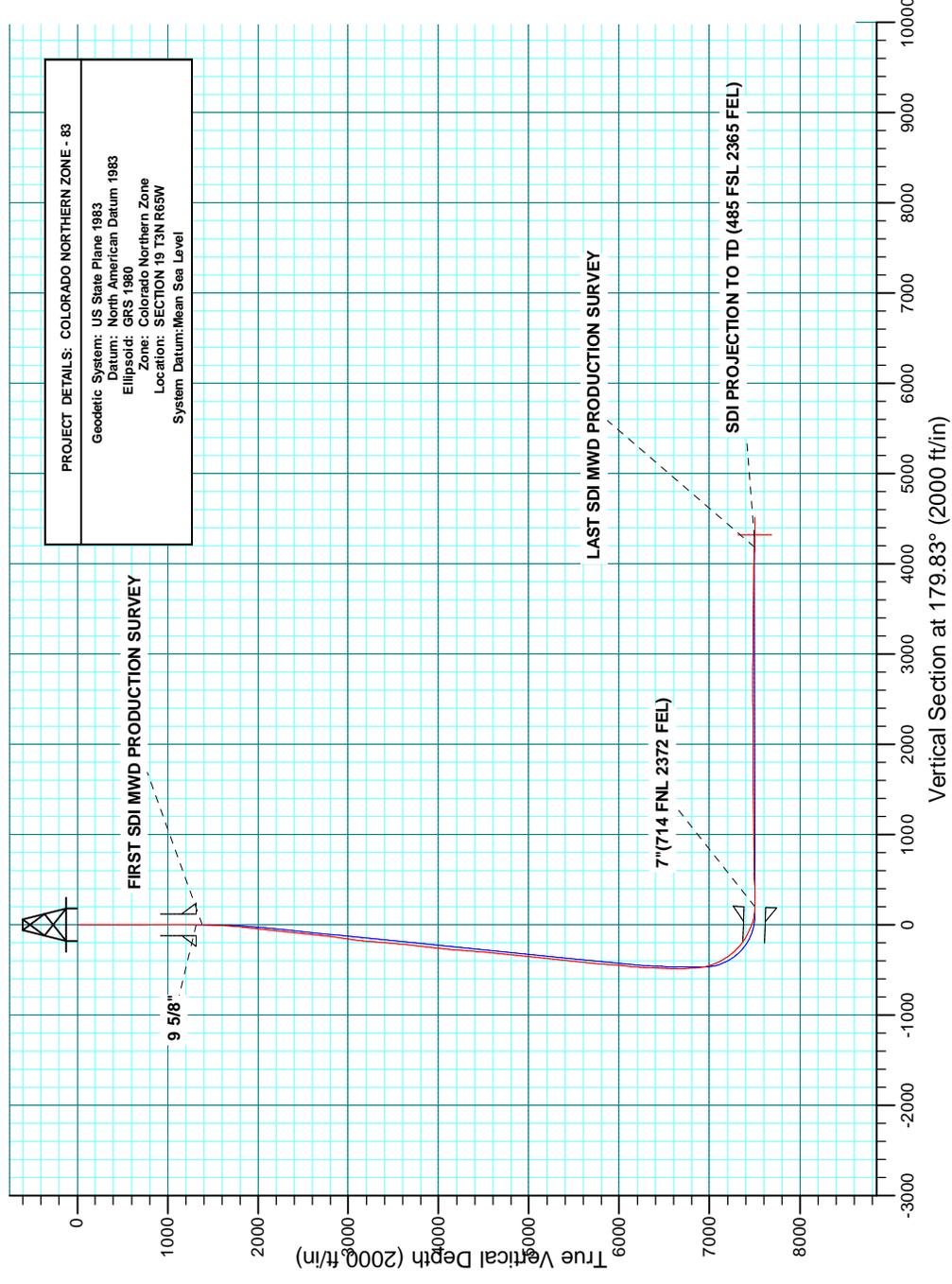
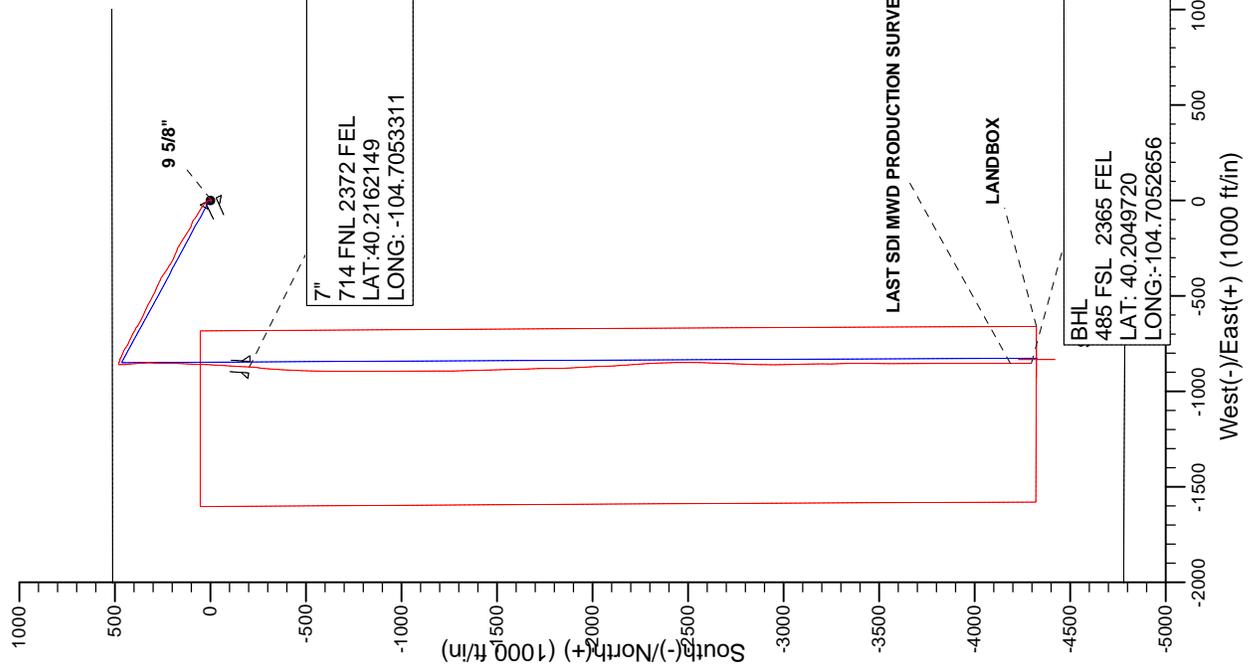


