | -2.98      | 291.60                | 6.24                  |
| 6,807.00            | 62.05           | 181.42      | 6,682.88            | -319.59    | -3.75      | 319.58                | 6.46                  |
| 6,837.00            | 65.00           | 181.05      | 6,696.25            | -346.43    | -4.33      | 346.43                | 9.90                  |
| 6,868.00            | 68.37           | 181.15      | 6,708.52            | -374.89    | -4.87      | 374.89                | 10.88                 |
| 6,898.00            | 71.72           | 181.57      | 6,718.76            | -403.08    | -5.54      | 403.07                | 11.24                 |
| 6,929.00            | 75.33           | 180.44      | 6,727.55            | -432.80    | -6.06      | 432.79                | 12.16                 |
| 6,960.00            | 78.88           | 179.10      | 6,734.47            | -463.01    | -5.94      | 463.00                | 12.20                 |
| 6,992.00            | 81.81           | 178.48      | 6,739.83            | -494.55    | -5.27      | 494.54                | 9.35                  |
| 7,069.00            | 87.90           | 176.31      | 6,746.73            | -571.11    | -1.78      | 571.11                | 8.39                  |
| 7,101.00            | 87.78           | 176.11      | 6,747.94            | -603.02    | 0.33       | 603.02                | 0.73                  |
| 7,164.00            | 89.32           | 176.96      | 6,749.53            | -665.88    | 4.14       | 665.89                | 2.79                  |
| 7,228.00            | 90.31           | 177.66      | 6,749.74            | -729.81    | 7.14       | 729.82                | 1.89                  |
| 7,291.00            | 90.80           | 177.41      | 6,749.13            | -792.75    | 9.85       | 792.76                | 0.87                  |
| 7,354.00            | 90.74           | 177.16      | 6,748.28            | -855.67    | 12.84      | 855.69                | 0.41                  |
| 7,418.00            | 90.56           | 177.29      | 6,747.56            | -919.60    | 15.93      | 919.62                | 0.35                  |
| 7,481.00            | 89.57           | 177.76      | 6,747.49            | -982.54    | 18.65      | 982.56                | 1.74                  |
| 7,546.00            | 88.21           | 180.25      | 6,748.75            | -1,047.51  | 19.78      | 1,047.54              | 4.36                  |
| 7,609.00            | 88.33           | 180.06      | 6,750.65            | -1,110.48  | 19.61      | 1,110.51              | 0.36                  |
| 7,673.00            | 88.27           | 179.95      | 6,752.55            | -1,174.45  | 19.61      | 1,174.48              | 0.20                  |



