

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Hidden Creek 11-29 PAD**

**Hidden Creek 13-29**

**Hidden Creek 13-29**

**Plan: Hidden Creek 13-29 (wp01)**

## **Standard Planning Report**

**28 July, 2011**



Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_Hidden Creek 11-29 PAD  
 Well: Hidden Creek 13-29  
 Wellbore: Hidden Creek 13-29  
 Section:  
 SHL:  
 Design: Hidden Creek 13-29 (wp01)  
 Latitude: 40.108170  
 Longitude: -104.916544  
 GL: 5029.00  
 KB: 15' + 5029' GL @ 5044.00ft

| FORMATION TOP DETAILS |         |           |
|-----------------------|---------|-----------|
| TVDPPath              | MDPath  | Formation |
| 4180.00               | 4381.61 | PK Depth  |
| 4608.00               | 4836.39 | SX Depth  |
| 7362.00               | 7700.67 | NIO Depth |
| 7664.00               | 8002.67 | CD Depth  |
| 7744.00               | 8082.67 | GH Depth  |
| 8082.00               | 8420.67 | J Depth   |



Azimuths to True North  
 Magnetic North: 8.90°

Magnetic Field  
 Strength: 52947.2snT  
 Dip Angle: 66.78°  
 Date: 7/28/2011  
 Model: IGRF2010

#### WELL DETAILS: Hidden Creek 13-29

| +N/-S | +E/-W | Northing   | Ground Level:<br>Easting | 5029.00<br>Latitude | Longitude   | Slot |
|-------|-------|------------|--------------------------|---------------------|-------------|------|
| 0.00  | 0.00  | 1282787.45 | 3163196.85               | 40.108170           | -104.916544 |      |

#### CASING DETAILS

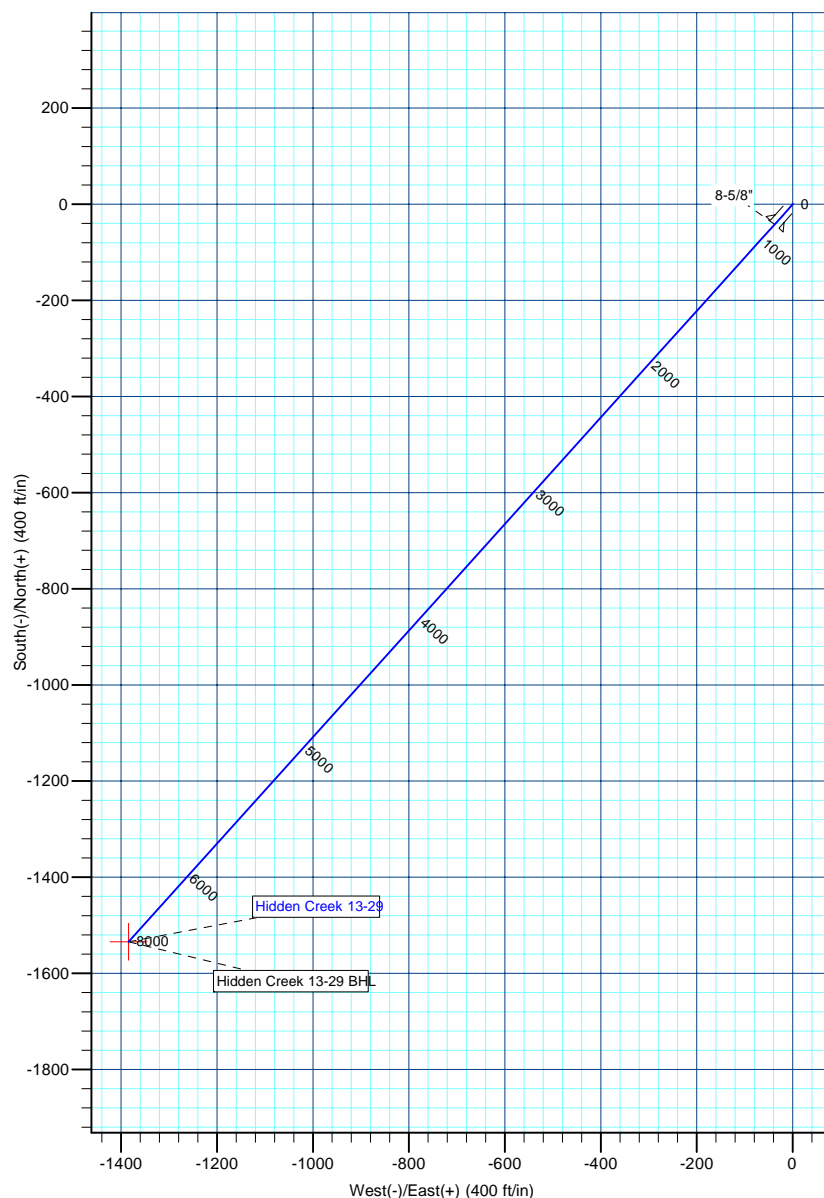
| TVD    | MD     | Name   | Size  |
|--------|--------|--------|-------|
| 865.00 | 868.73 | 8-5/8" | 8-5/8 |

