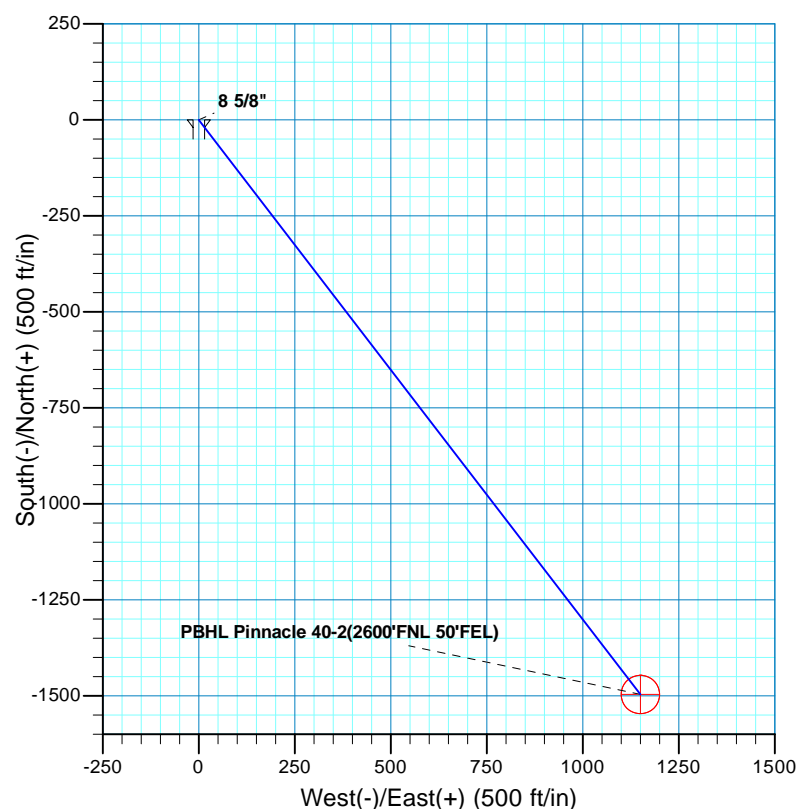
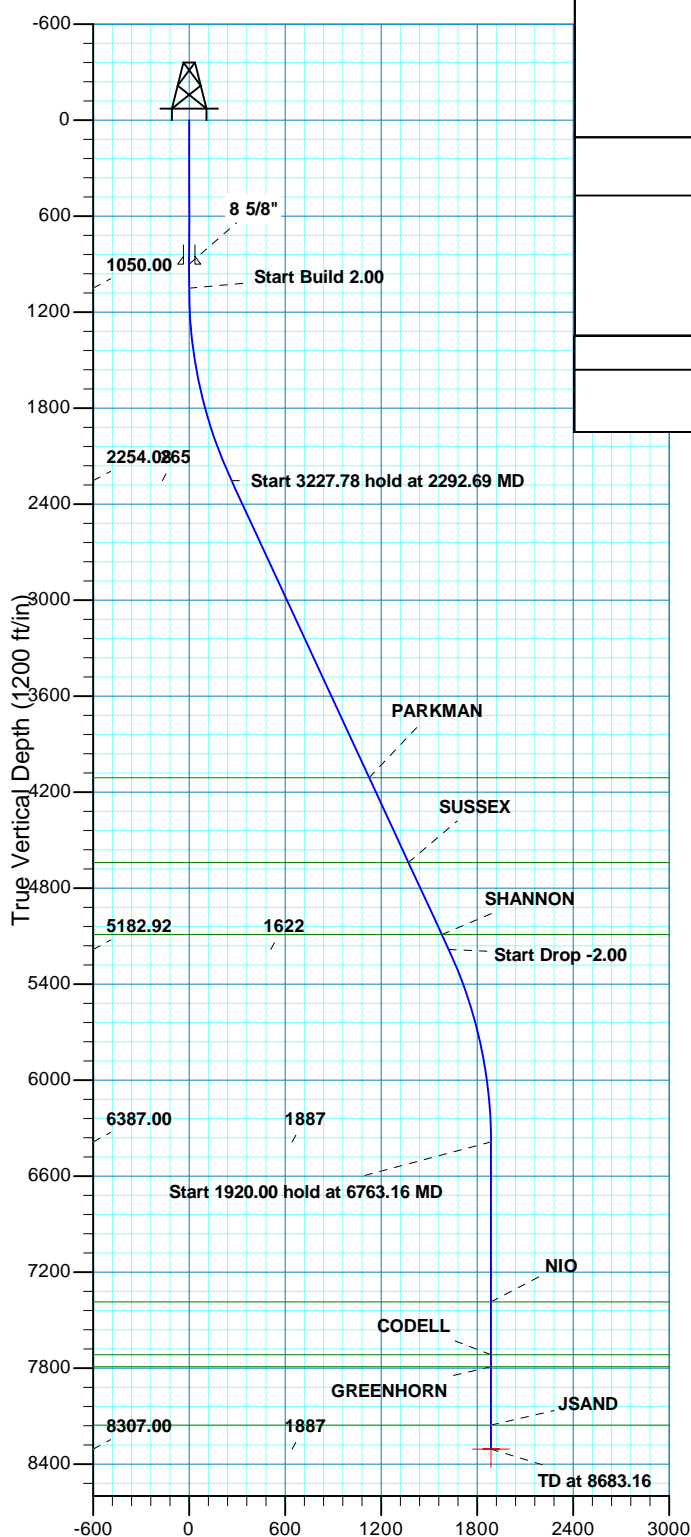


