

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

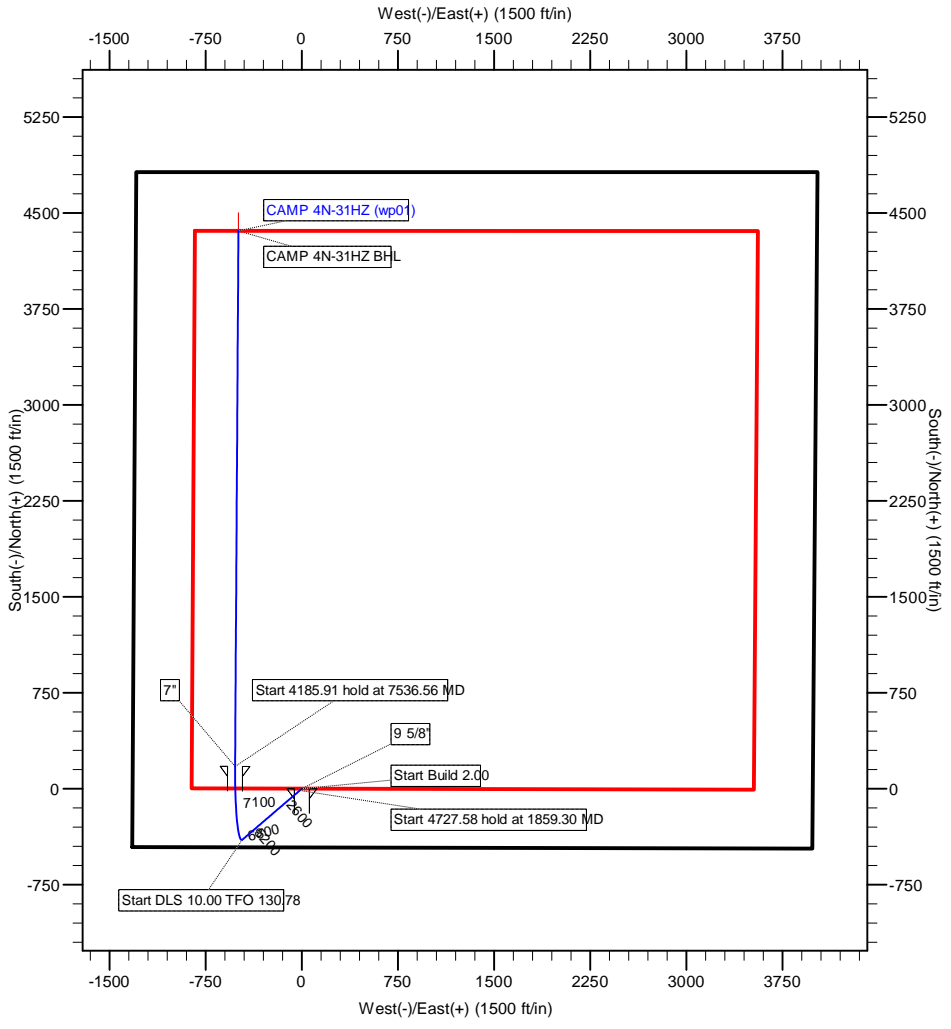
**CAMP 4N-31HZ**

**CAMP 4N-31HZ**

**Plan: CAMP 4N-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 4N-31HZ**  
**Wellbore: CAMP 4N-31HZ**  
**Section:**  
**SHL:**  
**Design: CAMP 4N-31HZ (wp01)**  
**Latitude: 40.175961**  
**Longitude: -104.711114**  
**GL: 4971.00**  
**KB: GL + 25' RKB @ 4996.00ft (Original Well Elev)**

