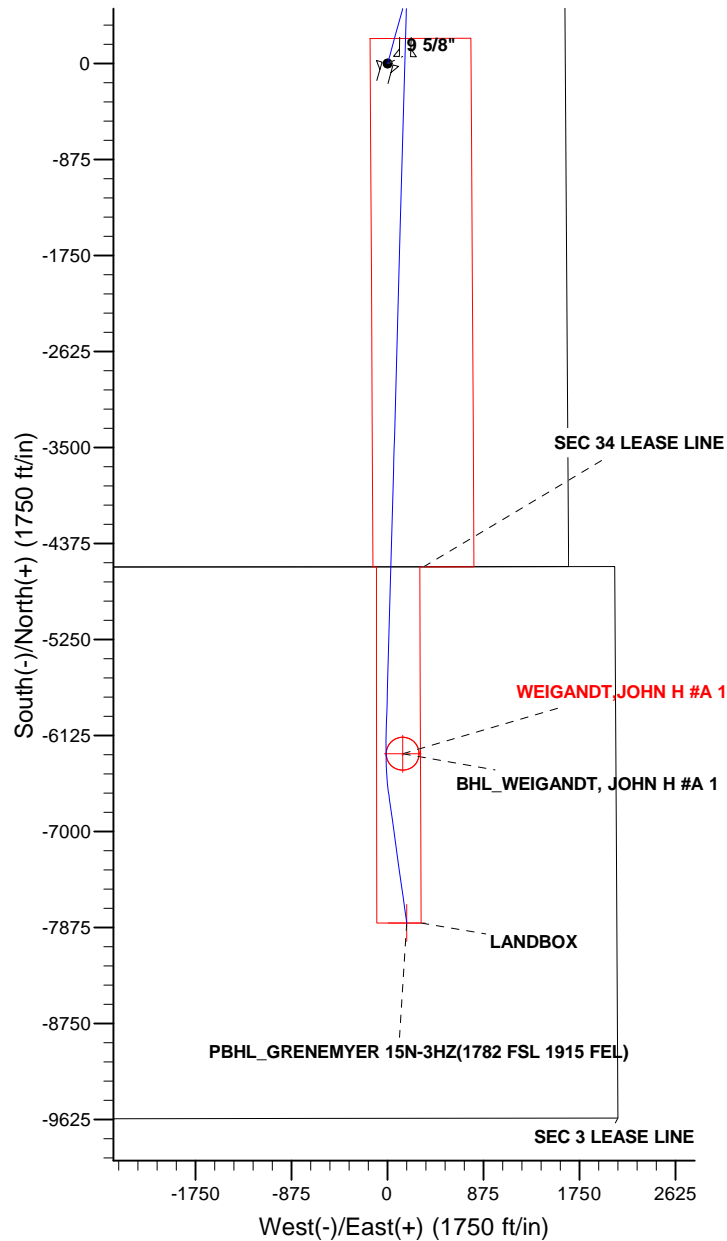
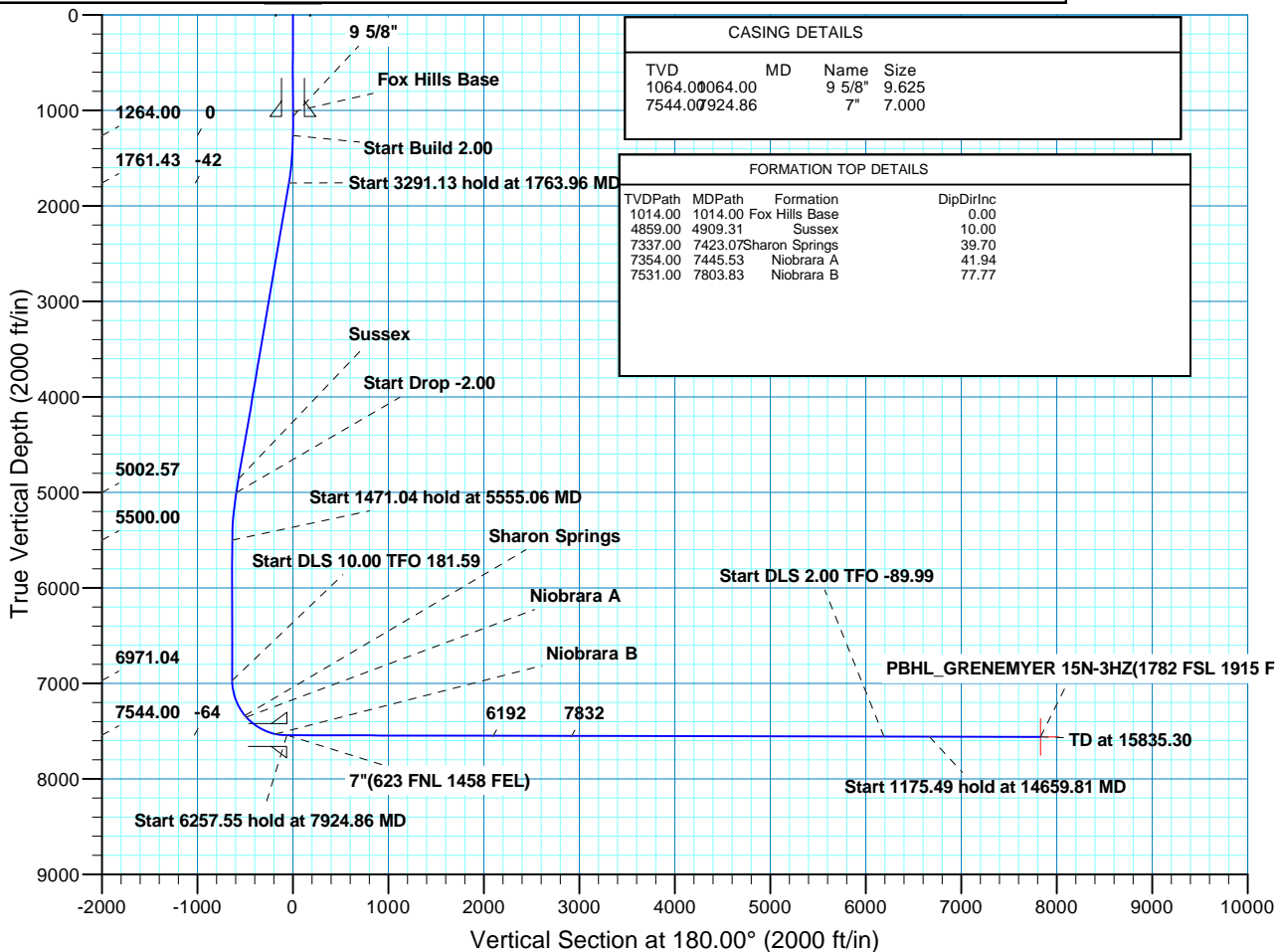