| WELL DETAILS: P_Pinnacle 40-2            |       |            |            |                |                   |
|--|-------|------------|------------|----------------|-------------------|
| GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |       |            |            |                |                   |
| +N/-S                                    | +E/-W | Northing   | Easting    | Latitude       | Longitude         |
| 0.00                                     | 0.00  | 1274151.40 | 3149567.53 | 40° 5' 4.916 N | 104° 57' 55.642 W |

| DESIGN TARGET DETAILS     |         |          |         |            |            |                 |                   |
|---------------------------|---------|----------|---------|------------|------------|-----------------|-------------------|
| Name                      | TVD     | +N/-S    | +E/-W   | Northing   | Easting    | Latitude        | Longitude         |
| PBHL                      | 8307.00 | -1496.41 | 1150.07 | 1272661.95 | 3150726.60 | 40° 4' 50.128 N | 104° 57' 40.846 W |
| - plan hits target center |         |          |         |            |            |                 |                   |
| Shape                     |         |          |         |            |            |                 |                   |
| Circle (Radius: 50.00)    |         |          |         |            |            |                 |                   |

| SECTION DETAILS   |         |         |        |         |          |         |                       |         |           |                                     |
|---|---------|---------|--------|---------|----------|---------|-----------------------|---------|-----------|-------------------------------------|
|   | MD      | Inc     | Azi    | TVD     | +N/-S    | +E/-W   | Dleg                  | TFace   | VSect     | Target                              |
|   | 0.00    | 0.00    | 0.00   | 0.00    | 0.00     | 0.00    | 0.00                  | 0.00    | 0.00      |                                     |
|   | 1050.00 | 0.00    | 0.00   | 1050.00 | 0.00     | 0.00    | 0.00                  | 0.00    | 0.00      |                                     |
|   | 2292.69 | 24.85   | 142.46 | 2254.08 | -210.37  | 161.68  | 2.00                  | 142.46  | 265.33    |                                     |
|   | 5520.47 | 24.85   | 142.46 | 5182.92 | -1286.04 | 988.39  | 0.00                  | 0.00    | 1621.98   |                                     |
|   | 6763.16 | 0.00    | 0.00   | 6387.00 | -1496.41 | 1150.07 | 2.00                  | 180.00  | 1887.31   |                                     |
|   | 8683.16 | 0.00    | 0.00   | 8307.00 | -1496.41 | 1150.07 | 0.00                  | 0.00    | 1887.31   | PBHL Pinnacle 40-2(2600'FNL 50'FEL) |
| PROJECT DETAILS: COLORADO NORTHERN ZONE - 83<br><br>Geodetic System: US State Plane 1983<br>Datum: North American Datum 1983<br>Ellipsoid: GRS 1980<br>Zone: Colorado Northern Zone<br>Location: SECTION 2 T1N R68W<br>System Datum: Mean Sea Level |         |         |        |         |          |         | FORMATION TOP DETAILS |         |           |                                     |
|   |         |         |        |         |          |         | TVDPath               | MDPath  | Formation |                                     |
|   |         |         |        |         |          |         | 4111.00               | 4339.14 | PARKMAN   |                                     |
|   |         |         |        |         |          |         | 4641.00               | 4923.24 | SUSSEX    |                                     |
|   |         |         |        |         |          |         | 5091.00               | 5419.17 | SHANNON   |                                     |
|   |         |         |        |         |          |         | 7387.00               | 7763.16 | NIO       |                                     |
|   |         |         |        |         |          |         | 7717.00               | 8093.16 | CODELL    |                                     |
|   |         |         |        |         |          |         | 7792.00               | 8168.16 | GREENHORN |                                     |
|   | 8157.00 | 8533.16 | JSAND  |         |          |         |                       |         |           |                                     |
| CASING DETAILS  |         |         |        |         |          |         |                       |         |           |                                     |
|   |         |         | TVD    |         | MD       |         | Name                  | Size    |           |                                     |
|   |         |         | 900.00 |         | 900.00   |         | 8 5/8"                | 8.625   |           |                                     |



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Pinnacle 17-2 Pad**

**P\_Pinnacle 40-2**

**P\_Pinnacle 40-2**

**Plan: Plan #2 9-8-10 RHS**

## **Standard Planning Report**

**08 September, 2010**

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well P_Pinnacle 40-2                     |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Site:</b>     | WELD_Pinnacle 17-2 Pad      | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | P_Pinnacle 40-2             | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | P_Pinnacle 40-2             |                                     |  |
| <b>Design:</b>   | Plan #2 9-8-10 RHS          |                                     |  |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP |                      |                |
| <b>Map System:</b> | US State Plane 1983  | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983                                    |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone                                       |                      |                |

|                              |  |                     |                   |                                     |
|------------------------------|--|---------------------|-------------------|-------------------------------------|
| <b>Site</b>                  | WELD_Pinnacle 17-2 Pad, SECTION 2 T1N R68W |                     |                   |                                     |
| <b>Site Position:</b>        |  | <b>Northing:</b>    | 1,274,189.01 usft | <b>Latitude:</b> 40° 5' 5.291 N     |
| <b>From:</b>                 | Lat/Long                                   | <b>Easting:</b>     | 3,149,520.85 usft | <b>Longitude:</b> 104° 57' 56.239 W |
| <b>Position Uncertainty:</b> | 0.00 ft                                    | <b>Slot Radius:</b> | 13.200 in         | <b>Grid Convergence:</b> 0.35 °     |