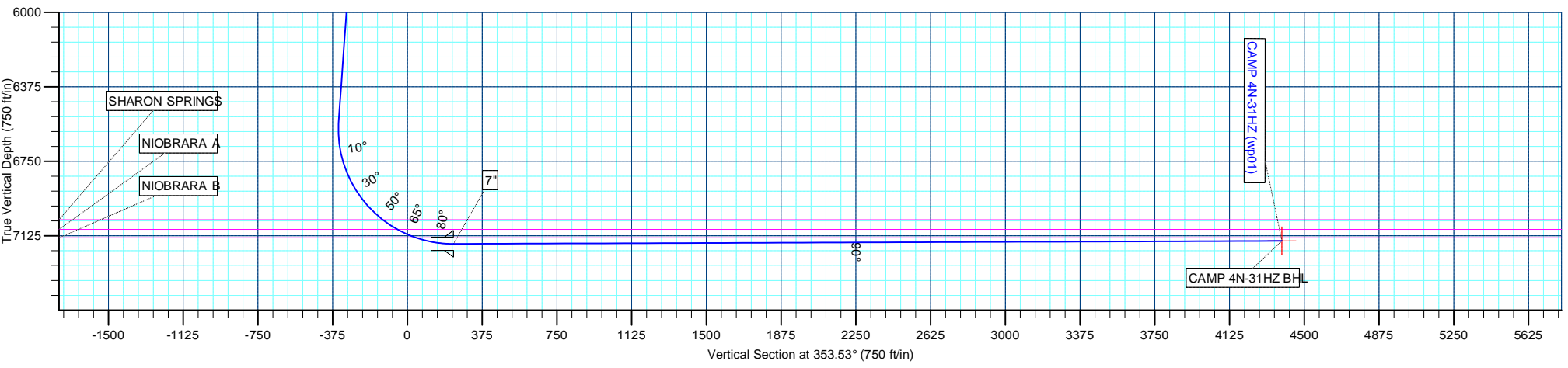
| WELL DETAILS: CAMP 4N-31HZ |      |            |                       |                     |             |      |
|----------------------------|------|------------|-----------------------|---------------------|-------------|------|
| +N-S                       | +E-W | Northing   | Ground Level: Easting | 4971.00<br>Latitude | Longitude   | Slot |
| 0.00                       | 0.00 | 1307926.01 | 3220436.09            | 40.175961           | -104.711114 |      |

| 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    |  |
| 1500.00         | 0.00  | 0.00   | 1500.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    |  |
| 1859.30         | 7.19  | 229.34 | 1858.36 | -14.66  | -17.07  | 2.00  | 229.34  | -12.64  |  |
| 6586.89         | 7.19  | 229.34 | 6548.81 | -400.00 | -465.67 | 0.00  | 0.00    | -344.94 |  |
| 7536.07         | 90.21 | 0.36   | 7166.00 | 173.47  | -521.00 | 10.00 | 130.78  | 231.11  |  |
| 7536.56         | 90.21 | 0.36   | 7166.00 | 173.96  | -521.00 | 1.00  | -165.44 | 231.60  |  |
| 11722.47        | 90.21 | 0.36   | 7151.00 | 4359.76 | -494.79 | 0.00  | 0.00    | 4387.75 |  |

| WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG) |         |         |         |           |             |       |
|---|---------|---------|---------|-----------|-------------|-------|
| Name  | TVD     | +N-S    | +E-W    | Latitude  | Longitude   | Shape |
| CAMP 4N-31HZ BHL  | 7151.00 | 4359.76 | -494.79 | 40.187929 | -104.712885 | Point |

| FORMATION TOP DETAILS |         |                |
|-----------------------|---------|----------------|
| TVDPath               | MDPath  | Formation      |
| 4014.00               | 4032.01 | PARKMAN        |
| 4420.00               | 4441.22 | SUSSEX         |
| 7044.00               | 7152.19 | SHARON SPRINGS |
| 7093.00               | 7240.89 | NIOBRARA A     |
| 7135.00               | 7344.18 | NIOBRARA B     |

| CASING DETAILS |         |        |       |
|----------------|---------|--------|-------|
| TVD            | MD      | Name   | Size  |
| 800.00         | 800.00  | 9 5/8" | 9-5/8 |
| 7166.00        | 7536.07 | 7"     | 7     |



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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 4N-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 4N-31HZ                | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 4N-31HZ                |                                     |   |
| <b>Design:</b>   | CAMP 4N-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      |                      |                |

