

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_CAMP 35-31HZ PAD**

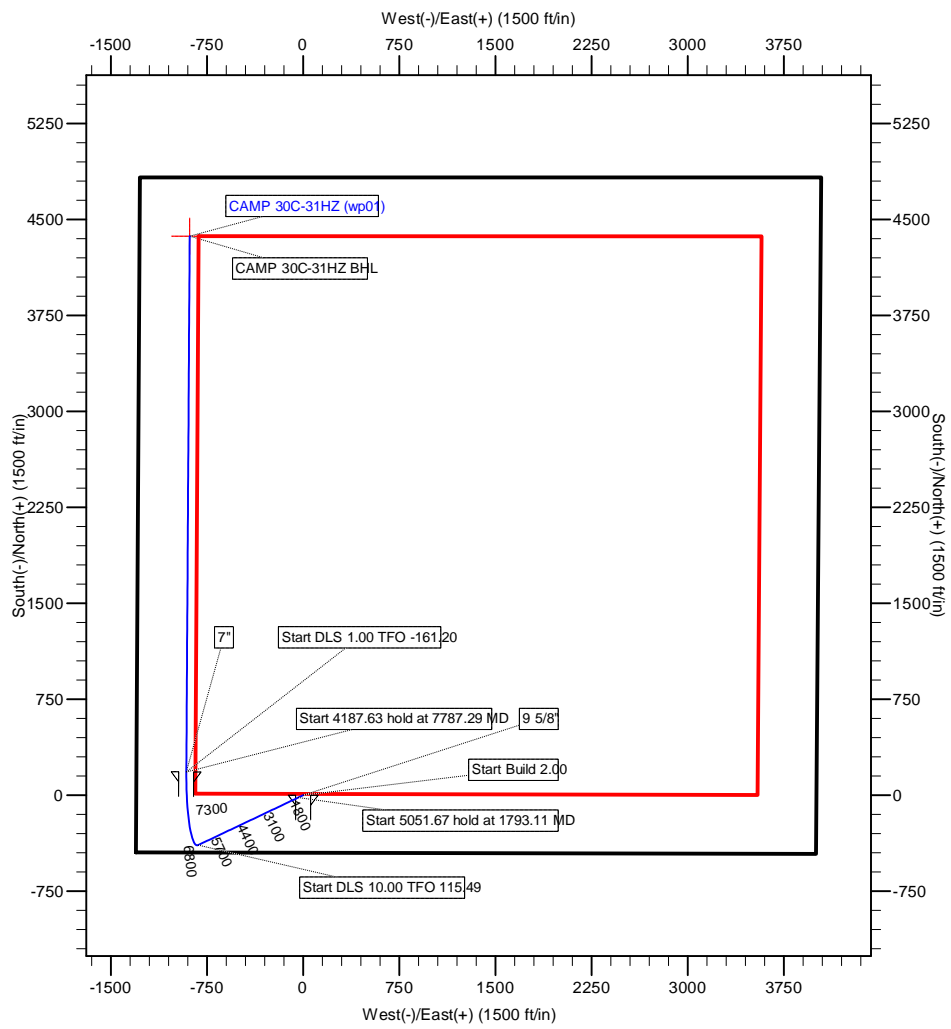
**CAMP 30C-31HZ**

**CAMP 30C-31HZ**

**Plan: CAMP 30C-31HZ (wp01)**

## **Standard Planning Report**

**04 January, 2012**



**Azimuths to True North**  
Magnetic North: 8.74°

**Magnetic Field**  
Strength: 52959.8snT  
Dip Angle: 66.86°  
Date: 1/3/2012  
Model: IGRF2010



**Project:** COLORADO NORTHERN ZONE - 83  
**Site:** WELD\_CAMP 35-31HZ PAD  
**Well:** CAMP 30C-31HZ  
**Wellbore:** CAMP 30C-31HZ  
**Section:**  
**SHL:**  
**Design:** CAMP 30C-31HZ (wp01)  
**Latitude:** 40.175934  
**Longitude:** -104.711182  
**GL:** 4971.00  
**KB:** GL + 25' RKB @ 4996.00ft (Original Well Elev)