|                             |                                      |           |                            |                   |
|-----------------------------|--------------------------------------|-----------|----------------------------|-------------------|
| <b>Well</b>                 | P_Pinnacle 40-2, 1097' FNL 1194' FEL |           |                            |                   |
| <b>Well Position</b>        | <b>+N/-S</b>                         | -37.90 ft | <b>Northing:</b>           | 1,274,151.40 usft |
|                             | <b>+E/-W</b>                         | 46.45 ft  | <b>Easting:</b>            | 3,149,567.53 usft |
| <b>Position Uncertainty</b> |                                      | 0.00 ft   | <b>Wellhead Elevation:</b> |                   |
|                             |                                      |           | <b>Ground Level:</b>       | 4,982.00 ft       |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | P_Pinnacle 40-2   |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 08/17/2010         | 9.05                   | 66.79                | 53,029                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Plan #2 9-8-10 RHS           |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 142.46               |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                      |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|----------------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target               |
| 0.00                 | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 1,050.00             | 0.00            | 0.00        | 1,050.00            | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 2,292.69             | 24.85           | 142.46      | 2,254.08            | -210.37    | 161.68     | 2.00                  | 2.00                 | 0.00                | 142.46  |                      |
| 5,520.47             | 24.85           | 142.46      | 5,182.92            | -1,286.04  | 988.39     | 0.00                  | 0.00                 | 0.00                | 0.00    |                      |
| 6,763.16             | 0.00            | 0.00        | 6,387.00            | -1,496.41  | 1,150.07   | 2.00                  | -2.00                | 0.00                | 180.00  |                      |
| 8,683.16             | 0.00            | 0.00        | 8,307.00            | -1,496.41  | 1,150.07   | 0.00                  | 0.00                 | 0.00                | 0.00    | PBHL Pinnacle 40-2(2 |

|                  |                             |                                     |   |
|------------------|-----------------------------|-------------------------------------|---|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well P_Pinnacle 40-2                        |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 4982' & RKB 15' @ 4997.00ft<br>(ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 4982' & RKB 15' @ 4997.00ft<br>(ASSUMED) |
| <b>Site:</b>     | WELD_Pinnacle 17-2 Pad      | <b>North Reference:</b>             | True  |
| <b>Well:</b>     | P_Pinnacle 40-2             | <b>Survey Calculation Method:</b>   | Minimum Curvature                           |
| <b>Wellbore:</b> | P_Pinnacle 40-2             |                                     |   |
| <b>Design:</b>   | Plan #2 9-8-10 RHS          |                                     |   |