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

|                             |              |          |                            |                   |                      |             |
|-----------------------------|--------------|----------|----------------------------|-------------------|----------------------|-------------|
| <b>Well</b>                 | CAMP 4N-31HZ |          |                            |                   |                      |             |
| <b>Well Position</b>        | <b>+N/-S</b> | -0.02 ft | <b>Northing:</b>           | 1,307,926.01 usft | <b>Latitude:</b>     | 40.175961   |
|                             | <b>+E/-W</b> | 37.44 ft | <b>Easting:</b>            | 3,220,436.09 usft | <b>Longitude:</b>    | -104.711114 |
| <b>Position Uncertainty</b> |              | 0.00 ft  | <b>Wellhead Elevation:</b> |                   | <b>Ground Level:</b> | 4,971.00 ft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | CAMP 4N-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 4N-31HZ (wp01)          |                   |                      |                      |  |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |  |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.00                 |  |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |  |
|                          | 0.00                         | 0.00              | 0.00                 | 353.53               |  |

| <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    |                  |
| 1,500.00             | 0.00            | 0.00        | 1,500.00            | 0.00       | 0.00       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 1,859.30             | 7.19            | 229.34      | 1,858.36            | -14.66     | -17.07     | 2.00                    | 2.00                   | 0.00                  | 229.34  |                  |
| 6,586.89             | 7.19            | 229.34      | 6,548.81            | -400.00    | -465.67    | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 7,536.07             | 90.21           | 0.36        | 7,166.00            | 173.47     | -521.00    | 10.00                   | 8.75                   | 13.80                 | 130.78  |                  |
| 7,536.56             | 90.21           | 0.36        | 7,166.00            | 173.96     | -521.00    | 1.00                    | -0.97                  | -0.25                 | -165.44 |                  |
| 11,722.47            | 90.21           | 0.36        | 7,151.00            | 4,359.76   | -494.79    | 0.00                    | 0.00                   | 0.00                  | 0.00    | CAMP 4N-31HZ BHL |

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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 4N-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 4N-31HZ                | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 4N-31HZ                |                                     |   |
| <b>Design:</b>   | CAMP 4N-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                  | 0.00 |
| 100.00                                  | 0.00            | 0.00        | 100.00              | 0.00       | 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                  | 0.00 |
| 300.00                                  | 0.00            | 0.00        | 300.00              | 0.00       | 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                  | 0.00 |
| 500.00                                  | 0.00            | 0.00        | 500.00              | 0.00       | 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                  | 0.00 |
| 700.00                                  | 0.00            | 0.00        | 700.00              | 0.00       | 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                  | 0.00 |
| <b>9 5/8"</b>                           |                 |             |                     |            |            |                       |                         |                        |                       |      |
| 900.00                                  | 0.00            | 0.00        | 900.00              | 0.00       | 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                  | 0.00 |
| 1,100.00                                | 0.00            | 0.00        | 1,100.00            | 0.00       | 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                  | 0.00 |
| 1,300.00                                | 0.00            | 0.00        | 1,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 1,400.00                                | 0.00            | 0.00        | 1,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 1,500.00                                | 0.00            | 0.00        | 1,500.00            | 0.00       | 0.00       | 0.00                  | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| <b>Start Build 2.00</b>                 |                 |             |                     |            |            |                       |                         |                        |                       |      |
| 1,600.00                                | 2.00            | 229.34      | 1,599.98            | -1.14      | -1.32      | -0.98                 | 2.00                    | 2.00                   | 0.00                  | 0.00 |
| 1,700.00                                | 4.00            | 229.34      | 1,699.84            | -4.55      | -5.29      | -3.92                 | 2.00                    | 2.00                   | 0.00                  | 0.00 |
| 1,800.00                                | 6.00            | 229.34      | 1,799.45            | -10.23     | -11.90     | -8.82                 | 2.00                    | 2.00                   | 0.00                  | 0.00 |
| 1,859.30                                | 7.19            | 229.34      | 1,858.36            | -14.66     | -17.07     | -12.64                | 2.00                    | 2.00                   | 0.00                  | 0.00 |