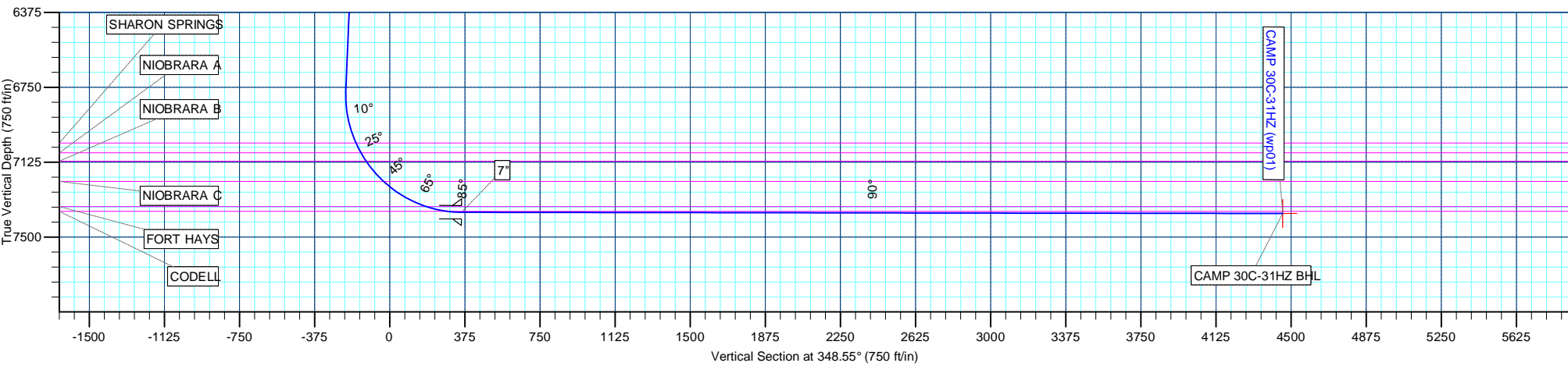
| WELL DETAILS: CAMP 30C-31HZ |       |            |                          |                     |             |      |
|-----------------------------|-------|------------|--------------------------|---------------------|-------------|------|
| +N/-S                       | +E/-W | Northing   | Ground Level:<br>Easting | 4971.00<br>Latitude | Longitude   | Slot |
| 0.00                        | 0.00  | 1307916.01 | 3220417.18               | 40.175934           | -104.711182 |      |

| SECTION DETAILS |       |        |         |         |         |       |         |         |
|-----------------|-------|--------|---------|---------|---------|-------|---------|---------|
| MD              | Inc   | Azi    | TVD     | +N/-S   | +E/-W   | Dleg  | TFace   | VSect   |
| 0.00            | 0.00  | 0.00   | 0.00    | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    |
| 1300.00         | 0.00  | 0.00   | 1300.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    |
| 1793.11         | 9.86  | 244.55 | 1790.68 | -18.19  | -38.23  | 2.00  | 244.55  | -10.24  |
| 6844.78         | 9.86  | 244.55 | 6767.70 | -390.00 | -819.51 | 0.00  | 0.00    | -219.58 |
| 7786.79         | 89.92 | 0.36   | 7376.00 | 181.19  | -911.00 | 10.00 | 115.49  | 358.40  |
| 7787.29         | 89.92 | 0.36   | 7376.00 | 181.69  | -911.00 | 1.00  | -161.20 | 358.89  |
| 11974.92        | 89.92 | 0.36   | 7382.00 | 4369.24 | -884.80 | 0.00  | 0.00    | 4457.93 |

| WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG) |         |         |         |           |             |       |
|---|---------|---------|---------|-----------|-------------|-------|
| Name  | TVD     | +N/-S   | +E/-W   | Latitude  | Longitude   | Shape |
| CAMP 30C-31HZ BHL                                       | 7382.00 | 4369.24 | -884.80 | 40.187928 | -104.714349 | Point |

| FORMATION TOP DETAILS |         |                |
|-----------------------|---------|----------------|
| TVDPath               | MDPath  | Formation      |
| 3999.00               | 4034.55 | PARKMAN        |
| 4405.00               | 4446.64 | SUSSEX         |
| 7029.00               | 7115.25 | SHARON SPRINGS |
| 7078.00               | 7170.22 | NIOBRARA A     |
| 7120.00               | 7219.70 | NIOBRARA B     |
| 7221.00               | 7353.24 | NIOBRARA C     |
| 7347.00               | 7803.37 | FORT HAYS      |
| 7371.00               | 7711.36 | CODELL         |

| CASING DETAILS |         |        |       |
|----------------|---------|--------|-------|
| TVD            | MD      | Name   | Size  |
| 800.00         | 800.00  | 9 5/8" | 9-5/8 |
| 7376.00        | 7786.79 | 7"     | 7     |



