

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_RIVERBEND 1-13 PAD**

**RIVERBEND 37-12**

**RIVERBEND 37-12**

**Plan: RIVERBEND 37-12**

## **Standard Planning Report**

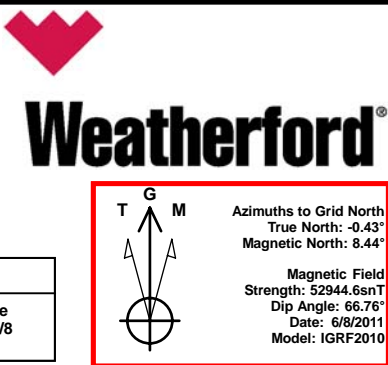
**08 June, 2011**



**Weatherford®**

Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_RIVERBEND 1-13 PAD  
 Well: RIVERBEND 37-12  
 Wellbore: RIVERBEND 37-12  
 Section:  
 SHL:  
 Design: RIVERBEND 37-12  
 Latitude: 40.056793  
 Longitude: -104.831653  
 GL: 4913.00  
 KB: 15' RKB + 4913' GL @ 4928.00ft

| FORMATION TOP DETAILS |         |           |
|-----------------------|---------|-----------|
| TVDPath               | MDPath  | Formation |
| 4028.00               | 4200.91 | PK Depth  |
| 4604.00               | 4776.91 | SX Depth  |
| 7136.00               | 7308.91 | NIO Depth |
| 7483.00               | 7655.91 | CD Depth  |
| 7568.00               | 7740.91 | GH Depth  |
| 7918.00               | 8090.91 | J Depth   |



**Weatherford**

T G M  
 Azimuths to Grid North  
 True North: -0.43°  
 Magnetic North: 8.44°  
 Magnetic Field  
 Strength: 52944.6snT  
 Dip Angle: 66.76°  
 Date: 6/8/2011  
 Model: IGRF2010

#### WELL DETAILS: RIVERBEND 37-12

| +N/-S | +E/-W | Northing   | Ground Level:<br>Easting | 4913.00<br>Latitude | Longitude   | Slot |
|-------|-------|------------|--------------------------|---------------------|-------------|------|
| 0.00  | 0.00  | 1264240.12 | 3187082.11               | 40.056793           | -104.831653 |      |

