

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**5N-67W-04 SCHMERGE WEST 9-4HZ PAD**

**SCHMERGE WEST 4-2HZ**

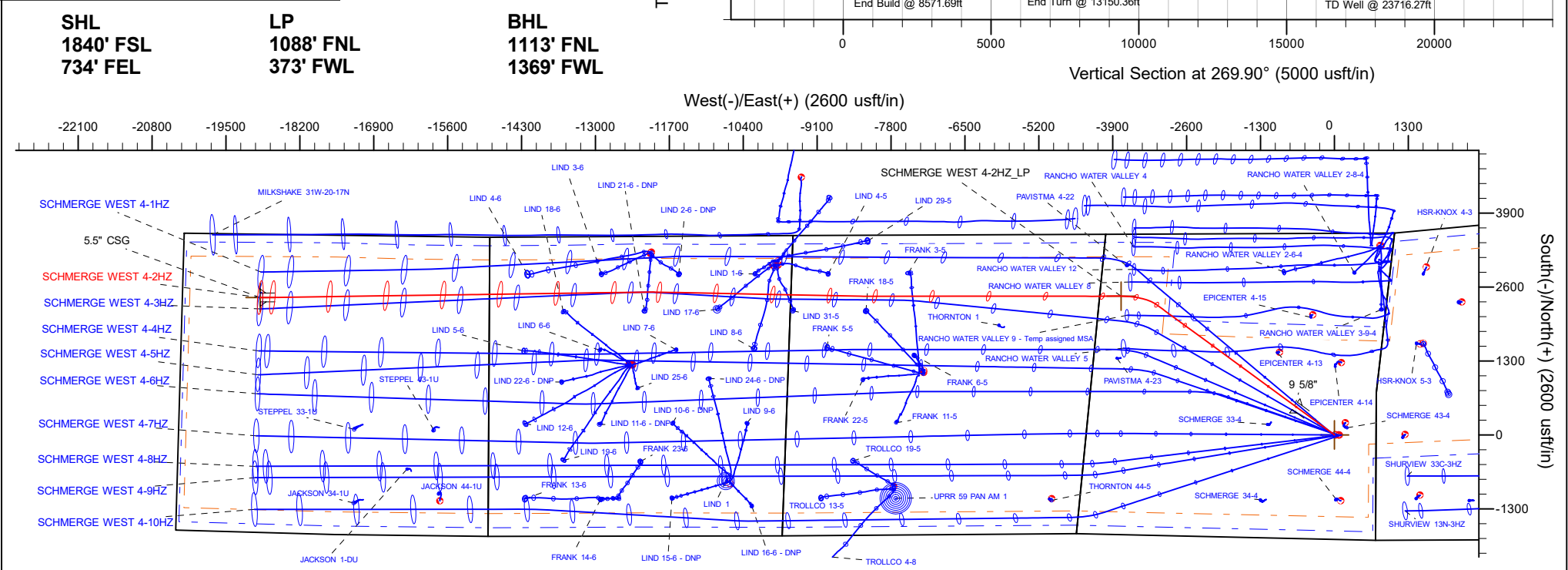
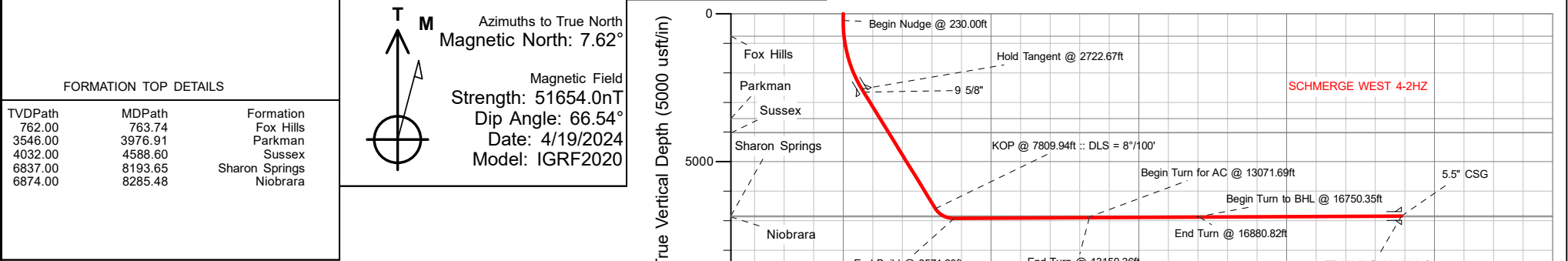
**Plan C**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**22 April, 2024**

| SECTION DETAILS |          |       |        |         |         |           |      |        |          |                         | WELLBORE TARGET DETAILS (LAT/LONG)  |         |             |            |           |             |
|-----------------|----------|-------|--------|---------|---------|-----------|------|--------|----------|-------------------------|---|---------|-------------|------------|-----------|-------------|
| Sec             | MD       | Inc   | Azi    | TVD     | +N/-S   | +E/-W     | Dleg | TFace  | VSect    | Target                  | Name  | TVD     | Northing    | Easting    | Latitude  | Longitude   |
| 1               | 0.00     | 0.00  | 0.00   | 0.00    | 0.00    | 0.00      | 0.00 | 0.00   | 0.00     |                         | SCHMERGE WEST 4-2HZ_SHL   | 0.00    | 14682008.23 | 1670797.40 | 40.426347 | -104.890835 |
| 2               | 230.00   | 0.00  | 0.00   | 230.00  | 0.00    | 0.00      | 0.00 | 0.00   | 0.00     |                         | SCHMERGE WEST 4-2HZ_LP  | 6924.00 | 14684441.94 | 1667039.92 | 40.433042 | -104.904327 |
| 3               | 2722.67  | 37.39 | 306.19 | 2549.48 | 463.44  | -633.44   | 1.50 | 306.19 | 632.63   |                         | SCHMERGE WEST 4-2HZ_BHL   | 6844.85 | 14684398.00 | 1651897.00 | 40.432954 | -104.958745 |
| 4               | 7809.94  | 37.39 | 306.19 | 6591.42 | 2287.49 | -3126.61  | 0.00 | 0.00   | 3122.61  |                         | <div>WELL DETAILS: SCHMERGE WEST 4-2HZ</div> <div>GL = 4897'</div> <div>RKB = 17' @ 4914.00usft (RIG)</div> <div>Plan: Permit Rev-1 (SCHMERGE WEST 4-2HZ/Plan C)</div> <div>Date: 4/22/2024</div> |         |             |            |           |             |
| 5               | 8571.69  | 90.30 | 269.97 | 6924.00 | 2438.35 | -3754.47  | 8.00 | -42.53 | 3750.21  |                         |   |         |             |            |           |             |
| 6               | 13071.69 | 90.30 | 269.97 | 6900.44 | 2436.00 | -8254.41  | 0.00 | 0.00   | 8250.15  |                         |   |         |             |            |           |             |
| 7               | 13150.36 | 90.30 | 271.15 | 6900.02 | 2436.77 | -8333.07  | 1.50 | 90.00  | 8328.80  |                         |   |         |             |            |           |             |
| 8               | 16750.35 | 90.30 | 271.15 | 6881.17 | 2509.02 | -11932.29 | 0.00 | 0.00   | 11927.89 |                         |   |         |             |            |           |             |
| 9               | 16880.82 | 90.30 | 269.19 | 6880.49 | 2509.41 | -12062.75 | 1.50 | -90.03 | 12058.36 |                         |   |         |             |            |           |             |
| 10              | 23716.27 | 90.30 | 269.19 | 6844.85 | 2413.12 | -18897.43 | 0.00 | 0.00   | 18893.19 | SCHMERGE WEST 4-2HZ_BHL |   |         |             |            |           |             |



## Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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                  |     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD |                    |            |             |
| Site Position:        |     | Northing:                         | 14,682,007.40 usft | Latitude:  | 40.426345   |
| From:                 | Map | Easting:                          | 1,670,827.38 usft  | Longitude: | -104.890728 |
| Position Uncertainty: |     | 0.00 usft                         | Slot Radius:       | 13-3/16 "  |             |

| Well                 |       | SCHMERGE WEST 4-2HZ |                     |                    |               |               |
|----------------------|-------|---------------------|---------------------|--------------------|---------------|---------------|
| Well Position        | +N/-S | 0.00 usft           | Northing:           | 14,682,008.23 usft | Latitude:     | 40.426347     |
|                      | +E/-W | 0.00 usft           | Easting:            | 1,670,797.40 usft  | Longitude:    | -104.890835   |
| Position Uncertainty |       | 3.28 usft           | Wellhead Elevation: | usft               | Ground Level: | 4,897.00 usft |
| Grid Convergence:    |       | 0.07 °              |                     |                    |               |               |

|                  |                   |                    |                            |                          |                                |
|------------------|-------------------|--------------------|----------------------------|--------------------------|--------------------------------|
| <b>Wellbore</b>  | Plan C            |                    |                            |                          |                                |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination<br/>(°)</b> | <b>Dip Angle<br/>(°)</b> | <b>Field Strength<br/>(nT)</b> |
|                  | IGRF202013        | 4/19/2024          | 7.62                       | 66.54                    | 51,653.95578475                |

|                          |                                    |                         |                         |                          |      |
|--------------------------|------------------------------------|-------------------------|-------------------------|--------------------------|------|
| <b>Design</b>            | Permit Rev-1                       |                         |                         |                          |      |
| <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)<br/>(usft)</b> | <b>+N/-S<br/>(usft)</b> | <b>+E/-W<br/>(usft)</b> | <b>Direction<br/>(°)</b> |      |
|                          | 0.00                               | 0.00                    | 0.00                    | 269.90                   |      |

|                                 |                            |                          |                       |   |  |
|---------------------------------|----------------------------|--------------------------|-----------------------|---|--|
| <b>Plan Survey Tool Program</b> |                            | <b>Date</b>              | 4/21/2024             |   |  |
| <b>Depth From<br/>(usft)</b>    | <b>Depth To<br/>(usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b>      | <b>Remarks</b>  |  |
| 1                               | 0.00                       | 2,652.00                 | Permit Rev-1 (Plan C) | APC_ISCWSA REV 2 MWD+I<br>Fixed:v2:crustal field declinatio |  |
| 2                               | 2,652.00                   | 23,716.27                | Permit Rev-1 (Plan C) | APC_ISCWSA REV 2 MWD+I<br>Fixed:v2:Rockies, crustal dec +   |  |

Planning Report

|           |                                   |                              |                               |
|-----------|-----------------------------------|------------------------------|-------------------------------|
| Database: | EDM 5000.16 Single User Db        | Local Co-ordinate Reference: | Well SCHMERGE WEST 4-2HZ      |
| Company:  | US ROCKIES WATTENBERG PLANNING    | TVD Reference:               | RKB = 17' @ 4914.00usft (RIG) |
| Project:  | WELD-NAD83-UTMFT13N               | MD Reference:                | RKB = 17' @ 4914.00usft (RIG) |
| Site:     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | North Reference:             | True                          |
| Well:     | SCHMERGE WEST 4-2HZ               | Survey Calculation Method:   | Minimum Curvature             |
| Wellbore: | Plan C                            |                              |                               |
| Design:   | Permit Rev-1                      |                              |                               |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                 |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|-----------------|
| 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    |                 |
| 230.00                | 0.00            | 0.00        | 230.00                | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 2,722.67              | 37.39           | 306.19      | 2,549.48              | 463.44       | -633.44      | 1.50                    | 1.50                   | 0.00                  | 306.19  |                 |
| 7,809.94              | 37.39           | 306.19      | 6,591.42              | 2,287.49     | -3,126.61    | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 8,571.69              | 90.30           | 269.97      | 6,924.00              | 2,438.35     | -3,754.47    | 8.00                    | 6.95                   | -4.75                 | -42.53  |                 |
| 13,071.69             | 90.30           | 269.97      | 6,900.44              | 2,436.00     | -8,254.41    | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 13,150.36             | 90.30           | 271.15      | 6,900.02              | 2,436.77     | -8,333.07    | 1.50                    | 0.00                   | 1.50                  | 90.00   |                 |
| 16,750.35             | 90.30           | 271.15      | 6,881.17              | 2,509.02     | -11,932.29   | 0.00                    | 0.00                   | 0.00                  | 0.00    |                 |
| 16,880.82             | 90.30           | 269.19      | 6,880.49              | 2,509.41     | -12,062.75   | 1.50                    | 0.00                   | -1.50                 | -90.03  |                 |
| 23,716.27             | 90.30           | 269.19      | 6,844.85              | 2,413.12     | -18,897.43   | 0.00                    | 0.00                   | 0.00                  | 0.00    | SCHMERGE WEST 4 |

# Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
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| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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                  |
| 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                  |
| 230.00                   | 0.00            | 0.00        | 230.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| Begin Nudge @ 230.00ft   |                 |             |                       |              |              |                         |                         |                        |                       |
| 300.00                   | 1.05            | 306.19      | 300.00                | 0.38         | -0.52        | 0.52                    | 1.50                    | 1.50                   | 0.00                  |
| 400.00                   | 2.55            | 306.19      | 399.94                | 2.23         | -3.05        | 3.05                    | 1.50                    | 1.50                   | 0.00                  |
| 500.00                   | 4.05            | 306.19      | 499.78                | 5.63         | -7.70        | 7.69                    | 1.50                    | 1.50                   | 0.00                  |
| 600.00                   | 5.55            | 306.19      | 599.42                | 10.57        | -14.45       | 14.43                   | 1.50                    | 1.50                   | 0.00                  |
| 700.00                   | 7.05            | 306.19      | 698.81                | 17.05        | -23.31       | 23.28                   | 1.50                    | 1.50                   | 0.00                  |
| 763.74                   | 8.01            | 306.19      | 762.00                | 21.98        | -30.05       | 30.01                   | 1.50                    | 1.50                   | 0.00                  |
| Fox Hills                |                 |             |                       |              |              |                         |                         |                        |                       |
| 800.00                   | 8.55            | 306.19      | 797.89                | 25.07        | -34.26       | 34.22                   | 1.50                    | 1.50                   | 0.00                  |
| 900.00                   | 10.05           | 306.19      | 896.57                | 34.61        | -47.30       | 47.24                   | 1.50                    | 1.50                   | 0.00                  |
| 1,000.00                 | 11.55           | 306.19      | 994.80                | 45.67        | -62.42       | 62.34                   | 1.50                    | 1.50                   | 0.00                  |
| 1,100.00                 | 13.05           | 306.19      | 1,092.50              | 58.25        | -79.62       | 79.52                   | 1.50                    | 1.50                   | 0.00                  |
| 1,200.00                 | 14.55           | 306.19      | 1,189.61              | 72.33        | -98.87       | 98.74                   | 1.50                    | 1.50                   | 0.00                  |
| 1,300.00                 | 16.05           | 306.19      | 1,286.06              | 87.91        | -120.16      | 120.01                  | 1.50                    | 1.50                   | 0.00                  |
| 1,400.00                 | 17.55           | 306.19      | 1,381.79              | 104.98       | -143.49      | 143.31                  | 1.50                    | 1.50                   | 0.00                  |
| 1,500.00                 | 19.05           | 306.19      | 1,476.73              | 123.52       | -168.83      | 168.61                  | 1.50                    | 1.50                   | 0.00                  |
| 1,600.00                 | 20.55           | 306.19      | 1,570.82              | 143.52       | -196.17      | 195.92                  | 1.50                    | 1.50                   | 0.00                  |
| 1,700.00                 | 22.05           | 306.19      | 1,663.98              | 164.97       | -225.48      | 225.19                  | 1.50                    | 1.50                   | 0.00                  |
| 1,800.00                 | 23.55           | 306.19      | 1,756.17              | 187.85       | -256.76      | 256.43                  | 1.50                    | 1.50                   | 0.00                  |
| 1,900.00                 | 25.05           | 306.19      | 1,847.30              | 212.15       | -289.97      | 289.60                  | 1.50                    | 1.50                   | 0.00                  |
| 2,000.00                 | 26.55           | 306.19      | 1,937.33              | 237.85       | -325.09      | 324.68                  | 1.50                    | 1.50                   | 0.00                  |
| 2,100.00                 | 28.05           | 306.19      | 2,026.19              | 264.93       | -362.11      | 361.64                  | 1.50                    | 1.50                   | 0.00                  |
| 2,200.00                 | 29.55           | 306.19      | 2,113.82              | 293.37       | -400.99      | 400.47                  | 1.50                    | 1.50                   | 0.00                  |
| 2,300.00                 | 31.05           | 306.19      | 2,200.16              | 323.16       | -441.70      | 441.14                  | 1.50                    | 1.50                   | 0.00                  |
| 2,400.00                 | 32.55           | 306.19      | 2,285.14              | 354.27       | -484.23      | 483.61                  | 1.50                    | 1.50                   | 0.00                  |
| 2,500.00                 | 34.05           | 306.19      | 2,368.72              | 386.69       | -528.54      | 527.86                  | 1.50                    | 1.50                   | 0.00                  |
| 2,600.00                 | 35.55           | 306.19      | 2,450.83              | 420.39       | -574.60      | 573.86                  | 1.50                    | 1.50                   | 0.00                  |
| 2,700.00                 | 37.05           | 306.19      | 2,531.43              | 455.34       | -622.38      | 621.58                  | 1.50                    | 1.50                   | 0.00                  |
| 2,722.67                 | 37.39           | 306.19      | 2,549.48              | 463.44       | -633.44      | 632.63                  | 1.50                    | 1.50                   | 0.00                  |
| Hold Tangent @ 2722.67ft |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,800.00                 | 37.39           | 306.19      | 2,610.92              | 491.17       | -671.34      | 670.48                  | 0.00                    | 0.00                   | 0.00                  |
| 2,851.71                 | 37.39           | 306.19      | 2,652.00              | 509.71       | -696.68      | 695.79                  | 0.00                    | 0.00                   | 0.00                  |
| 9 5/8"                   |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,900.00                 | 37.39           | 306.19      | 2,690.37              | 527.02       | -720.35      | 719.43                  | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00                 | 37.39           | 306.19      | 2,769.82              | 562.88       | -769.36      | 768.37                  | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00                 | 37.39           | 306.19      | 2,849.27              | 598.73       | -818.37      | 817.32                  | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00                 | 37.39           | 306.19      | 2,928.73              | 634.59       | -867.37      | 866.26                  | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00                 | 37.39           | 306.19      | 3,008.18              | 670.44       | -916.38      | 915.21                  | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00                 | 37.39           | 306.19      | 3,087.63              | 706.30       | -965.39      | 964.16                  | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00                 | 37.39           | 306.19      | 3,167.08              | 742.15       | -1,014.40    | 1,013.10                | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00                 | 37.39           | 306.19      | 3,246.53              | 778.01       | -1,063.41    | 1,062.05                | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00                 | 37.39           | 306.19      | 3,325.99              | 813.87       | -1,112.41    | 1,110.99                | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00                 | 37.39           | 306.19      | 3,405.44              | 849.72       | -1,161.42    | 1,159.94                | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00                 | 37.39           | 306.19      | 3,484.89              | 885.58       | -1,210.43    | 1,208.88                | 0.00                    | 0.00                   | 0.00                  |
| 3,976.91                 | 37.39           | 306.19      | 3,546.00              | 913.15       | -1,248.12    | 1,246.53                | 0.00                    | 0.00                   | 0.00                  |
| Parkman                  |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,000.00                 | 37.39           | 306.19      | 3,564.34              | 921.43       | -1,259.44    | 1,257.83                | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00                 | 37.39           | 306.19      | 3,643.79              | 957.29       | -1,308.44    | 1,306.77                | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00                 | 37.39           | 306.19      | 3,723.25              | 993.14       | -1,357.45    | 1,355.72                | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00                 | 37.39           | 306.19      | 3,802.70              | 1,029.00     | -1,406.46    | 1,404.66                | 0.00                    | 0.00                   | 0.00                  |

# Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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) |
| 4,400.00                         | 37.39           | 306.19      | 3,882.15              | 1,064.85     | -1,455.47    | 1,453.61                | 0.00                    | 0.00                   | 0.00                  |
| 4,500.00                         | 37.39           | 306.19      | 3,961.60              | 1,100.71     | -1,504.48    | 1,502.55                | 0.00                    | 0.00                   | 0.00                  |
| 4,588.60                         | 37.39           | 306.19      | 4,032.00              | 1,132.48     | -1,547.90    | 1,545.92                | 0.00                    | 0.00                   | 0.00                  |
| Sussex                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,600.00                         | 37.39           | 306.19      | 4,041.06              | 1,136.56     | -1,553.48    | 1,551.50                | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00                         | 37.39           | 306.19      | 4,120.51              | 1,172.42     | -1,602.49    | 1,600.44                | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00                         | 37.39           | 306.19      | 4,199.96              | 1,208.27     | -1,651.50    | 1,649.39                | 0.00                    | 0.00                   | 0.00                  |
| 4,900.00                         | 37.39           | 306.19      | 4,279.41              | 1,244.13     | -1,700.51    | 1,698.33                | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                         | 37.39           | 306.19      | 4,358.86              | 1,279.98     | -1,749.52    | 1,747.28                | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                         | 37.39           | 306.19      | 4,438.32              | 1,315.84     | -1,798.52    | 1,796.22                | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                         | 37.39           | 306.19      | 4,517.77              | 1,351.69     | -1,847.53    | 1,845.17                | 0.00                    | 0.00                   | 0.00                  |
| 5,300.00                         | 37.39           | 306.19      | 4,597.22              | 1,387.55     | -1,896.54    | 1,894.11                | 0.00                    | 0.00                   | 0.00                  |
| 5,400.00                         | 37.39           | 306.19      | 4,676.67              | 1,423.40     | -1,945.55    | 1,943.06                | 0.00                    | 0.00                   | 0.00                  |
| 5,500.00                         | 37.39           | 306.19      | 4,756.12              | 1,459.26     | -1,994.56    | 1,992.01                | 0.00                    | 0.00                   | 0.00                  |
| 5,600.00                         | 37.39           | 306.19      | 4,835.58              | 1,495.11     | -2,043.56    | 2,040.95                | 0.00                    | 0.00                   | 0.00                  |
| 5,700.00                         | 37.39           | 306.19      | 4,915.03              | 1,530.97     | -2,092.57    | 2,089.90                | 0.00                    | 0.00                   | 0.00                  |
| 5,800.00                         | 37.39           | 306.19      | 4,994.48              | 1,566.82     | -2,141.58    | 2,138.84                | 0.00                    | 0.00                   | 0.00                  |
| 5,900.00                         | 37.39           | 306.19      | 5,073.93              | 1,602.68     | -2,190.59    | 2,187.79                | 0.00                    | 0.00                   | 0.00                  |
| 6,000.00                         | 37.39           | 306.19      | 5,153.38              | 1,638.54     | -2,239.59    | 2,236.73                | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                         | 37.39           | 306.19      | 5,232.84              | 1,674.39     | -2,288.60    | 2,285.68                | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                         | 37.39           | 306.19      | 5,312.29              | 1,710.25     | -2,337.61    | 2,334.62                | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                         | 37.39           | 306.19      | 5,391.74              | 1,746.10     | -2,386.62    | 2,383.57                | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                         | 37.39           | 306.19      | 5,471.19              | 1,781.96     | -2,435.63    | 2,432.51                | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                         | 37.39           | 306.19      | 5,550.64              | 1,817.81     | -2,484.63    | 2,481.46                | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                         | 37.39           | 306.19      | 5,630.10              | 1,853.67     | -2,533.64    | 2,530.40                | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00                         | 37.39           | 306.19      | 5,709.55              | 1,889.52     | -2,582.65    | 2,579.35                | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00                         | 37.39           | 306.19      | 5,789.00              | 1,925.38     | -2,631.66    | 2,628.29                | 0.00                    | 0.00                   | 0.00                  |
| 6,900.00                         | 37.39           | 306.19      | 5,868.45              | 1,961.23     | -2,680.67    | 2,677.24                | 0.00                    | 0.00                   | 0.00                  |
| 7,000.00                         | 37.39           | 306.19      | 5,947.90              | 1,997.09     | -2,729.67    | 2,726.18                | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00                         | 37.39           | 306.19      | 6,027.36              | 2,032.94     | -2,778.68    | 2,775.13                | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00                         | 37.39           | 306.19      | 6,106.81              | 2,068.80     | -2,827.69    | 2,824.07                | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00                         | 37.39           | 306.19      | 6,186.26              | 2,104.65     | -2,876.70    | 2,873.02                | 0.00                    | 0.00                   | 0.00                  |
| 7,400.00                         | 37.39           | 306.19      | 6,265.71              | 2,140.51     | -2,925.71    | 2,921.96                | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00                         | 37.39           | 306.19      | 6,345.17              | 2,176.36     | -2,974.71    | 2,970.91                | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00                         | 37.39           | 306.19      | 6,424.62              | 2,212.22     | -3,023.72    | 3,019.86                | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00                         | 37.39           | 306.19      | 6,504.07              | 2,248.07     | -3,072.73    | 3,068.80                | 0.00                    | 0.00                   | 0.00                  |
| 7,809.94                         | 37.39           | 306.19      | 6,591.42              | 2,287.49     | -3,126.61    | 3,122.61                | 0.00                    | 0.00                   | 0.00                  |
| KOP @ 7809.94ft :: DLS = 8°/100' |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,850.00                         | 39.80           | 302.81      | 6,622.73              | 2,301.63     | -3,147.21    | 3,143.18                | 8.00                    | 6.02                   | -8.45                 |
| 7,900.00                         | 42.94           | 299.04      | 6,660.25              | 2,318.57     | -3,175.56    | 3,171.51                | 8.00                    | 6.27                   | -7.53                 |
| 7,950.00                         | 46.18           | 295.70      | 6,695.88              | 2,334.66     | -3,206.71    | 3,202.63                | 8.00                    | 6.49                   | -6.68                 |
| 8,000.00                         | 49.51           | 292.71      | 6,729.44              | 2,349.83     | -3,240.52    | 3,236.41                | 8.00                    | 6.66                   | -5.98                 |
| 8,050.00                         | 52.91           | 290.00      | 6,760.76              | 2,364.00     | -3,276.81    | 3,272.68                | 8.00                    | 6.80                   | -5.41                 |
| 8,100.00                         | 56.36           | 287.53      | 6,789.70              | 2,377.10     | -3,315.41    | 3,311.26                | 8.00                    | 6.91                   | -4.94                 |
| 8,150.00                         | 59.86           | 285.25      | 6,816.11              | 2,389.06     | -3,356.13    | 3,351.96                | 8.00                    | 7.00                   | -4.56                 |
| 8,193.65                         | 62.95           | 283.39      | 6,837.00              | 2,398.53     | -3,393.26    | 3,389.07                | 8.00                    | 7.07                   | -4.26                 |
| Sharon Springs                   |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,200.00                         | 63.40           | 283.13      | 6,839.87              | 2,399.83     | -3,398.78    | 3,394.59                | 8.00                    | 7.10                   | -4.12                 |
| 8,250.00                         | 66.97           | 281.14      | 6,860.85              | 2,409.36     | -3,443.14    | 3,438.93                | 8.00                    | 7.13                   | -3.99                 |
| 8,285.48                         | 69.52           | 279.79      | 6,874.00              | 2,415.34     | -3,475.54    | 3,471.32                | 8.00                    | 7.18                   | -3.81                 |
| Niobrara                         |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,300.00                         | 70.56           | 279.25      | 6,878.96              | 2,417.59     | -3,489.00    | 3,484.78                | 8.00                    | 7.20                   | -3.72                 |
| 8,350.00                         | 74.17           | 277.44      | 6,894.10              | 2,424.50     | -3,536.14    | 3,531.90                | 8.00                    | 7.22                   | -3.62                 |

# Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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) |
| 8,400.00                       | 77.79           | 275.69      | 6,906.21              | 2,430.04     | -3,584.32    | 3,580.08                | 8.00                    | 7.25                   | -3.49                 |
| 8,450.00                       | 81.43           | 274.00      | 6,915.23              | 2,434.18     | -3,633.32    | 3,629.06                | 8.00                    | 7.27                   | -3.40                 |
| 8,500.00                       | 85.07           | 272.33      | 6,921.10              | 2,436.92     | -3,682.89    | 3,678.63                | 8.00                    | 7.28                   | -3.33                 |
| 8,550.00                       | 88.72           | 270.68      | 6,923.81              | 2,438.23     | -3,732.78    | 3,728.52                | 8.00                    | 7.29                   | -3.29                 |
| 8,571.69                       | 90.30           | 269.97      | 6,924.00              | 2,438.35     | -3,754.47    | 3,750.21                | 8.00                    | 7.29                   | -3.28                 |
| End Build @ 8571.69ft          |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,600.00                       | 90.30           | 269.97      | 6,923.85              | 2,438.34     | -3,782.78    | 3,778.52                | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00                       | 90.30           | 269.97      | 6,923.33              | 2,438.29     | -3,882.78    | 3,878.52                | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00                       | 90.30           | 269.97      | 6,922.80              | 2,438.24     | -3,982.78    | 3,978.52                | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00                       | 90.30           | 269.97      | 6,922.28              | 2,438.18     | -4,082.78    | 4,078.52                | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                       | 90.30           | 269.97      | 6,921.76              | 2,438.13     | -4,182.78    | 4,178.52                | 0.00                    | 0.00                   | 0.00                  |
| 9,100.00                       | 90.30           | 269.97      | 6,921.23              | 2,438.08     | -4,282.78    | 4,278.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00                       | 90.30           | 269.97      | 6,920.71              | 2,438.03     | -4,382.77    | 4,378.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00                       | 90.30           | 269.97      | 6,920.18              | 2,437.97     | -4,482.77    | 4,478.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00                       | 90.30           | 269.97      | 6,919.66              | 2,437.92     | -4,582.77    | 4,578.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00                       | 90.30           | 269.97      | 6,919.14              | 2,437.87     | -4,682.77    | 4,678.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,600.00                       | 90.30           | 269.97      | 6,918.61              | 2,437.82     | -4,782.77    | 4,778.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,700.00                       | 90.30           | 269.97      | 6,918.09              | 2,437.76     | -4,882.77    | 4,878.51                | 0.00                    | 0.00                   | 0.00                  |
| 9,800.00                       | 90.30           | 269.97      | 6,917.57              | 2,437.71     | -4,982.77    | 4,978.50                | 0.00                    | 0.00                   | 0.00                  |
| 9,900.00                       | 90.30           | 269.97      | 6,917.04              | 2,437.66     | -5,082.76    | 5,078.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,000.00                      | 90.30           | 269.97      | 6,916.52              | 2,437.61     | -5,182.76    | 5,178.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,100.00                      | 90.30           | 269.97      | 6,916.00              | 2,437.55     | -5,282.76    | 5,278.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,200.00                      | 90.30           | 269.97      | 6,915.47              | 2,437.50     | -5,382.76    | 5,378.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,300.00                      | 90.30           | 269.97      | 6,914.95              | 2,437.45     | -5,482.76    | 5,478.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,400.00                      | 90.30           | 269.97      | 6,914.43              | 2,437.40     | -5,582.76    | 5,578.50                | 0.00                    | 0.00                   | 0.00                  |
| 10,500.00                      | 90.30           | 269.97      | 6,913.90              | 2,437.35     | -5,682.76    | 5,678.49                | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00                      | 90.30           | 269.97      | 6,913.38              | 2,437.29     | -5,782.75    | 5,778.49                | 0.00                    | 0.00                   | 0.00                  |
| 10,700.00                      | 90.30           | 269.97      | 6,912.85              | 2,437.24     | -5,882.75    | 5,878.49                | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00                      | 90.30           | 269.97      | 6,912.33              | 2,437.19     | -5,982.75    | 5,978.49                | 0.00                    | 0.00                   | 0.00                  |
| 10,900.00                      | 90.30           | 269.97      | 6,911.81              | 2,437.14     | -6,082.75    | 6,078.49                | 0.00                    | 0.00                   | 0.00                  |
| 11,000.00                      | 90.30           | 269.97      | 6,911.28              | 2,437.08     | -6,182.75    | 6,178.49                | 0.00                    | 0.00                   | 0.00                  |
| 11,100.00                      | 90.30           | 269.97      | 6,910.76              | 2,437.03     | -6,282.75    | 6,278.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,200.00                      | 90.30           | 269.97      | 6,910.24              | 2,436.98     | -6,382.75    | 6,378.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,300.00                      | 90.30           | 269.97      | 6,909.71              | 2,436.93     | -6,482.75    | 6,478.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00                      | 90.30           | 269.97      | 6,909.19              | 2,436.87     | -6,582.74    | 6,578.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00                      | 90.30           | 269.97      | 6,908.67              | 2,436.82     | -6,682.74    | 6,678.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00                      | 90.30           | 269.97      | 6,908.14              | 2,436.77     | -6,782.74    | 6,778.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00                      | 90.30           | 269.97      | 6,907.62              | 2,436.72     | -6,882.74    | 6,878.48                | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00                      | 90.30           | 269.97      | 6,907.09              | 2,436.66     | -6,982.74    | 6,978.47                | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00                      | 90.30           | 269.97      | 6,906.57              | 2,436.61     | -7,082.74    | 7,078.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00                      | 90.30           | 269.97      | 6,906.05              | 2,436.56     | -7,182.74    | 7,178.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,100.00                      | 90.30           | 269.97      | 6,905.52              | 2,436.51     | -7,282.73    | 7,278.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,200.00                      | 90.30           | 269.97      | 6,905.00              | 2,436.46     | -7,382.73    | 7,378.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00                      | 90.30           | 269.97      | 6,904.48              | 2,436.40     | -7,482.73    | 7,478.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00                      | 90.30           | 269.97      | 6,903.95              | 2,436.35     | -7,582.73    | 7,578.47                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00                      | 90.30           | 269.97      | 6,903.43              | 2,436.30     | -7,682.73    | 7,678.46                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00                      | 90.30           | 269.97      | 6,902.91              | 2,436.25     | -7,782.73    | 7,778.46                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00                      | 90.30           | 269.97      | 6,902.38              | 2,436.19     | -7,882.73    | 7,878.46                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00                      | 90.30           | 269.97      | 6,901.86              | 2,436.14     | -7,982.72    | 7,978.46                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00                      | 90.30           | 269.97      | 6,901.34              | 2,436.09     | -8,082.72    | 8,078.46                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00                      | 90.30           | 269.97      | 6,900.81              | 2,436.04     | -8,182.72    | 8,178.46                | 0.00                    | 0.00                   | 0.00                  |
| 13,071.69                      | 90.30           | 269.97      | 6,900.44              | 2,436.00     | -8,254.41    | 8,250.15                | 0.00                    | 0.00                   | 0.00                  |
| Begin Turn for AC @ 13071.69ft |                 |             |                       |              |              |                         |                         |                        |                       |
| 13,100.00                      | 90.30           | 270.39      | 6,900.29              | 2,436.09     | -8,282.72    | 8,278.46                | 1.50                    | 0.00                   | 1.50                  |

# Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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) |
| 13,150.36                             | 90.30           | 271.15      | 6,900.02              | 2,436.77     | -8,333.07    | 8,328.81                | 1.50                    | 0.00                   | 1.50                  |
| <b>End Turn @ 13150.36ft</b>          |                 |             |                       |              |              |                         |                         |                        |                       |
| 13,200.00                             | 90.30           | 271.15      | 6,899.76              | 2,437.76     | -8,382.70    | 8,378.44                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00                             | 90.30           | 271.15      | 6,899.24              | 2,439.77     | -8,482.68    | 8,478.41                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00                             | 90.30           | 271.15      | 6,898.72              | 2,441.78     | -8,582.66    | 8,578.39                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00                             | 90.30           | 271.15      | 6,898.19              | 2,443.78     | -8,682.64    | 8,678.36                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00                             | 90.30           | 271.15      | 6,897.67              | 2,445.79     | -8,782.62    | 8,778.34                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00                             | 90.30           | 271.15      | 6,897.15              | 2,447.80     | -8,882.60    | 8,878.31                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00                             | 90.30           | 271.15      | 6,896.62              | 2,449.81     | -8,982.57    | 8,978.29                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00                             | 90.30           | 271.15      | 6,896.10              | 2,451.81     | -9,082.55    | 9,078.26                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00                             | 90.30           | 271.15      | 6,895.58              | 2,453.82     | -9,182.53    | 9,178.24                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00                             | 90.30           | 271.15      | 6,895.05              | 2,455.83     | -9,282.51    | 9,278.21                | 0.00                    | 0.00                   | 0.00                  |
| 14,200.00                             | 90.30           | 271.15      | 6,894.53              | 2,457.83     | -9,382.49    | 9,378.18                | 0.00                    | 0.00                   | 0.00                  |
| 14,300.00                             | 90.30           | 271.15      | 6,894.00              | 2,459.84     | -9,482.47    | 9,478.16                | 0.00                    | 0.00                   | 0.00                  |
| 14,400.00                             | 90.30           | 271.15      | 6,893.48              | 2,461.85     | -9,582.45    | 9,578.13                | 0.00                    | 0.00                   | 0.00                  |
| 14,500.00                             | 90.30           | 271.15      | 6,892.96              | 2,463.85     | -9,682.42    | 9,678.11                | 0.00                    | 0.00                   | 0.00                  |
| 14,600.00                             | 90.30           | 271.15      | 6,892.43              | 2,465.86     | -9,782.40    | 9,778.08                | 0.00                    | 0.00                   | 0.00                  |
| 14,700.00                             | 90.30           | 271.15      | 6,891.91              | 2,467.87     | -9,882.38    | 9,878.06                | 0.00                    | 0.00                   | 0.00                  |
| 14,800.00                             | 90.30           | 271.15      | 6,891.39              | 2,469.88     | -9,982.36    | 9,978.03                | 0.00                    | 0.00                   | 0.00                  |
| 14,900.00                             | 90.30           | 271.15      | 6,890.86              | 2,471.88     | -10,082.34   | 10,078.01               | 0.00                    | 0.00                   | 0.00                  |
| 15,000.00                             | 90.30           | 271.15      | 6,890.34              | 2,473.89     | -10,182.32   | 10,177.98               | 0.00                    | 0.00                   | 0.00                  |
| 15,100.00                             | 90.30           | 271.15      | 6,889.82              | 2,475.90     | -10,282.30   | 10,277.96               | 0.00                    | 0.00                   | 0.00                  |
| 15,200.00                             | 90.30           | 271.15      | 6,889.29              | 2,477.90     | -10,382.27   | 10,377.93               | 0.00                    | 0.00                   | 0.00                  |
| 15,300.00                             | 90.30           | 271.15      | 6,888.77              | 2,479.91     | -10,482.25   | 10,477.91               | 0.00                    | 0.00                   | 0.00                  |
| 15,400.00                             | 90.30           | 271.15      | 6,888.25              | 2,481.92     | -10,582.23   | 10,577.88               | 0.00                    | 0.00                   | 0.00                  |
| 15,500.00                             | 90.30           | 271.15      | 6,887.72              | 2,483.92     | -10,682.21   | 10,677.86               | 0.00                    | 0.00                   | 0.00                  |
| 15,600.00                             | 90.30           | 271.15      | 6,887.20              | 2,485.93     | -10,782.19   | 10,777.83               | 0.00                    | 0.00                   | 0.00                  |
| 15,700.00                             | 90.30           | 271.15      | 6,886.67              | 2,487.94     | -10,882.17   | 10,877.81               | 0.00                    | 0.00                   | 0.00                  |
| 15,800.00                             | 90.30           | 271.15      | 6,886.15              | 2,489.95     | -10,982.14   | 10,977.78               | 0.00                    | 0.00                   | 0.00                  |
| 15,900.00                             | 90.30           | 271.15      | 6,885.63              | 2,491.95     | -11,082.12   | 11,077.76               | 0.00                    | 0.00                   | 0.00                  |
| 16,000.00                             | 90.30           | 271.15      | 6,885.10              | 2,493.96     | -11,182.10   | 11,177.73               | 0.00                    | 0.00                   | 0.00                  |
| 16,100.00                             | 90.30           | 271.15      | 6,884.58              | 2,495.97     | -11,282.08   | 11,277.71               | 0.00                    | 0.00                   | 0.00                  |
| 16,200.00                             | 90.30           | 271.15      | 6,884.06              | 2,497.97     | -11,382.06   | 11,377.68               | 0.00                    | 0.00                   | 0.00                  |
| 16,300.00                             | 90.30           | 271.15      | 6,883.53              | 2,499.98     | -11,482.04   | 11,477.66               | 0.00                    | 0.00                   | 0.00                  |
| 16,400.00                             | 90.30           | 271.15      | 6,883.01              | 2,501.99     | -11,582.02   | 11,577.63               | 0.00                    | 0.00                   | 0.00                  |
| 16,500.00                             | 90.30           | 271.15      | 6,882.49              | 2,503.99     | -11,681.99   | 11,677.61               | 0.00                    | 0.00                   | 0.00                  |
| 16,600.00                             | 90.30           | 271.15      | 6,881.96              | 2,506.00     | -11,781.97   | 11,777.58               | 0.00                    | 0.00                   | 0.00                  |
| 16,700.00                             | 90.30           | 271.15      | 6,881.44              | 2,508.01     | -11,881.95   | 11,877.56               | 0.00                    | 0.00                   | 0.00                  |
| 16,750.35                             | 90.30           | 271.15      | 6,881.17              | 2,509.02     | -11,932.29   | 11,927.89               | 0.00                    | 0.00                   | 0.00                  |
| <b>Begin Turn to BHL @ 16750.35ft</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 16,800.00                             | 90.30           | 270.41      | 6,880.92              | 2,509.69     | -11,981.93   | 11,977.54               | 1.50                    | 0.00                   | -1.50                 |
| 16,880.82                             | 90.30           | 269.19      | 6,880.49              | 2,509.41     | -12,062.75   | 12,058.35               | 1.50                    | 0.00                   | -1.50                 |
| <b>End Turn @ 16880.82ft</b>          |                 |             |                       |              |              |                         |                         |                        |                       |
| 16,900.00                             | 90.30           | 269.19      | 6,880.39              | 2,509.14     | -12,081.93   | 12,077.53               | 0.00                    | 0.00                   | 0.00                  |
| 17,000.00                             | 90.30           | 269.19      | 6,879.87              | 2,507.73     | -12,181.92   | 12,177.52               | 0.00                    | 0.00                   | 0.00                  |
| 17,100.00                             | 90.30           | 269.19      | 6,879.35              | 2,506.32     | -12,281.91   | 12,277.51               | 0.00                    | 0.00                   | 0.00                  |
| 17,200.00                             | 90.30           | 269.19      | 6,878.83              | 2,504.91     | -12,381.90   | 12,377.50               | 0.00                    | 0.00                   | 0.00                  |
| 17,300.00                             | 90.30           | 269.19      | 6,878.31              | 2,503.50     | -12,481.88   | 12,477.50               | 0.00                    | 0.00                   | 0.00                  |
| 17,400.00                             | 90.30           | 269.19      | 6,877.79              | 2,502.10     | -12,581.87   | 12,577.49               | 0.00                    | 0.00                   | 0.00                  |
| 17,500.00                             | 90.30           | 269.19      | 6,877.26              | 2,500.69     | -12,681.86   | 12,677.48               | 0.00                    | 0.00                   | 0.00                  |
| 17,600.00                             | 90.30           | 269.19      | 6,876.74              | 2,499.28     | -12,781.85   | 12,777.47               | 0.00                    | 0.00                   | 0.00                  |
| 17,700.00                             | 90.30           | 269.19      | 6,876.22              | 2,497.87     | -12,881.84   | 12,877.46               | 0.00                    | 0.00                   | 0.00                  |
| 17,800.00                             | 90.30           | 269.19      | 6,875.70              | 2,496.46     | -12,981.83   | 12,977.45               | 0.00                    | 0.00                   | 0.00                  |



## Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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) |
| 17,900.00             | 90.30           | 269.19      | 6,875.18              | 2,495.05     | -13,081.82   | 13,077.44               | 0.00                    | 0.00                   | 0.00                  |
| 18,000.00             | 90.30           | 269.19      | 6,874.66              | 2,493.64     | -13,181.81   | 13,177.43               | 0.00                    | 0.00                   | 0.00                  |
| 18,100.00             | 90.30           | 269.19      | 6,874.14              | 2,492.23     | -13,281.79   | 13,277.42               | 0.00                    | 0.00                   | 0.00                  |
| 18,200.00             | 90.30           | 269.19      | 6,873.61              | 2,490.83     | -13,381.78   | 13,377.41               | 0.00                    | 0.00                   | 0.00                  |
| 18,300.00             | 90.30           | 269.19      | 6,873.09              | 2,489.42     | -13,481.77   | 13,477.41               | 0.00                    | 0.00                   | 0.00                  |
| 18,400.00             | 90.30           | 269.19      | 6,872.57              | 2,488.01     | -13,581.76   | 13,577.40               | 0.00                    | 0.00                   | 0.00                  |
| 18,500.00             | 90.30           | 269.19      | 6,872.05              | 2,486.60     | -13,681.75   | 13,677.39               | 0.00                    | 0.00                   | 0.00                  |
| 18,600.00             | 90.30           | 269.19      | 6,871.53              | 2,485.19     | -13,781.74   | 13,777.38               | 0.00                    | 0.00                   | 0.00                  |
| 18,700.00             | 90.30           | 269.19      | 6,871.01              | 2,483.78     | -13,881.73   | 13,877.37               | 0.00                    | 0.00                   | 0.00                  |
| 18,800.00             | 90.30           | 269.19      | 6,870.49              | 2,482.37     | -13,981.71   | 13,977.36               | 0.00                    | 0.00                   | 0.00                  |
| 18,900.00             | 90.30           | 269.19      | 6,869.96              | 2,480.97     | -14,081.70   | 14,077.35               | 0.00                    | 0.00                   | 0.00                  |
| 19,000.00             | 90.30           | 269.19      | 6,869.44              | 2,479.56     | -14,181.69   | 14,177.34               | 0.00                    | 0.00                   | 0.00                  |
| 19,100.00             | 90.30           | 269.19      | 6,868.92              | 2,478.15     | -14,281.68   | 14,277.33               | 0.00                    | 0.00                   | 0.00                  |
| 19,200.00             | 90.30           | 269.19      | 6,868.40              | 2,476.74     | -14,381.67   | 14,377.33               | 0.00                    | 0.00                   | 0.00                  |
| 19,300.00             | 90.30           | 269.19      | 6,867.88              | 2,475.33     | -14,481.66   | 14,477.32               | 0.00                    | 0.00                   | 0.00                  |
| 19,400.00             | 90.30           | 269.19      | 6,867.36              | 2,473.92     | -14,581.65   | 14,577.31               | 0.00                    | 0.00                   | 0.00                  |
| 19,500.00             | 90.30           | 269.19      | 6,866.84              | 2,472.51     | -14,681.64   | 14,677.30               | 0.00                    | 0.00                   | 0.00                  |
| 19,600.00             | 90.30           | 269.19      | 6,866.31              | 2,471.11     | -14,781.62   | 14,777.29               | 0.00                    | 0.00                   | 0.00                  |
| 19,700.00             | 90.30           | 269.19      | 6,865.79              | 2,469.70     | -14,881.61   | 14,877.28               | 0.00                    | 0.00                   | 0.00                  |
| 19,800.00             | 90.30           | 269.19      | 6,865.27              | 2,468.29     | -14,981.60   | 14,977.27               | 0.00                    | 0.00                   | 0.00                  |
| 19,900.00             | 90.30           | 269.19      | 6,864.75              | 2,466.88     | -15,081.59   | 15,077.26               | 0.00                    | 0.00                   | 0.00                  |
| 20,000.00             | 90.30           | 269.19      | 6,864.23              | 2,465.47     | -15,181.58   | 15,177.25               | 0.00                    | 0.00                   | 0.00                  |
| 20,100.00             | 90.30           | 269.19      | 6,863.71              | 2,464.06     | -15,281.57   | 15,277.24               | 0.00                    | 0.00                   | 0.00                  |
| 20,200.00             | 90.30           | 269.19      | 6,863.19              | 2,462.65     | -15,381.56   | 15,377.24               | 0.00                    | 0.00                   | 0.00                  |
| 20,300.00             | 90.30           | 269.19      | 6,862.66              | 2,461.24     | -15,481.55   | 15,477.23               | 0.00                    | 0.00                   | 0.00                  |
| 20,400.00             | 90.30           | 269.19      | 6,862.14              | 2,459.84     | -15,581.53   | 15,577.22               | 0.00                    | 0.00                   | 0.00                  |
| 20,500.00             | 90.30           | 269.19      | 6,861.62              | 2,458.43     | -15,681.52   | 15,677.21               | 0.00                    | 0.00                   | 0.00                  |
| 20,600.00             | 90.30           | 269.19      | 6,861.10              | 2,457.02     | -15,781.51   | 15,777.20               | 0.00                    | 0.00                   | 0.00                  |
| 20,700.00             | 90.30           | 269.19      | 6,860.58              | 2,455.61     | -15,881.50   | 15,877.19               | 0.00                    | 0.00                   | 0.00                  |
| 20,800.00             | 90.30           | 269.19      | 6,860.06              | 2,454.20     | -15,981.49   | 15,977.18               | 0.00                    | 0.00                   | 0.00                  |
| 20,900.00             | 90.30           | 269.19      | 6,859.54              | 2,452.79     | -16,081.48   | 16,077.17               | 0.00                    | 0.00                   | 0.00                  |
| 21,000.00             | 90.30           | 269.19      | 6,859.01              | 2,451.38     | -16,181.47   | 16,177.16               | 0.00                    | 0.00                   | 0.00                  |
| 21,100.00             | 90.30           | 269.19      | 6,858.49              | 2,449.98     | -16,281.46   | 16,277.15               | 0.00                    | 0.00                   | 0.00                  |
| 21,200.00             | 90.30           | 269.19      | 6,857.97              | 2,448.57     | -16,381.44   | 16,377.15               | 0.00                    | 0.00                   | 0.00                  |
| 21,300.00             | 90.30           | 269.19      | 6,857.45              | 2,447.16     | -16,481.43   | 16,477.14               | 0.00                    | 0.00                   | 0.00                  |
| 21,400.00             | 90.30           | 269.19      | 6,856.93              | 2,445.75     | -16,581.42   | 16,577.13               | 0.00                    | 0.00                   | 0.00                  |
| 21,500.00             | 90.30           | 269.19      | 6,856.41              | 2,444.34     | -16,681.41   | 16,677.12               | 0.00                    | 0.00                   | 0.00                  |
| 21,600.00             | 90.30           | 269.19      | 6,855.89              | 2,442.93     | -16,781.40   | 16,777.11               | 0.00                    | 0.00                   | 0.00                  |
| 21,700.00             | 90.30           | 269.19      | 6,855.36              | 2,441.52     | -16,881.39   | 16,877.10               | 0.00                    | 0.00                   | 0.00                  |
| 21,800.00             | 90.30           | 269.19      | 6,854.84              | 2,440.11     | -16,981.38   | 16,977.09               | 0.00                    | 0.00                   | 0.00                  |
| 21,900.00             | 90.30           | 269.19      | 6,854.32              | 2,438.71     | -17,081.37   | 17,077.08               | 0.00                    | 0.00                   | 0.00                  |
| 22,000.00             | 90.30           | 269.19      | 6,853.80              | 2,437.30     | -17,181.35   | 17,177.07               | 0.00                    | 0.00                   | 0.00                  |
| 22,100.00             | 90.30           | 269.19      | 6,853.28              | 2,435.89     | -17,281.34   | 17,277.06               | 0.00                    | 0.00                   | 0.00                  |
| 22,200.00             | 90.30           | 269.19      | 6,852.76              | 2,434.48     | -17,381.33   | 17,377.06               | 0.00                    | 0.00                   | 0.00                  |
| 22,300.00             | 90.30           | 269.19      | 6,852.24              | 2,433.07     | -17,481.32   | 17,477.05               | 0.00                    | 0.00                   | 0.00                  |
| 22,400.00             | 90.30           | 269.19      | 6,851.71              | 2,431.66     | -17,581.31   | 17,577.04               | 0.00                    | 0.00                   | 0.00                  |
| 22,500.00             | 90.30           | 269.19      | 6,851.19              | 2,430.25     | -17,681.30   | 17,677.03               | 0.00                    | 0.00                   | 0.00                  |
| 22,600.00             | 90.30           | 269.19      | 6,850.67              | 2,428.85     | -17,781.29   | 17,777.02               | 0.00                    | 0.00                   | 0.00                  |
| 22,700.00             | 90.30           | 269.19      | 6,850.15              | 2,427.44     | -17,881.28   | 17,877.01               | 0.00                    | 0.00                   | 0.00                  |
| 22,800.00             | 90.30           | 269.19      | 6,849.63              | 2,426.03     | -17,981.26   | 17,977.00               | 0.00                    | 0.00                   | 0.00                  |
| 22,900.00             | 90.30           | 269.19      | 6,849.11              | 2,424.62     | -18,081.25   | 18,076.99               | 0.00                    | 0.00                   | 0.00                  |
| 23,000.00             | 90.30           | 269.19      | 6,848.59              | 2,423.21     | -18,181.24   | 18,176.98               | 0.00                    | 0.00                   | 0.00                  |
| 23,100.00             | 90.30           | 269.19      | 6,848.06              | 2,421.80     | -18,281.23   | 18,276.98               | 0.00                    | 0.00                   | 0.00                  |
| 23,200.00             | 90.30           | 269.19      | 6,847.54              | 2,420.39     | -18,381.22   | 18,376.97               | 0.00                    | 0.00                   | 0.00                  |