#### DESIGN TARGET DETAILS

| Name                   | TVD     | +N/-S    | +E/-W    | Northing   | Easting    | Latitude  | Longitude   | Shape<br>Point |
|------------------------|---------|----------|----------|------------|------------|-----------|-------------|----------------|
| Hidden Creek 13-29 BHL | 8222.00 | -1534.29 | -1384.37 | 1281244.09 | 3161822.61 | 40.103958 | -104.921493 |                |

#### SECTION DETAILS

| MD      | Inc   | Azi    | TVD     | +N/-S    | +E/-W    | Dleg | TFace  | VSect   |
|---------|-------|--------|---------|----------|----------|------|--------|---------|
| 0.00    | 0.00  | 0.00   | 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    |
| 1287.96 | 19.76 | 222.06 | 1268.49 | -125.23  | -112.99  | 2.00 | 222.06 | 168.67  |
| 6331.58 | 19.76 | 222.06 | 6015.15 | -1391.17 | -1255.23 | 0.00 | 0.00   | 1873.75 |
| 7460.67 | 0.00  | 0.00   | 7122.00 | -1534.29 | -1384.37 | 1.75 | 180.00 | 2066.52 |
| 8560.67 | 0.00  | 0.00   | 8222.00 | -1534.29 | -1384.37 | 0.00 | 0.00   | 2066.52 |



|                  |                             |                                     |                            |
|------------------|-----------------------------|-------------------------------------|----------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well Hidden Creek 13-29    |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' + 5029' GL @ 5044.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' + 5029' GL @ 5044.00ft |
| <b>Site:</b>     | WELD_Hidden Creek 11-29 PAD | <b>North Reference:</b>             | True                       |
| <b>Well:</b>     | Hidden Creek 13-29          | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Wellbore:</b> | Hidden Creek 13-29          |                                     |                            |
| <b>Design:</b>   | Hidden Creek 13-29 (wp01)   |                                     |                            |

|                    |                             |                      |                |
|--------------------|-----------------------------|----------------------|----------------|
| <b>Project</b>     | COLORADO NORTHERN ZONE - 83 |                      |                |
| <b>Map System:</b> | US State Plane 1983         | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983   |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone      |                      |                |

|                       |          |                             |                 |                   |             |
|-----------------------|----------|-----------------------------|-----------------|-------------------|-------------|
| Site                  |          | WELD_Hidden Creek 11-29 PAD |                 |                   |             |
| Site Position:        |          | Northing:                   | 1,282,817.70 ft | Latitude:         | 40.108253   |
| From:                 | Lat/Long | Easting:                    | 3,163,196.65 ft | Longitude:        | -104.916544 |
| Position Uncertainty: | 0.00 ft  | Slot Radius:                | 0 "             | Grid Convergence: | 0.38 °      |

| Well                 | Hidden Creek 13-29 |           |                     |                 |               |             |
|----------------------|--------------------|-----------|---------------------|-----------------|---------------|-------------|
| Well Position        | +N/-S              | -30.25 ft | Northing:           | 1,282,787.45 ft | Latitude:     | 40.108170   |
|                      | +E/-W              | 0.00 ft   | Easting:            | 3,163,196.85 ft | Longitude:    | -104.916544 |
| Position Uncertainty |                    | 0.00 ft   | Wellhead Elevation: |                 | Ground Level: | 5,029.00 ft |