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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 30C-31HZ                            |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Site:</b>     | WELD_CAMP 35-31HZ PAD       | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | CAMP 30C-31HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 30C-31HZ               |                                     |   |
| <b>Design:</b>   | CAMP 30C-31HZ (wp01)        |                                     |   |

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

|                       |          |                       |                   |                   |             |
|-----------------------|----------|-----------------------|-------------------|-------------------|-------------|
| Site                  |          | WELD_CAMP 35-31HZ PAD |                   |                   |             |
| Site Position:        |          | Northing:             | 1,307,925.69 usft | Latitude:         | 40.175961   |
| From:                 | Lat/Long | Easting:              | 3,220,398.65 usft | Longitude:        | -104.711248 |
| Position Uncertainty: | 0.00 ft  | Slot Radius:          | 13-3/16 "         | Grid Convergence: | 0.51 °      |

| Well                 | CAMP 30C-31HZ |          |                     |                   |               |             |
|----------------------|---------------|----------|---------------------|-------------------|---------------|-------------|
| Well Position        | +N/-S         | -9.85 ft | Northing:           | 1,307,916.01 usft | Latitude:     | 40.175934   |
|                      | +E/-W         | 18.44 ft | Easting:            | 3,220,417.18 usft | Longitude:    | -104.711182 |
| Position Uncertainty |               | 0.00 ft  | Wellhead Elevation: |                   | Ground Level: | 4,971.00 ft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | CAMP 30C-31HZ     |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 1/3/2012           | 8.74                   | 66.86                | 52,960                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | CAMP 30C-31HZ (wp01)         |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PROTOTYPE         | <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                 | 348.55               |

| <b>Plan Sections</b> |                 |             |                     |            |            |                         |                        |                       |         |                   |
|----------------------|-----------------|-------------|---------------------|------------|------------|-------------------------|------------------------|-----------------------|---------|-------------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target            |
| 0.00                 | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                   |
| 1,300.00             | 0.00            | 0.00        | 1,300.00            | 0.00       | 0.00       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                   |
| 1,793.11             | 9.86            | 244.55      | 1,790.68            | -18.19     | -38.23     | 2.00                    | 2.00                   | 0.00                  | 244.55  |                   |
| 6,844.78             | 9.86            | 244.55      | 6,767.70            | -390.00    | -819.51    | 0.00                    | 0.00                   | 0.00                  | 0.00    |                   |
| 7,786.79             | 89.92           | 0.36        | 7,376.00            | 181.19     | -911.00    | 10.00                   | 8.50                   | 12.29                 | 115.49  |                   |
| 7,787.29             | 89.92           | 0.36        | 7,376.00            | 181.69     | -911.00    | 1.00                    | -0.95                  | -0.32                 | -161.20 |                   |
| 11,974.92            | 89.92           | 0.36        | 7,382.00            | 4,369.24   | -884.80    | 0.00                    | 0.00                   | 0.00                  | 0.00    | CAMP 30C-31HZ BHI |

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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 30C-31HZ                            |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Site:</b>     | WELD_CAMP 35-31HZ PAD       | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | CAMP 30C-31HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 30C-31HZ               |                                     |   |
| <b>Design:</b>   | CAMP 30C-31HZ (wp01)        |                                     |   |

