

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-67W-23 Puma 13-23HZ Pad  
PUMA 4C-14HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**05 August, 2015**

Project: WELD-NAD83-UTMFT13N

Site: 1N-67W-23 Puma 13-23HZ Pad

Well: PUMA 4C-14HZ

Wellbore: Plan A

Design: Permit Rev-1

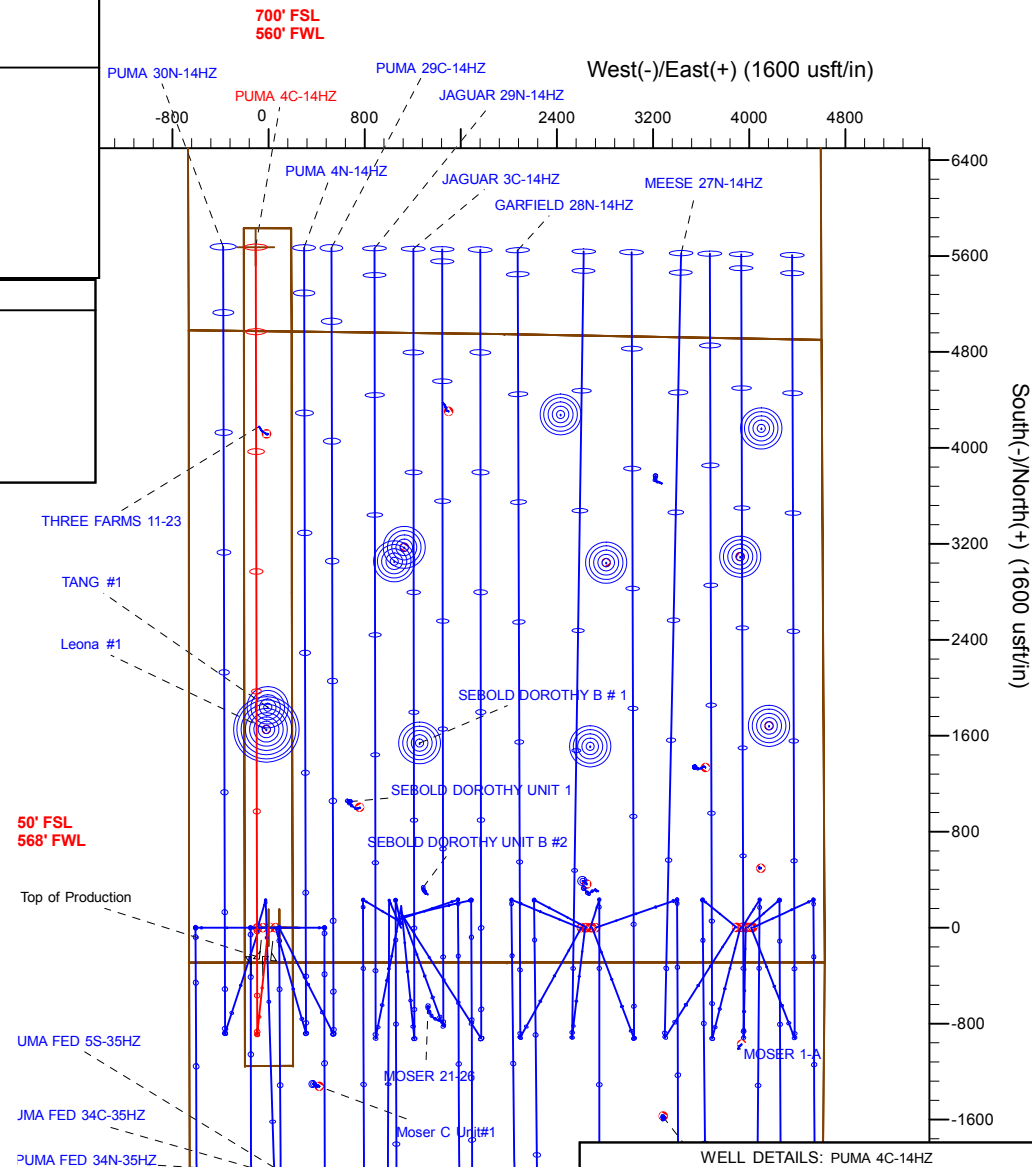
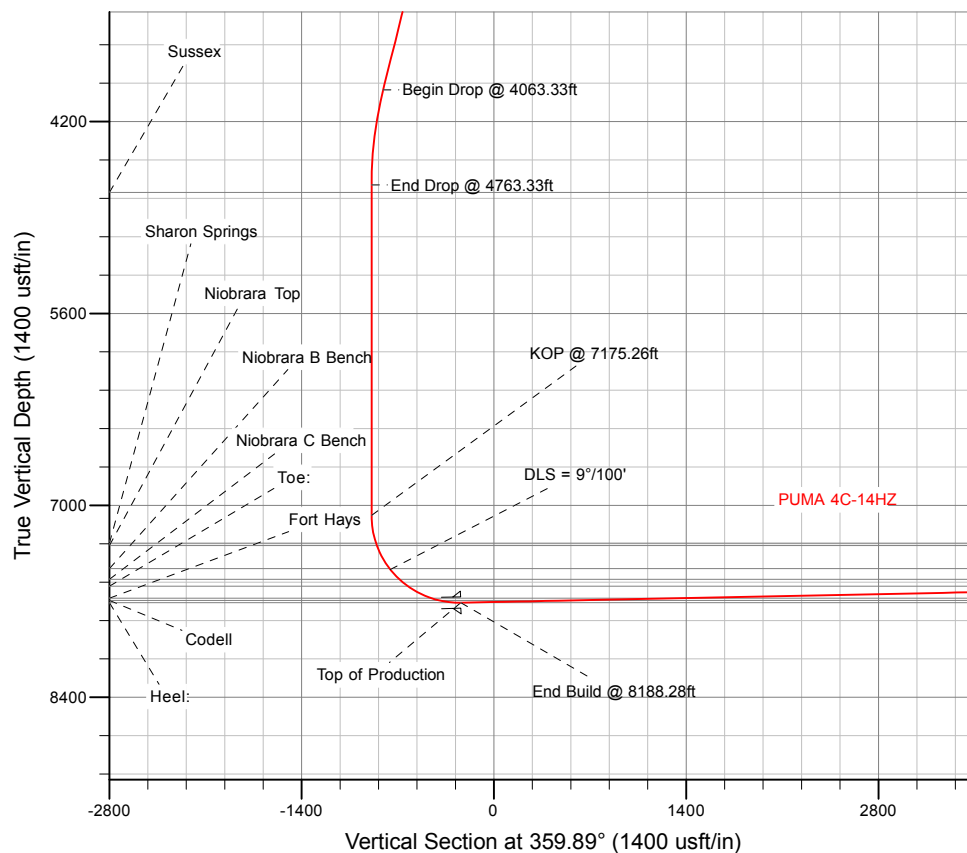
# US ROCKIES WATTENBERG PLANNING

## SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD     | +N/-S   | +E/-W   | Dleg | TFace  | VSec    | Target           |
|-----|----------|-------|--------|---------|---------|---------|------|--------|---------|------------------|
| 1   | 0.00     | 0.00  | 0.00   | 0.00    | 0.00    | 0.00    | 0.00 | 0.00   | 0.00    |                  |
| 2   | 250.00   | 0.00  | 0.00   | 250.00  | 0.00    | 0.00    | 0.00 | 0.00   | 0.00    |                  |
| 3   | 1183.33  | 14.00 | 186.00 | 1174.07 | -112.84 | -11.86  | 1.50 | 186.00 | -112.82 |                  |
| 4   | 4063.33  | 14.00 | 186.00 | 3968.53 | -805.76 | -84.69  | 0.00 | 0.00   | -805.59 |                  |
| 5   | 4763.33  | 0.00  | 0.00   | 4661.58 | -890.39 | -93.58  | 2.00 | 180.00 | -890.21 |                  |
| 6   | 7175.26  | 0.00  | 0.00   | 7073.51 | -890.39 | -93.58  | 0.00 | 0.00   | -890.21 |                  |
| 7   | 8188.28  | 91.17 | 359.89 | 7710.00 | -240.75 | -94.79  | 9.00 | 359.89 | -240.57 |                  |
| 8   | 14104.73 | 91.17 | 359.89 | 7589.00 | 5674.45 | -105.79 | 0.00 | 0.00   | 5674.64 | PUMA 4C-14HZ_BHL |

## WELLBORE TARGET DETAILS (LAT/LONG)

| Name             | TVD     | +N/-S   | +E/-W   | Latitude  | Longitude   | Shape |
|------------------|---------|---------|---------|-----------|-------------|-------|
| PUMA 4C-14HZ_SHL | 0.00    | 0.00    | 0.00    | 40.030157 | -104.864910 | Point |
| PUMA 4C-14HZ_BHL | 7589.00 | 5674.45 | -105.79 | 40.045740 | -104.865288 | Point |



## WELL DETAILS: PUMA 4C-14HZ

Ground Level: 4990.00

RKB = 17' @ 5007.00usft (D Rig)

Plan: Permit Rev-1 (PUMA 4C-14HZ/Plan A)

Created By: Clint Eshelman

Date: 8/5/2015

Reviewed: \_\_\_\_\_

Date: \_\_\_\_\_

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | WELD-NAD83-UTMFT13N                            |                      |                |
| <b>Map System:</b> | Universal Transverse Mercator (US Survey Feet) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983                      |                      |                |
| <b>Map Zone:</b>   | Zone 13N (108 W to 102 W)                      |                      |                |

|                       |           |                            |                    |                   |             |
|-----------------------|-----------|----------------------------|--------------------|-------------------|-------------|
| Site                  |           | 1N-67W-23 Puma 13-23HZ Pad |                    |                   |             |
| Site Position:        |           | Northing:                  | 14,537,743.06 usft | Latitude:         | 40.030156   |
| From:                 | Lat/Long  | Easting:                   | 1,678,142.25 usft  | Longitude:        | -104.865231 |
| Position Uncertainty: | 0.00 usft | Slot Radius:               | 13-3/16 "          | Grid Convergence: | 0.09 °      |

| Well                 | PUMA 4C-14HZ |            |                     |                    |               |               |
|----------------------|--------------|------------|---------------------|--------------------|---------------|---------------|
| Well Position        | +N/-S        | 0.36 usft  | Northing:           | 14,537,743.56 usft | Latitude:     | 40.030157     |
|                      | +E/-W        | 89.86 usft | Easting:            | 1,678,232.10 usft  | Longitude:    | -104.864910   |
| Position Uncertainty |              | 3.28 usft  | Wellhead Elevation: | 0.00 usft          | Ground Level: | 4,990.00 usft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Plan A            |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 8/3/2015           | 8.33                   | 66.59                | 52,490                     |

|                          |                                |                     |                      |                      |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| <b>Design</b>            | Permit Rev-1                   |                     |                      |                      |
| <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) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b>  | <b>Direction (°)</b> |
|                          | 0.00                           | 0.00                | 0.00                 | 359.89               |