| Planned Survey                   |                 |             |                     |            |            |                       |                       |                      |                     |  |
|----------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)              | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 0.00                             | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 100.00                           | 0.00            | 0.00        | 100.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 200.00                           | 0.00            | 0.00        | 200.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 300.00                           | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 400.00                           | 0.00            | 0.00        | 400.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 500.00                           | 0.00            | 0.00        | 500.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 600.00                           | 0.00            | 0.00        | 600.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 700.00                           | 0.00            | 0.00        | 700.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 800.00                           | 0.00            | 0.00        | 800.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 900.00                           | 0.00            | 0.00        | 900.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 8 5/8"                           |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 1,000.00                         | 0.00            | 0.00        | 1,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| 1,050.00                         | 0.00            | 0.00        | 1,050.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |  |
| Start Build 2.00                 |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 1,100.00                         | 1.00            | 142.46      | 1,100.00            | -0.35      | 0.27       | 0.44                  | 2.00                  | 2.00                 | 0.00                |  |
| 1,200.00                         | 3.00            | 142.46      | 1,199.93            | -3.11      | 2.39       | 3.93                  | 2.00                  | 2.00                 | 0.00                |  |
| 1,300.00                         | 5.00            | 142.46      | 1,299.68            | -8.64      | 6.64       | 10.90                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,400.00                         | 7.00            | 142.46      | 1,399.13            | -16.93     | 13.01      | 21.35                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,500.00                         | 9.00            | 142.46      | 1,498.15            | -27.97     | 21.49      | 35.27                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,600.00                         | 11.00           | 142.46      | 1,596.63            | -41.73     | 32.07      | 52.63                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,700.00                         | 13.00           | 142.46      | 1,694.44            | -58.22     | 44.74      | 73.42                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,800.00                         | 15.00           | 142.46      | 1,791.46            | -77.40     | 59.48      | 97.62                 | 2.00                  | 2.00                 | 0.00                |  |
| 1,900.00                         | 17.00           | 142.46      | 1,887.58            | -99.25     | 76.28      | 125.18                | 2.00                  | 2.00                 | 0.00                |  |
| 2,000.00                         | 19.00           | 142.46      | 1,982.68            | -123.75    | 95.11      | 156.08                | 2.00                  | 2.00                 | 0.00                |  |
| 2,100.00                         | 21.00           | 142.46      | 2,076.65            | -150.87    | 115.95     | 190.28                | 2.00                  | 2.00                 | 0.00                |  |
| 2,200.00                         | 23.00           | 142.46      | 2,169.36            | -180.57    | 138.78     | 227.74                | 2.00                  | 2.00                 | 0.00                |  |
| 2,292.69                         | 24.85           | 142.46      | 2,254.08            | -210.37    | 161.68     | 265.33                | 2.00                  | 2.00                 | 0.00                |  |
| Start 3227.78 hold at 2292.69 MD |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 2,300.00                         | 24.85           | 142.46      | 2,260.72            | -212.81    | 163.56     | 268.40                | 0.00                  | 0.00                 | 0.00                |  |