**HALLIBURTON****Design Report for Planck 1-14H - Actual Surveys**

| Measured<br>Depth<br>(ft)     | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100ft) |
|-------------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-----------------------------|
| 7,736.00                      | 88.27              | 180.12         | 6,754.45                  | -1,237.42     | 19.57         | 1,237.45                    | 0.27                        |
| 7,798.00                      | 88.40              | 180.08         | 6,756.25                  | -1,299.39     | 19.46         | 1,299.42                    | 0.22                        |
| 7,861.00                      | 90.86              | 181.43         | 6,756.66                  | -1,362.38     | 18.63         | 1,362.41                    | 4.45                        |
| 7,924.00                      | 91.30              | 180.90         | 6,755.47                  | -1,425.36     | 17.35         | 1,425.38                    | 1.09                        |
| 7,988.00                      | 91.54              | 180.47         | 6,753.88                  | -1,489.33     | 16.59         | 1,489.36                    | 0.77                        |
| 8,005.00                      | 91.17              | 181.09         | 6,753.48                  | -1,506.33     | 16.35         | 1,506.35                    | 4.24                        |
| <b>Kick Off Point (ST1)</b>   |                    |                |                           |               |               |                             |                             |
| 8,019.00                      | 90.87              | 181.60         | 6,753.23                  | -1,520.32     | 16.03         | 1,520.34                    | 4.24                        |
| <b>First MWD Survey (ST1)</b> |                    |                |                           |               |               |                             |                             |
| 8,050.00                      | 90.68              | 183.99         | 6,752.81                  | -1,551.28     | 14.51         | 1,551.30                    | 7.73                        |
| 8,083.00                      | 90.74              | 183.81         | 6,752.40                  | -1,584.20     | 12.27         | 1,584.22                    | 0.57                        |
| 8,115.00                      | 90.68              | 183.80         | 6,752.01                  | -1,616.13     | 10.15         | 1,616.14                    | 0.19                        |
| 8,147.00                      | 90.86              | 183.86         | 6,751.58                  | -1,648.05     | 8.01          | 1,648.06                    | 0.59                        |
| 8,180.00                      | 90.74              | 184.15         | 6,751.12                  | -1,680.97     | 5.70          | 1,680.97                    | 0.95                        |
| 8,212.00                      | 90.74              | 184.18         | 6,750.70                  | -1,712.88     | 3.38          | 1,712.88                    | 0.09                        |
| 8,309.00                      | 90.99              | 183.77         | 6,749.24                  | -1,809.64     | -3.34         | 1,809.63                    | 0.50                        |
| 8,373.00                      | 91.48              | 184.08         | 6,747.86                  | -1,873.47     | -7.72         | 1,873.46                    | 0.91                        |
| 8,437.00                      | 91.11              | 183.75         | 6,746.41                  | -1,937.30     | -12.09        | 1,937.28                    | 0.77                        |
| 8,501.00                      | 92.41              | 183.55         | 6,744.45                  | -2,001.14     | -16.16        | 2,001.12                    | 2.06                        |
| 8,565.00                      | 90.49              | 183.75         | 6,742.83                  | -2,064.99     | -20.24        | 2,064.96                    | 3.02                        |
| 8,629.00                      | 90.68              | 184.02         | 6,742.17                  | -2,128.84     | -24.57        | 2,128.80                    | 0.52                        |
| 8,694.00                      | 90.12              | 183.71         | 6,741.72                  | -2,193.69     | -28.95        | 2,193.64                    | 0.98                        |
| 8,758.00                      | 88.70              | 184.13         | 6,742.38                  | -2,257.54     | -33.33        | 2,257.48                    | 2.31                        |
| 8,855.00                      | 89.44              | 183.87         | 6,743.95                  | -2,354.29     | -40.09        | 2,354.22                    | 0.81                        |
| 8,951.00                      | 89.26              | 184.09         | 6,745.04                  | -2,450.05     | -46.76        | 2,449.98                    | 0.30                        |