| <b>Plan Sections</b>  |                 |             |                       |              |              |                         |                        |                       |         |                  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | 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    |                  |
| 250.00                | 0.00            | 0.00        | 250.00                | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 1,183.33              | 14.00           | 186.00      | 1,174.07              | -112.84      | -11.86       | 1.50                    | 1.50                   | 0.00                  | 186.00  |                  |
| 4,063.33              | 14.00           | 186.00      | 3,968.53              | -805.76      | -84.69       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 4,763.33              | 0.00            | 0.00        | 4,661.58              | -890.39      | -93.58       | 2.00                    | -2.00                  | 0.00                  | 180.00  |                  |
| 7,175.26              | 0.00            | 0.00        | 7,073.51              | -890.39      | -93.58       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 8,188.28              | 91.17           | 359.89      | 7,710.00              | -240.75      | -94.79       | 9.00                    | 9.00                   | -0.01                 | 359.89  |                  |
| 14,104.73             | 91.17           | 359.89      | 7,589.00              | 5,674.45     | -105.79      | 0.00                    | 0.00                   | 0.00                  | 0.00    | PUMA 4C-14HZ_BHL |

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

| Planned Survey   |                 |             |                       |              |              |                         |                         |                        |                       |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)  | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | 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                  |
| PUMA 4C-14HZ_SHL - 1N-R67W-Sec. 14_Section lines - 1N-R67W-Sec. 35_Section lines - 1N-R67W-Sec. 23_Section lines - PUMA 4C-14H |                 |             |                       |              |              |                         |                         |                        |                       |
| 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                  |
| 250.00   | 0.00            | 0.00        | 250.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| Begin Nudge @ 250.00ft   |                 |             |                       |              |              |                         |                         |                        |                       |
| 300.00   | 0.75            | 186.00      | 300.00                | -0.33        | -0.03        | -0.33                   | 1.50                    | 1.50                   | 0.00                  |
| 400.00   | 2.25            | 186.00      | 399.96                | -2.93        | -0.31        | -2.93                   | 1.50                    | 1.50                   | 0.00                  |
| 500.00   | 3.75            | 186.00      | 499.82                | -8.13        | -0.85        | -8.13                   | 1.50                    | 1.50                   | 0.00                  |
| 600.00   | 5.25            | 186.00      | 599.51                | -15.94       | -1.67        | -15.93                  | 1.50                    | 1.50                   | 0.00                  |
| 700.00   | 6.75            | 186.00      | 698.96                | -26.33       | -2.77        | -26.33                  | 1.50                    | 1.50                   | 0.00                  |
| 800.00   | 8.25            | 186.00      | 798.10                | -39.31       | -4.13        | -39.30                  | 1.50                    | 1.50                   | 0.00                  |
| 900.00   | 9.75            | 186.00      | 896.87                | -54.87       | -5.77        | -54.86                  | 1.50                    | 1.50                   | 0.00                  |
| 1,000.00   | 11.25           | 186.00      | 995.19                | -72.99       | -7.67        | -72.98                  | 1.50                    | 1.50                   | 0.00                  |
| 1,100.00   | 12.75           | 186.00      | 1,093.00              | -93.67       | -9.85        | -93.65                  | 1.50                    | 1.50                   | 0.00                  |
| 1,183.33   | 14.00           | 186.00      | 1,174.07              | -112.84      | -11.86       | -112.82                 | 1.50                    | 1.50                   | 0.00                  |
| End Nudge @ 1183.33ft  |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,200.00   | 14.00           | 186.00      | 1,190.25              | -116.85      | -12.28       | -116.83                 | 0.00                    | 0.00                   | 0.00                  |
| 1,300.00   | 14.00           | 186.00      | 1,287.27              | -140.91      | -14.81       | -140.88                 | 0.00                    | 0.00                   | 0.00                  |
| 1,400.00   | 14.00           | 186.00      | 1,384.30              | -164.97      | -17.34       | -164.94                 | 0.00                    | 0.00                   | 0.00                  |
| 1,460.49   | 14.00           | 186.00      | 1,443.00              | -179.52      | -18.87       | -179.49                 | 0.00                    | 0.00                   | 0.00                  |
| Fox Hills  |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,500.00   | 14.00           | 186.00      | 1,481.33              | -189.03      | -19.87       | -188.99                 | 0.00                    | 0.00                   | 0.00                  |
| 1,600.00   | 14.00           | 186.00      | 1,578.36              | -213.09      | -22.40       | -213.05                 | 0.00                    | 0.00                   | 0.00                  |
| 1,700.00   | 14.00           | 186.00      | 1,675.39              | -237.15      | -24.93       | -237.10                 | 0.00                    | 0.00                   | 0.00                  |
| 1,800.00   | 14.00           | 186.00      | 1,772.42              | -261.21      | -27.45       | -261.16                 | 0.00                    | 0.00                   | 0.00                  |
| 1,828.42   | 14.00           | 186.00      | 1,800.00              | -268.05      | -28.17       | -267.99                 | 0.00                    | 0.00                   | 0.00                  |
| 9 5/8"   |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,900.00   | 14.00           | 186.00      | 1,869.45              | -285.27      | -29.98       | -285.21                 | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00   | 14.00           | 186.00      | 1,966.48              | -309.33      | -32.51       | -309.26                 | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00   | 14.00           | 186.00      | 2,063.51              | -333.39      | -35.04       | -333.32                 | 0.00                    | 0.00                   | 0.00                  |
| 2,200.00   | 14.00           | 186.00      | 2,160.54              | -357.45      | -37.57       | -357.37                 | 0.00                    | 0.00                   | 0.00                  |
| 2,300.00   | 14.00           | 186.00      | 2,257.57              | -381.51      | -40.10       | -381.43                 | 0.00                    | 0.00                   | 0.00                  |
| 2,400.00   | 14.00           | 186.00      | 2,354.60              | -405.57      | -42.63       | -405.48                 | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00   | 14.00           | 186.00      | 2,451.63              | -429.63      | -45.16       | -429.54                 | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00   | 14.00           | 186.00      | 2,548.66              | -453.69      | -47.68       | -453.59                 | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00   | 14.00           | 186.00      | 2,645.69              | -477.75      | -50.21       | -477.65                 | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00   | 14.00           | 186.00      | 2,742.72              | -501.80      | -52.74       | -501.70                 | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00   | 14.00           | 186.00      | 2,839.75              | -525.86      | -55.27       | -525.76                 | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00   | 14.00           | 186.00      | 2,936.78              | -549.92      | -57.80       | -549.81                 | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00   | 14.00           | 186.00      | 3,033.81              | -573.98      | -60.33       | -573.87                 | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00   | 14.00           | 186.00      | 3,130.84              | -598.04      | -62.86       | -597.92                 | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00   | 14.00           | 186.00      | 3,227.87              | -622.10      | -65.39       | -621.98                 | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00   | 14.00           | 186.00      | 3,324.90              | -646.16      | -67.91       | -646.03                 | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00   | 14.00           | 186.00      | 3,421.93              | -670.22      | -70.44       | -670.09                 | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00   | 14.00           | 186.00      | 3,518.95              | -694.28      | -72.97       | -694.14                 | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00   | 14.00           | 186.00      | 3,615.98              | -718.34      | -75.50       | -718.20                 | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00   | 14.00           | 186.00      | 3,713.01              | -742.40      | -78.03       | -742.25                 | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00   | 14.00           | 186.00      | 3,810.04              | -766.46      | -80.56       | -766.31                 | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00   | 14.00           | 186.00      | 3,907.07              | -790.52      | -83.09       | -790.36                 | 0.00                    | 0.00                   | 0.00                  |
| 4,063.33   | 14.00           | 186.00      | 3,968.52              | -805.76      | -84.69       | -805.59                 | 0.00                    | 0.00                   | 0.00                  |
| Begin Drop @ 4063.33ft   |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,100.00   | 13.27           | 186.00      | 4,004.16              | -814.35      | -85.59       | -814.19                 | 2.00                    | -2.00                  | 0.00                  |