#### CASING DETAILS

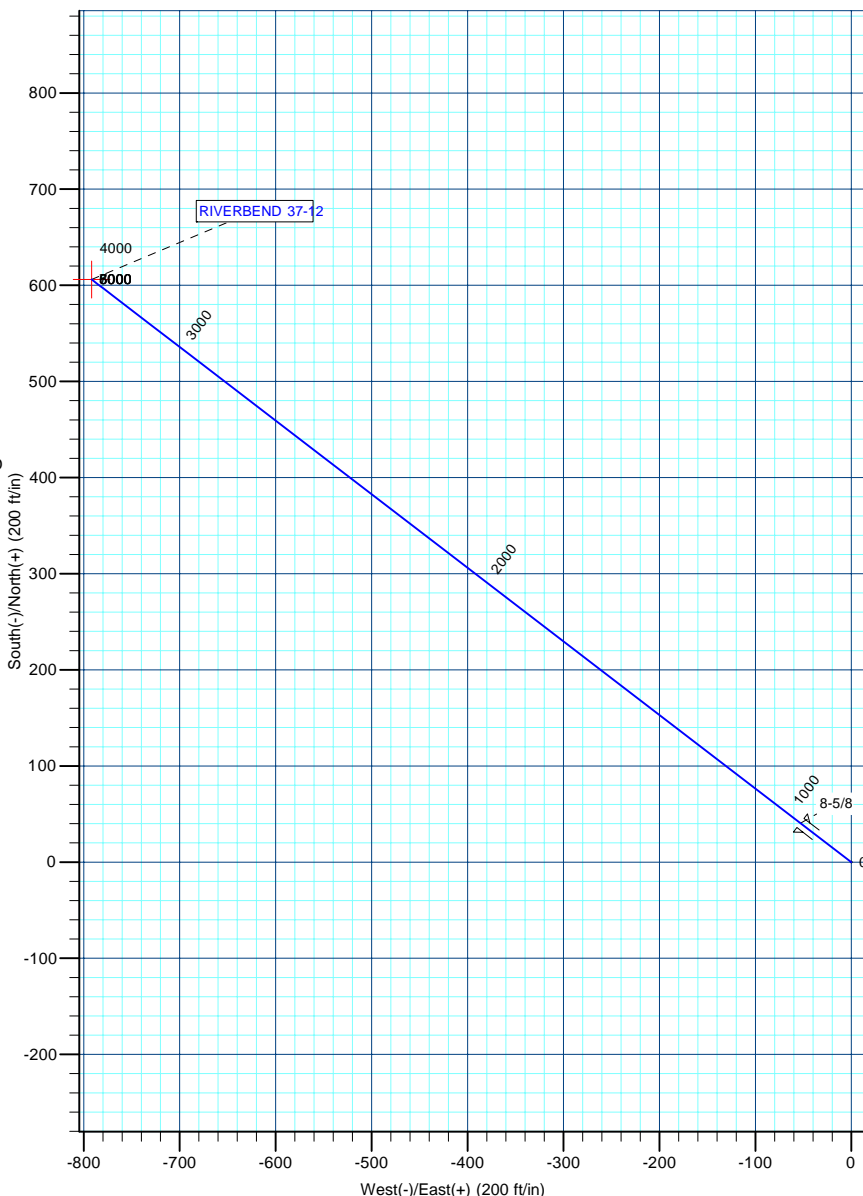
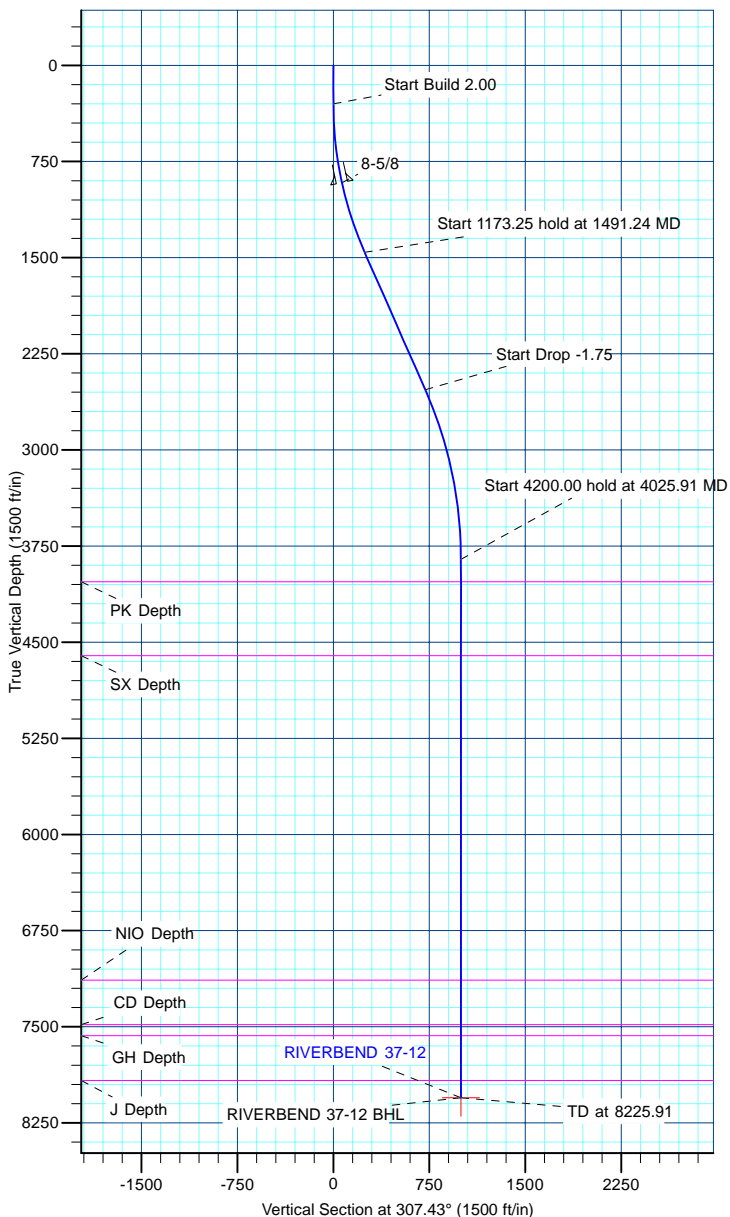
| TVD    | MD     | Name  | Size  |
|--------|--------|-------|-------|
| 915.00 | 919.82 | 8-5/8 | 8-5/8 |