Project: COLORADO NORTHERN ZONE - 83  
 Site: WARDELL 2G-19HZ  
 Well: WARDELL 2G-19HZ  
 Wellbore: OH  
 Design: OH

|                                     |       |            |              |
|-------------------------------------|-------|------------|--------------|
| WELL DETAILS: WARDELL 2G-19HZ       |       |            |              |
| GL 4951 & KB 25 @ 4976.00R (HP 311) |       |            |              |
| +N/-S                               | +E/-W | Northing   | Longitude    |
| 0.00                                | 0.00  | 1322813.67 | -104.7022110 |
|                                     |       | Easting    | Latitude     |
|                                     |       | 3222790.02 | 40.2167699   |



PROJECT DETAILS: COLORADO NORTHERN ZONE - 83  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Colorado Northern Zone  
 Location: SECTION 19 T3N R65W  
 System Datum: Mean Sea Level



**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WARDELL 2G-19HZ**

**WARDELL 2G-19HZ**

**OH**

**Design: OH**

## **Standard Survey Report**

**01 December, 2014**

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>Local Co-ordinate Reference:</b> | Well WARDELL 2G-19HZ                 |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>TVD Reference:</b>               | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Site:</b>     | WARDELL 2G-19HZ             | <b>MD Reference:</b>                | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Well:</b>     | WARDELL 2G-19HZ             | <b>North Reference:</b>             | True                                 |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | Denver Sales                         |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <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>                  | WARDELL 2G-19HZ, SECTION 19 T3N R65W |                     |                   |                          |              |
| <b>Site Position:</b>        |                                      | <b>Northing:</b>    | 1,322,813.70 usft | <b>Latitude:</b>         | 40.2167700   |
| <b>From:</b>                 | Lat/Long                             | <b>Easting:</b>     | 3,222,790.02 usft | <b>Longitude:</b>        | -104.7022110 |
| <b>Position Uncertainty:</b> | 0.00 ft                              | <b>Slot Radius:</b> | 13.200 in         | <b>Grid Convergence:</b> | 0.52 °       |

|                             |                                   |         |                            |                   |                      |              |
|-----------------------------|-----------------------------------|---------|----------------------------|-------------------|----------------------|--------------|
| <b>Well</b>                 | WARDELL 2G-19HZ, 515 FNL 1502 FEL |         |                            |                   |                      |              |
| <b>Well Position</b>        | <b>+N/-S</b>                      | 0.00 ft | <b>Northing:</b>           | 1,322,813.67 usft | <b>Latitude:</b>     | 40.2167699   |
|                             | <b>+E/-W</b>                      | 0.00 ft | <b>Easting:</b>            | 3,222,790.02 usft | <b>Longitude:</b>    | -104.7022110 |
| <b>Position Uncertainty</b> |                                   | 0.00 ft | <b>Wellhead Elevation:</b> | 0.00 ft           | <b>Ground Level:</b> | 4,951.00 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          | 7/1/2014           | 8.45                   | 66.79                | 52,633                     |