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

| Planned Survey              |                 |             |                       |              |              |                         |                         |                        |                       |
|-----------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)       | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,200.00                    | 11.27           | 186.00      | 4,101.87              | -835.48      | -87.81       | -835.31                 | 2.00                    | -2.00                  | 0.00                  |
| 4,300.00                    | 9.27            | 186.00      | 4,200.26              | -853.21      | -89.68       | -853.03                 | 2.00                    | -2.00                  | 0.00                  |
| 4,400.00                    | 7.27            | 186.00      | 4,299.22              | -867.51      | -91.18       | -867.33                 | 2.00                    | -2.00                  | 0.00                  |
| 4,500.00                    | 5.27            | 186.00      | 4,398.62              | -878.36      | -92.32       | -878.18                 | 2.00                    | -2.00                  | 0.00                  |
| 4,600.00                    | 3.27            | 186.00      | 4,498.34              | -885.76      | -93.10       | -885.58                 | 2.00                    | -2.00                  | 0.00                  |
| 4,700.00                    | 1.27            | 186.00      | 4,598.25              | -889.69      | -93.51       | -889.51                 | 2.00                    | -2.00                  | 0.00                  |
| 4,763.33                    | 0.00            | 186.00      | 4,661.58              | -890.39      | -93.58       | -890.21                 | 2.00                    | -2.00                  | 0.00                  |
| <b>End Drop @ 4763.33ft</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,800.00                    | 0.00            | 0.00        | 4,698.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 4,817.75                    | 0.00            | 0.00        | 4,716.00              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| <b>Sussex</b>               |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,900.00                    | 0.00            | 0.00        | 4,798.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                    | 0.00            | 0.00        | 4,898.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                    | 0.00            | 0.00        | 4,998.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                    | 0.00            | 0.00        | 5,098.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00                    | 0.00            | 0.00        | 5,198.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                    | 0.00            | 0.00        | 5,298.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00                    | 0.00            | 0.00        | 5,398.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                    | 0.00            | 0.00        | 5,498.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                    | 0.00            | 0.00        | 5,598.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                    | 0.00            | 0.00        | 5,698.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                    | 0.00            | 0.00        | 5,798.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                    | 0.00            | 0.00        | 5,898.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                    | 0.00            | 0.00        | 5,998.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                    | 0.00            | 0.00        | 6,098.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                    | 0.00            | 0.00        | 6,198.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                    | 0.00            | 0.00        | 6,298.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                    | 0.00            | 0.00        | 6,398.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                    | 0.00            | 0.00        | 6,498.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00                    | 0.00            | 0.00        | 6,598.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00                    | 0.00            | 0.00        | 6,698.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 6,900.00                    | 0.00            | 0.00        | 6,798.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 7,000.00                    | 0.00            | 0.00        | 6,898.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00                    | 0.00            | 0.00        | 6,998.25              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| 7,175.26                    | 0.00            | 0.00        | 7,073.51              | -890.39      | -93.58       | -890.21                 | 0.00                    | 0.00                   | 0.00                  |
| <b>KOP @ 7175.26ft</b>      |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,200.00                    | 2.23            | 359.89      | 7,098.24              | -889.91      | -93.58       | -889.73                 | 9.00                    | 9.00                   | 0.00                  |
| 7,300.00                    | 11.23           | 359.89      | 7,197.45              | -878.21      | -93.61       | -878.03                 | 9.00                    | 9.00                   | 0.00                  |
| 7,380.55                    | 18.48           | 359.89      | 7,275.26              | -857.58      | -93.64       | -857.39                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Sharon Springs</b>       |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,398.56                    | 20.10           | 359.89      | 7,292.26              | -851.63      | -93.66       | -851.45                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Niobrara Top</b>         |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,400.00                    | 20.23           | 359.89      | 7,293.61              | -851.13      | -93.66       | -850.95                 | 9.00                    | 9.00                   | 0.00                  |
| 7,500.00                    | 29.23           | 359.89      | 7,384.35              | -809.35      | -93.73       | -809.16                 | 9.00                    | 9.00                   | 0.00                  |
| 7,591.61                    | 37.47           | 359.89      | 7,460.81              | -759.03      | -93.83       | -758.85                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Niobrara B Bench</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,600.00                    | 38.23           | 359.89      | 7,467.43              | -753.88      | -93.84       | -753.70                 | 9.00                    | 9.00                   | 0.00                  |
| <b>DLS = 9°/100'</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,697.62                    | 47.01           | 359.89      | 7,539.19              | -687.85      | -93.96       | -687.67                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Niobrara C Bench</b>     |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,700.00                    | 47.23           | 359.89      | 7,540.82              | -686.10      | -93.96       | -685.92                 | 9.00                    | 9.00                   | 0.00                  |
| 7,800.00                    | 56.23           | 359.89      | 7,602.69              | -607.68      | -94.11       | -607.49                 | 9.00                    | 9.00                   | 0.00                  |
| 7,900.00                    | 65.23           | 359.89      | 7,651.54              | -520.54      | -94.27       | -520.35                 | 9.00                    | 9.00                   | 0.00                  |