| <b>Start 4727.58 hold at 1859.30 MD</b> |                 |             |                     |            |            |                       |                         |                        |                       |      |
| 1,900.00                                | 7.19            | 229.34      | 1,898.74            | -17.98     | -20.93     | -15.50                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,000.00                                | 7.19            | 229.34      | 1,997.95            | -26.13     | -30.42     | -22.53                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,100.00                                | 7.19            | 229.34      | 2,097.17            | -34.28     | -39.91     | -29.56                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,200.00                                | 7.19            | 229.34      | 2,196.38            | -42.43     | -49.40     | -36.59                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,300.00                                | 7.19            | 229.34      | 2,295.60            | -50.58     | -58.89     | -43.62                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,400.00                                | 7.19            | 229.34      | 2,394.81            | -58.73     | -68.38     | -50.65                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,500.00                                | 7.19            | 229.34      | 2,494.03            | -66.89     | -77.87     | -57.68                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,600.00                                | 7.19            | 229.34      | 2,593.24            | -75.04     | -87.36     | -64.71                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,700.00                                | 7.19            | 229.34      | 2,692.46            | -83.19     | -96.84     | -71.74                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,800.00                                | 7.19            | 229.34      | 2,791.67            | -91.34     | -106.33    | -78.76                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 2,900.00                                | 7.19            | 229.34      | 2,890.88            | -99.49     | -115.82    | -85.79                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,000.00                                | 7.19            | 229.34      | 2,990.10            | -107.64    | -125.31    | -92.82                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,100.00                                | 7.19            | 229.34      | 3,089.31            | -115.79    | -134.80    | -99.85                | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,200.00                                | 7.19            | 229.34      | 3,188.53            | -123.94    | -144.29    | -106.88               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,300.00                                | 7.19            | 229.34      | 3,287.74            | -132.09    | -153.78    | -113.91               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,400.00                                | 7.19            | 229.34      | 3,386.96            | -140.24    | -163.27    | -120.94               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,500.00                                | 7.19            | 229.34      | 3,486.17            | -148.39    | -172.76    | -127.97               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,600.00                                | 7.19            | 229.34      | 3,585.39            | -156.55    | -182.25    | -135.00               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,700.00                                | 7.19            | 229.34      | 3,684.60            | -164.70    | -191.74    | -142.02               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,800.00                                | 7.19            | 229.34      | 3,783.81            | -172.85    | -201.22    | -149.05               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 3,900.00                                | 7.19            | 229.34      | 3,883.03            | -181.00    | -210.71    | -156.08               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,000.00                                | 7.19            | 229.34      | 3,982.24            | -189.15    | -220.20    | -163.11               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,032.01                                | 7.19            | 229.34      | 4,014.00            | -191.76    | -223.24    | -165.36               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| <b>PARKMAN</b>                          |                 |             |                     |            |            |                       |                         |                        |                       |      |
| 4,100.00                                | 7.19            | 229.34      | 4,081.46            | -197.30    | -229.69    | -170.14               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,200.00                                | 7.19            | 229.34      | 4,180.67            | -205.45    | -239.18    | -177.17               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,300.00                                | 7.19            | 229.34      | 4,279.89            | -213.60    | -248.67    | -184.20               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,400.00                                | 7.19            | 229.34      | 4,379.10            | -221.75    | -258.16    | -191.23               | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 4,441.22                                | 7.19            | 229.34      | 4,420.00            | -225.11    | -262.07    | -194.12               | 0.00                    | 0.00                   | 0.00                  | 0.00 |