| 2,400.00                         | 24.85           | 142.46      | 2,351.45            | -246.14    | 189.17     | 310.43                | 0.00                  | 0.00                 | 0.00                |  |
| 2,500.00                         | 24.85           | 142.46      | 2,442.19            | -279.46    | 214.78     | 352.46                | 0.00                  | 0.00                 | 0.00                |  |
| 2,600.00                         | 24.85           | 142.46      | 2,532.93            | -312.79    | 240.39     | 394.49                | 0.00                  | 0.00                 | 0.00                |  |
| 2,700.00                         | 24.85           | 142.46      | 2,623.67            | -346.11    | 266.00     | 436.52                | 0.00                  | 0.00                 | 0.00                |  |
| 2,800.00                         | 24.85           | 142.46      | 2,714.41            | -379.44    | 291.62     | 478.55                | 0.00                  | 0.00                 | 0.00                |  |
| 2,900.00                         | 24.85           | 142.46      | 2,805.15            | -412.76    | 317.23     | 520.58                | 0.00                  | 0.00                 | 0.00                |  |
| 3,000.00                         | 24.85           | 142.46      | 2,895.88            | -446.09    | 342.84     | 562.61                | 0.00                  | 0.00                 | 0.00                |  |
| 3,100.00                         | 24.85           | 142.46      | 2,986.62            | -479.41    | 368.45     | 604.64                | 0.00                  | 0.00                 | 0.00                |  |
| 3,200.00                         | 24.85           | 142.46      | 3,077.36            | -512.74    | 394.07     | 646.67                | 0.00                  | 0.00                 | 0.00                |  |
| 3,300.00                         | 24.85           | 142.46      | 3,168.10            | -546.06    | 419.68     | 688.70                | 0.00                  | 0.00                 | 0.00                |  |
| 3,400.00                         | 24.85           | 142.46      | 3,258.84            | -579.39    | 445.29     | 730.73                | 0.00                  | 0.00                 | 0.00                |  |
| 3,500.00                         | 24.85           | 142.46      | 3,349.58            | -612.71    | 470.90     | 772.77                | 0.00                  | 0.00                 | 0.00                |  |
| 3,600.00                         | 24.85           | 142.46      | 3,440.31            | -646.04    | 496.51     | 814.80                | 0.00                  | 0.00                 | 0.00                |  |
| 3,700.00                         | 24.85           | 142.46      | 3,531.05            | -679.36    | 522.13     | 856.83                | 0.00                  | 0.00                 | 0.00                |  |
| 3,800.00                         | 24.85           | 142.46      | 3,621.79            | -712.69    | 547.74     | 898.86                | 0.00                  | 0.00                 | 0.00                |  |
| 3,900.00                         | 24.85           | 142.46      | 3,712.53            | -746.01    | 573.35     | 940.89                | 0.00                  | 0.00                 | 0.00                |  |
| 4,000.00                         | 24.85           | 142.46      | 3,803.27            | -779.34    | 598.96     | 982.92                | 0.00                  | 0.00                 | 0.00                |  |
| 4,100.00                         | 24.85           | 142.46      | 3,894.01            | -812.66    | 624.58     | 1,024.95              | 0.00                  | 0.00                 | 0.00                |  |
| 4,200.00                         | 24.85           | 142.46      | 3,984.74            | -845.99    | 650.19     | 1,066.98              | 0.00                  | 0.00                 | 0.00                |  |
| 4,300.00                         | 24.85           | 142.46      | 4,075.48            | -879.32    | 675.80     | 1,109.01              | 0.00                  | 0.00                 | 0.00                |  |
| 4,339.14                         | 24.85           | 142.46      | 4,111.00            | -892.36    | 685.83     | 1,125.46              | 0.00                  | 0.00                 | 0.00                |  |
| PARKMAN                          |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 4,400.00                         | 24.85           | 142.46      | 4,166.22            | -912.64    | 701.41     | 1,151.04              | 0.00                  | 0.00                 | 0.00                |  |