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

| Planned Survey   |                 |             |                       |              |              |                         |                         |                        |                       |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)                                    | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 7,972.76   | 71.77           | 359.89      | 7,678.19              | -452.87      | -94.40       | -452.69                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Fort Hays</b>   |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,000.00   | 74.23           | 359.89      | 7,686.16              | -426.83      | -94.45       | -426.65                 | 9.00                    | 9.00                   | 0.00                  |
| 8,030.02   | 76.93           | 359.89      | 7,693.63              | -397.76      | -94.50       | -397.57                 | 9.00                    | 9.00                   | 0.00                  |
| <b>Codell</b>  |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,100.00   | 83.23           | 359.89      | 7,705.69              | -328.86      | -94.63       | -328.68                 | 9.00                    | 9.00                   | 0.00                  |
| 8,188.28   | 91.17           | 359.89      | 7,710.00              | -240.75      | -94.79       | -240.57                 | 9.00                    | 9.00                   | 0.00                  |
| <b>End Build @ 8188.28ft - Heel: - Top of Production</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,200.00   | 91.17           | 359.89      | 7,709.76              | -229.04      | -94.81       | -228.85                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00   | 91.17           | 359.89      | 7,707.71              | -129.06      | -95.00       | -128.88                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00   | 91.17           | 359.89      | 7,705.67              | -29.08       | -95.19       | -28.90                  | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00   | 91.17           | 359.89      | 7,703.62              | 70.90        | -95.37       | 71.08                   | 0.00                    | 0.00                   | 0.00                  |
| 8,600.00   | 91.17           | 359.89      | 7,701.58              | 170.88       | -95.56       | 171.06                  | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00   | 91.17           | 359.89      | 7,699.53              | 270.86       | -95.74       | 271.04                  | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00   | 91.17           | 359.89      | 7,697.49              | 370.84       | -95.93       | 371.02                  | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00   | 91.17           | 359.89      | 7,695.44              | 470.82       | -96.11       | 471.00                  | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00   | 91.17           | 359.89      | 7,693.40              | 570.79       | -96.30       | 570.98                  | 0.00                    | 0.00                   | 0.00                  |
| 9,100.00   | 91.17           | 359.89      | 7,691.35              | 670.77       | -96.49       | 670.96                  | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00   | 91.17           | 359.89      | 7,689.31              | 770.75       | -96.67       | 770.94                  | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00   | 91.17           | 359.89      | 7,687.26              | 870.73       | -96.86       | 870.92                  | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00   | 91.17           | 359.89      | 7,685.22              | 970.71       | -97.04       | 970.89                  | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00   | 91.17           | 359.89      | 7,683.17              | 1,070.69     | -97.23       | 1,070.87                | 0.00                    | 0.00                   | 0.00                  |
| 9,600.00   | 91.17           | 359.89      | 7,681.13              | 1,170.67     | -97.42       | 1,170.85                | 0.00                    | 0.00                   | 0.00                  |
| 9,700.00   | 91.17           | 359.89      | 7,679.08              | 1,270.65     | -97.60       | 1,270.83                | 0.00                    | 0.00                   | 0.00                  |
| 9,800.00   | 91.17           | 359.89      | 7,677.04              | 1,370.63     | -97.79       | 1,370.81                | 0.00                    | 0.00                   | 0.00                  |
| 9,900.00   | 91.17           | 359.89      | 7,674.99              | 1,470.60     | -97.97       | 1,470.79                | 0.00                    | 0.00                   | 0.00                  |
| 10,000.00  | 91.17           | 359.89      | 7,672.95              | 1,570.58     | -98.16       | 1,570.77                | 0.00                    | 0.00                   | 0.00                  |
| 10,100.00  | 91.17           | 359.89      | 7,670.90              | 1,670.56     | -98.35       | 1,670.75                | 0.00                    | 0.00                   | 0.00                  |
| 10,200.00  | 91.17           | 359.89      | 7,668.86              | 1,770.54     | -98.53       | 1,770.73                | 0.00                    | 0.00                   | 0.00                  |
| 10,300.00  | 91.17           | 359.89      | 7,666.81              | 1,870.52     | -98.72       | 1,870.71                | 0.00                    | 0.00                   | 0.00                  |
| 10,400.00  | 91.17           | 359.89      | 7,664.77              | 1,970.50     | -98.90       | 1,970.69                | 0.00                    | 0.00                   | 0.00                  |
| 10,500.00  | 91.17           | 359.89      | 7,662.72              | 2,070.48     | -99.09       | 2,070.66                | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00  | 91.17           | 359.89      | 7,660.68              | 2,170.46     | -99.27       | 2,170.64                | 0.00                    | 0.00                   | 0.00                  |
| 10,700.00  | 91.17           | 359.89      | 7,658.63              | 2,270.44     | -99.46       | 2,270.62                | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00  | 91.17           | 359.89      | 7,656.59              | 2,370.41     | -99.65       | 2,370.60                | 0.00                    | 0.00                   | 0.00                  |
| 10,900.00  | 91.17           | 359.89      | 7,654.54              | 2,470.39     | -99.83       | 2,470.58                | 0.00                    | 0.00                   | 0.00                  |
| 11,000.00  | 91.17           | 359.89      | 7,652.49              | 2,570.37     | -100.02      | 2,570.56                | 0.00                    | 0.00                   | 0.00                  |
| 11,100.00  | 91.17           | 359.89      | 7,650.45              | 2,670.35     | -100.20      | 2,670.54                | 0.00                    | 0.00                   | 0.00                  |
| 11,200.00  | 91.17           | 359.89      | 7,648.40              | 2,770.33     | -100.39      | 2,770.52                | 0.00                    | 0.00                   | 0.00                  |
| 11,300.00  | 91.17           | 359.89      | 7,646.36              | 2,870.31     | -100.58      | 2,870.50                | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00  | 91.17           | 359.89      | 7,644.31              | 2,970.29     | -100.76      | 2,970.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00  | 91.17           | 359.89      | 7,642.27              | 3,070.27     | -100.95      | 3,070.46                | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00  | 91.17           | 359.89      | 7,640.22              | 3,170.25     | -101.13      | 3,170.43                | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00  | 91.17           | 359.89      | 7,638.18              | 3,270.22     | -101.32      | 3,270.41                | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00  | 91.17           | 359.89      | 7,636.13              | 3,370.20     | -101.51      | 3,370.39                | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00  | 91.17           | 359.89      | 7,634.09              | 3,470.18     | -101.69      | 3,470.37                | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00  | 91.17           | 359.89      | 7,632.04              | 3,570.16     | -101.88      | 3,570.35                | 0.00                    | 0.00                   | 0.00                  |
| 12,100.00  | 91.17           | 359.89      | 7,630.00              | 3,670.14     | -102.06      | 3,670.33                | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00  | 91.17           | 359.89      | 7,627.95              | 3,770.12     | -102.25      | 3,770.31                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00  | 91.17           | 359.89      | 7,625.91              | 3,870.10     | -102.43      | 3,870.29                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00  | 91.17           | 359.89      | 7,623.86              | 3,970.08     | -102.62      | 3,970.27                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00  | 91.17           | 359.89      | 7,621.82              | 4,070.06     | -102.81      | 4,070.25                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00  | 91.17           | 359.89      | 7,619.77              | 4,170.04     | -102.99      | 4,170.23                | 0.00                    | 0.00                   | 0.00                  |