#### DESIGN TARGET DETAILS

| Name                | TVD     | +N/-S  | +E/-W   | Northing   | Easting    | Latitude  | Longitude   | Shape<br>Point |
|---------------------|---------|--------|---------|------------|------------|-----------|-------------|----------------|
| RIVERBEND 37-12 BHL | 8053.00 | 606.05 | -791.71 | 1264846.17 | 3186290.41 | 40.058473 | -104.834465 |                |

#### 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   |
| 1491.24 | 23.82 | 307.43 | 1457.21 | 148.39 | -193.85 | 2.00 | 307.43 | 244.12 |
| 2664.49 | 23.82 | 307.43 | 2530.48 | 436.47 | -570.17 | 0.00 | 0.00   | 718.05 |
| 4025.91 | 0.00  | 0.00   | 3853.00 | 606.05 | -791.71 | 1.75 | 180.00 | 997.05 |
| 8225.91 | 0.00  | 0.00   | 8053.00 | 606.05 | -791.71 | 0.00 | 0.00   | 997.05 |



|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well RIVERBEND 37-12           |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Site:</b>     | WELD_RIVERBEND 1-13 PAD     | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | RIVERBEND 37-12             | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | RIVERBEND 37-12             |                                     |                                |
| <b>Design:</b>   | RIVERBEND 37-12             |                                     |                                |

|                    |                             |                      |                |
|--------------------|-----------------------------|----------------------|----------------|
| <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_RIVERBEND 1-13 PAD |                 |                   |             |
|-----------------------|----------|-------------------------|-----------------|-------------------|-------------|
| Site Position:        |          | Northing:               | 1,264,240.73 ft | Latitude:         | 40.056794   |
| From:                 | Lat/Long | Easting:                | 3,187,114.02 ft | Longitude:        | -104.831539 |
| Position Uncertainty: | 0.00 ft  | Slot Radius:            | 0 "             | Grid Convergence: | 0.43        |

|                      |                 |           |                     |                 |               |             |
|----------------------|-----------------|-----------|---------------------|-----------------|---------------|-------------|
| Well                 | RIVERBEND 37-12 |           |                     |                 |               |             |
| Well Position        | +N-S            | -0.61 ft  | Northing:           | 1,264,240.11 ft | Latitude:     | 40.056793   |
|                      | +E-W            | -31.91 ft | Easting:            | 3,187,082.11 ft | Longitude:    | -104.831653 |
| Position Uncertainty |                 | 0.00 ft   | Wellhead Elevation: |                 | Ground Level: | 4,913.00 ft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | RIVERBEND 37-12   |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 6/8/2011           | 8.87                   | 66.76                | 52,945                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | RIVERBEND 37-12              |                   |                      |                      |
| <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) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 307.43               |