| 9,015.00                      | 89.14              | 182.96         | 6,745.94                  | -2,513.92     | -50.69        | 2,513.84                    | 1.78                        |
| 9,078.00                      | 89.01              | 183.01         | 6,746.95                  | -2,576.83     | -53.97        | 2,576.74                    | 0.22                        |
| 9,141.00                      | 90.25              | 180.74         | 6,747.36                  | -2,639.79     | -56.03        | 2,639.70                    | 4.11                        |
| 9,236.00                      | 89.81              | 182.29         | 6,747.31                  | -2,734.75     | -58.54        | 2,734.66                    | 1.70                        |
| 9,300.00                      | 89.38              | 181.91         | 6,747.76                  | -2,798.70     | -60.89        | 2,798.61                    | 0.90                        |
| 9,363.00                      | 89.32              | 181.95         | 6,748.48                  | -2,861.66     | -63.01        | 2,861.57                    | 0.11                        |
| 9,426.00                      | 88.27              | 181.75         | 6,749.80                  | -2,924.62     | -65.04        | 2,924.52                    | 1.70                        |
| 9,489.00                      | 87.90              | 181.46         | 6,751.91                  | -2,987.56     | -66.81        | 2,987.45                    | 0.75                        |
| 9,552.00                      | 88.58              | 180.89         | 6,753.84                  | -3,050.51     | -68.10        | 3,050.41                    | 1.41                        |
| 9,615.00                      | 90.25              | 182.00         | 6,754.49                  | -3,113.49     | -69.69        | 3,113.38                    | 3.18                        |
| 9,710.00                      | 90.99              | 181.52         | 6,753.46                  | -3,208.43     | -72.61        | 3,208.32                    | 0.93                        |
| 9,804.00                      | 90.86              | 179.73         | 6,751.94                  | -3,302.41     | -73.63        | 3,302.30                    | 1.91                        |
| 9,868.00                      | 91.92              | 179.82         | 6,750.39                  | -3,366.39     | -73.38        | 3,366.28                    | 1.66                        |
| 9,964.00                      | 91.42              | 179.17         | 6,747.59                  | -3,462.35     | -72.53        | 3,462.24                    | 0.85                        |
| 10,027.00                     | 92.10              | 179.93         | 6,745.65                  | -3,525.32     | -72.04        | 3,525.20                    | 1.62                        |
| 10,090.00                     | 90.25              | 178.55         | 6,744.36                  | -3,588.29     | -71.20        | 3,588.18                    | 3.66                        |
| 10,153.00                     | 90.74              | 178.77         | 6,743.82                  | -3,651.27     | -69.73        | 3,651.16                    | 0.85                        |
| 10,217.00                     | 90.25              | 178.37         | 6,743.27                  | -3,715.25     | -68.13        | 3,715.14                    | 0.99                        |
| 10,280.00                     | 90.56              | 178.48         | 6,742.82                  | -3,778.22     | -66.40        | 3,778.12                    | 0.52                        |
| 10,343.00                     | 90.19              | 178.30         | 6,742.41                  | -3,841.20     | -64.63        | 3,841.10                    | 0.65                        |
| 10,405.00                     | 90.99              | 178.78         | 6,741.77                  | -3,903.17     | -63.05        | 3,903.08                    | 1.50                        |
| 10,467.00                     | 91.24              | 178.78         | 6,740.56                  | -3,965.15     | -61.73        | 3,965.05                    | 0.40                        |
| 10,528.00                     | 90.68              | 178.59         | 6,739.54                  | -4,026.12     | -60.33        | 4,026.03                    | 0.97                        |
| 10,620.00                     | 89.38              | 178.99         | 6,739.49                  | -4,118.10     | -58.39        | 4,118.01                    | 1.48                        |
| 10,682.00                     | 89.01              | 178.94         | 6,740.36                  | -4,180.08     | -57.27        | 4,179.99                    | 0.60                        |
| 10,743.00                     | 88.76              | 178.92         | 6,741.55                  | -4,241.06     | -56.13        | 4,240.97                    | 0.41                        |