| Planned 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) |
| 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                  |
| 9 5/8"                           |                 |             |                     |            |            |                       |                         |                        |                       |
| 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                  |
| 1,100.00                         | 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                  |
| 1,300.00                         | 0.00            | 0.00        | 1,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  |
| Start Build 2.00                 |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,400.00                         | 2.00            | 244.55      | 1,399.98            | -0.75      | -1.58      | -0.42                 | 2.00                    | 2.00                   | 0.00                  |
| 1,500.00                         | 4.00            | 244.55      | 1,499.84            | -3.00      | -6.30      | -1.69                 | 2.00                    | 2.00                   | 0.00                  |
| 1,600.00                         | 6.00            | 244.55      | 1,599.45            | -6.74      | -14.17     | -3.80                 | 2.00                    | 2.00                   | 0.00                  |
| 1,700.00                         | 8.00            | 244.55      | 1,698.70            | -11.98     | -25.17     | -6.75                 | 2.00                    | 2.00                   | 0.00                  |
| 1,793.11                         | 9.86            | 244.55      | 1,790.68            | -18.19     | -38.23     | -10.24                | 2.00                    | 2.00                   | 0.00                  |
| Start 5051.67 hold at 1793.11 MD |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,800.00                         | 9.86            | 244.55      | 1,797.47            | -18.70     | -39.29     | -10.53                | 0.00                    | 0.00                   | 0.00                  |
| 1,900.00                         | 9.86            | 244.55      | 1,895.99            | -26.06     | -54.76     | -14.67                | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00                         | 9.86            | 244.55      | 1,994.51            | -33.42     | -70.22     | -18.82                | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00                         | 9.86            | 244.55      | 2,093.03            | -40.78     | -85.69     | -22.96                | 0.00                    | 0.00                   | 0.00                  |
| 2,200.00                         | 9.86            | 244.55      | 2,191.56            | -48.14     | -101.16    | -27.10                | 0.00                    | 0.00                   | 0.00                  |
| 2,300.00                         | 9.86            | 244.55      | 2,290.08            | -55.50     | -116.62    | -31.25                | 0.00                    | 0.00                   | 0.00                  |
| 2,400.00                         | 9.86            | 244.55      | 2,388.60            | -62.86     | -132.09    | -35.39                | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00                         | 9.86            | 244.55      | 2,487.12            | -70.22     | -147.55    | -39.54                | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00                         | 9.86            | 244.55      | 2,585.64            | -77.58     | -163.02    | -43.68                | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00                         | 9.86            | 244.55      | 2,684.17            | -84.94     | -178.49    | -47.82                | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00                         | 9.86            | 244.55      | 2,782.69            | -92.30     | -193.95    | -51.97                | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00                         | 9.86            | 244.55      | 2,881.21            | -99.66     | -209.42    | -56.11                | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00                         | 9.86            | 244.55      | 2,979.73            | -107.02    | -224.88    | -60.26                | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00                         | 9.86            | 244.55      | 3,078.26            | -114.38    | -240.35    | -64.40                | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00                         | 9.86            | 244.55      | 3,176.78            | -121.74    | -255.82    | -68.54                | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00                         | 9.86            | 244.55      | 3,275.30            | -129.10    | -271.28    | -72.69                | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00                         | 9.86            | 244.55      | 3,373.82            | -136.46    | -286.75    | -76.83                | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00                         | 9.86            | 244.55      | 3,472.35            | -143.82    | -302.21    | -80.97                | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00                         | 9.86            | 244.55      | 3,570.87            | -151.18    | -317.68    | -85.12                | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00                         | 9.86            | 244.55      | 3,669.39            | -158.54    | -333.14    | -89.26                | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00                         | 9.86            | 244.55      | 3,767.91            | -165.90    | -348.61    | -93.41                | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00                         | 9.86            | 244.55      | 3,866.43            | -173.26    | -364.08    | -97.55                | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00                         | 9.86            | 244.55      | 3,964.96            | -180.62    | -379.54    | -101.69               | 0.00                    | 0.00                   | 0.00                  |
| 4,034.55                         | 9.86            | 244.55      | 3,999.00            | -183.16    | -384.89    | -103.13               | 0.00                    | 0.00                   | 0.00                  |
| PARKMAN                          |                 |             |                     |            |            |                       |                         |                        |                       |
| 4,100.00                         | 9.86            | 244.55      | 4,063.48            | -187.98    | -395.01    | -105.84               | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00                         | 9.86            | 244.55      | 4,162.00            | -195.34    | -410.47    | -109.98               | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00                         | 9.86            | 244.55      | 4,260.52            | -202.70    | -425.94    | -114.13               | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00                         | 9.86            | 244.55      | 4,359.05            | -210.06    | -441.41    | -118.27               | 0.00                    | 0.00                   | 0.00                  |
| 4,446.64                         | 9.86            | 244.55      | 4,405.00            | -213.49    | -448.62    | -120.20               | 0.00                    | 0.00                   | 0.00                  |