| WELL DETAILS: GRENEMYER 15N-3HZ       |         |          |         |            |            |            |              |         |   |
|---------------------------------------|---------|----------|---------|------------|------------|------------|--------------|---------|---|
| GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |         |          |         |            |            |            |              |         |   |
|                                       |         | +N/-S    | +E/-W   | Northing   | Easting    | Latitude   | Longitude    |         |   |
|                                       |         | 0.00     | 0.00    | 1248189.46 | 3175624.81 | 40.0129620 | -104.8729880 |         |   |
| SECTION DETAILS                       |         |          |         |            |            |            |              |         |   |
| MD                                    | Inc     | Azi      | TVD     | +N/-S      | +E/-W      | Dleg       | TFace        | VSect   | Target                                    |
| 0.00                                  | 0.00    | 0.00     | 0.00    | 0.00       | 0.00       | 0.00       | 0.00         | 0.00    | 0.00                                      |
| 1264.00                               | 0.00    | 0.00     | 1264.00 | 0.00       | 0.00       | 0.00       | 0.00         | 0.00    |   |
| 1763.96                               | 10.00   | 15.35    | 1761.43 | 41.96      | 11.52      | 2.00       | 15.35        | -41.96  |   |
| 5055.10                               | 10.00   | 15.35    | 5002.57 | 593.04     | 162.77     | 0.00       | 0.00         | -593.04 |   |
| 5555.06                               | 0.00    | 0.00     | 5500.00 | 635.01     | 174.29     | 2.00       | 180.00       | -635.01 |   |
| 7026.10                               | 0.00    | 0.00     | 6971.04 | 635.01     | 174.29     | 0.00       | 0.00         | -635.01 |   |
| 7924.86                               | 89.88   | 181.59   | 7544.00 | 63.51      | 158.44     | 10.00      | 181.59       | -63.51  |   |
| 14182.41                              | 89.88   | 181.59   | 7557.50 | -6191.62   | -15.00     | 0.00       | 0.00         | 6191.62 |   |
| 14659.81                              | 89.88   | 172.04   | 7558.52 | -6667.73   | 11.50      | 2.00       | -89.99       | 6667.73 |   |
| 15835.30                              | 89.88   | 172.04   | 7561.00 | -7831.89   | 174.28     | 0.00       | 0.00         | 7831.89 | PBHL_GRENEMYER 15N-3HZ(1782 FSL 1915 FEL) |
| DESIGN TARGET DETAILS                 |         |          |         |            |            |            |              |         |   |
| Name                                  | TVD     | +N/-S    | +E/-W   | Northing   | Easting    | Latitude   | Longitude    | Shape   |   |
| PBHL                                  | 7561.00 | -7831.89 | 174.28  | 1240359.01 | 3175854.46 | 39.9914620 | -104.8723660 | Point   |   |
| - plan hits target center             |         |          |         |            |            |            |              |         |   |





Scientific Drilling

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**GRENNEMYER 2-34HZ PAD**

**GRENNEMYER 15N-3HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**30 September, 2013**

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENNEMYER 15N-3HZ               |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENNEMYER 2-34HZ PAD       | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENNEMYER 15N-3HZ          | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP |                      |                |
| <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                                       |                      |                |

|                              |   |                     |                   |                                 |
|------------------------------|---|---------------------|-------------------|---------------------------------|
| <b>Site</b>                  | GRENNEMYER 2-34HZ PAD, NWNE SEC 34 T1N R67W |                     |                   |                                 |
| <b>Site Position:</b>        |   | <b>Northing:</b>    | 1,248,189.25 usft | <b>Latitude:</b> 40.0129620     |
| <b>From:</b>                 | Lat/Long                                    | <b>Easting:</b>     | 3,175,594.84 usft | <b>Longitude:</b> -104.8730950  |
| <b>Position Uncertainty:</b> | 0.00 ft                                     | <b>Slot Radius:</b> | 13.200 in         | <b>Grid Convergence:</b> 0.41 ° |