|                  |                    |                    |                        |                      |                            |
|------------------|--------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Hidden Creek 13-29 |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b>  | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010           | 7/28/2011          | 8.90                   | 66.78                | 52,947                     |

|                          |                           |              |                      |                  |  |
|--------------------------|---------------------------|--------------|----------------------|------------------|--|
| <b>Design</b>            | Hidden Creek 13-29 (wp01) |              |                      |                  |  |
| <b>Audit Notes:</b>      |                           |              |                      |                  |  |
| <b>Version:</b>          | <b>Phase:</b>             | PLAN         | <b>Tie On Depth:</b> | 0.00             |  |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b>   | <b>+N/-S</b> | <b>+E/-W</b>         | <b>Direction</b> |  |
|                          | (ft)                      | (ft)         | (ft)                 | (°)              |  |
|                          | 0.00                      | 0.00         | 0.00                 | 222.06           |  |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                      |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|----------------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target               |
| 0.00                 | 0.00            | 0.00        | 0.00                | 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    |                      |
| 1,287.96             | 19.76           | 222.06      | 1,268.49            | -125.23    | -112.99    | 2.00                  | 2.00                 | 0.00                | 222.06  |                      |
| 6,331.58             | 19.76           | 222.06      | 6,015.15            | -1,391.17  | -1,255.23  | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 7,460.67             | 0.00            | 0.00        | 7,122.00            | -1,534.29  | -1,384.37  | 1.75                  | -1.75                | 0.00                | 180.00  |                      |
| 8,560.67             | 0.00            | 0.00        | 8,222.00            | -1,534.29  | -1,384.37  | 0.00                  | 0.00                 | 0.00                | 0.00    | Hidden Creek 13-29 E |

|                  |                             |                                     |                            |
|------------------|-----------------------------|-------------------------------------|----------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well Hidden Creek 13-29    |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' + 5029' GL @ 5044.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' + 5029' GL @ 5044.00ft |
| <b>Site:</b>     | WELD_Hidden Creek 11-29 PAD | <b>North Reference:</b>             | True                       |
| <b>Well:</b>     | Hidden Creek 13-29          | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Wellbore:</b> | Hidden Creek 13-29          |                                     |                            |
| <b>Design:</b>   | Hidden Creek 13-29 (wp01)   |                                     |                            |