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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 30C-31HZ                            |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Site:</b>     | WELD_CAMP 35-31HZ PAD       | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | CAMP 30C-31HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 30C-31HZ               |                                     |   |
| <b>Design:</b>   | CAMP 30C-31HZ (wp01)        |                                     |   |

| Planned 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) |
| <b>SUSSEX</b>                          |                 |             |                     |            |            |                       |                         |                        |                       |
| 4,500.00                               | 9.86            | 244.55      | 4,457.57            | -217.42    | -456.87    | -122.41               | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00                               | 9.86            | 244.55      | 4,556.09            | -224.78    | -472.34    | -126.56               | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00                               | 9.86            | 244.55      | 4,654.61            | -232.14    | -487.80    | -130.70               | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00                               | 9.86            | 244.55      | 4,753.13            | -239.50    | -503.27    | -134.85               | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00                               | 9.86            | 244.55      | 4,851.66            | -246.86    | -518.74    | -138.99               | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                               | 9.86            | 244.55      | 4,950.18            | -254.22    | -534.20    | -143.13               | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                               | 9.86            | 244.55      | 5,048.70            | -261.58    | -549.67    | -147.28               | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                               | 9.86            | 244.55      | 5,147.22            | -268.94    | -565.13    | -151.42               | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00                               | 9.86            | 244.55      | 5,245.75            | -276.30    | -580.60    | -155.57               | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                               | 9.86            | 244.55      | 5,344.27            | -283.66    | -596.07    | -159.71               | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00                               | 9.86            | 244.55      | 5,442.79            | -291.02    | -611.53    | -163.85               | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                               | 9.86            | 244.55      | 5,541.31            | -298.38    | -627.00    | -168.00               | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                               | 9.86            | 244.55      | 5,639.83            | -305.74    | -642.46    | -172.14               | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                               | 9.86            | 244.55      | 5,738.36            | -313.10    | -657.93    | -176.29               | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                               | 9.86            | 244.55      | 5,836.88            | -320.46    | -673.40    | -180.43               | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                               | 9.86            | 244.55      | 5,935.40            | -327.82    | -688.86    | -184.57               | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                               | 9.86            | 244.55      | 6,033.92            | -335.18    | -704.33    | -188.72               | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                               | 9.86            | 244.55      | 6,132.45            | -342.54    | -719.79    | -192.86               | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                               | 9.86            | 244.55      | 6,230.97            | -349.90    | -735.26    | -197.01               | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                               | 9.86            | 244.55      | 6,329.49            | -357.26    | -750.72    | -201.15               | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                               | 9.86            | 244.55      | 6,428.01            | -364.62    | -766.19    | -205.29               | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                               | 9.86            | 244.55      | 6,526.54            | -371.98    | -781.66    | -209.44               | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00                               | 9.86            | 244.55      | 6,625.06            | -379.34    | -797.12    | -213.58               | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00                               | 9.86            | 244.55      | 6,723.58            | -386.70    | -812.59    | -217.72               | 0.00                    | 0.00                   | 0.00                  |
| 6,844.78                               | 9.86            | 244.55      | 6,767.70            | -390.00    | -819.51    | -219.58               | 0.00                    | 0.00                   | 0.00                  |
| <b>Start DLS 10.00 TFO 115.49</b>      |                 |             |                     |            |            |                       |                         |                        |                       |
| 6,900.00                               | 8.98            | 278.36      | 6,822.21            | -391.40    | -828.05    | -219.26               | 10.00                   | -1.60                  | 61.23                 |
| 7,000.00                               | 14.30           | 322.50      | 6,920.30            | -380.44    | -843.33    | -205.49               | 10.00                   | 5.32                   | 44.14                 |
| 7,100.00                               | 22.95           | 338.68      | 7,015.03            | -352.41    | -857.98    | -175.11               | 10.00                   | 8.65                   | 16.19                 |
| 7,115.25                               | 24.36           | 340.15      | 7,029.00            | -346.68    | -860.12    | -169.07               | 10.00                   | 9.23                   | 9.61                  |
| <b>SHARON SPRINGS</b>                  |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,170.23                               | 29.52           | 344.33      | 7,078.00            | -322.96    | -867.64    | -144.33               | 10.00                   | 9.39                   | 7.60                  |
| <b>NIOBRARA A</b>                      |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,200.00                               | 32.36           | 346.07      | 7,103.54            | -308.16    | -871.54    | -129.05               | 10.00                   | 9.54                   | 5.86                  |
| 7,219.70                               | 34.25           | 347.09      | 7,120.00            | -297.64    | -874.05    | -118.23               | 10.00                   | 9.60                   | 5.13                  |
| <b>NIOBRARA B</b>                      |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,300.00                               | 42.02           | 350.37      | 7,183.12            | -249.03    | -883.61    | -68.70                | 10.00                   | 9.68                   | 4.09                  |
| 7,353.24                               | 47.22           | 352.04      | 7,221.00            | -212.09    | -889.30    | -31.36                | 10.00                   | 9.75                   | 3.14                  |
| <b>NIOBRARA C</b>                      |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,400.00                               | 51.79           | 353.30      | 7,251.36            | -176.83    | -893.82    | 4.09                  | 10.00                   | 9.79                   | 2.68                  |
| 7,500.00                               | 61.62           | 355.52      | 7,306.19            | -93.74     | -901.86    | 87.13                 | 10.00                   | 9.83                   | 2.23                  |
| 7,600.00                               | 71.48           | 357.37      | 7,345.94            | -2.29      | -907.49    | 177.87                | 10.00                   | 9.86                   | 1.84                  |
| 7,603.37                               | 71.81           | 357.42      | 7,347.00            | 0.91       | -907.63    | 181.04                | 10.00                   | 9.87                   | 1.72                  |
| <b>FORT HAYS</b>                       |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,700.00                               | 81.35           | 359.01      | 7,369.40            | 94.74      | -910.53    | 273.58                | 10.00                   | 9.87                   | 1.64                  |
| 7,711.36                               | 82.47           | 359.19      | 7,371.00            | 105.98     | -910.71    | 284.63                | 10.00                   | 9.88                   | 1.58                  |
| <b>CODELL</b>                          |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,786.79                               | 89.92           | 0.36        | 7,376.00            | 181.19     | -911.00    | 358.40                | 10.00                   | 9.88                   | 1.56                  |
| <b>Start DLS 1.00 TFO -161.20 - 7"</b> |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,787.29                               | 89.92           | 0.36        | 7,376.00            | 181.69     | -911.00    | 358.89                | 1.01                    | -0.95                  | -0.32                 |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 30C-31HZ                            |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Site:</b>     | WELD_CAMP 35-31HZ PAD       | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | CAMP 30C-31HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 30C-31HZ               |                                     |   |
| <b>Design:</b>   | CAMP 30C-31HZ (wp01)        |                                     |   |