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

| Planned Survey                          |                 |             |                       |              |              |                         |                         |                        |                       |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft)                   | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 12,700.00                               | 91.17           | 359.89      | 7,617.73              | 4,270.01     | -103.18      | 4,270.20                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00                               | 91.17           | 359.89      | 7,615.68              | 4,369.99     | -103.36      | 4,370.18                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00                               | 91.17           | 359.89      | 7,613.64              | 4,469.97     | -103.55      | 4,470.16                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00                               | 91.17           | 359.89      | 7,611.59              | 4,569.95     | -103.74      | 4,570.14                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00                               | 91.17           | 359.89      | 7,609.55              | 4,669.93     | -103.92      | 4,670.12                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00                               | 91.17           | 359.89      | 7,607.50              | 4,769.91     | -104.11      | 4,770.10                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00                               | 91.17           | 359.89      | 7,605.46              | 4,869.89     | -104.29      | 4,870.08                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00                               | 91.17           | 359.89      | 7,603.41              | 4,969.87     | -104.48      | 4,970.06                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00                               | 91.17           | 359.89      | 7,601.37              | 5,069.85     | -104.67      | 5,070.04                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00                               | 91.17           | 359.89      | 7,599.32              | 5,169.82     | -104.85      | 5,170.02                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00                               | 91.17           | 359.89      | 7,597.28              | 5,269.80     | -105.04      | 5,270.00                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00                               | 91.17           | 359.89      | 7,595.23              | 5,369.78     | -105.22      | 5,369.97                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00                               | 91.17           | 359.89      | 7,593.19              | 5,469.76     | -105.41      | 5,469.95                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00                               | 91.17           | 359.89      | 7,591.14              | 5,569.74     | -105.59      | 5,569.93                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00                               | 91.17           | 359.89      | 7,589.10              | 5,669.72     | -105.78      | 5,669.91                | 0.00                    | 0.00                   | 0.00                  |
| 14,104.72                               | 91.17           | 359.89      | 7,589.00              | 5,674.44     | -105.79      | 5,674.63                | 0.00                    | 0.00                   | 0.00                  |
| Toe:                                    |                 |             |                       |              |              |                         |                         |                        |                       |
| 14,104.73                               | 91.17           | 359.89      | 7,589.00              | 5,674.45     | -105.79      | 5,674.64                | 0.00                    | 0.00                   | 0.00                  |
| TD Well @ 14104.73ft - PUMA 4C-14HZ_BHL |                 |             |                       |              |              |                         |                         |                        |                       |

# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

| Design Targets   |           |          |        |            |          |               |              |           |             |
|--|-----------|----------|--------|------------|----------|---------------|--------------|-----------|-------------|
| Target Name  |           |          |        |            |          |               |              |           |             |
| - hit/miss target  | Dip Angle | Dip Dir. | TVD    | +N/-S      | +E/-W    | Northing      | Easting      | Latitude  | Longitude   |
| - Shape  | (°)       | (°)      | (usft) | (usft)     | (usft)   | (usft)        | (usft)       |           |             |
| PUMA 4C-14HZ_SHL   | 0.00      | 0.00     | 0.00   | 0.00       | 0.00     | 14,537,743.56 | 1,678,232.10 | 40.030157 | -104.864910 |
| - plan hits target center  |           |          |        |            |          |               |              |           |             |
| - Point  |           |          |        |            |          |               |              |           |             |
| 1N-R67W-Sec. 35_Secti  | 0.00      | 0.00     | 0.00   | 0.00       | 89.86    | 14,537,743.70 | 1,678,321.96 | 40.030157 | -104.864589 |
| - plan misses target center by 89.86usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) |           |          |        |            |          |               |              |           |             |
| - Polygon  |           |          |        |            |          |               |              |           |             |
| Point 1  |           |          | 0.00   | -5,567.60  | -737.69  | 14,532,174.99 | 1,677,592.72 |           |             |
| Point 2  |           |          | 0.00   | -5,567.35  | 1,905.22 | 14,532,179.25 | 1,680,235.62 |           |             |
| Point 3  |           |          | 0.00   | -5,567.85  | 4,548.01 | 14,532,182.75 | 1,682,878.41 |           |             |
| Point 4  |           |          | 0.00   | -10,841.76 | 4,559.90 | 14,526,908.87 | 1,682,898.30 |           |             |
| Point 5  |           |          | 0.00   | -10,843.80 | 1,928.43 | 14,526,902.84 | 1,680,266.83 |           |             |
| Point 6  |           |          | 0.00   | -10,844.86 | -702.65  | 14,526,897.79 | 1,677,635.76 |           |             |
| Point 7  |           |          | 0.00   | -8,206.73  | -719.46  | 14,529,535.89 | 1,677,614.95 |           |             |
| 1N-R67W-Sec. 23_Secti  | 0.00      | 0.00     | 0.00   | 0.00       | 89.86    | 14,537,743.70 | 1,678,321.96 | 40.030157 | -104.864589 |
| - plan misses target center by 89.86usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) |           |          |        |            |          |               |              |           |             |
| - Polygon  |           |          |        |            |          |               |              |           |             |
| Point 1  |           |          | 0.00   | 4,981.70   | -753.18  | 14,542,724.24 | 1,677,561.23 |           |             |
| Point 2  |           |          | 0.00   | 4,948.86   | 1,873.61 | 14,542,695.39 | 1,680,188.06 |           |             |
| Point 3  |           |          | 0.00   | 4,901.92   | 4,512.15 | 14,542,652.45 | 1,682,826.67 |           |             |
| Point 4  |           |          | 0.00   | -288.13    | 4,540.16 | 14,537,462.46 | 1,682,862.55 |           |             |
| Point 5  |           |          | 0.00   | -289.24    | 1,894.92 | 14,537,457.33 | 1,680,217.32 |           |             |
| Point 6  |           |          | 0.00   | -290.30    | -750.41  | 14,537,452.26 | 1,677,571.99 |           |             |
| Point 7  |           |          | 0.00   | 2,345.83   | -751.96  | 14,540,088.39 | 1,677,566.44 |           |             |
| PUMA 4C-14HZ_Drilling  | 0.00      | 0.00     | 0.00   | 0.00       | 0.00     | 14,537,743.56 | 1,678,232.10 | 40.030157 | -104.864910 |
| - plan hits target center  |           |          |        |            |          |               |              |           |             |
| - Polygon  |           |          |        |            |          |               |              |           |             |
| Point 1  |           |          | 0.00   | 5,833.24   | -205.15  | 14,543,576.48 | 1,678,018.11 |           |             |
| Point 2  |           |          | 0.00   | 5,830.48   | 189.70   | 14,543,574.32 | 1,678,412.96 |           |             |
| Point 3  |           |          | 0.00   | 4,968.70   | 192.90   | 14,542,712.54 | 1,678,417.47 |           |             |
| Point 4  |           |          | 0.00   | 2,800.62   | 195.07   | 14,540,544.47 | 1,678,422.93 |           |             |
| Point 5  |           |          | 0.00   | -1,151.98  | 205.46   | 14,536,591.90 | 1,678,439.31 |           |             |
| Point 6  |           |          | 0.00   | -1,152.13  | -195.59  | 14,536,591.14 | 1,678,038.26 |           |             |
| Point 7  |           |          | 0.00   | 2,803.01   | -201.82  | 14,540,546.25 | 1,678,026.03 |           |             |
| Point 8  |           |          | 0.00   | 5,833.24   | -205.15  | 14,543,576.48 | 1,678,018.11 |           |             |
| 1N-R67W-Sec. 26_Secti  | 0.00      | 0.00     | 0.00   | 0.00       | 89.86    | 14,537,743.70 | 1,678,321.96 | 40.030157 | -104.864589 |
| - plan misses target center by 89.86usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) |           |          |        |            |          |               |              |           |             |
| - Polygon  |           |          |        |            |          |               |              |           |             |
| Point 1  |           |          | 0.00   | -290.30    | -750.41  | 14,537,452.26 | 1,677,571.99 |           |             |
| Point 2  |           |          | 0.00   | -289.24    | 1,894.92 | 14,537,457.33 | 1,680,217.32 |           |             |
| Point 3  |           |          | 0.00   | -288.13    | 4,540.16 | 14,537,462.46 | 1,682,862.55 |           |             |
| Point 4  |           |          | 0.00   | -2,913.10  | 4,515.39 | 14,534,837.45 | 1,682,841.76 |           |             |
| Point 5  |           |          | 0.00   | -5,567.85  | 4,548.01 | 14,532,182.75 | 1,682,878.41 |           |             |
| Point 6  |           |          | 0.00   | -5,567.35  | 1,905.22 | 14,532,179.25 | 1,680,235.62 |           |             |
| Point 7  |           |          | 0.00   | -5,567.60  | -737.69  | 14,532,174.99 | 1,677,592.72 |           |             |
| Point 8  |           |          | 0.00   | -2,929.65  | -743.92  | 14,534,812.93 | 1,677,582.49 |           |             |
| 1N-R67W-Sec. 14_Secti  | 0.00      | 0.00     | 0.00   | 0.00       | 89.86    | 14,537,743.70 | 1,678,321.96 | 40.030157 | -104.864589 |
| - plan misses target center by 89.86usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) |           |          |        |            |          |               |              |           |             |
| - Polygon  |           |          |        |            |          |               |              |           |             |
| Point 1  |           |          | 0.00   | 10,240.97  | -771.13  | 14,547,983.48 | 1,677,535.30 |           |             |
| Point 2  |           |          | 0.00   | 10,241.68  | 1,854.89 | 14,547,988.17 | 1,680,161.32 |           |             |
| Point 3  |           |          | 0.00   | 10,251.55  | 4,492.80 | 14,548,002.04 | 1,682,799.21 |           |             |
| Point 4  |           |          | 0.00   | 4,901.92   | 4,512.15 | 14,542,652.45 | 1,682,826.67 |           |             |
| Point 5  |           |          | 0.00   | 4,948.86   | 1,873.61 | 14,542,695.39 | 1,680,188.06 |           |             |
| Point 6  |           |          | 0.00   | 4,981.70   | -753.18  | 14,542,724.24 | 1,677,561.23 |           |             |
| Point 7  |           |          | 0.00   | 7,611.26   | -762.09  | 14,545,353.79 | 1,677,548.33 |           |             |