| 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                |
| Start Build 2.00                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 400.00                           | 2.00            | 222.06      | 399.98              | -1.30      | -1.17      | 1.75                  | 2.00                  | 2.00                 | 0.00                |
| 500.00                           | 4.00            | 222.06      | 499.84              | -5.18      | -4.67      | 6.98                  | 2.00                  | 2.00                 | 0.00                |
| 600.00                           | 6.00            | 222.06      | 599.45              | -11.65     | -10.51     | 15.69                 | 2.00                  | 2.00                 | 0.00                |
| 700.00                           | 8.00            | 222.06      | 698.70              | -20.70     | -18.68     | 27.88                 | 2.00                  | 2.00                 | 0.00                |
| 800.00                           | 10.00           | 222.06      | 797.47              | -32.31     | -29.16     | 43.52                 | 2.00                  | 2.00                 | 0.00                |
| 868.73                           | 11.37           | 222.06      | 865.00              | -41.78     | -37.69     | 56.27                 | 2.00                  | 2.00                 | 0.00                |
| 8-5/8"                           |                 |             |                     |            |            |                       |                       |                      |                     |
| 900.00                           | 12.00           | 222.06      | 895.62              | -46.48     | -41.94     | 62.60                 | 2.00                  | 2.00                 | 0.00                |
| 1,000.00                         | 14.00           | 222.06      | 993.06              | -63.18     | -57.01     | 85.10                 | 2.00                  | 2.00                 | 0.00                |
| 1,100.00                         | 16.00           | 222.06      | 1,089.64            | -82.39     | -74.34     | 110.98                | 2.00                  | 2.00                 | 0.00                |
| 1,200.00                         | 18.00           | 222.06      | 1,185.27            | -104.10    | -93.93     | 140.21                | 2.00                  | 2.00                 | 0.00                |
| 1,287.96                         | 19.76           | 222.06      | 1,268.49            | -125.23    | -112.99    | 168.67                | 2.00                  | 2.00                 | 0.00                |
| Start 5043.62 hold at 1287.96 MD |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,300.00                         | 19.76           | 222.06      | 1,279.82            | -128.25    | -115.72    | 172.74                | 0.00                  | 0.00                 | 0.00                |
| 1,400.00                         | 19.76           | 222.06      | 1,373.94            | -153.35    | -138.37    | 206.55                | 0.00                  | 0.00                 | 0.00                |
| 1,500.00                         | 19.76           | 222.06      | 1,468.05            | -178.45    | -161.02    | 240.36                | 0.00                  | 0.00                 | 0.00                |
| 1,600.00                         | 19.76           | 222.06      | 1,562.16            | -203.55    | -183.66    | 274.16                | 0.00                  | 0.00                 | 0.00                |
| 1,700.00                         | 19.76           | 222.06      | 1,656.27            | -228.65    | -206.31    | 307.97                | 0.00                  | 0.00                 | 0.00                |
| 1,800.00                         | 19.76           | 222.06      | 1,750.39            | -253.75    | -228.96    | 341.78                | 0.00                  | 0.00                 | 0.00                |
| 1,900.00                         | 19.76           | 222.06      | 1,844.50            | -278.85    | -251.60    | 375.58                | 0.00                  | 0.00                 | 0.00                |
| 2,000.00                         | 19.76           | 222.06      | 1,938.61            | -303.95    | -274.25    | 409.39                | 0.00                  | 0.00                 | 0.00                |
| 2,100.00                         | 19.76           | 222.06      | 2,032.72            | -329.05    | -296.90    | 443.20                | 0.00                  | 0.00                 | 0.00                |
| 2,200.00                         | 19.76           | 222.06      | 2,126.83            | -354.15    | -319.55    | 477.00                | 0.00                  | 0.00                 | 0.00                |
| 2,300.00                         | 19.76           | 222.06      | 2,220.95            | -379.25    | -342.19    | 510.81                | 0.00                  | 0.00                 | 0.00                |
| 2,400.00                         | 19.76           | 222.06      | 2,315.06            | -404.35    | -364.84    | 544.62                | 0.00                  | 0.00                 | 0.00                |
| 2,500.00                         | 19.76           | 222.06      | 2,409.17            | -429.45    | -387.49    | 578.42                | 0.00                  | 0.00                 | 0.00                |