| <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    |                 |
| 1,491.24             | 23.82           | 307.43      | 1,457.21            | 148.39     | -193.85    | 2.00                  | 2.00                 | 0.00                | 307.43  |                 |
| 2,664.49             | 23.82           | 307.43      | 2,530.48            | 436.47     | -570.17    | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 4,025.91             | 0.00            | 0.00        | 3,853.00            | 606.05     | -791.71    | 1.75                  | -1.75                | 0.00                | 180.00  |                 |
| 8,225.91             | 0.00            | 0.00        | 8,053.00            | 606.05     | -791.71    | 0.00                  | 0.00                 | 0.00                | 0.00    | RIVERBEND 37-12 |

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well RIVERBEND 37-12           |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Site:</b>     | WELD_RIVERBEND 1-13 PAD     | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | RIVERBEND 37-12             | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | RIVERBEND 37-12             |                                     |                                |
| <b>Design:</b>   | RIVERBEND 37-12             |                                     |                                |

| 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                |
| <b>Start Build 2.00</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 400.00                                  | 2.00            | 307.43      | 399.98              | 1.06       | -1.39      | 1.75                  | 2.00                  | 2.00                 | 0.00                |
| 500.00                                  | 4.00            | 307.43      | 499.84              | 4.24       | -5.54      | 6.98                  | 2.00                  | 2.00                 | 0.00                |
| 600.00                                  | 6.00            | 307.43      | 599.45              | 9.54       | -12.46     | 15.69                 | 2.00                  | 2.00                 | 0.00                |
| 700.00                                  | 8.00            | 307.43      | 698.70              | 16.95      | -22.14     | 27.88                 | 2.00                  | 2.00                 | 0.00                |
| 800.00                                  | 10.00           | 307.43      | 797.47              | 26.46      | -34.56     | 43.52                 | 2.00                  | 2.00                 | 0.00                |
| 900.00                                  | 12.00           | 307.43      | 895.62              | 38.05      | -49.71     | 62.60                 | 2.00                  | 2.00                 | 0.00                |
| 919.82                                  | 12.40           | 307.43      | 915.00              | 40.60      | -53.04     | 66.79                 | 2.00                  | 2.00                 | 0.00                |
| <b>8-5/8</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,000.00                                | 14.00           | 307.43      | 993.06              | 51.73      | -67.57     | 85.10                 | 2.00                  | 2.00                 | 0.00                |
| 1,100.00                                | 16.00           | 307.43      | 1,089.64            | 67.46      | -88.12     | 110.98                | 2.00                  | 2.00                 | 0.00                |
| 1,200.00                                | 18.00           | 307.43      | 1,185.27            | 85.23      | -111.34    | 140.21                | 2.00                  | 2.00                 | 0.00                |
| 1,300.00                                | 20.00           | 307.43      | 1,279.82            | 105.02     | -137.19    | 172.77                | 2.00                  | 2.00                 | 0.00                |
| 1,400.00                                | 22.00           | 307.43      | 1,373.17            | 126.80     | -165.64    | 208.60                | 2.00                  | 2.00                 | 0.00                |
| 1,491.24                                | 23.82           | 307.43      | 1,457.21            | 148.39     | -193.85    | 244.12                | 2.00                  | 2.00                 | 0.00                |
| <b>Start 1173.25 hold at 1491.24 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,500.00                                | 23.82           | 307.43      | 1,465.22            | 150.54     | -196.66    | 247.66                | 0.00                  | 0.00                 | 0.00                |
| 1,600.00                                | 23.82           | 307.43      | 1,556.70            | 175.09     | -228.73    | 288.06                | 0.00                  | 0.00                 | 0.00                |
| 1,700.00                                | 23.82           | 307.43      | 1,648.18            | 199.65     | -260.81    | 328.45                | 0.00                  | 0.00                 | 0.00                |
| 1,800.00                                | 23.82           | 307.43      | 1,739.66            | 224.20     | -292.88    | 368.84                | 0.00                  | 0.00                 | 0.00                |
| 1,900.00                                | 23.82           | 307.43      | 1,831.13            | 248.76     | -324.96    | 409.24                | 0.00                  | 0.00                 | 0.00                |
| 2,000.00                                | 23.82           | 307.43      | 1,922.61            | 273.31     | -357.03    | 449.63                | 0.00                  | 0.00                 | 0.00                |