|                             |                                      |          |                            |                                  |
|-----------------------------|--------------------------------------|----------|----------------------------|----------------------------------|
| <b>Well</b>                 | GRENNEMYER 15N-3HZ, 689 FNL 1620 FEL |          |                            |                                  |
| <b>Well Position</b>        | <b>+N/-S</b>                         | -0.01 ft | <b>Northing:</b>           | 1,248,189.45 usft                |
|                             | <b>+E/-W</b>                         | 29.97 ft | <b>Easting:</b>            | 3,175,624.81 usft                |
| <b>Position Uncertainty</b> |                                      | 0.00 ft  | <b>Wellhead Elevation:</b> | <b>Ground Level:</b> 5,052.00 ft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | BGGM2013          | 08/23/13           | 8.63                   | 66.64                | 52,612                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | PLAN #1 PRELIMINARY          |                   |                      |                      |
| <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                 | 180.00               |

| <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    |                 |
| 1,264.00             | 0.00            | 0.00        | 1,264.00            | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 1,763.96             | 10.00           | 15.35       | 1,761.43            | 41.96      | 11.52      | 2.00                  | 2.00                 | 0.00                | 15.35   |                 |
| 5,055.10             | 10.00           | 15.35       | 5,002.57            | 593.04     | 162.77     | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 5,555.06             | 0.00            | 0.00        | 5,500.00            | 635.01     | 174.29     | 2.00                  | -2.00                | 0.00                | 180.00  |                 |
| 7,026.10             | 0.00            | 0.00        | 6,971.04            | 635.01     | 174.29     | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 7,924.86             | 89.88           | 181.59      | 7,544.00            | 63.51      | 158.44     | 10.00                 | 10.00                | -19.85              | 181.59  |                 |
| 14,182.41            | 89.88           | 181.59      | 7,557.50            | -6,191.62  | -15.00     | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 14,659.81            | 89.88           | 172.04      | 7,558.52            | -6,667.73  | 11.50      | 2.00                  | 0.00                 | -2.00               | -89.99  |                 |
| 15,835.30            | 89.88           | 172.04      | 7,561.00            | -7,831.89  | 174.28     | 0.00                  | 0.00                 | 0.00                | 0.00    | PBHL_GRENNEMYER |

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENNEMYER 15N-3HZ               |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENNEMYER 2-34HZ PAD       | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENNEMYER 15N-3HZ          | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

| Planned Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.00                                    | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 100.00                                  | 0.00            | 0.00        | 100.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 200.00                                  | 0.00            | 0.00        | 200.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 300.00                                  | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 400.00                                  | 0.00            | 0.00        | 400.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 500.00                                  | 0.00            | 0.00        | 500.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 600.00                                  | 0.00            | 0.00        | 600.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 700.00                                  | 0.00            | 0.00        | 700.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 800.00                                  | 0.00            | 0.00        | 800.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 900.00                                  | 0.00            | 0.00        | 900.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,000.00                                | 0.00            | 0.00        | 1,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,014.00                                | 0.00            | 0.00        | 1,014.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| <b>Fox Hills Base</b>                   |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,064.00                                | 0.00            | 0.00        | 1,064.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| <b>9 5/8"</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,100.00                                | 0.00            | 0.00        | 1,100.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,200.00                                | 0.00            | 0.00        | 1,200.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,264.00                                | 0.00            | 0.00        | 1,264.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| <b>Start Build 2.00</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,300.00                                | 0.72            | 15.35       | 1,300.00            | 0.22       | 0.06       | -0.22                 | 2.00                  | 2.00                 | 0.00                |
| 1,400.00                                | 2.72            | 15.35       | 1,399.95            | 3.11       | 0.85       | -3.11                 | 2.00                  | 2.00                 | 0.00                |
| 1,500.00                                | 4.72            | 15.35       | 1,499.73            | 9.37       | 2.57       | -9.37                 | 2.00                  | 2.00                 | 0.00                |
| 1,600.00                                | 6.72            | 15.35       | 1,599.23            | 18.98      | 5.21       | -18.98                | 2.00                  | 2.00                 | 0.00                |
| 1,700.00                                | 8.72            | 15.35       | 1,698.32            | 31.93      | 8.76       | -31.93                | 2.00                  | 2.00                 | 0.00                |
| 1,763.96                                | 10.00           | 15.35       | 1,761.43            | 41.96      | 11.52      | -41.96                | 2.00                  | 2.00                 | 0.00                |
| <b>Start 3291.13 hold at 1763.96 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,800.00                                | 10.00           | 15.35       | 1,796.92            | 48.00      | 13.17      | -48.00                | 0.00                  | 0.00                 | 0.00                |
| 1,900.00                                | 10.00           | 15.35       | 1,895.40            | 64.74      | 17.77      | -64.74                | 0.00                  | 0.00                 | 0.00                |
| 2,000.00                                | 10.00           | 15.35       | 1,993.88            | 81.49      | 22.37      | -81.49                | 0.00                  | 0.00                 | 0.00                |
| 2,100.00                                | 10.00           | 15.35       | 2,092.36            | 98.23      | 26.96      | -98.23                | 0.00                  | 0.00                 | 0.00                |
| 2,200.00                                | 10.00           | 15.35       | 2,190.84            | 114.98     | 31.56      | -114.98               | 0.00                  | 0.00                 | 0.00                |
| 2,300.00                                | 10.00           | 15.35       | 2,289.32            | 131.72     | 36.15      | -131.72               | 0.00                  | 0.00                 | 0.00                |
| 2,400.00                                | 10.00           | 15.35       | 2,387.80            | 148.46     | 40.75      | -148.46               | 0.00                  | 0.00                 | 0.00                |
| 2,500.00                                | 10.00           | 15.35       | 2,486.29            | 165.21     | 45.34      | -165.21               | 0.00                  | 0.00                 | 0.00                |
| 2,600.00                                | 10.00           | 15.35       | 2,584.77            | 181.95     | 49.94      | -181.95               | 0.00                  | 0.00                 | 0.00                |
| 2,700.00                                | 10.00           | 15.35       | 2,683.25            | 198.70     | 54.54      | -198.70               | 0.00                  | 0.00                 | 0.00                |
| 2,800.00                                | 10.00           | 15.35       | 2,781.73            | 215.44     | 59.13      | -215.44               | 0.00                  | 0.00                 | 0.00                |
| 2,900.00                                | 10.00           | 15.35       | 2,880.21            | 232.19     | 63.73      | -232.19               | 0.00                  | 0.00                 | 0.00                |
| 3,000.00                                | 10.00           | 15.35       | 2,978.69            | 248.93     | 68.32      | -248.93               | 0.00                  | 0.00                 | 0.00                |
| 3,100.00                                | 10.00           | 15.35       | 3,077.17            | 265.68     | 72.92      | -265.68               | 0.00                  | 0.00                 | 0.00                |
| 3,200.00                                | 10.00           | 15.35       | 3,175.65            | 282.42     | 77.51      | -282.42               | 0.00                  | 0.00                 | 0.00                |
| 3,300.00                                | 10.00           | 15.35       | 3,274.13            | 299.16     | 82.11      | -299.16               | 0.00                  | 0.00                 | 0.00                |
| 3,400.00                                | 10.00           | 15.35       | 3,372.61            | 315.91     | 86.71      | -315.91               | 0.00                  | 0.00                 | 0.00                |
| 3,500.00                                | 10.00           | 15.35       | 3,471.10            | 332.65     | 91.30      | -332.65               | 0.00                  | 0.00                 | 0.00                |
| 3,600.00                                | 10.00           | 15.35       | 3,569.58            | 349.40     | 95.90      | -349.40               | 0.00                  | 0.00                 | 0.00                |
| 3,700.00                                | 10.00           | 15.35       | 3,668.06            | 366.14     | 100.49     | -366.14               | 0.00                  | 0.00                 | 0.00                |
| 3,800.00                                | 10.00           | 15.35       | 3,766.54            | 382.89     | 105.09     | -382.89               | 0.00                  | 0.00                 | 0.00                |
| 3,900.00                                | 10.00           | 15.35       | 3,865.02            | 399.63     | 109.68     | -399.63               | 0.00                  | 0.00                 | 0.00                |
| 4,000.00                                | 10.00           | 15.35       | 3,963.50            | 416.37     | 114.28     | -416.37               | 0.00                  | 0.00                 | 0.00                |
| 4,100.00                                | 10.00           | 15.35       | 4,061.98            | 433.12     | 118.88     | -433.12               | 0.00                  | 0.00                 | 0.00                |
| 4,200.00                                | 10.00           | 15.35       | 4,160.46            | 449.86     | 123.47     | -449.86               | 0.00                  | 0.00                 | 0.00                |
| 4,300.00                                | 10.00           | 15.35       | 4,258.94            | 466.61     | 128.07     | -466.61               | 0.00                  | 0.00                 | 0.00                |
| 4,400.00                                | 10.00           | 15.35       | 4,357.42            | 483.35     | 132.66     | -483.35               | 0.00                  | 0.00                 | 0.00                |
| 4,500.00                                | 10.00           | 15.35       | 4,455.91            | 500.10     | 137.26     | -500.10               | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENEMYER 15N-3HZ                |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENEMYER 2-34HZ PAD        | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENEMYER 15N-3HZ           | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