| 2,600.00                         | 19.76           | 222.06      | 2,503.28            | -454.55    | -410.13    | 612.23                | 0.00                  | 0.00                 | 0.00                |
| 2,700.00                         | 19.76           | 222.06      | 2,597.40            | -479.65    | -432.78    | 646.04                | 0.00                  | 0.00                 | 0.00                |
| 2,800.00                         | 19.76           | 222.06      | 2,691.51            | -504.75    | -455.43    | 679.84                | 0.00                  | 0.00                 | 0.00                |
| 2,900.00                         | 19.76           | 222.06      | 2,785.62            | -529.85    | -478.08    | 713.65                | 0.00                  | 0.00                 | 0.00                |
| 3,000.00                         | 19.76           | 222.06      | 2,879.73            | -554.95    | -500.72    | 747.46                | 0.00                  | 0.00                 | 0.00                |
| 3,100.00                         | 19.76           | 222.06      | 2,973.84            | -580.05    | -523.37    | 781.26                | 0.00                  | 0.00                 | 0.00                |
| 3,200.00                         | 19.76           | 222.06      | 3,067.96            | -605.15    | -546.02    | 815.07                | 0.00                  | 0.00                 | 0.00                |
| 3,300.00                         | 19.76           | 222.06      | 3,162.07            | -630.25    | -568.66    | 848.88                | 0.00                  | 0.00                 | 0.00                |
| 3,400.00                         | 19.76           | 222.06      | 3,256.18            | -655.35    | -591.31    | 882.68                | 0.00                  | 0.00                 | 0.00                |
| 3,500.00                         | 19.76           | 222.06      | 3,350.29            | -680.45    | -613.96    | 916.49                | 0.00                  | 0.00                 | 0.00                |
| 3,600.00                         | 19.76           | 222.06      | 3,444.41            | -705.55    | -636.61    | 950.30                | 0.00                  | 0.00                 | 0.00                |
| 3,700.00                         | 19.76           | 222.06      | 3,538.52            | -730.65    | -659.25    | 984.10                | 0.00                  | 0.00                 | 0.00                |
| 3,800.00                         | 19.76           | 222.06      | 3,632.63            | -755.75    | -681.90    | 1,017.91              | 0.00                  | 0.00                 | 0.00                |
| 3,900.00                         | 19.76           | 222.06      | 3,726.74            | -780.85    | -704.55    | 1,051.72              | 0.00                  | 0.00                 | 0.00                |
| 4,000.00                         | 19.76           | 222.06      | 3,820.85            | -805.95    | -727.19    | 1,085.52              | 0.00                  | 0.00                 | 0.00                |
| 4,100.00                         | 19.76           | 222.06      | 3,914.97            | -831.05    | -749.84    | 1,119.33              | 0.00                  | 0.00                 | 0.00                |
| 4,200.00                         | 19.76           | 222.06      | 4,009.08            | -856.15    | -772.49    | 1,153.14              | 0.00                  | 0.00                 | 0.00                |
| 4,300.00                         | 19.76           | 222.06      | 4,103.19            | -881.25    | -795.14    | 1,186.94              | 0.00                  | 0.00                 | 0.00                |
| 4,381.61                         | 19.76           | 222.06      | 4,180.00            | -901.73    | -813.62    | 1,214.54              | 0.00                  | 0.00                 | 0.00                |
| PK Depth                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,400.00                         | 19.76           | 222.06      | 4,197.30            | -906.35    | -817.78    | 1,220.75              | 0.00                  | 0.00                 | 0.00                |
| 4,500.00                         | 19.76           | 222.06      | 4,291.42            | -931.45    | -840.43    | 1,254.56              | 0.00                  | 0.00                 | 0.00                |
| 4,600.00                         | 19.76           | 222.06      | 4,385.53            | -956.55    | -863.08    | 1,288.36              | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                            |
|------------------|-----------------------------|-------------------------------------|----------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well Hidden Creek 13-29    |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' + 5029' GL @ 5044.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' + 5029' GL @ 5044.00ft |
| <b>Site:</b>     | WELD_Hidden Creek 11-29 PAD | <b>North Reference:</b>             | True                       |
| <b>Well:</b>     | Hidden Creek 13-29          | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Wellbore:</b> | Hidden Creek 13-29          |                                     |                            |
| <b>Design:</b>   | Hidden Creek 13-29 (wp01)   |                                     |                            |