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well P_Pinnacle 40-2                     |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Site:</b>     | WELD_Pinnacle 17-2 Pad      | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | P_Pinnacle 40-2             | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | P_Pinnacle 40-2             |                                     |  |
| <b>Design:</b>   | Plan #2 9-8-10 RHS          |                                     |  |

| Planned Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |  |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 4,500.00                                | 24.85           | 142.46      | 4,256.96            | -945.97    | 727.02     | 1,193.07              | 0.00                  | 0.00                 | 0.00                |  |
| 4,600.00                                | 24.85           | 142.46      | 4,347.70            | -979.29    | 752.64     | 1,235.10              | 0.00                  | 0.00                 | 0.00                |  |
| 4,700.00                                | 24.85           | 142.46      | 4,438.44            | -1,012.62  | 778.25     | 1,277.13              | 0.00                  | 0.00                 | 0.00                |  |
| 4,800.00                                | 24.85           | 142.46      | 4,529.17            | -1,045.94  | 803.86     | 1,319.16              | 0.00                  | 0.00                 | 0.00                |  |
| 4,900.00                                | 24.85           | 142.46      | 4,619.91            | -1,079.27  | 829.47     | 1,361.19              | 0.00                  | 0.00                 | 0.00                |  |
| 4,923.24                                | 24.85           | 142.46      | 4,641.00            | -1,087.01  | 835.43     | 1,370.96              | 0.00                  | 0.00                 | 0.00                |  |
| <b>SUSSEX</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 5,000.00                                | 24.85           | 142.46      | 4,710.65            | -1,112.59  | 855.09     | 1,403.22              | 0.00                  | 0.00                 | 0.00                |  |
| 5,100.00                                | 24.85           | 142.46      | 4,801.39            | -1,145.92  | 880.70     | 1,445.25              | 0.00                  | 0.00                 | 0.00                |  |
| 5,200.00                                | 24.85           | 142.46      | 4,892.13            | -1,179.24  | 906.31     | 1,487.28              | 0.00                  | 0.00                 | 0.00                |  |
| 5,300.00                                | 24.85           | 142.46      | 4,982.87            | -1,212.57  | 931.92     | 1,529.31              | 0.00                  | 0.00                 | 0.00                |  |
| 5,400.00                                | 24.85           | 142.46      | 5,073.60            | -1,245.89  | 957.53     | 1,571.34              | 0.00                  | 0.00                 | 0.00                |  |
| 5,419.17                                | 24.85           | 142.46      | 5,091.00            | -1,252.28  | 962.44     | 1,579.40              | 0.00                  | 0.00                 | 0.00                |  |
| <b>SHANNON</b>                          |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 5,500.00                                | 24.85           | 142.46      | 5,164.34            | -1,279.22  | 983.15     | 1,613.37              | 0.00                  | 0.00                 | 0.00                |  |
| 5,520.47                                | 24.85           | 142.46      | 5,182.92            | -1,286.04  | 988.39     | 1,621.98              | 0.00                  | 0.00                 | 0.00                |  |
| <b>Start Drop -2.00</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 5,600.00                                | 23.26           | 142.46      | 5,255.54            | -1,311.75  | 1,008.15   | 1,654.40              | 2.00                  | -2.00                | 0.00                |  |
| 5,700.00                                | 21.26           | 142.46      | 5,348.08            | -1,341.78  | 1,031.23   | 1,692.28              | 2.00                  | -2.00                | 0.00                |  |
| 5,800.00                                | 19.26           | 142.46      | 5,441.88            | -1,369.24  | 1,052.33   | 1,726.91              | 2.00                  | -2.00                | 0.00                |  |
| 5,900.00                                | 17.26           | 142.46      | 5,536.84            | -1,394.09  | 1,071.43   | 1,758.25              | 2.00                  | -2.00                | 0.00                |  |