| 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) |
| 4,600.00   | 10.00           | 15.35       | 4,554.39            | 516.84     | 141.85     | -516.84               | 0.00                  | 0.00                 | 0.00                |
| 4,700.00   | 10.00           | 15.35       | 4,652.87            | 533.59     | 146.45     | -533.59               | 0.00                  | 0.00                 | 0.00                |
| 4,800.00   | 10.00           | 15.35       | 4,751.35            | 550.33     | 151.05     | -550.33               | 0.00                  | 0.00                 | 0.00                |
| 4,900.00   | 10.00           | 15.35       | 4,849.83            | 567.07     | 155.64     | -567.07               | 0.00                  | 0.00                 | 0.00                |
| 4,909.31   | 10.00           | 15.35       | 4,859.00            | 568.63     | 156.07     | -568.63               | 0.00                  | 0.00                 | 0.00                |
| <b>Sussex</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,000.00   | 10.00           | 15.35       | 4,948.31            | 583.82     | 160.24     | -583.82               | 0.00                  | 0.00                 | 0.00                |
| 5,055.10   | 10.00           | 15.35       | 5,002.57            | 593.04     | 162.77     | -593.04               | 0.00                  | 0.00                 | 0.00                |
| <b>Start Drop -2.00</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,100.00   | 9.10            | 15.35       | 5,046.85            | 600.23     | 164.74     | -600.23               | 2.00                  | -2.00                | 0.00                |
| 5,200.00   | 7.10            | 15.35       | 5,145.85            | 613.82     | 168.47     | -613.82               | 2.00                  | -2.00                | 0.00                |
| 5,300.00   | 5.10            | 15.35       | 5,245.28            | 624.07     | 171.28     | -624.07               | 2.00                  | -2.00                | 0.00                |
| 5,400.00   | 3.10            | 15.35       | 5,345.01            | 630.96     | 173.18     | -630.96               | 2.00                  | -2.00                | 0.00                |
| 5,500.00   | 1.10            | 15.35       | 5,444.94            | 634.50     | 174.15     | -634.50               | 2.00                  | -2.00                | 0.00                |
| 5,555.06   | 0.00            | 0.00        | 5,500.00            | 635.01     | 174.29     | -635.01               | 2.00                  | -2.00                | 0.00                |
| <b>Start 1471.04 hold at 5555.06 MD</b>                        |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,600.00   | 0.00            | 0.00        | 5,544.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 5,700.00   | 0.00            | 0.00        | 5,644.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 5,800.00   | 0.00            | 0.00        | 5,744.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 5,900.00   | 0.00            | 0.00        | 5,844.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,000.00   | 0.00            | 0.00        | 5,944.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,100.00   | 0.00            | 0.00        | 6,044.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,200.00   | 0.00            | 0.00        | 6,144.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,300.00   | 0.00            | 0.00        | 6,244.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,400.00   | 0.00            | 0.00        | 6,344.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,500.00   | 0.00            | 0.00        | 6,444.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,600.00   | 0.00            | 0.00        | 6,544.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,700.00   | 0.00            | 0.00        | 6,644.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,800.00   | 0.00            | 0.00        | 6,744.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 6,900.00   | 0.00            | 0.00        | 6,844.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 7,000.00   | 0.00            | 0.00        | 6,944.94            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| 7,026.10   | 0.00            | 0.00        | 6,971.04            | 635.01     | 174.29     | -635.01               | 0.00                  | 0.00                 | 0.00                |
| <b>Start DLS 10.00 TFO 181.59</b>                              |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,100.00   | 7.39            | 181.59      | 7,044.73            | 630.25     | 174.16     | -630.25               | 10.00                 | 10.00                | 0.00                |
| 7,200.00   | 17.39           | 181.59      | 7,142.28            | 608.83     | 173.56     | -608.83               | 10.00                 | 10.00                | 0.00                |
| 7,300.00   | 27.39           | 181.59      | 7,234.63            | 570.80     | 172.51     | -570.80               | 10.00                 | 10.00                | 0.00                |
| 7,400.00   | 37.39           | 181.59      | 7,318.96            | 517.32     | 171.02     | -517.32               | 10.00                 | 10.00                | 0.00                |
| 7,423.07   | 39.70           | 181.59      | 7,337.00            | 502.96     | 170.63     | -502.96               | 10.00                 | 10.00                | 0.00                |
| <b>Sharon Springs</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,445.53   | 41.94           | 181.59      | 7,354.00            | 488.28     | 170.22     | -488.28               | 10.00                 | 10.00                | 0.00                |
| <b>Niobrara A</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,500.00   | 47.39           | 181.59      | 7,392.72            | 450.02     | 169.16     | -450.02               | 10.00                 | 10.00                | 0.00                |
| 7,600.00   | 57.39           | 181.59      | 7,453.68            | 370.93     | 166.96     | -370.93               | 10.00                 | 10.00                | 0.00                |
| 7,700.00   | 67.39           | 181.59      | 7,499.96            | 282.46     | 164.51     | -282.46               | 10.00                 | 10.00                | 0.00                |
| 7,800.00   | 77.39           | 181.59      | 7,530.18            | 187.31     | 161.87     | -187.31               | 10.00                 | 10.00                | 0.00                |
| 7,803.83   | 77.77           | 181.59      | 7,531.00            | 183.57     | 161.77     | -183.57               | 10.00                 | 10.00                | 0.00                |
| <b>Niobrara B</b>  |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,900.00   | 87.39           | 181.59      | 7,543.40            | 88.35      | 159.13     | -88.35                | 10.00                 | 10.00                | 0.00                |
| 7,924.86   | 89.88           | 181.59      | 7,544.00            | 63.51      | 158.44     | -63.51                | 10.00                 | 10.00                | 0.00                |
| <b>Start 6257.55 hold at 7924.86 MD - 7"(623 FNL 1458 FEL)</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,000.00   | 89.88           | 181.59      | 7,544.16            | -11.60     | 156.36     | 11.60                 | 0.00                  | 0.00                 | 0.00                |
| 8,100.00   | 89.88           | 181.59      | 7,544.37            | -111.56    | 153.59     | 111.56                | 0.00                  | 0.00                 | 0.00                |
| 8,200.00   | 89.88           | 181.59      | 7,544.59            | -211.52    | 150.81     | 211.52                | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENEMYER 15N-3HZ                |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENEMYER 2-34HZ PAD        | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENEMYER 15N-3HZ           | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