|                          |                              |                   |                   |                      |      |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| <b>Design</b>            | OH                           |                   |                   |                      |      |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |      |
| <b>Version:</b>          | 1.0                          | <b>Phase:</b>     | ACTUAL            | <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              | 179.83               |      |

|                       |                |                                   |                   |  |  |
|-----------------------|----------------|-----------------------------------|-------------------|--|--|
| <b>Survey Program</b> | <b>Date</b>    | 12/1/2014                         |                   |  |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>          | <b>Tool Name</b>  | <b>Description</b>                     |  |
| 25.00                 | 1,272.00       | Survey #1 MS GYRO (OH)            | GyroFlex          |  |  |
| 1,387.00              | 12,082.00      | Survey #2 SDI MWD PRODUCTION (OH) | SDI_MWD+CRUST_1.0 | SDI MWD + Crustal anomaly, Version 1.0 |  |

|                            |                        |                    |                            |                   |                   |                              |                                |                               |                              |        |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--------|
| <b>Survey</b>              |                        |                    |                            |                   |                   |                              |                                |                               |                              |        |
| <b>Measured Depth (ft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |        |
| 0.00                       | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 0.00                         | 0.00                           | 0.00                          | 0.00                         | 0.00   |
| 25.00                      | 0.00                   | 0.00               | 25.00                      | 0.00              | 0.00              | 0.00                         | 0.00                           | 0.00                          | 0.00                         | 0.00   |
| 125.00                     | 0.47                   | 301.38             | 125.00                     | 0.21              | -0.35             | -0.21                        | 0.47                           | 0.47                          | 0.00                         | 0.00   |
| 225.00                     | 0.61                   | 244.30             | 225.00                     | 0.20              | -1.18             | -0.20                        | 0.53                           | 0.14                          | -57.08                       | -57.08 |
| 325.00                     | 0.58                   | 240.63             | 324.99                     | -0.28             | -2.10             | 0.28                         | 0.05                           | -0.03                         | -3.67                        | -3.67  |
| 425.00                     | 0.72                   | 213.02             | 424.98                     | -1.06             | -2.88             | 1.05                         | 0.34                           | 0.14                          | -27.61                       | -27.61 |
| 525.00                     | 0.47                   | 200.27             | 524.98                     | -1.97             | -3.37             | 1.96                         | 0.28                           | -0.25                         | -12.75                       | -12.75 |
| 625.00                     | 0.33                   | 158.32             | 624.98                     | -2.62             | -3.40             | 2.61                         | 0.31                           | -0.14                         | -41.95                       | -41.95 |
| 725.00                     | 0.44                   | 103.71             | 724.97                     | -2.98             | -2.92             | 2.97                         | 0.37                           | 0.11                          | -54.61                       | -54.61 |
| 825.00                     | 0.41                   | 105.71             | 824.97                     | -3.17             | -2.21             | 3.16                         | 0.03                           | -0.03                         | 2.00                         | 2.00   |

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>Local Co-ordinate Reference:</b> | Well WARDELL 2G-19HZ                 |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>TVD Reference:</b>               | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Site:</b>     | WARDELL 2G-19HZ             | <b>MD Reference:</b>                | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Well:</b>     | WARDELL 2G-19HZ             | <b>North Reference:</b>             | True                                 |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | Denver Sales                         |