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## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 4N-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 4N-31HZ                | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 4N-31HZ                |                                     |   |
| <b>Design:</b>   | CAMP 4N-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                                | 7.19            | 229.34      | 4,478.32            | -229.90    | -267.65    | -198.26               | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00                                | 7.19            | 229.34      | 4,577.53            | -238.05    | -277.14    | -205.28               | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00                                | 7.19            | 229.34      | 4,676.75            | -246.21    | -286.63    | -212.31               | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00                                | 7.19            | 229.34      | 4,775.96            | -254.36    | -296.12    | -219.34               | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00                                | 7.19            | 229.34      | 4,875.17            | -262.51    | -305.60    | -226.37               | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                                | 7.19            | 229.34      | 4,974.39            | -270.66    | -315.09    | -233.40               | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                                | 7.19            | 229.34      | 5,073.60            | -278.81    | -324.58    | -240.43               | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                                | 7.19            | 229.34      | 5,172.82            | -286.96    | -334.07    | -247.46               | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00                                | 7.19            | 229.34      | 5,272.03            | -295.11    | -343.56    | -254.49               | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                                | 7.19            | 229.34      | 5,371.25            | -303.26    | -353.05    | -261.52               | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00                                | 7.19            | 229.34      | 5,470.46            | -311.41    | -362.54    | -268.54               | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                                | 7.19            | 229.34      | 5,569.68            | -319.56    | -372.03    | -275.57               | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                                | 7.19            | 229.34      | 5,668.89            | -327.71    | -381.52    | -282.60               | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                                | 7.19            | 229.34      | 5,768.11            | -335.87    | -391.01    | -289.63               | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                                | 7.19            | 229.34      | 5,867.32            | -344.02    | -400.50    | -296.66               | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                                | 7.19            | 229.34      | 5,966.53            | -352.17    | -409.98    | -303.69               | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                                | 7.19            | 229.34      | 6,065.75            | -360.32    | -419.47    | -310.72               | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                                | 7.19            | 229.34      | 6,164.96            | -368.47    | -428.96    | -317.75               | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                                | 7.19            | 229.34      | 6,264.18            | -376.62    | -438.45    | -324.78               | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                                | 7.19            | 229.34      | 6,363.39            | -384.77    | -447.94    | -331.80               | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                                | 7.19            | 229.34      | 6,462.61            | -392.92    | -457.43    | -338.83               | 0.00                    | 0.00                   | 0.00                  |
| 6,586.89                                | 7.19            | 229.34      | 6,548.81            | -400.00    | -465.67    | -344.94               | 0.00                    | 0.00                   | 0.00                  |
| <b>Start DLS 10.00 TFO 130.78</b>       |                 |             |                     |            |            |                       |                         |                        |                       |
| 6,600.00                                | 6.41            | 238.27      | 6,561.83            | -400.92    | -466.92    | -345.71               | 10.00                   | -5.94                  | 68.13                 |
| 6,700.00                                | 8.55            | 321.05      | 6,661.22            | -398.07    | -476.36    | -341.82               | 10.00                   | 2.14                   | 82.78                 |
| 6,800.00                                | 17.45           | 342.72      | 6,758.61            | -377.93    | -485.51    | -320.77               | 10.00                   | 8.90                   | 21.67                 |
| 6,900.00                                | 27.11           | 349.63      | 6,851.05            | -341.10    | -494.08    | -283.21               | 10.00                   | 9.67                   | 6.91                  |
| 7,000.00                                | 36.95           | 353.07      | 6,935.73            | -288.72    | -501.83    | -230.29               | 10.00                   | 9.84                   | 3.44                  |
| 7,100.00                                | 46.85           | 355.22      | 7,010.07            | -222.37    | -508.51    | -163.61               | 10.00                   | 9.90                   | 2.15                  |
| 7,152.19                                | 52.02           | 356.08      | 7,044.00            | -182.85    | -511.51    | -124.00               | 10.00                   | 9.92                   | 1.64                  |
| <b>SHARON SPRINGS</b>                   |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,200.00                                | 56.77           | 356.77      | 7,071.82            | -144.06    | -513.92    | -85.19                | 10.00                   | 9.93                   | 1.43                  |
| 7,240.89                                | 60.84           | 357.30      | 7,093.00            | -109.13    | -515.73    | -50.28                | 10.00                   | 9.94                   | 1.30                  |
| <b>NIORARA A</b>                        |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,300.00                                | 66.72           | 357.99      | 7,119.11            | -56.18     | -517.90    | 2.58                  | 10.00                   | 9.94                   | 1.18                  |
| 7,344.18                                | 71.11           | 358.47      | 7,135.00            | -14.98     | -519.17    | 43.66                 | 10.00                   | 9.95                   | 1.09                  |
| <b>NIORARA B</b>                        |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,400.00                                | 76.67           | 359.05      | 7,150.48            | 38.61      | -520.32    | 97.04                 | 10.00                   | 9.95                   | 1.03                  |
| 7,500.00                                | 86.62           | 0.02        | 7,165.00            | 137.42     | -521.12    | 195.30                | 10.00                   | 9.95                   | 0.97                  |
| 7,536.07                                | 90.21           | 0.36        | 7,166.00            | 173.47     | -521.00    | 231.11                | 10.00                   | 9.95                   | 0.95                  |
| <b>7"</b>                               |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,536.56                                | 90.21           | 0.36        | 7,166.00            | 173.96     | -521.00    | 231.60                | 0.94                    | -0.90                  | -0.24                 |
| <b>Start 4185.91 hold at 7536.56 MD</b> |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,600.00                                | 90.21           | 0.36        | 7,165.77            | 237.40     | -520.60    | 294.59                | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00                                | 90.21           | 0.36        | 7,165.41            | 337.39     | -519.97    | 393.88                | 0.00                    | 0.00                   | 0.00                  |