| 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) |
| 8,300.00            | 89.88           | 181.59      | 7,544.81            | -311.48    | 148.04     | 311.48                | 0.00                  | 0.00                 | 0.00                |
| 8,400.00            | 89.88           | 181.59      | 7,545.02            | -411.45    | 145.27     | 411.45                | 0.00                  | 0.00                 | 0.00                |
| 8,500.00            | 89.88           | 181.59      | 7,545.24            | -511.41    | 142.50     | 511.41                | 0.00                  | 0.00                 | 0.00                |
| 8,600.00            | 89.88           | 181.59      | 7,545.45            | -611.37    | 139.73     | 611.37                | 0.00                  | 0.00                 | 0.00                |
| 8,700.00            | 89.88           | 181.59      | 7,545.67            | -711.33    | 136.96     | 711.33                | 0.00                  | 0.00                 | 0.00                |
| 8,800.00            | 89.88           | 181.59      | 7,545.89            | -811.29    | 134.18     | 811.29                | 0.00                  | 0.00                 | 0.00                |
| 8,900.00            | 89.88           | 181.59      | 7,546.10            | -911.25    | 131.41     | 911.25                | 0.00                  | 0.00                 | 0.00                |
| 9,000.00            | 89.88           | 181.59      | 7,546.32            | -1,011.21  | 128.64     | 1,011.21              | 0.00                  | 0.00                 | 0.00                |
| 9,100.00            | 89.88           | 181.59      | 7,546.53            | -1,111.17  | 125.87     | 1,111.17              | 0.00                  | 0.00                 | 0.00                |
| 9,200.00            | 89.88           | 181.59      | 7,546.75            | -1,211.14  | 123.10     | 1,211.14              | 0.00                  | 0.00                 | 0.00                |
| 9,300.00            | 89.88           | 181.59      | 7,546.96            | -1,311.10  | 120.33     | 1,311.10              | 0.00                  | 0.00                 | 0.00                |
| 9,400.00            | 89.88           | 181.59      | 7,547.18            | -1,411.06  | 117.55     | 1,411.06              | 0.00                  | 0.00                 | 0.00                |
| 9,500.00            | 89.88           | 181.59      | 7,547.40            | -1,511.02  | 114.78     | 1,511.02              | 0.00                  | 0.00                 | 0.00                |
| 9,600.00            | 89.88           | 181.59      | 7,547.61            | -1,610.98  | 112.01     | 1,610.98              | 0.00                  | 0.00                 | 0.00                |
| 9,700.00            | 89.88           | 181.59      | 7,547.83            | -1,710.94  | 109.24     | 1,710.94              | 0.00                  | 0.00                 | 0.00                |
| 9,800.00            | 89.88           | 181.59      | 7,548.04            | -1,810.90  | 106.47     | 1,810.90              | 0.00                  | 0.00                 | 0.00                |
| 9,900.00            | 89.88           | 181.59      | 7,548.26            | -1,910.87  | 103.70     | 1,910.87              | 0.00                  | 0.00                 | 0.00                |
| 10,000.00           | 89.88           | 181.59      | 7,548.47            | -2,010.83  | 100.92     | 2,010.83              | 0.00                  | 0.00                 | 0.00                |
| 10,100.00           | 89.88           | 181.59      | 7,548.69            | -2,110.79  | 98.15      | 2,110.79              | 0.00                  | 0.00                 | 0.00                |
| 10,200.00           | 89.88           | 181.59      | 7,548.91            | -2,210.75  | 95.38      | 2,210.75              | 0.00                  | 0.00                 | 0.00                |
| 10,300.00           | 89.88           | 181.59      | 7,549.12            | -2,310.71  | 92.61      | 2,310.71              | 0.00                  | 0.00                 | 0.00                |
| 10,400.00           | 89.88           | 181.59      | 7,549.34            | -2,410.67  | 89.84      | 2,410.67              | 0.00                  | 0.00                 | 0.00                |
| 10,500.00           | 89.88           | 181.59      | 7,549.55            | -2,510.63  | 87.07      | 2,510.63              | 0.00                  | 0.00                 | 0.00                |
| 10,600.00           | 89.88           | 181.59      | 7,549.77            | -2,610.59  | 84.29      | 2,610.59              | 0.00                  | 0.00                 | 0.00                |
| 10,700.00           | 89.88           | 181.59      | 7,549.99            | -2,710.56  | 81.52      | 2,710.56              | 0.00                  | 0.00                 | 0.00                |
| 10,800.00           | 89.88           | 181.59      | 7,550.20            | -2,810.52  | 78.75      | 2,810.52              | 0.00                  | 0.00                 | 0.00                |
| 10,900.00           | 89.88           | 181.59      | 7,550.42            | -2,910.48  | 75.98      | 2,910.48              | 0.00                  | 0.00                 | 0.00                |