| 2,100.00                                | 23.82           | 307.43      | 2,014.09            | 297.86     | -389.11    | 490.03                | 0.00                  | 0.00                 | 0.00                |
| 2,200.00                                | 23.82           | 307.43      | 2,105.57            | 322.42     | -421.18    | 530.42                | 0.00                  | 0.00                 | 0.00                |
| 2,300.00                                | 23.82           | 307.43      | 2,197.05            | 346.97     | -453.26    | 570.82                | 0.00                  | 0.00                 | 0.00                |
| 2,400.00                                | 23.82           | 307.43      | 2,288.53            | 371.52     | -485.33    | 611.21                | 0.00                  | 0.00                 | 0.00                |
| 2,500.00                                | 23.82           | 307.43      | 2,380.00            | 396.08     | -517.41    | 651.60                | 0.00                  | 0.00                 | 0.00                |
| 2,600.00                                | 23.82           | 307.43      | 2,471.48            | 420.63     | -549.48    | 692.00                | 0.00                  | 0.00                 | 0.00                |
| 2,664.49                                | 23.82           | 307.43      | 2,530.48            | 436.47     | -570.17    | 718.05                | 0.00                  | 0.00                 | 0.00                |
| <b>Start Drop -1.75</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,700.00                                | 23.20           | 307.43      | 2,563.04            | 445.08     | -581.42    | 732.22                | 1.75                  | -1.75                | 0.00                |
| 2,800.00                                | 21.45           | 307.43      | 2,655.54            | 468.17     | -611.58    | 770.21                | 1.75                  | -1.75                | 0.00                |
| 2,900.00                                | 19.70           | 307.43      | 2,749.15            | 489.53     | -639.49    | 805.35                | 1.75                  | -1.75                | 0.00                |
| 3,000.00                                | 17.95           | 307.43      | 2,843.80            | 509.15     | -665.12    | 837.63                | 1.75                  | -1.75                | 0.00                |
| 3,100.00                                | 16.20           | 307.43      | 2,939.38            | 527.00     | -688.44    | 866.99                | 1.75                  | -1.75                | 0.00                |
| 3,200.00                                | 14.45           | 307.43      | 3,035.82            | 543.07     | -709.43    | 893.43                | 1.75                  | -1.75                | 0.00                |
| 3,300.00                                | 12.70           | 307.43      | 3,133.02            | 557.34     | -728.07    | 916.90                | 1.75                  | -1.75                | 0.00                |
| 3,400.00                                | 10.95           | 307.43      | 3,230.90            | 569.80     | -744.34    | 937.40                | 1.75                  | -1.75                | 0.00                |
| 3,500.00                                | 9.20            | 307.43      | 3,329.35            | 580.44     | -758.24    | 954.90                | 1.75                  | -1.75                | 0.00                |
| 3,600.00                                | 7.45            | 307.43      | 3,428.29            | 589.24     | -769.74    | 969.38                | 1.75                  | -1.75                | 0.00                |
| 3,700.00                                | 5.70            | 307.43      | 3,527.63            | 596.20     | -778.84    | 980.84                | 1.75                  | -1.75                | 0.00                |
| 3,800.00                                | 3.95            | 307.43      | 3,627.27            | 601.32     | -785.52    | 989.26                | 1.75                  | -1.75                | 0.00                |
| 3,900.00                                | 2.20            | 307.43      | 3,727.12            | 604.58     | -789.78    | 994.63                | 1.75                  | -1.75                | 0.00                |
| 4,000.00                                | 0.45            | 307.43      | 3,827.09            | 605.99     | -791.63    | 996.94                | 1.75                  | -1.75                | 0.00                |
| 4,025.91                                | 0.00            | 0.00        | 3,853.00            | 606.05     | -791.71    | 997.05                | 1.75                  | -1.75                | 0.00                |
| <b>Start 4200.00 hold at 4025.91 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,100.00                                | 0.00            | 0.00        | 3,927.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,200.00                                | 0.00            | 0.00        | 4,027.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,200.91                                | 0.00            | 0.00        | 4,028.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well RIVERBEND 37-12           |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Site:</b>     | WELD_RIVERBEND 1-13 PAD     | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | RIVERBEND 37-12             | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | RIVERBEND 37-12             |                                     |                                |
| <b>Design:</b>   | RIVERBEND 37-12             |                                     |                                |