**HALLIBURTON****Design Report for Planck 1-14H - Actual Surveys**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 10,805.00           | 88.09           | 178.82      | 6,743.26            | -4,303.03  | -54.91     | 4,302.94              | 1.09                  |
| 10,866.00           | 89.07           | 178.91      | 6,744.77            | -4,363.99  | -53.70     | 4,363.91              | 1.61                  |
| 10,927.00           | 91.17           | 178.81      | 6,744.64            | -4,424.98  | -52.49     | 4,424.90              | 3.45                  |
| 11,019.00           | 90.74           | 178.44      | 6,743.11            | -4,516.94  | -50.28     | 4,516.86              | 0.62                  |
| 11,081.00           | 90.93           | 178.35      | 6,742.20            | -4,578.91  | -48.54     | 4,578.83              | 0.34                  |
| 11,142.00           | 93.58           | 178.99      | 6,739.80            | -4,639.84  | -47.13     | 4,639.76              | 4.47                  |
| 11,202.00           | 93.34           | 178.58      | 6,736.18            | -4,699.72  | -45.86     | 4,699.64              | 0.79                  |
| 11,263.00           | 93.46           | 179.12      | 6,732.56            | -4,760.60  | -44.64     | 4,760.52              | 0.91                  |
| 11,355.00           | 92.10           | 179.51      | 6,728.10            | -4,852.48  | -43.54     | 4,852.41              | 1.54                  |
| 11,448.00           | 90.49           | 179.47      | 6,726.00            | -4,945.45  | -42.71     | 4,945.38              | 1.73                  |
| 11,509.00           | 90.68           | 179.29      | 6,725.38            | -5,006.44  | -42.05     | 5,006.37              | 0.43                  |
| 11,570.00           | 90.87           | 179.66      | 6,724.55            | -5,067.43  | -41.49     | 5,067.37              | 0.68                  |
| 11,632.00           | 90.93           | 179.32      | 6,723.58            | -5,129.42  | -40.94     | 5,129.36              | 0.56                  |
| 11,694.00           | 90.74           | 179.15      | 6,722.67            | -5,191.41  | -40.11     | 5,191.35              | 0.41                  |
| 11,755.00           | 90.93           | 179.97      | 6,721.79            | -5,252.40  | -39.64     | 5,252.34              | 1.38                  |
| 11,816.00           | 90.43           | 179.62      | 6,721.06            | -5,313.40  | -39.43     | 5,313.33              | 1.00                  |
| 11,878.00           | 90.37           | 179.57      | 6,720.63            | -5,375.39  | -38.99     | 5,375.33              | 0.13                  |
| 11,939.00           | 90.00           | 179.64      | 6,720.43            | -5,436.39  | -38.57     | 5,436.33              | 0.62                  |
| 12,001.00           | 89.69           | 179.36      | 6,720.60            | -5,498.39  | -38.03     | 5,498.33              | 0.67                  |
| 12,063.00           | 89.94           | 179.45      | 6,720.80            | -5,560.39  | -37.38     | 5,560.32              | 0.43                  |
| 12,155.00           | 90.43           | 179.81      | 6,720.50            | -5,652.38  | -36.79     | 5,652.32              | 0.66                  |
| 12,216.00           | 89.63           | 179.18      | 6,720.47            | -5,713.38  | -36.25     | 5,713.32              | 1.67                  |
| 12,278.00           | 90.37           | 179.56      | 6,720.47            | -5,775.38  | -35.57     | 5,775.32              | 1.34                  |
| 12,339.00           | 90.37           | 179.72      | 6,720.08            | -5,836.37  | -35.18     | 5,836.31              | 0.26                  |
| 12,401.00           | 89.81           | 179.14      | 6,719.98            | -5,898.37  | -34.57     | 5,898.31              | 1.30                  |
| 12,462.00           | 90.93           | 179.25      | 6,719.59            | -5,959.36  | -33.71     | 5,959.30              | 1.84                  |
| 12,554.00           | 91.54           | 178.95      | 6,717.60            | -6,051.33  | -32.27     | 6,051.27              | 0.74                  |
| 12,647.00           | 91.61           | 179.07      | 6,715.05            | -6,144.28  | -30.66     | 6,144.23              | 0.15                  |
| 12,738.00           | 91.61           | 179.20      | 6,712.49            | -6,235.23  | -29.29     | 6,235.18              | 0.14                  |
| 12,833.00           | 90.56           | 178.89      | 6,710.69            | -6,330.20  | -27.70     | 6,330.15              | 1.15                  |
| 12,928.00           | 90.74           | 178.76      | 6,709.61            | -6,425.17  | -25.76     | 6,425.13              | 0.23                  |
| 12,990.00           | 90.80           | 178.58      | 6,708.78            | -6,487.15  | -24.32     | 6,487.11              | 0.31                  |
| 13,053.00           | 90.68           | 178.62      | 6,707.97            | -6,550.13  | -22.78     | 6,550.09              | 0.20                  |
| 13,117.00           | 90.74           | 178.90      | 6,707.17            | -6,614.11  | -21.39     | 6,614.07              | 0.45                  |
| 13,180.00           | 90.49           | 178.63      | 6,706.50            | -6,677.09  | -20.04     | 6,677.05              | 0.58                  |
| 13,244.00           | 90.80           | 178.95      | 6,705.78            | -6,741.07  | -18.68     | 6,741.04              | 0.70                  |
| 13,307.00           | 90.86           | 178.81      | 6,704.86            | -6,804.05  | -17.45     | 6,804.02              | 0.24                  |
| 13,371.00           | 91.17           | 179.18      | 6,703.73            | -6,868.03  | -16.33     | 6,868.00              | 0.75                  |
| 13,434.00           | 90.68           | 179.09      | 6,702.71            | -6,931.02  | -15.38     | 6,930.99              | 0.79                  |
| 13,498.00           | 90.12           | 178.53      | 6,702.27            | -6,995.00  | -14.05     | 6,994.97              | 1.24                  |
| 13,562.00           | 90.19           | 178.96      | 6,702.09            | -7,058.99  | -12.65     | 7,058.96              | 0.68                  |
| 13,626.00           | 89.38           | 178.01      | 6,702.33            | -7,122.96  | -10.96     | 7,122.94              | 1.95                  |
| 13,689.00           | 89.75           | 180.05      | 6,702.81            | -7,185.95  | -9.89      | 7,185.92              | 3.29                  |
| 13,784.00           | 89.63           | 181.00      | 6,703.33            | -7,280.94  | -10.76     | 7,280.92              | 1.01                  |
| 13,878.00           | 89.01           | 180.30      | 6,704.44            | -7,374.93  | -11.83     | 7,374.90              | 0.99                  |
| 13,973.00           | 88.95           | 180.39      | 6,706.13            | -7,469.91  | -12.40     | 7,469.88              | 0.11                  |
| 14,069.00           | 88.52           | 179.84      | 6,708.25            | -7,565.89  | -12.59     | 7,565.86              | 0.73                  |
| 14,132.00           | 88.83           | 179.95      | 6,709.71            | -7,628.87  | -12.48     | 7,628.84              | 0.52                  |
| 14,196.00           | 87.96           | 179.27      | 6,711.50            | -7,692.84  | -12.04     | 7,692.81              | 1.73                  |
| 14,291.00           | 89.63           | 179.19      | 6,713.50            | -7,787.81  | -10.76     | 7,787.78              | 1.76                  |
| 14,387.00           | 89.94           | 178.71      | 6,713.86            | -7,883.79  | -9.01      | 7,883.77              | 0.60                  |