| Planned Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,700.00                                | 19.76           | 222.06      | 4,479.64            | -981.65    | -885.72    | 1,322.17              | 0.00                  | 0.00                 | 0.00                |
| 4,800.00                                | 19.76           | 222.06      | 4,573.75            | -1,006.75  | -908.37    | 1,355.98              | 0.00                  | 0.00                 | 0.00                |
| 4,836.39                                | 19.76           | 222.06      | 4,608.00            | -1,015.88  | -916.61    | 1,368.28              | 0.00                  | 0.00                 | 0.00                |
| <b>SX Depth</b>                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,900.00                                | 19.76           | 222.06      | 4,667.86            | -1,031.84  | -931.02    | 1,389.78              | 0.00                  | 0.00                 | 0.00                |
| 5,000.00                                | 19.76           | 222.06      | 4,761.98            | -1,056.94  | -953.67    | 1,423.59              | 0.00                  | 0.00                 | 0.00                |
| 5,100.00                                | 19.76           | 222.06      | 4,856.09            | -1,082.04  | -976.31    | 1,457.40              | 0.00                  | 0.00                 | 0.00                |
| 5,200.00                                | 19.76           | 222.06      | 4,950.20            | -1,107.14  | -998.96    | 1,491.20              | 0.00                  | 0.00                 | 0.00                |
| 5,300.00                                | 19.76           | 222.06      | 5,044.31            | -1,132.24  | -1,021.61  | 1,525.01              | 0.00                  | 0.00                 | 0.00                |
| 5,400.00                                | 19.76           | 222.06      | 5,138.43            | -1,157.34  | -1,044.25  | 1,558.82              | 0.00                  | 0.00                 | 0.00                |
| 5,500.00                                | 19.76           | 222.06      | 5,232.54            | -1,182.44  | -1,066.90  | 1,592.62              | 0.00                  | 0.00                 | 0.00                |
| 5,600.00                                | 19.76           | 222.06      | 5,326.65            | -1,207.54  | -1,089.55  | 1,626.43              | 0.00                  | 0.00                 | 0.00                |
| 5,700.00                                | 19.76           | 222.06      | 5,420.76            | -1,232.64  | -1,112.20  | 1,660.24              | 0.00                  | 0.00                 | 0.00                |
| 5,800.00                                | 19.76           | 222.06      | 5,514.87            | -1,257.74  | -1,134.84  | 1,694.04              | 0.00                  | 0.00                 | 0.00                |
| 5,900.00                                | 19.76           | 222.06      | 5,608.99            | -1,282.84  | -1,157.49  | 1,727.85              | 0.00                  | 0.00                 | 0.00                |
| 6,000.00                                | 19.76           | 222.06      | 5,703.10            | -1,307.94  | -1,180.14  | 1,761.66              | 0.00                  | 0.00                 | 0.00                |
| 6,100.00                                | 19.76           | 222.06      | 5,797.21            | -1,333.04  | -1,202.78  | 1,795.46              | 0.00                  | 0.00                 | 0.00                |
| 6,200.00                                | 19.76           | 222.06      | 5,891.32            | -1,358.14  | -1,225.43  | 1,829.27              | 0.00                  | 0.00                 | 0.00                |
| 6,300.00                                | 19.76           | 222.06      | 5,985.44            | -1,383.24  | -1,248.08  | 1,863.08              | 0.00                  | 0.00                 | 0.00                |
| 6,331.58                                | 19.76           | 222.06      | 6,015.15            | -1,391.17  | -1,255.23  | 1,873.75              | 0.00                  | 0.00                 | 0.00                |
| <b>Start Drop -1.75</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,400.00                                | 18.56           | 222.06      | 6,079.78            | -1,407.84  | -1,270.27  | 1,896.21              | 1.75                  | -1.75                | 0.00                |
| 6,500.00                                | 16.81           | 222.06      | 6,175.05            | -1,430.40  | -1,290.63  | 1,926.59              | 1.75                  | -1.75                | 0.00                |
| 6,600.00                                | 15.06           | 222.06      | 6,271.21            | -1,450.78  | -1,309.02  | 1,954.05              | 1.75                  | -1.75                | 0.00                |
| 6,700.00                                | 13.31           | 222.06      | 6,368.15            | -1,468.98  | -1,325.44  | 1,978.55              | 1.75                  | -1.75                | 0.00                |
| 6,800.00                                | 11.56           | 222.06      | 6,465.80            | -1,484.97  | -1,339.86  | 2,000.09              | 1.75                  | -1.75                | 0.00                |
| 6,900.00                                | 9.81            | 222.06      | 6,564.06            | -1,498.73  | -1,352.29  | 2,018.63              | 1.75                  | -1.75                | 0.00                |
| 7,000.00                                | 8.06            | 222.06      | 6,662.85            | -1,510.27  | -1,362.69  | 2,034.17              | 1.75                  | -1.75                | 0.00                |
| 7,100.00                                | 6.31            | 222.06      | 6,762.06            | -1,519.55  | -1,371.07  | 2,046.68              | 1.75                  | -1.75                | 0.00                |
| 7,200.00                                | 4.56            | 222.06      | 6,861.60            | -1,526.59  | -1,377.42  | 2,056.15              | 1.75                  | -1.75                | 0.00                |
| 7,300.00                                | 2.81            | 222.06      | 6,961.39            | -1,531.36  | -1,381.73  | 2,062.58              | 1.75                  | -1.75                | 0.00                |
| 7,400.00                                | 1.06            | 222.06      | 7,061.33            | -1,533.87  | -1,383.99  | 2,065.96              | 1.75                  | -1.75                | 0.00                |
| 7,460.67                                | 0.00            | 0.00        | 7,122.00            | -1,534.29  | -1,384.37  | 2,066.52              | 1.75                  | -1.75                | 0.00                |
| <b>Start 1100.00 hold at 7460.67 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,500.00                                | 0.00            | 0.00        | 7,161.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 7,600.00                                | 0.00            | 0.00        | 7,261.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 7,700.00                                | 0.00            | 0.00        | 7,361.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 7,700.67                                | 0.00            | 0.00        | 7,362.00            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| <b>NIO Depth</b>                        |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,800.00                                | 0.00            | 0.00        | 7,461.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 7,900.00                                | 0.00            | 0.00        | 7,561.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,000.00                                | 0.00            | 0.00        | 7,661.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,002.67                                | 0.00            | 0.00        | 7,664.00            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| <b>CD Depth</b>                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,082.67                                | 0.00            | 0.00        | 7,744.00            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| <b>GH Depth</b>                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,100.00                                | 0.00            | 0.00        | 7,761.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,200.00                                | 0.00            | 0.00        | 7,861.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,300.00                                | 0.00            | 0.00        | 7,961.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,400.00                                | 0.00            | 0.00        | 8,061.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| 8,420.67                                | 0.00            | 0.00        | 8,082.00            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| <b>J Depth</b>                          |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,500.00                                | 0.00            | 0.00        | 8,161.33            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                            |
|------------------|-----------------------------|-------------------------------------|----------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well Hidden Creek 13-29    |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' + 5029' GL @ 5044.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' + 5029' GL @ 5044.00ft |
| <b>Site:</b>     | WELD_Hidden Creek 11-29 PAD | <b>North Reference:</b>             | True                       |
| <b>Well:</b>     | Hidden Creek 13-29          | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Wellbore:</b> | Hidden Creek 13-29          |                                     |                            |
| <b>Design:</b>   | Hidden Creek 13-29 (wp01)   |                                     |                            |