### Planned 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) |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Start 4187.63 hold at 7787.29 MD   |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,800.00                           | 89.92           | 0.36        | 7,376.02            | 194.40     | -910.92    | 371.33                | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00                           | 89.92           | 0.36        | 7,376.16            | 294.40     | -910.29    | 469.22                | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                           | 89.92           | 0.36        | 7,376.31            | 394.40     | -909.67    | 567.10                | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00                           | 89.92           | 0.36        | 7,376.45            | 494.40     | -909.04    | 664.99                | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                           | 89.92           | 0.36        | 7,376.59            | 594.40     | -908.42    | 762.87                | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00                           | 89.92           | 0.36        | 7,376.74            | 694.39     | -907.79    | 860.76                | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00                           | 89.92           | 0.36        | 7,376.88            | 794.39     | -907.16    | 958.64                | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00                           | 89.92           | 0.36        | 7,377.02            | 894.39     | -906.54    | 1,056.52              | 0.00                    | 0.00                   | 0.00                  |
| 8,600.00                           | 89.92           | 0.36        | 7,377.17            | 994.39     | -905.91    | 1,154.41              | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00                           | 89.92           | 0.36        | 7,377.31            | 1,094.39   | -905.29    | 1,252.29              | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00                           | 89.92           | 0.36        | 7,377.45            | 1,194.38   | -904.66    | 1,350.18              | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00                           | 89.92           | 0.36        | 7,377.59            | 1,294.38   | -904.04    | 1,448.06              | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                           | 89.92           | 0.36        | 7,377.74            | 1,394.38   | -903.41    | 1,545.95              | 0.00                    | 0.00                   | 0.00                  |
| 9,100.00                           | 89.92           | 0.36        | 7,377.88            | 1,494.38   | -902.79    | 1,643.83              | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00                           | 89.92           | 0.36        | 7,378.02            | 1,594.38   | -902.16    | 1,741.72              | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00                           | 89.92           | 0.36        | 7,378.17            | 1,694.37   | -901.53    | 1,839.60              | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00                           | 89.92           | 0.36        | 7,378.31            | 1,794.37   | -900.91    | 1,937.48              | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00                           | 89.92           | 0.36        | 7,378.45            | 1,894.37   | -900.28    | 2,035.37              | 0.00                    | 0.00                   | 0.00                  |
| 9,600.00                           | 89.92           | 0.36        | 7,378.60            | 1,994.37   | -899.66    | 2,133.25              | 0.00                    | 0.00                   | 0.00                  |
| 9,700.00                           | 89.92           | 0.36        | 7,378.74            | 2,094.36   | -899.03    | 2,231.14              | 0.00                    | 0.00                   | 0.00                  |
| 9,800.00                           | 89.92           | 0.36        | 7,378.88            | 2,194.36   | -898.41    | 2,329.02              | 0.00                    | 0.00                   | 0.00                  |
| 9,900.00                           | 89.92           | 0.36        | 7,379.03            | 2,294.36   | -897.78    | 2,426.91              | 0.00                    | 0.00                   | 0.00                  |
| 10,000.00                          | 89.92           | 0.36        | 7,379.17            | 2,394.36   | -897.16    | 2,524.79              | 0.00                    | 0.00                   | 0.00                  |