## Planning Report

|                  |                                   |                                     |                               |
|------------------|-----------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDM 5000.16 Single User Db        | <b>Local Co-ordinate Reference:</b> | Well SCHMERGE WEST 4-2HZ      |
| <b>Company:</b>  | US ROCKIES WATTENBERG PLANNING    | <b>TVD Reference:</b>               | RKB = 17' @ 4914.00usft (RIG) |
| <b>Project:</b>  | WELD-NAD83-UTMFT13N               | <b>MD Reference:</b>                | RKB = 17' @ 4914.00usft (RIG) |
| <b>Site:</b>     | 5N-67W-04 SCHMERGE WEST 9-4HZ PAD | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | SCHMERGE WEST 4-2HZ               | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Plan C                            |                                     |                               |
| <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) |
| 23,300.00                       | 90.30           | 269.19      | 6,847.02              | 2,418.99     | -18,481.21   | 18,476.96               | 0.00                    | 0.00                   | 0.00                  |
| 23,400.00                       | 90.30           | 269.19      | 6,846.50              | 2,417.58     | -18,581.20   | 18,576.95               | 0.00                    | 0.00                   | 0.00                  |
| 23,500.00                       | 90.30           | 269.19      | 6,845.98              | 2,416.17     | -18,681.18   | 18,676.94               | 0.00                    | 0.00                   | 0.00                  |
| 23,600.00                       | 90.30           | 269.19      | 6,845.46              | 2,414.76     | -18,781.17   | 18,776.93               | 0.00                    | 0.00                   | 0.00                  |
| 23,700.00                       | 90.30           | 269.19      | 6,844.94              | 2,413.35     | -18,881.16   | 18,876.92               | 0.00                    | 0.00                   | 0.00                  |
| 23,716.27                       | 90.30           | 269.19      | 6,844.85              | 2,413.12     | -18,897.43   | 18,893.19               | 0.00                    | 0.00                   | 0.00                  |
| TD Well @ 23716.27ft - 5.5" CSG |                 |             |                       |              |              |                         |                         |                        |                       |

| Casing Points         |                       |          |                     |                   |
|-----------------------|-----------------------|----------|---------------------|-------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name     | Casing Diameter (") | Hole Diameter (") |
| 2,851.71              | 2,652.00              | 9 5/8"   | 9-5/8               | 13-1/2            |
| 23,716.27             | 6,844.85              | 5.5" CSG | 5-1/2               | 7-7/8             |

| Formations            |                       |                |           |                   |
|-----------------------|-----------------------|----------------|-----------|-------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name           | Lithology | Dip Direction (°) |
| 763.74                | 762.00                | Fox Hills      |           |                   |
| 3,976.91              | 3,546.00              | Parkman        |           |                   |
| 4,588.60              | 4,032.00              | Sussex         |           |                   |
| 8,193.65              | 6,837.00              | Sharon Springs |           |                   |
| 8,285.48              | 6,874.00              | Niobrara       |           |                   |

| Plan Annotations      |                       |                   |              |                                  |
|-----------------------|-----------------------|-------------------|--------------|----------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                          |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                                  |
| 230.00                | 230.00                | 0.00              | 0.00         | Begin Nudge @ 230.00ft           |
| 2,722.67              | 2,549.48              | 463.44            | -633.44      | Hold Tangent @ 2722.67ft         |
| 7,809.94              | 6,591.42              | 2,287.49          | -3,126.61    | KOP @ 7809.94ft :: DLS = 8"/100' |
| 8,571.69              | 6,924.00              | 2,438.35          | -3,754.47    | End Build @ 8571.69ft            |
| 13,071.69             | 6,900.44              | 2,436.00          | -8,254.41    | Begin Turn for AC @ 13071.69ft   |
| 13,150.36             | 6,900.02              | 2,436.77          | -8,333.07    | End Turn @ 13150.36ft            |
| 16,750.35             | 6,881.17              | 2,509.02          | -11,932.29   | Begin Turn to BHL @ 16750.35ft   |
| 16,880.82             | 6,880.49              | 2,509.41          | -12,062.75   | End Turn @ 16880.82ft            |
| 23,716.27             | 6,844.85              | 2,413.12          | -18,897.43   | TD Well @ 23716.27ft             |