## Design Report for Planck 1-14H - Actual Surveys

| Measured Depth (ft)    | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) |
|------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|
| 14,451.00              | 90.31           | 179.03      | 6,713.72            | -7,947.78  | -7.74      | 7,947.76              | 0.76                  |
| 14,513.00              | 90.00           | 178.42      | 6,713.55            | -8,009.76  | -6.36      | 8,009.74              | 1.10                  |
| 14,577.00              | 89.63           | 178.69      | 6,713.76            | -8,073.74  | -4.75      | 8,073.73              | 0.72                  |
| 14,640.00              | 89.81           | 178.60      | 6,714.07            | -8,136.72  | -3.26      | 8,136.71              | 0.32                  |
| 14,704.00              | 90.19           | 178.53      | 6,714.07            | -8,200.70  | -1.66      | 8,200.69              | 0.60                  |
| 14,766.00              | 90.62           | 178.15      | 6,713.63            | -8,262.68  | 0.14       | 8,262.67              | 0.93                  |
| 14,829.00              | 90.56           | 178.46      | 6,712.98            | -8,325.64  | 2.00       | 8,325.64              | 0.50                  |
| 14,893.00              | 90.56           | 178.63      | 6,712.35            | -8,389.62  | 3.63       | 8,389.62              | 0.27                  |
| 14,957.00              | 90.37           | 178.19      | 6,711.83            | -8,453.59  | 5.40       | 8,453.59              | 0.75                  |
| 15,021.00              | 90.25           | 178.16      | 6,711.49            | -8,517.56  | 7.44       | 8,517.56              | 0.19                  |
| 15,083.00              | 90.12           | 178.33      | 6,711.29            | -8,579.53  | 9.34       | 8,579.53              | 0.35                  |
| 15,147.00              | 90.12           | 178.45      | 6,711.15            | -8,643.51  | 11.14      | 8,643.51              | 0.19                  |
| 15,210.00              | 90.00           | 178.49      | 6,711.09            | -8,706.48  | 12.82      | 8,706.49              | 0.20                  |
| 15,305.00              | 90.56           | 178.21      | 6,710.62            | -8,801.44  | 15.56      | 8,801.46              | 0.66                  |
| 15,400.00              | 91.92           | 178.41      | 6,708.57            | -8,896.38  | 18.36      | 8,896.39              | 1.45                  |
| 15,463.00              | 91.98           | 178.28      | 6,706.42            | -8,959.31  | 20.18      | 8,959.33              | 0.23                  |
| 15,526.00              | 92.04           | 178.15      | 6,704.21            | -9,022.24  | 22.14      | 9,022.27              | 0.23                  |
| 15,589.00              | 92.29           | 178.53      | 6,701.83            | -9,085.17  | 23.96      | 9,085.20              | 0.72                  |
| 15,653.00              | 91.79           | 178.23      | 6,699.56            | -9,149.11  | 25.77      | 9,149.13              | 0.91                  |
| 15,716.00              | 91.73           | 178.30      | 6,697.62            | -9,212.05  | 27.67      | 9,212.08              | 0.15                  |
| 15,780.00              | 91.67           | 178.54      | 6,695.72            | -9,275.99  | 29.44      | 9,276.03              | 0.39                  |
| 15,842.00              | 91.30           | 178.58      | 6,694.12            | -9,337.95  | 31.00      | 9,337.99              | 0.60                  |
| 15,906.00              | 91.30           | 179.18      | 6,692.66            | -9,401.93  | 32.25      | 9,401.96              | 0.94                  |
| 15,969.00              | 90.74           | 179.00      | 6,691.54            | -9,464.91  | 33.25      | 9,464.95              | 0.93                  |
| 16,032.00              | 90.93           | 178.92      | 6,690.62            | -9,527.89  | 34.39      | 9,527.93              | 0.33                  |
| 16,096.00              | 90.37           | 178.82      | 6,689.90            | -9,591.87  | 35.65      | 9,591.92              | 0.89                  |
| 16,160.00              | 90.00           | 178.64      | 6,689.69            | -9,655.86  | 37.07      | 9,655.90              | 0.64                  |
| Final MWD Survey (ST1) |                 |             |                     |            |            |                       |                       |
| 16,195.00              | 90.00           | 178.64      | 6,689.69            | -9,690.85  | 37.90      | 9,690.89              | 0.00                  |
| Projection to Bit      |                 |             |                     |            |            |                       |                       |