| 11,000.00           | 89.88           | 181.59      | 7,550.63            | -3,010.44  | 73.21      | 3,010.44              | 0.00                  | 0.00                 | 0.00                |
| 11,100.00           | 89.88           | 181.59      | 7,550.85            | -3,110.40  | 70.44      | 3,110.40              | 0.00                  | 0.00                 | 0.00                |
| 11,200.00           | 89.88           | 181.59      | 7,551.06            | -3,210.36  | 67.66      | 3,210.36              | 0.00                  | 0.00                 | 0.00                |
| 11,300.00           | 89.88           | 181.59      | 7,551.28            | -3,310.32  | 64.89      | 3,310.32              | 0.00                  | 0.00                 | 0.00                |
| 11,400.00           | 89.88           | 181.59      | 7,551.50            | -3,410.29  | 62.12      | 3,410.29              | 0.00                  | 0.00                 | 0.00                |
| 11,500.00           | 89.88           | 181.59      | 7,551.71            | -3,510.25  | 59.35      | 3,510.25              | 0.00                  | 0.00                 | 0.00                |
| 11,600.00           | 89.88           | 181.59      | 7,551.93            | -3,610.21  | 56.58      | 3,610.21              | 0.00                  | 0.00                 | 0.00                |
| 11,700.00           | 89.88           | 181.59      | 7,552.14            | -3,710.17  | 53.81      | 3,710.17              | 0.00                  | 0.00                 | 0.00                |
| 11,800.00           | 89.88           | 181.59      | 7,552.36            | -3,810.13  | 51.03      | 3,810.13              | 0.00                  | 0.00                 | 0.00                |
| 11,900.00           | 89.88           | 181.59      | 7,552.57            | -3,910.09  | 48.26      | 3,910.09              | 0.00                  | 0.00                 | 0.00                |
| 12,000.00           | 89.88           | 181.59      | 7,552.79            | -4,010.05  | 45.49      | 4,010.05              | 0.00                  | 0.00                 | 0.00                |
| 12,100.00           | 89.88           | 181.59      | 7,553.01            | -4,110.02  | 42.72      | 4,110.02              | 0.00                  | 0.00                 | 0.00                |
| 12,200.00           | 89.88           | 181.59      | 7,553.22            | -4,209.98  | 39.95      | 4,209.98              | 0.00                  | 0.00                 | 0.00                |
| 12,300.00           | 89.88           | 181.59      | 7,553.44            | -4,309.94  | 37.17      | 4,309.94              | 0.00                  | 0.00                 | 0.00                |
| 12,400.00           | 89.88           | 181.59      | 7,553.65            | -4,409.90  | 34.40      | 4,409.90              | 0.00                  | 0.00                 | 0.00                |
| 12,500.00           | 89.88           | 181.59      | 7,553.87            | -4,509.86  | 31.63      | 4,509.86              | 0.00                  | 0.00                 | 0.00                |
| 12,600.00           | 89.88           | 181.59      | 7,554.09            | -4,609.82  | 28.86      | 4,609.82              | 0.00                  | 0.00                 | 0.00                |
| 12,700.00           | 89.88           | 181.59      | 7,554.30            | -4,709.78  | 26.09      | 4,709.78              | 0.00                  | 0.00                 | 0.00                |
| 12,800.00           | 89.88           | 181.59      | 7,554.52            | -4,809.74  | 23.32      | 4,809.74              | 0.00                  | 0.00                 | 0.00                |
| 12,900.00           | 89.88           | 181.59      | 7,554.73            | -4,909.71  | 20.54      | 4,909.71              | 0.00                  | 0.00                 | 0.00                |
| 13,000.00           | 89.88           | 181.59      | 7,554.95            | -5,009.67  | 17.77      | 5,009.67              | 0.00                  | 0.00                 | 0.00                |
| 13,100.00           | 89.88           | 181.59      | 7,555.16            | -5,109.63  | 15.00      | 5,109.63              | 0.00                  | 0.00                 | 0.00                |
| 13,200.00           | 89.88           | 181.59      | 7,555.38            | -5,209.59  | 12.23      | 5,209.59              | 0.00                  | 0.00                 | 0.00                |
| 13,300.00           | 89.88           | 181.59      | 7,555.60            | -5,309.55  | 9.46       | 5,309.55              | 0.00                  | 0.00                 | 0.00                |
| 13,400.00           | 89.88           | 181.59      | 7,555.81            | -5,409.51  | 6.69       | 5,409.51              | 0.00                  | 0.00                 | 0.00                |
| 13,500.00           | 89.88           | 181.59      | 7,556.03            | -5,509.47  | 3.91       | 5,509.47              | 0.00                  | 0.00                 | 0.00                |
| 13,600.00           | 89.88           | 181.59      | 7,556.24            | -5,609.44  | 1.14       | 5,609.44              | 0.00                  | 0.00                 | 0.00                |