| 6,000.00                                | 15.26           | 142.46      | 5,632.83            | -1,416.29  | 1,088.50   | 1,786.26              | 2.00                  | -2.00                | 0.00                |  |
| 6,100.00                                | 13.26           | 142.46      | 5,729.75            | -1,435.83  | 1,103.51   | 1,810.89              | 2.00                  | -2.00                | 0.00                |  |
| 6,200.00                                | 11.26           | 142.46      | 5,827.46            | -1,452.67  | 1,116.45   | 1,832.13              | 2.00                  | -2.00                | 0.00                |  |
| 6,300.00                                | 9.26            | 142.46      | 5,925.85            | -1,466.79  | 1,127.31   | 1,849.95              | 2.00                  | -2.00                | 0.00                |  |
| 6,400.00                                | 7.26            | 142.46      | 6,024.81            | -1,478.19  | 1,136.06   | 1,864.32              | 2.00                  | -2.00                | 0.00                |  |
| 6,500.00                                | 5.26            | 142.46      | 6,124.21            | -1,486.84  | 1,142.71   | 1,875.23              | 2.00                  | -2.00                | 0.00                |  |
| 6,600.00                                | 3.26            | 142.46      | 6,223.93            | -1,492.73  | 1,147.24   | 1,882.66              | 2.00                  | -2.00                | 0.00                |  |
| 6,700.00                                | 1.26            | 142.46      | 6,323.84            | -1,495.86  | 1,149.65   | 1,886.61              | 2.00                  | -2.00                | 0.00                |  |
| 6,763.16                                | 0.00            | 0.00        | 6,387.00            | -1,496.41  | 1,150.07   | 1,887.31              | 2.00                  | -2.00                | -225.54             |  |
| <b>Start 1920.00 hold at 6763.16 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 6,800.00                                | 0.00            | 0.00        | 6,423.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 6,900.00                                | 0.00            | 0.00        | 6,523.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,000.00                                | 0.00            | 0.00        | 6,623.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,100.00                                | 0.00            | 0.00        | 6,723.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,200.00                                | 0.00            | 0.00        | 6,823.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,300.00                                | 0.00            | 0.00        | 6,923.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,400.00                                | 0.00            | 0.00        | 7,023.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,500.00                                | 0.00            | 0.00        | 7,123.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,600.00                                | 0.00            | 0.00        | 7,223.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,700.00                                | 0.00            | 0.00        | 7,323.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,763.16                                | 0.00            | 0.00        | 7,387.00            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| <b>NIO</b>                              |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 7,800.00                                | 0.00            | 0.00        | 7,423.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 7,900.00                                | 0.00            | 0.00        | 7,523.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 8,000.00                                | 0.00            | 0.00        | 7,623.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 8,093.16                                | 0.00            | 0.00        | 7,717.00            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| <b>CODELL</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 8,100.00                                | 0.00            | 0.00        | 7,723.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| 8,168.16                                | 0.00            | 0.00        | 7,792.00            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |  |
| <b>GREENHORN</b>                        |                 |             |                     |            |            |                       |                       |                      |                     |  |