Design Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                     |
|---------------------|---------------------|-------------------|------------|-----------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                             |
| 610.00              | 610.00              | -0.40             | 1.10       | First MWD Survey (Original) |
| 8,005.00            | 6,753.48            | -1,506.33         | 16.35      | Kick Off Point (ST1)        |
| 8,019.00            | 6,753.23            | -1,520.32         | 16.03      | First MWD Survey (ST1)      |
| 16,160.00           | 6,689.69            | -9,655.86         | 37.07      | Final MWD Survey (ST1)      |
| 16,195.00           | 6,689.69            | -9,690.85         | 37.90      | Projection to Bit           |

Vertical Section Information

| Angle Type | Target                           | Azimuth (°) | Origin Type | Origin     |            | Start TVD (ft) |
|------------|----------------------------------|-------------|-------------|------------|------------|----------------|
|            |                                  |             |             | +N/-S (ft) | +E/-W (ft) |                |
| Target     | Planck 1-14H Plan A Rev 0 BH Tgt | 179.91      | Slot        | 0.00       | 0.00       | 0.00           |

**HALLIBURTON****Design Report for Planck 1-14H - Actual Surveys****Survey tool program**

| From<br>(ft) | To<br>(ft) | Survey/Plan  | Survey Tool |
|--------------|------------|--------------|-------------|
| 610.00       | 8,689.00   | MWD Survey   | MWD         |
| 8,005.00     | 16,195.00  | Sidetrack #1 | MWD         |