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENEMYER 15N-3HZ                |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENEMYER 2-34HZ PAD        | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENEMYER 15N-3HZ           | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

| 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) |
| 13,700.00  | 89.88           | 181.59      | 7,556.46            | -5,709.40  | -1.63      | 5,709.40              | 0.00                  | 0.00                 | 0.00                |
| 13,800.00  | 89.88           | 181.59      | 7,556.67            | -5,809.36  | -4.40      | 5,809.36              | 0.00                  | 0.00                 | 0.00                |
| 13,900.00  | 89.88           | 181.59      | 7,556.89            | -5,909.32  | -7.17      | 5,909.32              | 0.00                  | 0.00                 | 0.00                |
| 14,000.00  | 89.88           | 181.59      | 7,557.11            | -6,009.28  | -9.94      | 6,009.28              | 0.00                  | 0.00                 | 0.00                |
| 14,100.00  | 89.88           | 181.59      | 7,557.32            | -6,109.24  | -12.72     | 6,109.24              | 0.00                  | 0.00                 | 0.00                |
| 14,182.41  | 89.88           | 181.59      | 7,557.50            | -6,191.62  | -15.00     | 6,191.62              | 0.00                  | 0.00                 | 0.00                |
| Start DLS 2.00 TFO -89.99                                  |                 |             |                     |            |            |                       |                       |                      |                     |
| 14,200.00  | 89.88           | 181.24      | 7,557.54            | -6,209.20  | -15.43     | 6,209.20              | 2.00                  | 0.00                 | -2.00               |
| 14,300.00  | 89.88           | 179.24      | 7,557.75            | -6,309.20  | -15.85     | 6,309.20              | 2.00                  | 0.00                 | -2.00               |
| 14,400.00  | 89.88           | 177.24      | 7,557.97            | -6,409.15  | -12.77     | 6,409.15              | 2.00                  | 0.00                 | -2.00               |
| 14,500.00  | 89.88           | 175.24      | 7,558.18            | -6,508.93  | -6.21      | 6,508.93              | 2.00                  | 0.00                 | -2.00               |
| 14,600.00  | 89.88           | 173.24      | 7,558.39            | -6,608.41  | 3.84       | 6,608.41              | 2.00                  | 0.00                 | -2.00               |
| 14,659.81  | 89.88           | 172.04      | 7,558.52            | -6,667.73  | 11.50      | 6,667.73              | 2.00                  | 0.00                 | -2.00               |
| Start 1175.49 hold at 14659.81 MD                          |                 |             |                     |            |            |                       |                       |                      |                     |
| 14,700.00  | 89.88           | 172.04      | 7,558.61            | -6,707.53  | 17.07      | 6,707.53              | 0.00                  | 0.00                 | 0.00                |
| 14,800.00  | 89.88           | 172.04      | 7,558.82            | -6,806.57  | 30.91      | 6,806.57              | 0.00                  | 0.00                 | 0.00                |
| 14,900.00  | 89.88           | 172.04      | 7,559.03            | -6,905.61  | 44.76      | 6,905.61              | 0.00                  | 0.00                 | 0.00                |
| 15,000.00  | 89.88           | 172.04      | 7,559.24            | -7,004.64  | 58.61      | 7,004.64              | 0.00                  | 0.00                 | 0.00                |
| 15,100.00  | 89.88           | 172.04      | 7,559.45            | -7,103.68  | 72.46      | 7,103.68              | 0.00                  | 0.00                 | 0.00                |
| 15,200.00  | 89.88           | 172.04      | 7,559.66            | -7,202.71  | 86.30      | 7,202.71              | 0.00                  | 0.00                 | 0.00                |
| 15,300.00  | 89.88           | 172.04      | 7,559.87            | -7,301.75  | 100.15     | 7,301.75              | 0.00                  | 0.00                 | 0.00                |
| 15,400.00  | 89.88           | 172.04      | 7,560.08            | -7,400.79  | 114.00     | 7,400.79              | 0.00                  | 0.00                 | 0.00                |
| 15,500.00  | 89.88           | 172.04      | 7,560.29            | -7,499.82  | 127.85     | 7,499.82              | 0.00                  | 0.00                 | 0.00                |
| 15,600.00  | 89.88           | 172.04      | 7,560.50            | -7,598.86  | 141.69     | 7,598.86              | 0.00                  | 0.00                 | 0.00                |
| 15,700.00  | 89.88           | 172.04      | 7,560.71            | -7,697.90  | 155.54     | 7,697.90              | 0.00                  | 0.00                 | 0.00                |
| 15,800.00  | 89.88           | 172.04      | 7,560.93            | -7,796.93  | 169.39     | 7,796.93              | 0.00                  | 0.00                 | 0.00                |
| 15,835.30  | 89.88           | 172.04      | 7,561.00            | -7,831.89  | 174.28     | 7,831.89              | 0.00                  | 0.00                 | 0.00                |
| TD at 15835.30 - PBHL_GRENEMYER 15N-3HZ(1782 FSL 1915 FEL) |                 |             |                     |            |            |                       |                       |                      |                     |