| 7,800.00                                | 90.21           | 0.36        | 7,165.05            | 437.39     | -519.35    | 493.16                | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00                                | 90.21           | 0.36        | 7,164.70            | 537.39     | -518.72    | 592.45                | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                                | 90.21           | 0.36        | 7,164.34            | 637.39     | -518.10    | 691.74                | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00                                | 90.21           | 0.36        | 7,163.98            | 737.38     | -517.47    | 791.03                | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                                | 90.21           | 0.36        | 7,163.62            | 837.38     | -516.84    | 890.32                | 0.00                    | 0.00                   | 0.00                  |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 4N-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 4N-31HZ                | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 4N-31HZ                |                                     |   |
| <b>Design:</b>   | CAMP 4N-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) |  |
| 8,300.00                                 | 90.21           | 0.36        | 7,163.26            | 937.38     | -516.22    | 989.61                | 0.00                    | 0.00                   | 0.00                  |  |
| 8,400.00                                 | 90.21           | 0.36        | 7,162.90            | 1,037.37   | -515.59    | 1,088.90              | 0.00                    | 0.00                   | 0.00                  |  |
| 8,500.00                                 | 90.21           | 0.36        | 7,162.55            | 1,137.37   | -514.96    | 1,188.19              | 0.00                    | 0.00                   | 0.00                  |  |
| 8,600.00                                 | 90.21           | 0.36        | 7,162.19            | 1,237.37   | -514.34    | 1,287.48              | 0.00                    | 0.00                   | 0.00                  |  |
| 8,700.00                                 | 90.21           | 0.36        | 7,161.83            | 1,337.37   | -513.71    | 1,386.77              | 0.00                    | 0.00                   | 0.00                  |  |
| 8,800.00                                 | 90.21           | 0.36        | 7,161.47            | 1,437.36   | -513.09    | 1,486.05              | 0.00                    | 0.00                   | 0.00                  |  |
| 8,900.00                                 | 90.21           | 0.36        | 7,161.11            | 1,537.36   | -512.46    | 1,585.34              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,000.00                                 | 90.21           | 0.36        | 7,160.75            | 1,637.36   | -511.83    | 1,684.63              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,100.00                                 | 90.21           | 0.36        | 7,160.40            | 1,737.36   | -511.21    | 1,783.92              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,200.00                                 | 90.21           | 0.36        | 7,160.04            | 1,837.35   | -510.58    | 1,883.21              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,300.00                                 | 90.21           | 0.36        | 7,159.68            | 1,937.35   | -509.95    | 1,982.50              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,400.00                                 | 90.21           | 0.36        | 7,159.32            | 2,037.35   | -509.33    | 2,081.79              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,500.00                                 | 90.21           | 0.36        | 7,158.96            | 2,137.35   | -508.70    | 2,181.08              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,600.00                                 | 90.21           | 0.36        | 7,158.61            | 2,237.34   | -508.08    | 2,280.37              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,700.00                                 | 90.21           | 0.36        | 7,158.25            | 2,337.34   | -507.45    | 2,379.66              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,800.00                                 | 90.21           | 0.36        | 7,157.89            | 2,437.34   | -506.82    | 2,478.94              | 0.00                    | 0.00                   | 0.00                  |  |
| 9,900.00                                 | 90.21           | 0.36        | 7,157.53            | 2,537.34   | -506.20    | 2,578.23              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,000.00                                | 90.21           | 0.36        | 7,157.17            | 2,637.33   | -505.57    | 2,677.52              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,100.00                                | 90.21           | 0.36        | 7,156.81            | 2,737.33   | -504.95    | 2,776.81              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,200.00                                | 90.21           | 0.36        | 7,156.46            | 2,837.33   | -504.32    | 2,876.10              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,300.00                                | 90.21           | 0.36        | 7,156.10            | 2,937.33   | -503.69    | 2,975.39              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,400.00                                | 90.21           | 0.36        | 7,155.74            | 3,037.32   | -503.07    | 3,074.68              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,500.00                                | 90.21           | 0.36        | 7,155.38            | 3,137.32   | -502.44    | 3,173.97              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,600.00                                | 90.21           | 0.36        | 7,155.02            | 3,237.32   | -501.81    | 3,273.26              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,700.00                                | 90.21           | 0.36        | 7,154.66            | 3,337.31   | -501.19    | 3,372.55              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,800.00                                | 90.21           | 0.36        | 7,154.31            | 3,437.31   | -500.56    | 3,471.83              | 0.00                    | 0.00                   | 0.00                  |  |
| 10,900.00                                | 90.21           | 0.36        | 7,153.95            | 3,537.31   | -499.94    | 3,571.12              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,000.00                                | 90.21           | 0.36        | 7,153.59            | 3,637.31   | -499.31    | 3,670.41              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,100.00                                | 90.21           | 0.36        | 7,153.23            | 3,737.30   | -498.68    | 3,769.70              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,200.00                                | 90.21           | 0.36        | 7,152.87            | 3,837.30   | -498.06    | 3,868.99              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,300.00                                | 90.21           | 0.36        | 7,152.51            | 3,937.30   | -497.43    | 3,968.28              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,400.00                                | 90.21           | 0.36        | 7,152.16            | 4,037.30   | -496.81    | 4,067.57              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,500.00                                | 90.21           | 0.36        | 7,151.80            | 4,137.29   | -496.18    | 4,166.86              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,600.00                                | 90.21           | 0.36        | 7,151.44            | 4,237.29   | -495.55    | 4,266.15              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,700.00                                | 90.21           | 0.36        | 7,151.08            | 4,337.29   | -494.93    | 4,365.43              | 0.00                    | 0.00                   | 0.00                  |  |
| 11,722.47                                | 90.21           | 0.36        | 7,151.00            | 4,359.76   | -494.79    | 4,387.75              | 0.00                    | 0.00                   | 0.00                  |  |
| <b>TD at 11722.47 - CAMP 4N-31HZ BHL</b> |                 |             |                     |            |            |                       |                         |                        |                       |  |