**Targets**

| Target Name<br>- hit/miss target<br>- Shape  | Dip<br>Angle<br>(°) | Dip<br>Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude         | Longitude         |
|--|---------------------|--------------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|
| Planck 1-14H Plan A  | 0.00                | 0.00               | 6,789.00    | -9,663.41     | 14.43         | 1,478,918.39     | 3,338,710.44    | 40° 38' 29.861 N | 104° 16' 46.060 W |
| - actual wellpath misses target center by 102.14ft at 16160.00ft MD (6689.69 TVD, -9655.86 N, 37.07 E) |                     |                    |             |               |               |                  |                 |                  |                   |
| - Point  |                     |                    |             |               |               |                  |                 |                  |                   |
| Planck 1-14H 600' S  | 0.00                | 0.00               | -6.00       | 0.00          | 0.00          | 1,488,580.52     | 3,338,563.01    | 40° 40' 5.347 N  | 104° 16' 46.247 W |
| - actual wellpath misses target center by 6.00ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)               |                     |                    |             |               |               |                  |                 |                  |                   |
| - Polygon  |                     |                    |             |               |               |                  |                 |                  |                   |
| Point 1  |                     |                    |             | 60.00         | -350.00       | 1,488,231.38     | 3,338,627.82    |                  |                   |
| Point 2  |                     |                    |             | 74.00         | -9,724.00     | 1,478,858.62     | 3,338,770.83    |                  |                   |
| Point 3  |                     |                    |             | -3,998.00     | -9,724.00     | 1,478,802.58     | 3,334,699.29    |                  |                   |
| Point 4  |                     |                    |             | -4,012.00     | -350.00       | 1,488,175.34     | 3,334,556.27    |                  |                   |
| Planck 1-14H Sectio  | 0.00                | 0.00               | -6.00       | 0.00          | 0.00          | 1,488,580.52     | 3,338,563.01    | 40° 40' 5.347 N  | 104° 16' 46.247 W |
| - actual wellpath misses target center by 6.00ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)               |                     |                    |             |               |               |                  |                 |                  |                   |
| - Polygon  |                     |                    |             |               |               |                  |                 |                  |                   |
| Point 1  |                     |                    |             | 660.00        | 250.00        | 1,488,839.57     | 3,339,219.49    |                  |                   |
| Point 2  |                     |                    |             | 674.00        | -10,324.00    | 1,478,266.94     | 3,339,379.02    |                  |                   |
| Point 3  |                     |                    |             | -4,598.00     | -10,324.00    | 1,478,194.39     | 3,334,107.61    |                  |                   |
| Point 4  |                     |                    |             | -4,612.00     | 250.00        | 1,488,767.01     | 3,333,948.08    |                  |                   |
| Planck 1-14H Cente   | 0.00                | 0.00               | -6.00       | 0.00          | 0.00          | 1,488,580.52     | 3,338,563.01    | 40° 40' 5.347 N  | 104° 16' 46.247 W |
| - actual wellpath misses target center by 6.00ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)               |                     |                    |             |               |               |                  |                 |                  |                   |
| - Polygon  |                     |                    |             |               |               |                  |                 |                  |                   |
| Point 1  |                     |                    |             | -4,605.00     | -5,058.00     | 1,483,459.70     | 3,334,028.14    |                  |                   |
| Point 2  |                     |                    |             | 667.00        | -5,058.00     | 1,483,532.26     | 3,339,299.55    |                  |                   |

**HALLIBURTON****North Reference Sheet for Sec. 14-T8N-R62W - Planck 1-14H - Plan A Rev 1**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 16' @ 5065.00ft (Cyclone 12). Northing and Easting are relative to Planck 1-14H

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 40° 47' 0.000 N°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99998334

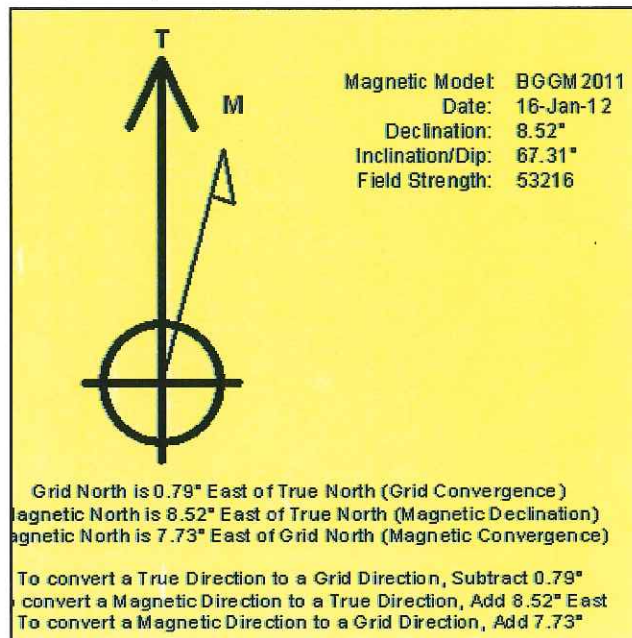
Grid Coordinates of Well: 1,488,580.52 ft N, 3,338,563.01 ft E

Geographical Coordinates of Well: 40° 40' 05.35" N, 104° 16' 46.25" W

Grid Convergence at Surface is: 0.79°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,195.00ft  
the Bottom Hole Displacement is 9,690.92ft in the Direction of 179.78° (True).