| Survey                                 |                 |             |                     |            |            |                       |                         |                        |                       |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)                    | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 925.00                                 | 0.66            | 105.86      | 924.97              | -3.42      | -1.31      | 3.42                  | 0.25                    | 0.25                   | 0.15                  |
| 1,025.00                               | 0.86            | 75.22       | 1,024.96            | -3.39      | -0.03      | 3.39                  | 0.45                    | 0.20                   | -30.64                |
| 1,125.00                               | 0.94            | 76.08       | 1,124.95            | -3.00      | 1.49       | 3.00                  | 0.08                    | 0.08                   | 0.86                  |
| 1,225.00                               | 0.98            | 60.45       | 1,224.93            | -2.38      | 3.03       | 2.39                  | 0.26                    | 0.04                   | -15.63                |
| 1,272.00                               | 0.94            | 68.24       | 1,271.93            | -2.04      | 3.74       | 2.05                  | 0.29                    | -0.09                  | 16.57                 |
| 1,320.00                               | 0.73            | 66.12       | 1,319.92            | -1.77      | 4.39       | 1.78                  | 0.44                    | -0.44                  | -4.43                 |
| <b>9 5/8"</b>                          |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,387.00                               | 0.44            | 59.77       | 1,386.92            | -1.47      | 5.00       | 1.48                  | 0.44                    | -0.43                  | -9.47                 |
| <b>FIRST SDI MWD PRODUCTION SURVEY</b> |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,478.00                               | 1.38            | 14.69       | 1,477.91            | -0.23      | 5.58       | 0.25                  | 1.22                    | 1.03                   | -49.54                |
| 1,569.00                               | 2.79            | 345.54      | 1,568.84            | 2.97       | 5.30       | -2.96                 | 1.89                    | 1.55                   | -32.03                |
| 1,674.00                               | 4.81            | 325.22      | 1,673.61            | 9.06       | 2.15       | -9.06                 | 2.28                    | 1.92                   | -19.35                |
| 1,766.00                               | 6.21            | 325.68      | 1,765.19            | 16.34      | -2.85      | -16.35                | 1.52                    | 1.52                   | 0.50                  |
| 1,857.00                               | 8.38            | 317.29      | 1,855.45            | 25.28      | -10.13     | -25.31                | 2.65                    | 2.38                   | -9.22                 |
| 1,948.00                               | 10.01           | 313.25      | 1,945.27            | 35.57      | -20.39     | -35.63                | 1.93                    | 1.79                   | -4.44                 |
| 2,040.00                               | 10.71           | 303.56      | 2,035.78            | 45.78      | -33.33     | -45.88                | 2.04                    | 0.76                   | -10.53                |
| 2,131.00                               | 12.64           | 303.61      | 2,124.89            | 55.97      | -48.67     | -56.11                | 2.12                    | 2.12                   | 0.05                  |
| 2,222.00                               | 13.33           | 299.71      | 2,213.57            | 66.68      | -66.08     | -66.87                | 1.23                    | 0.76                   | -4.29                 |
| 2,314.00                               | 11.83           | 299.33      | 2,303.36            | 76.55      | -83.51     | -76.80                | 1.63                    | -1.63                  | -0.41                 |
| 2,405.00                               | 13.41           | 303.11      | 2,392.16            | 86.89      | -100.48    | -87.18                | 1.96                    | 1.74                   | 4.15                  |
| 2,496.00                               | 13.03           | 295.90      | 2,480.75            | 97.13      | -118.55    | -97.48                | 1.86                    | -0.42                  | -7.92                 |
| 2,588.00                               | 11.48           | 295.80      | 2,570.65            | 105.65     | -136.13    | -106.05               | 1.68                    | -1.68                  | -0.11                 |
| 2,680.00                               | 10.88           | 299.48      | 2,660.91            | 113.91     | -151.93    | -114.36               | 1.01                    | -0.65                  | 4.00                  |
| 2,771.00                               | 12.45           | 302.18      | 2,750.03            | 123.36     | -167.71    | -123.85               | 1.83                    | 1.73                   | 2.97                  |
| 2,863.00                               | 13.90           | 301.96      | 2,839.60            | 134.49     | -185.48    | -135.04               | 1.58                    | 1.58                   | -0.24                 |
| 2,954.00                               | 13.75           | 301.64      | 2,927.97            | 145.95     | -203.96    | -146.55               | 0.19                    | -0.16                  | -0.35                 |
| 3,045.00                               | 14.39           | 300.40      | 3,016.24            | 157.34     | -222.92    | -158.00               | 0.78                    | 0.70                   | -1.36                 |
| 3,136.00                               | 14.07           | 300.57      | 3,104.44            | 168.69     | -242.20    | -169.41               | 0.35                    | -0.35                  | 0.19                  |
| 3,227.00                               | 12.60           | 290.68      | 3,193.00            | 177.82     | -261.01    | -178.60               | 2.98                    | -1.62                  | -10.87                |
| 3,319.00                               | 12.31           | 289.58      | 3,282.83            | 184.65     | -279.64    | -185.48               | 0.41                    | -0.32                  | -1.20                 |
| 3,413.00                               | 10.20           | 296.08      | 3,375.02            | 191.67     | -296.56    | -192.55               | 2.62                    | -2.24                  | 6.91                  |
| 3,507.00                               | 9.92            | 295.58      | 3,467.58            | 198.83     | -311.34    | -199.75               | 0.31                    | -0.30                  | -0.53                 |
| 3,602.00                               | 11.59           | 300.65      | 3,560.91            | 207.23     | -326.93    | -208.19               | 2.02                    | 1.76                   | 5.34                  |
| 3,696.00                               | 11.70           | 303.64      | 3,652.98            | 217.32     | -342.99    | -218.34               | 0.65                    | 0.12                   | 3.18                  |
| 3,790.00                               | 12.13           | 303.40      | 3,744.95            | 228.04     | -359.17    | -229.10               | 0.46                    | 0.46                   | -0.26                 |
| 3,885.00                               | 12.60           | 304.11      | 3,837.75            | 239.34     | -376.08    | -240.46               | 0.52                    | 0.49                   | 0.75                  |
| 3,979.00                               | 11.93           | 301.38      | 3,929.60            | 250.15     | -392.86    | -251.31               | 0.94                    | -0.71                  | -2.90                 |
| 4,073.00                               | 12.07           | 302.17      | 4,021.55            | 260.44     | -409.48    | -261.66               | 0.23                    | 0.15                   | 0.84                  |
| 4,168.00                               | 12.09           | 293.98      | 4,114.45            | 269.77     | -426.97    | -271.04               | 1.80                    | 0.02                   | -8.62                 |
| 4,262.00                               | 11.45           | 294.56      | 4,206.47            | 277.65     | -444.46    | -278.97               | 0.69                    | -0.68                  | 0.62                  |
| 4,356.00                               | 10.09           | 294.95      | 4,298.82            | 285.00     | -460.41    | -286.37               | 1.45                    | -1.45                  | 0.41                  |
| 4,451.00                               | 10.52           | 291.70      | 4,392.28            | 291.72     | -476.01    | -293.13               | 0.76                    | 0.45                   | -3.42                 |
| 4,545.00                               | 11.68           | 298.47      | 4,484.53            | 299.43     | -492.35    | -300.89               | 1.85                    | 1.23                   | 7.20                  |