# Anadarko

## Planning Report

|                  |                                |                                     |                                 |
|------------------|--------------------------------|-------------------------------------|---------------------------------|
| <b>Database:</b> | PLANNING                       | <b>Local Co-ordinate Reference:</b> | Well PUMA 4C-14HZ               |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING | <b>TVD Reference:</b>               | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N            | <b>MD Reference:</b>                | RKB = 17' @ 5007.00usft (D Rig) |
| <b>Site:</b>     | 1N-67W-23 Puma 13-23HZ Pad     | <b>North Reference:</b>             | True                            |
| <b>Well:</b>     | PUMA 4C-14HZ                   | <b>Survey Calculation Method:</b>   | Minimum Curvature               |
| <b>Wellbore:</b> | Plan A                         |                                     |                                 |
| <b>Design:</b>   | Permit Rev-1                   |                                     |                                 |

|                           |      |      |          |          |         |               |              |           |             |
|---------------------------|------|------|----------|----------|---------|---------------|--------------|-----------|-------------|
| PUMA 4C-14HZ_BHL          | 0.00 | 0.00 | 7,589.00 | 5,674.45 | -105.79 | 14,543,417.83 | 1,678,117.71 | 40.045740 | -104.865288 |
| - plan hits target center |      |      |          |          |         |               |              |           |             |
| - Point                   |      |      |          |          |         |               |              |           |             |

### Casing Points

| Measured Depth (usft) | Vertical Depth (usft) | Name              | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|-------------------|---------------------|-------------------|
| 1,828.42              | 1,800.00              | 9 5/8"            | 9-5/8               | 13-1/2            |
| 8,188.28              | 7,710.00              | Top of Production | 5-1/2               | 7-7/8             |

### Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name             | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|
| 1,460.49              | 1,443.00              | Fox Hills        |           | 0.00    |                   |
| 4,817.75              | 4,716.00              | Sussex           |           | 0.00    |                   |
| 7,380.55              | 7,275.26              | Sharon Springs   |           | 0.00    |                   |
| 7,398.56              | 7,292.26              | Niobrara Top     |           | 0.00    |                   |
| 7,591.61              | 7,460.81              | Niobrara B Bench |           | 0.00    |                   |
| 7,697.62              | 7,539.19              | Niobrara C Bench |           | 0.00    |                   |
| 14,104.72             | 7,589.00              | Toe:             |           | 0.00    |                   |
| 7,972.76              | 7,678.19              | Fort Hays        |           | 0.00    |                   |
| 8,030.02              | 7,693.63              | Codell           |           | 0.00    |                   |
| 8,188.28              | 7,710.00              | Heel:            |           | 0.00    |                   |

### Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                |
|-----------------------|-----------------------|-------------------|--------------|------------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                        |
| 250.00                | 250.00                | 0.00              | 0.00         | Begin Nudge @ 250.00ft |
| 1,183.33              | 1,174.07              | -112.84           | -11.86       | End Nudge @ 1183.33ft  |
| 4,063.33              | 3,968.52              | -805.76           | -84.69       | Begin Drop @ 4063.33ft |
| 4,763.33              | 4,661.58              | -890.39           | -93.58       | End Drop @ 4763.33ft   |
| 7,175.26              | 7,073.51              | -890.39           | -93.58       | KOP @ 7175.26ft        |
| 7,600.00              | 7,467.43              | -753.88           | -93.84       | DLS = 9°/100'          |
| 8,188.28              | 7,710.00              | -240.75           | -94.79       | End Build @ 8188.28ft  |
| 14,104.73             | 7,589.00              | 5,674.45          | -105.79      | TD Well @ 14104.73ft   |