| 10,100.00                          | 89.92           | 0.36        | 7,379.31            | 2,494.36   | -896.53    | 2,622.67              | 0.00                    | 0.00                   | 0.00                  |
| 10,200.00                          | 89.92           | 0.36        | 7,379.46            | 2,594.35   | -895.91    | 2,720.56              | 0.00                    | 0.00                   | 0.00                  |
| 10,300.00                          | 89.92           | 0.36        | 7,379.60            | 2,694.35   | -895.28    | 2,818.44              | 0.00                    | 0.00                   | 0.00                  |
| 10,400.00                          | 89.92           | 0.36        | 7,379.74            | 2,794.35   | -894.65    | 2,916.33              | 0.00                    | 0.00                   | 0.00                  |
| 10,500.00                          | 89.92           | 0.36        | 7,379.89            | 2,894.35   | -894.03    | 3,014.21              | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00                          | 89.92           | 0.36        | 7,380.03            | 2,994.35   | -893.40    | 3,112.10              | 0.00                    | 0.00                   | 0.00                  |
| 10,700.00                          | 89.92           | 0.36        | 7,380.17            | 3,094.34   | -892.78    | 3,209.98              | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00                          | 89.92           | 0.36        | 7,380.32            | 3,194.34   | -892.15    | 3,307.86              | 0.00                    | 0.00                   | 0.00                  |
| 10,900.00                          | 89.92           | 0.36        | 7,380.46            | 3,294.34   | -891.53    | 3,405.75              | 0.00                    | 0.00                   | 0.00                  |
| 11,000.00                          | 89.92           | 0.36        | 7,380.60            | 3,394.34   | -890.90    | 3,503.63              | 0.00                    | 0.00                   | 0.00                  |
| 11,100.00                          | 89.92           | 0.36        | 7,380.75            | 3,494.34   | -890.28    | 3,601.52              | 0.00                    | 0.00                   | 0.00                  |
| 11,200.00                          | 89.92           | 0.36        | 7,380.89            | 3,594.33   | -889.65    | 3,699.40              | 0.00                    | 0.00                   | 0.00                  |
| 11,300.00                          | 89.92           | 0.36        | 7,381.03            | 3,694.33   | -889.02    | 3,797.29              | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00                          | 89.92           | 0.36        | 7,381.18            | 3,794.33   | -888.40    | 3,895.17              | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00                          | 89.92           | 0.36        | 7,381.32            | 3,894.33   | -887.77    | 3,993.06              | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00                          | 89.92           | 0.36        | 7,381.46            | 3,994.33   | -887.15    | 4,090.94              | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00                          | 89.92           | 0.36        | 7,381.61            | 4,094.32   | -886.52    | 4,188.82              | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00                          | 89.92           | 0.36        | 7,381.75            | 4,194.32   | -885.90    | 4,286.71              | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00                          | 89.92           | 0.36        | 7,381.89            | 4,294.32   | -885.27    | 4,384.59              | 0.00                    | 0.00                   | 0.00                  |
| 11,974.92                          | 89.92           | 0.36        | 7,382.00            | 4,369.24   | -884.80    | 4,457.93              | 0.00                    | 0.00                   | 0.00                  |
| TD at 11974.92 - CAMP 30C-31HZ BHL |                 |             |                     |            |            |                       |                         |                        |                       |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 30C-31HZ                            |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL + 25' RKB @ 4996.00ft (Original Well Elev) |
| <b>Site:</b>     | WELD_CAMP 35-31HZ PAD       | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | CAMP 30C-31HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 30C-31HZ               |                                     |   |
| <b>Design:</b>   | CAMP 30C-31HZ (wp01)        |                                     |   |