| Planned Survey                             |                 |             |                     |            |            |                       |                       |                      |                     |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                        | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| <b>PK Depth</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,300.00                                   | 0.00            | 0.00        | 4,127.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,400.00                                   | 0.00            | 0.00        | 4,227.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,500.00                                   | 0.00            | 0.00        | 4,327.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,600.00                                   | 0.00            | 0.00        | 4,427.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,700.00                                   | 0.00            | 0.00        | 4,527.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,776.91                                   | 0.00            | 0.00        | 4,604.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>SX Depth</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 4,800.00                                   | 0.00            | 0.00        | 4,627.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 4,900.00                                   | 0.00            | 0.00        | 4,727.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,000.00                                   | 0.00            | 0.00        | 4,827.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,100.00                                   | 0.00            | 0.00        | 4,927.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,200.00                                   | 0.00            | 0.00        | 5,027.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,300.00                                   | 0.00            | 0.00        | 5,127.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,400.00                                   | 0.00            | 0.00        | 5,227.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,500.00                                   | 0.00            | 0.00        | 5,327.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,600.00                                   | 0.00            | 0.00        | 5,427.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,700.00                                   | 0.00            | 0.00        | 5,527.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,800.00                                   | 0.00            | 0.00        | 5,627.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 5,900.00                                   | 0.00            | 0.00        | 5,727.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,000.00                                   | 0.00            | 0.00        | 5,827.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,100.00                                   | 0.00            | 0.00        | 5,927.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,200.00                                   | 0.00            | 0.00        | 6,027.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,300.00                                   | 0.00            | 0.00        | 6,127.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,400.00                                   | 0.00            | 0.00        | 6,227.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,500.00                                   | 0.00            | 0.00        | 6,327.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,600.00                                   | 0.00            | 0.00        | 6,427.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,700.00                                   | 0.00            | 0.00        | 6,527.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,800.00                                   | 0.00            | 0.00        | 6,627.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 6,900.00                                   | 0.00            | 0.00        | 6,727.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,000.00                                   | 0.00            | 0.00        | 6,827.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,100.00                                   | 0.00            | 0.00        | 6,927.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,200.00                                   | 0.00            | 0.00        | 7,027.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,300.00                                   | 0.00            | 0.00        | 7,127.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,308.91                                   | 0.00            | 0.00        | 7,136.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>NIO Depth</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,400.00                                   | 0.00            | 0.00        | 7,227.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,500.00                                   | 0.00            | 0.00        | 7,327.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,600.00                                   | 0.00            | 0.00        | 7,427.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,655.91                                   | 0.00            | 0.00        | 7,483.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>CD Depth</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,700.00                                   | 0.00            | 0.00        | 7,527.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,740.91                                   | 0.00            | 0.00        | 7,568.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>GH Depth</b>                            |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,800.00                                   | 0.00            | 0.00        | 7,627.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 7,900.00                                   | 0.00            | 0.00        | 7,727.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 8,000.00                                   | 0.00            | 0.00        | 7,827.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 8,090.91                                   | 0.00            | 0.00        | 7,918.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>J Depth</b>                             |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,100.00                                   | 0.00            | 0.00        | 7,927.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 8,200.00                                   | 0.00            | 0.00        | 8,027.09            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| 8,225.91                                   | 0.00            | 0.00        | 8,053.00            | 606.05     | -791.71    | 997.05                | 0.00                  | 0.00                 | 0.00                |
| <b>TD at 8225.91 - RIVERBEND 37-12 BHL</b> |                 |             |                     |            |            |                       |                       |                      |                     |