| Design Targets            |               |              |          |            |            |                 |                |            |              |
|---------------------------|---------------|--------------|----------|------------|------------|-----------------|----------------|------------|--------------|
| Target Name               | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude   | Longitude    |
| - hit/miss target         |               |              |          |            |            |                 |                |            |              |
| - Shape                   |               |              |          |            |            |                 |                |            |              |
| PBHL_GRENEMYER 15N-3HZ    | 0.00          | 0.00         | 7,561.00 | -7,831.89  | 174.28     | 1,240,359.00    | 3,175,854.47   | 39.9914620 | -104.8723660 |
| - plan hits target center |               |              |          |            |            |                 |                |            |              |
| - Point                   |               |              |          |            |            |                 |                |            |              |

| Casing Points       |                     |                      |                      |                    |  |
|---------------------|---------------------|----------------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                 | Casing Diameter (in) | Hole Diameter (in) |  |
| 1,064.00            | 1,064.00            | 9 5/8"               | 9.625                | 12.250             |  |
| 7,924.86            | 7,544.00            | 7"(623 FNL 1458 FEL) | 7.000                | 7.500              |  |

|                  |                             |                                     |                                       |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well GRENEMYER 15N-3HZ                |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 5052 & KB 17 @ 5069.00ft (ASSUMED) |
| <b>Site:</b>     | GRENEMYER 2-34HZ PAD        | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | GRENEMYER 15N-3HZ           | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | OH                          |                                     |                                       |
| <b>Design:</b>   | PLAN #1 PRELIMINARY         |                                     |                                       |

| Formations          |                     |                |           |         |                   |
|---------------------|---------------------|----------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Lithology | Dip (°) | Dip Direction (°) |
| 1,014.00            | 1,014.00            | Fox Hills Base |           | 0.00    |                   |
| 4,909.31            | 4,859.00            | Sussex         |           |         |                   |
| 7,423.07            | 7,337.00            | Sharon Springs |           |         |                   |
| 7,445.53            | 7,354.00            | Niobrara A     |           |         |                   |
| 7,803.83            | 7,531.00            | Niobrara B     |           |         |                   |

| Plan Annotations    |                     |                   |            |                                   |
|---------------------|---------------------|-------------------|------------|-----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                           |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                   |
| 1,264.00            | 1,264.00            | 0.00              | 0.00       | Start Build 2.00                  |
| 1,763.96            | 1,761.43            | 41.96             | 11.52      | Start 3291.13 hold at 1763.96 MD  |
| 5,055.10            | 5,002.57            | 593.04            | 162.77     | Start Drop -2.00                  |
| 5,555.06            | 5,500.00            | 635.01            | 174.29     | Start 1471.04 hold at 5555.06 MD  |
| 7,026.10            | 6,971.04            | 635.01            | 174.29     | Start DLS 10.00 TFO 181.59        |
| 7,924.86            | 7,544.00            | 63.51             | 158.44     | Start 6257.55 hold at 7924.86 MD  |
| 14,182.41           | 7,557.50            | -6,191.62         | -15.00     | Start DLS 2.00 TFO -89.99         |
| 14,659.81           | 7,558.52            | -6,667.73         | 11.50      | Start 1175.49 hold at 14659.81 MD |
| 15,835.30           | 7,561.00            | -7,831.89         | 174.28     | TD at 15835.30                    |