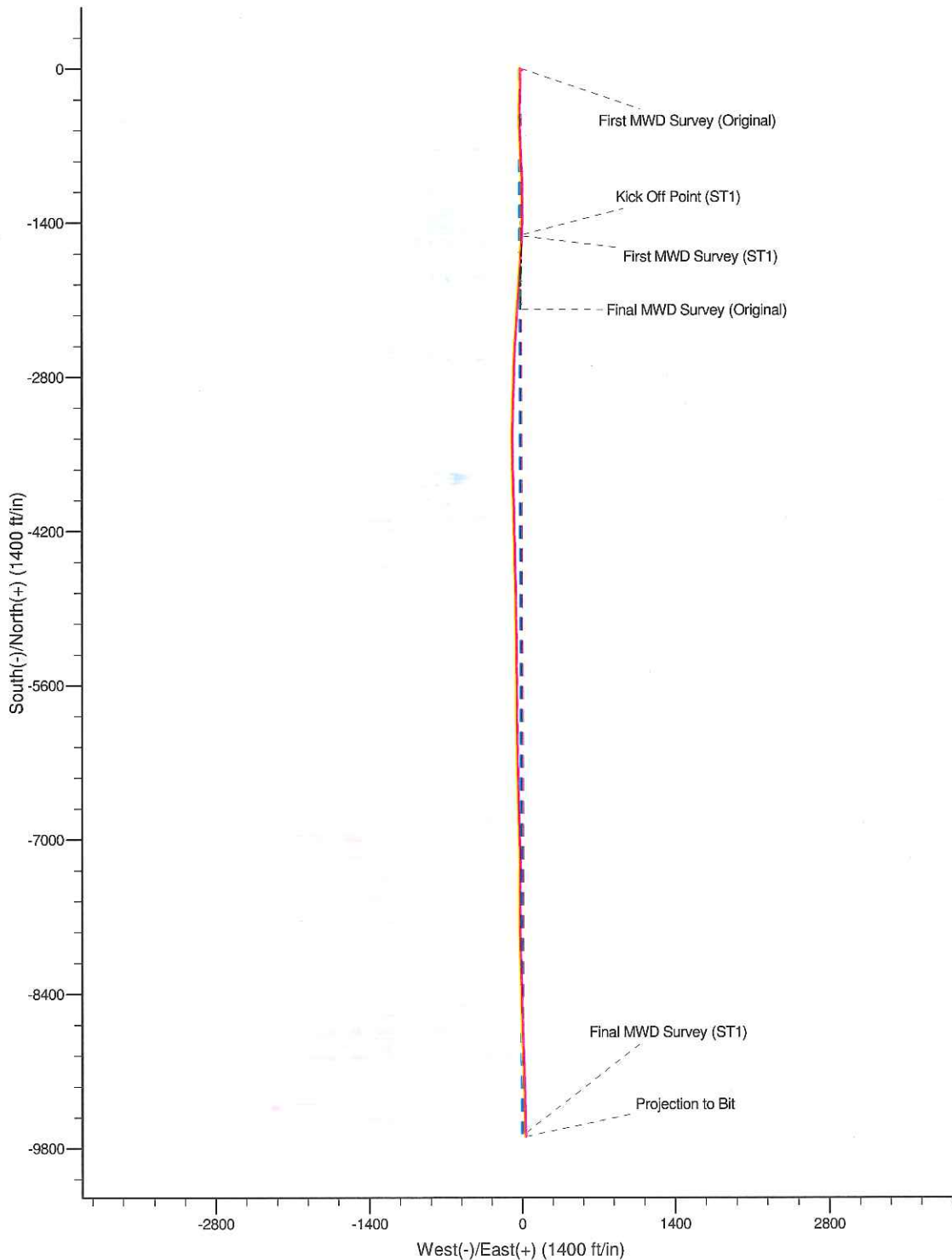
Magnetic Convergence at surface is: -7.73° (16 January 2012, , BGGM2011)





**LEGEND**

- Planck 1-14H, Plan A Rev 1, Plan A Rev 1 Proposal V0
- Planck 1-14H, Plan A Rev 1, MWD Survey
- Planck 1-14H, Plan A Rev 1, Sidetrack #1



Project: Weld County, CO  
Site: Sec. 14-T8N-R62W  
Well: Planck 1-14H

# Continental Resources, Inc.

**HALLIBURTON**

Sperry Drilling