|                  |                             |                                     |  |
|------------------|-----------------------------|-------------------------------------|--|
| <b>Database:</b> | EDM5000-RobertS-Local       | <b>Local Co-ordinate Reference:</b> | Well P_Pinnacle 40-2                     |
| <b>Company:</b>  | US ROCKIES REGION PLANNING  | <b>TVD Reference:</b>               | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Project:</b>  | COLORADO NORTHERN ZONE - 83 | <b>MD Reference:</b>                | GL 4982' & RKB 15' @ 4997.00ft (ASSUMED) |
| <b>Site:</b>     | WELD_Pinnacle 17-2 Pad      | <b>North Reference:</b>             | True                                     |
| <b>Well:</b>     | P_Pinnacle 40-2             | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Wellbore:</b> | P_Pinnacle 40-2             |                                     |  |
| <b>Design:</b>   | Plan #2 9-8-10 RHS          |                                     |  |

| Planned Survey                      |                 |             |                     |            |            |                       |                       |                      |                     |
|-------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                 | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 8,200.00                            | 0.00            | 0.00        | 7,823.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| 8,300.00                            | 0.00            | 0.00        | 7,923.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| 8,400.00                            | 0.00            | 0.00        | 8,023.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| 8,500.00                            | 0.00            | 0.00        | 8,123.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| 8,533.16                            | 0.00            | 0.00        | 8,157.00            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| JSAND                               |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,600.00                            | 0.00            | 0.00        | 8,223.84            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| 8,683.16                            | 0.00            | 0.00        | 8,307.00            | -1,496.41  | 1,150.07   | 1,887.31              | 0.00                  | 0.00                 | 0.00                |
| PBHL Pinnacle 40-2(2600'FNL 50'FEL) |                 |             |                     |            |            |                       |                       |                      |                     |

| Design Targets                      |               |              |          |            |            |                 |                |                 |                   |
|-------------------------------------|---------------|--------------|----------|------------|------------|-----------------|----------------|-----------------|-------------------|
| Target Name                         | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude        | Longitude         |
| - hit/miss target                   |               |              |          |            |            |                 |                |                 |                   |
| - Shape                             |               |              |          |            |            |                 |                |                 |                   |
| PBHL Pinnacle 40-2(2600'FNL 50'FEL) | 0.00          | 0.00         | 8,307.00 | -1,496.41  | 1,150.07   | 1,272,661.94    | 3,150,726.60   | 40° 4' 50.128 N | 104° 57' 40.846 W |
| - plan hits target center           |               |              |          |            |            |                 |                |                 |                   |
| - Circle (radius 50.00)             |               |              |          |            |            |                 |                |                 |                   |

| Casing Points       |                     |        |                      |                    |  |
|---------------------|---------------------|--------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (in) | Hole Diameter (in) |  |
| 900.00              | 900.00              | 8 5/8" | 8.625                | 11.000             |  |

| Formations          |                     |           |           |         |                   |  |
|---------------------|---------------------|-----------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name      | Lithology | Dip (°) | Dip Direction (°) |  |
| 4,339.14            | 4,111.00            | PARKMAN   |           |         |                   |  |
| 4,923.24            | 4,641.00            | SUSSEX    |           |         |                   |  |
| 5,419.17            | 5,091.00            | SHANNON   |           |         |                   |  |
| 7,763.16            | 7,387.00            | NIO       |           |         |                   |  |
| 8,093.16            | 7,717.00            | CODELL    |           |         |                   |  |
| 8,168.16            | 7,792.00            | GREENHORN |           |         |                   |  |
| 8,533.16            | 8,157.00            | JSAND     |           |         |                   |  |

| Plan Annotations    |                     |                   |            |                                  |
|---------------------|---------------------|-------------------|------------|----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                          |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                  |
| 1,050.00            | 1,050.00            | 0.00              | 0.00       | Start Build 2.00                 |
| 2,292.69            | 2,254.08            | -210.37           | 161.68     | Start 3227.78 hold at 2292.69 MD |
| 5,520.47            | 5,182.92            | -1,286.04         | 988.39     | Start Drop -2.00                 |
| 6,763.16            | 6,387.00            | -1,496.41         | 1,150.07   | Start 1920.00 hold at 6763.16 MD |
| 8,683.16            | 8,307.00            | -1,496.41         | 1,150.07   | TD at 8683.16                    |