| Design Targets  |                  |                 |             |               |               |                    |                   |           |             |
|---|------------------|-----------------|-------------|---------------|---------------|--------------------|-------------------|-----------|-------------|
| Target Name<br>- hit/miss target<br>- Shape               | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(usft) | Easting<br>(usft) | Latitude  | Longitude   |
| CAMP 30C-31HZ BHL<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 7,382.00    | 4,369.24      | -884.80       | 1,312,277.19       | 3,219,493.55      | 40.187928 | -104.714349 |

| Casing Points          |                        |        |                        |                      |  |
|------------------------|------------------------|--------|------------------------|----------------------|--|
| Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Name   | Casing Diameter<br>(") | Hole Diameter<br>(") |  |
| 800.00                 | 800.00                 | 9 5/8" | 9-5/8                  | 13-1/2               |  |
| 7,786.79               | 7,376.00               | 7"     | 7                      | 8-3/4                |  |

| Formations             |                        |                |           |            |                      |  |
|------------------------|------------------------|----------------|-----------|------------|----------------------|--|
| Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Name           | Lithology | Dip<br>(°) | Dip Direction<br>(°) |  |
| 4,034.55               | 3,999.00               | PARKMAN        |           | 0.00       |                      |  |
| 4,446.64               | 4,405.00               | SUSSEX         |           | 0.00       |                      |  |
| 7,115.25               | 7,029.00               | SHARON SPRINGS |           | 0.00       |                      |  |
| 7,170.23               | 7,078.00               | NIOBRARA A     |           | 0.00       |                      |  |
| 7,219.70               | 7,120.00               | NIOBRARA B     |           | 0.00       |                      |  |
| 7,353.24               | 7,221.00               | NIOBRARA C     |           | 0.00       |                      |  |
| 7,603.37               | 7,347.00               | FORT HAYS      |           | 0.00       |                      |  |
| 7,711.36               | 7,371.00               | CODELL         |           | 0.00       |                      |  |

| Plan Annotations       |                        |                   |               |                                  |  |
|------------------------|------------------------|-------------------|---------------|----------------------------------|--|
| Measured Depth<br>(ft) | Vertical Depth<br>(ft) | Local Coordinates |               |                                  |  |
|                        |                        | +N/-S<br>(ft)     | +E/-W<br>(ft) | Comment                          |  |
| 1,300.00               | 1,300.00               | 0.00              | 0.00          | Start Build 2.00                 |  |
| 1,793.11               | 1,790.68               | -18.19            | -38.23        | Start 5051.67 hold at 1793.11 MD |  |
| 6,844.78               | 6,767.70               | -390.00           | -819.51       | Start DLS 10.00 TFO 115.49       |  |
| 7,786.79               | 7,376.00               | 181.19            | -911.00       | Start DLS 1.00 TFO -161.20       |  |
| 7,787.29               | 7,376.00               | 181.69            | -911.00       | Start 4187.63 hold at 7787.29 MD |  |
| 11,974.92              | 7,382.00               | 4,369.24          | -884.80       | TD at 11974.92                   |  |