| Design Targets            |               |              |          |            |            |                 |                |           |             |  |
|---------------------------|---------------|--------------|----------|------------|------------|-----------------|----------------|-----------|-------------|--|
| Target Name               | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |  |
| CAMP 4N-31HZ BHL          | 0.00          | 0.00         | 7,151.00 | 4,359.76   | -494.79    | 1,312,281.18    | 3,219,902.54   | 40.187929 | -104.712885 |  |
| - hit/miss target         |               |              |          |            |            |                 |                |           |             |  |
| - Shape                   |               |              |          |            |            |                 |                |           |             |  |
| - plan hits target center |               |              |          |            |            |                 |                |           |             |  |
| - Point                   |               |              |          |            |            |                 |                |           |             |  |

# Anadarko Petroleum Corp

## Planning Report

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | edmp                        | <b>Local Co-ordinate Reference:</b> | Well CAMP 4N-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 4N-31HZ                | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Wellbore:</b> | CAMP 4N-31HZ                |                                     |   |
| <b>Design:</b>   | CAMP 4N-31HZ (wp01)         |                                     |   |

| Casing Points       |                     |        |                     |                   |  |
|---------------------|---------------------|--------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (") | Hole Diameter (") |  |
| 800.00              | 800.00              | 9 5/8" | 9-5/8               | 13-1/2            |  |
| 7,536.07            | 7,166.00            | 7"     | 7                   | 8-3/4             |  |

| Formations          |                     |                |           |         |                   |
|---------------------|---------------------|----------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name           | Lithology | Dip (°) | Dip Direction (°) |
| 4,032.01            | 4,014.00            | PARKMAN        |           | 0.00    |                   |
| 4,441.22            | 4,420.00            | SUSSEX         |           | 0.00    |                   |
| 7,152.19            | 7,044.00            | SHARON SPRINGS |           | 0.00    |                   |
| 7,240.89            | 7,093.00            | NIOBRARA A     |           | 0.00    |                   |
| 7,344.18            | 7,135.00            | NIOBRARA B     |           | 0.00    |                   |

| Plan Annotations    |                     |                   |            |                                  |  |
|---------------------|---------------------|-------------------|------------|----------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                          |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                  |  |
| 1,500.00            | 1,500.00            | 0.00              | 0.00       | Start Build 2.00                 |  |
| 1,859.30            | 1,858.36            | -14.66            | -17.07     | Start 4727.58 hold at 1859.30 MD |  |
| 6,586.89            | 6,548.81            | -400.00           | -465.67    | Start DLS 10.00 TFO 130.78       |  |
| 7,536.56            | 7,166.00            | 173.96            | -521.00    | Start 4185.91 hold at 7536.56 MD |  |
| 11,722.47           | 7,151.00            | 4,359.76          | -494.79    | TD at 11722.47                   |  |