| Planned Survey                         |                 |             |                     |            |            |                       |                       |                      |                     |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                    | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 8,560.67                               | 0.00            | 0.00        | 8,222.00            | -1,534.29  | -1,384.37  | 2,066.52              | 0.00                  | 0.00                 | 0.00                |
| TD at 8560.67 - Hidden Creek 13-29 BHL |                 |             |                     |            |            |                       |                       |                      |                     |

| Design Targets            |               |              |          |            |            |               |              |           |             |
|---------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name               | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| - hit/miss target         |               |              |          |            |            |               |              |           |             |
| - Shape                   |               |              |          |            |            |               |              |           |             |
| Hidden Creek 13-29 BHL    | 0.00          | 0.00         | 8,222.00 | -1,534.29  | -1,384.37  | 1,281,244.08  | 3,161,822.61 | 40.103958 | -104.921493 |
| - plan hits target center |               |              |          |            |            |               |              |           |             |
| - Point                   |               |              |          |            |            |               |              |           |             |

| Casing Points       |                     |        |                     |                   |  |
|---------------------|---------------------|--------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (") | Hole Diameter (") |  |
| 868.73              | 865.00              | 8-5/8" | 8-5/8               | 11                |  |

| Formations          |                     |           |           |         |                   |  |
|---------------------|---------------------|-----------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name      | Lithology | Dip (°) | Dip Direction (°) |  |
| 4,381.61            | 4,180.00            | PK Depth  |           |         |                   |  |
| 4,836.39            | 4,608.00            | SX Depth  |           |         |                   |  |
| 7,700.67            | 7,362.00            | NIO Depth |           |         |                   |  |
| 8,002.67            | 7,664.00            | CD Depth  |           |         |                   |  |
| 8,082.67            | 7,744.00            | GH Depth  |           |         |                   |  |
| 8,420.67            | 8,082.00            | J Depth   |           |         |                   |  |

| Plan Annotations    |                     |                   |            |                                  |  |
|---------------------|---------------------|-------------------|------------|----------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                                  |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                          |  |
| 300.00              | 300.00              | 0.00              | 0.00       | Start Build 2.00                 |  |
| 1,287.96            | 1,268.49            | -125.23           | -112.99    | Start 5043.62 hold at 1287.96 MD |  |
| 6,331.58            | 6,015.15            | -1,391.17         | -1,255.23  | Start Drop -1.75                 |  |
| 7,460.67            | 7,122.00            | -1,534.29         | -1,384.37  | Start 1100.00 hold at 7460.67 MD |  |
| 8,560.67            | 8,222.00            | -1,534.29         | -1,384.37  | TD at 8560.67                    |  |