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>Local Co-ordinate Reference:</b> | Well WARDELL 2G-19HZ                 |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>TVD Reference:</b>               | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Site:</b>     | WARDELL 2G-19HZ             | <b>MD Reference:</b>                | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Well:</b>     | WARDELL 2G-19HZ             | <b>North Reference:</b>             | True                                 |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | Denver Sales                         |

| Survey                      |                 |             |                     |            |            |                       |                         |                        |                       |  |
|-----------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (ft)         | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 4,639.00                    | 12.80           | 297.36      | 4,576.39            | 308.75     | -509.96    | -310.26               | 1.22                    | 1.19                   | -1.18                 |  |
| 4,733.00                    | 12.32           | 297.66      | 4,668.14            | 318.19     | -528.09    | -319.76               | 0.52                    | -0.51                  | 0.32                  |  |
| 4,827.00                    | 11.62           | 297.43      | 4,760.09            | 327.21     | -545.38    | -328.83               | 0.75                    | -0.74                  | -0.24                 |  |
| 4,922.00                    | 11.68           | 297.81      | 4,853.14            | 336.10     | -562.38    | -337.77               | 0.10                    | 0.06                   | 0.40                  |  |
| 5,016.00                    | 12.03           | 294.38      | 4,945.13            | 344.59     | -579.71    | -346.31               | 0.84                    | 0.37                   | -3.65                 |  |
| 5,111.00                    | 11.54           | 291.09      | 5,038.13            | 352.09     | -597.60    | -353.86               | 0.88                    | -0.52                  | -3.46                 |  |
| 5,205.00                    | 12.38           | 296.18      | 5,130.09            | 359.92     | -615.41    | -361.75               | 1.43                    | 0.89                   | 5.41                  |  |
| 5,299.00                    | 11.50           | 297.20      | 5,222.06            | 368.65     | -632.79    | -370.53               | 0.96                    | -0.94                  | 1.09                  |  |
| 5,394.00                    | 11.54           | 306.28      | 5,315.15            | 378.60     | -648.88    | -380.53               | 1.91                    | 0.04                   | 9.56                  |  |
| 5,488.00                    | 13.11           | 300.87      | 5,406.99            | 389.64     | -665.61    | -391.61               | 2.07                    | 1.67                   | -5.76                 |  |
| 5,582.00                    | 11.90           | 299.67      | 5,498.76            | 399.91     | -683.18    | -401.93               | 1.32                    | -1.29                  | -1.28                 |  |
| 5,676.00                    | 13.28           | 294.76      | 5,590.50            | 409.23     | -701.41    | -411.31               | 1.86                    | 1.47                   | -5.22                 |  |
| 5,771.00                    | 12.69           | 293.79      | 5,683.07            | 418.00     | -720.86    | -420.14               | 0.66                    | -0.62                  | -1.02                 |  |
| 5,865.00                    | 10.99           | 296.80      | 5,775.06            | 426.21     | -738.31    | -428.40               | 1.92                    | -1.81                  | 3.20                  |  |
| 5,959.00                    | 10.95           | 299.20      | 5,867.35            | 434.61     | -754.10    | -436.84               | 0.49                    | -0.04                  | 2.55                  |  |
| 6,054.00                    | 11.84           | 299.50      | 5,960.47            | 443.81     | -770.46    | -446.09               | 0.94                    | 0.94                   | 0.32                  |  |
| 6,148.00                    | 11.31           | 298.55      | 6,052.56            | 452.96     | -786.95    | -455.29               | 0.60                    | -0.56                  | -1.01                 |  |
| 6,243.00                    | 9.84            | 295.51      | 6,145.95            | 460.91     | -802.46    | -463.29               | 1.65                    | -1.55                  | -3.20                 |  |
| 6,337.00                    | 8.44            | 293.10      | 6,238.75            | 467.08     | -816.05    | -469.49               | 1.54                    | -1.49                  | -2.56                 |  |
| 6,431.00                    | 7.11            | 292.57      | 6,331.88            | 472.02     | -827.77    | -474.47               | 1.42                    | -1.41                  | -0.56                 |  |