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | edm5000p                    | <b>Local Co-ordinate Reference:</b> | Well RIVERBEND 37-12           |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | 15' RKB + 4913' GL @ 4928.00ft |
| <b>Site:</b>     | WELD_RIVERBEND 1-13 PAD     | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | RIVERBEND 37-12             | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | RIVERBEND 37-12             |                                     |                                |
| <b>Design:</b>   | RIVERBEND 37-12             |                                     |                                |

| Design Targets            |           |          |          |        |         |              |              |           |             |
|---------------------------|-----------|----------|----------|--------|---------|--------------|--------------|-----------|-------------|
| Target Name               | Dip Angle | Dip Dir. | TVD      | +N/-S  | +E/-W   | Northing     | Easting      | Latitude  | Longitude   |
| - hit/miss target         | (°)       | (°)      | (ft)     | (ft)   | (ft)    | (ft)         | (ft)         |           |             |
| - Shape                   |           |          |          |        |         |              |              |           |             |
| RIVERBEND 37-12 B         | 0.00      | 0.00     | 8,053.00 | 606.05 | -791.71 | 1,264,846.17 | 3,186,290.41 | 40.058473 | -104.834465 |
| - plan hits target center |           |          |          |        |         |              |              |           |             |
| - Point                   |           |          |          |        |         |              |              |           |             |

| Casing Points  |                |       |  |                 |               |
|----------------|----------------|-------|--|-----------------|---------------|
| Measured Depth | Vertical Depth | Name  |  | Casing Diameter | Hole Diameter |
| (ft)           | (ft)           |       |  | (")             | (")           |
| 919.82         | 915.00         | 8-5/8 |  | 8-5/8           | 11            |

| Formations     |                |           |           |     |               |  |
|----------------|----------------|-----------|-----------|-----|---------------|--|
| Measured Depth | Vertical Depth | Name      | Lithology | Dip | Dip Direction |  |
| (ft)           | (ft)           |           |           | (°) | (°)           |  |
| 4,200.91       | 4,028.00       | PK Depth  |           |     |               |  |
| 4,776.91       | 4,604.00       | SX Depth  |           |     |               |  |
| 7,308.91       | 7,136.00       | NIO Depth |           |     |               |  |
| 7,655.91       | 7,483.00       | CD Depth  |           |     |               |  |
| 7,740.91       | 7,568.00       | GH Depth  |           |     |               |  |
| 8,090.91       | 7,918.00       | J Depth   |           |     |               |  |

| Plan Annotations |                |                   |            |                                  |
|------------------|----------------|-------------------|------------|----------------------------------|
| Measured Depth   | Vertical Depth | Local Coordinates |            | Comment                          |
| (ft)             | (ft)           | +N/-S (ft)        | +E/-W (ft) |                                  |
| 300.00           | 300.00         | 0.00              | 0.00       | Start Build 2.00                 |
| 1,491.24         | 1,457.21       | 148.39            | -193.85    | Start 1173.25 hold at 1491.24 MD |
| 2,664.49         | 2,530.48       | 436.47            | -570.17    | Start Drop -1.75                 |
| 4,025.91         | 3,853.00       | 606.05            | -791.71    | Start 4200.00 hold at 4025.91 MD |
| 8,225.91         | 8,053.00       | 606.05            | -791.71    | TD at 8225.91                    |