| 6,526.00                    | 5.36            | 289.83      | 6,426.32            | 475.78     | -837.37    | -478.26               | 1.87                    | -1.84                  | -2.88                 |  |
| 6,620.00                    | 3.89            | 286.65      | 6,520.01            | 478.18     | -844.56    | -480.68               | 1.59                    | -1.56                  | -3.38                 |  |
| 6,808.00                    | 2.18            | 271.71      | 6,707.74            | 480.11     | -854.24    | -482.65               | 0.99                    | -0.91                  | -7.95                 |  |
| 6,903.00                    | 1.35            | 201.82      | 6,802.71            | 479.13     | -856.47    | -481.67               | 2.25                    | -0.87                  | -73.57                |  |
| 6,997.00                    | 7.47            | 174.66      | 6,896.39            | 472.01     | -856.31    | -474.55               | 6.70                    | 6.51                   | -28.89                |  |
| 7,091.00                    | 14.85           | 181.70      | 6,988.55            | 453.86     | -856.10    | -456.40               | 7.97                    | 7.85                   | 7.49                  |  |
| 7,186.00                    | 25.28           | 174.44      | 7,077.67            | 421.41     | -854.49    | -423.94               | 11.27                   | 10.98                  | -7.64                 |  |
| 7,280.00                    | 31.32           | 176.47      | 7,160.40            | 377.00     | -851.04    | -379.53               | 6.51                    | 6.43                   | 2.16                  |  |
| 7,374.00                    | 37.15           | 180.69      | 7,238.09            | 324.19     | -849.87    | -326.71               | 6.69                    | 6.20                   | 4.49                  |  |
| 7,468.00                    | 46.43           | 182.30      | 7,308.10            | 261.64     | -851.59    | -264.16               | 9.94                    | 9.87                   | 1.71                  |  |
| 7,563.00                    | 54.58           | 181.15      | 7,368.48            | 188.43     | -853.75    | -190.96               | 8.63                    | 8.58                   | -1.21                 |  |
| 7,657.00                    | 61.23           | 179.75      | 7,418.39            | 108.84     | -854.34    | -111.38               | 7.19                    | 7.07                   | -1.49                 |  |
| 7,751.00                    | 67.14           | 182.66      | 7,459.32            | 24.29      | -856.17    | -26.83                | 6.88                    | 6.29                   | 3.10                  |  |
| 7,845.00                    | 76.45           | 184.54      | 7,488.65            | -64.72     | -861.81    | 62.16                 | 10.08                   | 9.90                   | 2.00                  |  |
| 7,939.00                    | 86.54           | 183.60      | 7,502.54            | -157.33    | -868.39    | 154.76                | 10.78                   | 10.73                  | -1.00                 |  |
| 7,984.00                    | 88.45           | 183.97      | 7,504.50            | -202.19    | -871.35    | 199.60                | 4.33                    | 4.25                   | 0.82                  |  |
| <b>7"(714 FNL 2372 FEL)</b> |                 |             |                     |            |            |                       |                         |                        |                       |  |
| 8,010.00                    | 89.56           | 184.18      | 7,504.95            | -228.12    | -873.20    | 225.53                | 4.33                    | 4.25                   | 0.82                  |  |
| 8,057.00                    | 89.97           | 184.56      | 7,505.15            | -274.98    | -876.78    | 272.38                | 1.19                    | 0.87                   | 0.81                  |  |
| 8,105.00                    | 90.91           | 185.16      | 7,504.78            | -322.81    | -880.85    | 320.19                | 2.32                    | 1.96                   | 1.25                  |  |
| 8,152.00                    | 91.54           | 183.90      | 7,503.77            | -369.65    | -884.56    | 367.02                | 3.00                    | 1.34                   | -2.68                 |  |
| 8,199.00                    | 91.01           | 182.08      | 7,502.73            | -416.57    | -887.01    | 413.94                | 4.03                    | -1.13                  | -3.87                 |  |
| 8,293.00                    | 91.64           | 181.91      | 7,500.55            | -510.49    | -890.28    | 507.84                | 0.69                    | 0.67                   | -0.18                 |  |
| 8,388.00                    | 90.10           | 180.28      | 7,499.11            | -605.45    | -892.10    | 602.80                | 2.36                    | -1.62                  | -1.72                 |  |

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>Local Co-ordinate Reference:</b> | Well WARDELL 2G-19HZ                 |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>TVD Reference:</b>               | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Site:</b>     | WARDELL 2G-19HZ             | <b>MD Reference:</b>                | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Well:</b>     | WARDELL 2G-19HZ             | <b>North Reference:</b>             | True                                 |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | Denver Sales                         |

| Survey   |                 |             |                     |            |            |                       |                         |                        |                       |  |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (ft)                            | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 8,482.00                                       | 90.13           | 180.60      | 7,498.92            | -699.45    | -892.82    | 696.80                | 0.34                    | 0.03                   | 0.34                  |  |
| 8,576.00                                       | 90.47           | 180.50      | 7,498.43            | -793.45    | -893.72    | 790.79                | 0.38                    | 0.36                   | -0.11                 |  |
| 8,671.00                                       | 91.41           | 180.59      | 7,496.87            | -888.43    | -894.63    | 885.77                | 0.99                    | 0.99                   | 0.09                  |  |
| 8,765.00                                       | 90.87           | 179.67      | 7,495.00            | -982.41    | -894.84    | 979.75                | 1.13                    | -0.57                  | -0.98                 |  |
| 8,859.00                                       | 90.84           | 179.78      | 7,493.60            | -1,076.40  | -894.39    | 1,073.74              | 0.12                    | -0.03                  | 0.12                  |  |
| 8,953.00                                       | 90.54           | 179.45      | 7,492.47            | -1,170.39  | -893.76    | 1,167.73              | 0.47                    | -0.32                  | -0.35                 |  |
| 9,048.00                                       | 90.67           | 178.23      | 7,491.46            | -1,265.36  | -891.83    | 1,262.71              | 1.29                    | 0.14                   | -1.28                 |  |
| 9,142.00                                       | 90.81           | 178.65      | 7,490.25            | -1,359.32  | -889.27    | 1,356.67              | 0.47                    | 0.15                   | 0.45                  |  |
| 9,236.00                                       | 90.47           | 178.38      | 7,489.20            | -1,453.28  | -886.84    | 1,450.64              | 0.46                    | -0.36                  | -0.29                 |  |
| 9,331.00                                       | 90.71           | 178.59      | 7,488.22            | -1,548.24  | -884.33    | 1,545.61              | 0.34                    | 0.25                   | 0.22                  |  |
| 9,425.00                                       | 90.47           | 178.28      | 7,487.25            | -1,642.20  | -881.76    | 1,639.58              | 0.42                    | -0.26                  | -0.33                 |  |
| 9,520.00                                       | 90.20           | 178.29      | 7,486.70            | -1,737.16  | -878.92    | 1,734.54              | 0.28                    | -0.28                  | 0.01                  |  |
| 9,614.00                                       | 90.23           | 178.60      | 7,486.35            | -1,831.12  | -876.37    | 1,828.51              | 0.33                    | 0.03                   | 0.33                  |  |
| 9,708.00                                       | 89.53           | 177.13      | 7,486.54            | -1,925.05  | -872.86    | 1,922.45              | 1.73                    | -0.74                  | -1.56                 |  |
| 9,802.00                                       | 90.71           | 177.77      | 7,486.35            | -2,018.96  | -868.68    | 2,016.37              | 1.43                    | 1.26                   | 0.68                  |  |
| 9,897.00                                       | 88.99           | 176.28      | 7,486.60            | -2,113.82  | -863.75    | 2,111.25              | 2.40                    | -1.81                  | -1.57                 |  |
| 9,991.00                                       | 90.03           | 176.07      | 7,487.40            | -2,207.61  | -857.48    | 2,205.05              | 1.13                    | 1.11                   | -0.22                 |  |
| 10,085.00                                      | 90.84           | 177.61      | 7,486.69            | -2,301.46  | -852.30    | 2,298.92              | 1.85                    | 0.86                   | 1.64                  |  |
| 10,180.00                                      | 91.21           | 179.34      | 7,484.99            | -2,396.41  | -849.77    | 2,393.87              | 1.86                    | 0.39                   | 1.82                  |  |
| 10,274.00                                      | 91.78           | 179.57      | 7,482.53            | -2,490.37  | -848.88    | 2,487.84              | 0.65                    | 0.61                   | 0.24                  |  |
| 10,368.00                                      | 92.18           | 181.37      | 7,479.29            | -2,584.31  | -849.65    | 2,581.77              | 1.96                    | 0.43                   | 1.91                  |  |
| 10,463.00                                      | 88.99           | 181.58      | 7,478.32            | -2,679.26  | -852.09    | 2,676.72              | 3.37                    | -3.36                  | 0.22                  |  |
| 10,557.00                                      | 88.72           | 181.85      | 7,480.19            | -2,773.20  | -854.91    | 2,770.65              | 0.41                    | -0.29                  | 0.29                  |  |
| 10,652.00                                      | 88.66           | 182.06      | 7,482.37            | -2,868.12  | -858.15    | 2,865.56              | 0.23                    | -0.06                  | 0.22                  |  |
| 10,746.00                                      | 88.72           | 179.84      | 7,484.51            | -2,962.07  | -859.70    | 2,959.51              | 2.36                    | 0.06                   | -2.36                 |  |
| 10,840.00                                      | 87.95           | 177.95      | 7,487.25            | -3,056.01  | -857.89    | 3,053.45              | 2.17                    | -0.82                  | -2.01                 |  |
| 10,934.00                                      | 89.43           | 178.51      | 7,489.40            | -3,149.94  | -854.99    | 3,147.39              | 1.68                    | 1.57                   | 0.60                  |  |
| 11,029.00                                      | 91.01           | 180.30      | 7,489.03            | -3,244.93  | -854.00    | 3,242.38              | 2.51                    | 1.66                   | 1.88                  |  |
| 11,123.00                                      | 90.34           | 179.60      | 7,487.92            | -3,338.92  | -853.92    | 3,336.37              | 1.03                    | -0.71                  | -0.74                 |  |
| 11,217.00                                      | 90.67           | 180.26      | 7,487.09            | -3,432.91  | -853.81    | 3,430.37              | 0.78                    | 0.35                   | 0.70                  |  |
| 11,312.00                                      | 89.23           | 179.72      | 7,487.18            | -3,527.91  | -853.79    | 3,525.36              | 1.62                    | -1.52                  | -0.57                 |  |
| 11,406.00                                      | 89.06           | 179.68      | 7,488.58            | -3,621.90  | -853.30    | 3,619.35              | 0.19                    | -0.18                  | -0.04                 |  |
| 11,500.00                                      | 89.06           | 179.88      | 7,490.12            | -3,715.89  | -852.94    | 3,713.34              | 0.21                    | 0.00                   | 0.21                  |  |
| 11,594.00                                      | 88.76           | 179.26      | 7,491.91            | -3,809.87  | -852.23    | 3,807.32              | 0.73                    | -0.32                  | -0.66                 |  |
| 11,688.00                                      | 88.83           | 179.83      | 7,493.89            | -3,903.84  | -851.49    | 3,901.30              | 0.61                    | 0.07                   | 0.61                  |  |
| 11,783.00                                      | 88.76           | 180.01      | 7,495.89            | -3,998.82  | -851.35    | 3,996.28              | 0.20                    | -0.07                  | 0.19                  |  |
| 11,877.00                                      | 89.93           | 180.53      | 7,496.96            | -4,092.81  | -851.80    | 4,090.27              | 1.36                    | 1.24                   | 0.55                  |  |
| 11,971.00                                      | 89.56           | 180.35      | 7,497.38            | -4,186.81  | -852.52    | 4,184.26              | 0.44                    | -0.39                  | -0.19                 |  |
| <b>LAST SDI MWD PRODUCTION SURVEY</b>          |                 |             |                     |            |            |                       |                         |                        |                       |  |
| 12,082.00                                      | 89.56           | 180.35      | 7,498.23            | -4,297.80  | -853.20    | 4,295.25              | 0.00                    | 0.00                   | 0.00                  |  |
| <b>SDI PROJECTION TO TD (485 FSL 2365 FEL)</b> |                 |             |                     |            |            |                       |                         |                        |                       |  |

|                  |                             |                                     |                                      |
|------------------|-----------------------------|-------------------------------------|--------------------------------------|
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>Local Co-ordinate Reference:</b> | Well WARDELL 2G-19HZ                 |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>TVD Reference:</b>               | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Site:</b>     | WARDELL 2G-19HZ             | <b>MD Reference:</b>                | GL 4951 & KB 25 @ 4976.00ft (HP 311) |
| <b>Well:</b>     | WARDELL 2G-19HZ             | <b>North Reference:</b>             | True                                 |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature                    |
| <b>Design:</b>   | OH                          | <b>Database:</b>                    | Denver Sales                         |

| Casing Points       |                     |                      |                      |                    |  |
|---------------------|---------------------|----------------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name                 | Casing Diameter (in) | Hole Diameter (in) |  |
| 1,320.00            | 1,319.92            | 9 5/8"               | 9.625                | 13.500             |  |
| 7,984.00            | 7,504.50            | 7"(714 FNL 2372 FEL) | 7.000                | 8.750              |  |

| Design Annotations  |                     |                   |            |   |  |
|---------------------|---------------------|-------------------|------------|---|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                                 |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |   |  |
| 1,387.00            | 1,386.92            | -1.47             | 5.00       | FIRST SDI MWD PRODUCTION SURVEY         |  |
| 11,971.00           | 7,497.38            | -4,186.81         | -852.52    | LAST SDI MWD PRODUCTION SURVEY          |  |
| 12,082.00           | 7,498.23            | -4,297.80         | -853.20    | SDI PROJECTION TO TD (485 FSL 2365 FEL) |  |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_