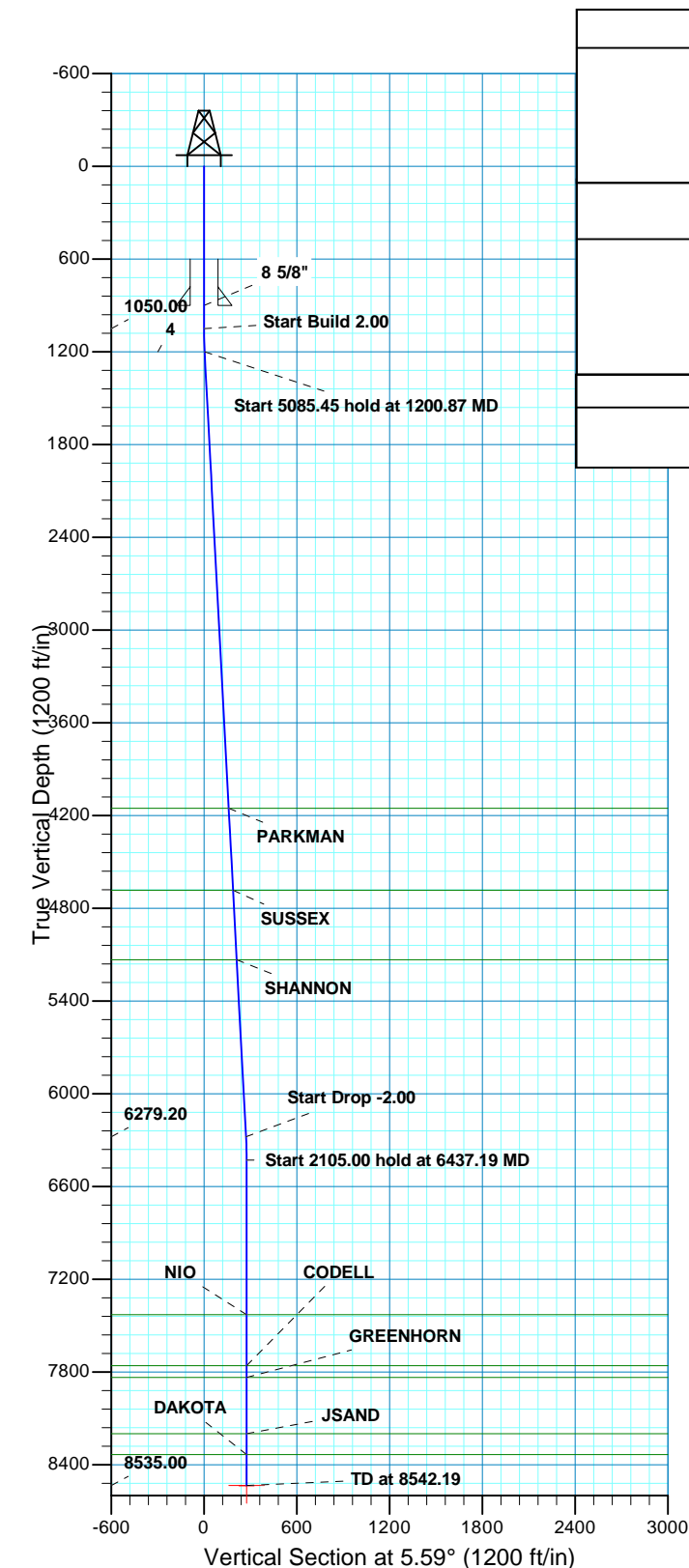
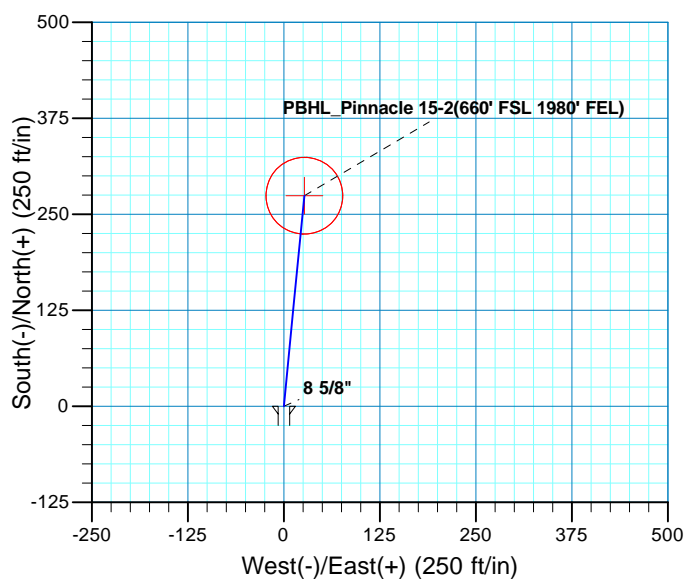


| WELL DETAILS: P_Pinnacle 15-2 | | | | | |
|--|-------|------------|------------|-----------------|------------------|
| GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) | | | | | |
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 1270309.73 | 3148792.54 | 40° 4' 26.997 N | 104° 58' 5.909 W |

| DESIGN TARGET DETAILS | | | | | | | |
|---------------------------|---------|--------|-------|------------|------------|-----------------|------------------|
| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| PBHL | 8535.00 | 274.32 | 26.87 | 1270584.21 | 3148817.76 | 40° 4' 29.708 N | 104° 58' 5.563 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 | | |
| 1200.87 | 3.02 | 5.59 | 1200.80 | 3.95 | 0.39 | 2.00 | 5.59 | 3.97 | | |
| 6286.32 | 3.02 | 5.59 | 6279.20 | 270.37 | 26.48 | 0.00 | 0.00 | 271.66 | | |
| 6437.19 | 0.00 | 0.00 | 6430.00 | 274.32 | 26.87 | 2.00 | 180.00 | 275.63 | | |
| 8542.19 | 0.00 | 0.00 | 8535.00 | 274.32 | 26.87 | 0.00 | 0.00 | 275.63 | PBHL_Pinnacle 15-2(660' FSL 1980' FEL) | |
| PROJECT DETAILS: COLORADO NORTHERN ZONE - 83 Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone Location: SECTION 2 T1N R68W System Datum: Mean Sea Level | | | | | | FORMATION TOP DETAILS | | | | |
| | | | | | | TVDPath | MDPath | Formation | | |
| | | | | | | 4154.00 | 4158.17 | PARKMAN | | |
| | | | | | | 4684.00 | 4688.91 | SUSSEX | | |
| | | | | | | 5134.00 | 5139.53 | SHANNON | | |
| | | | | | | 7430.00 | 7437.19 | NIO | | |
| | | | | | | 7760.00 | 7767.19 | CODELL | | |
| | | | | | | 7835.00 | 7842.19 | GREENHORN | | |
| | | | | | | 8200.00 | 8207.19 | JSAND | | |
| | | | | | | 8335.00 | 8342.19 | DAKOTA | | |
| 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 15-2 Pad

P_Pinnacle 15-2

P_Pinnacle 15-2

Plan: PLAN #1 8-17-10 RHS

Standard Planning Report

29 September, 2010

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 15-2 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 15-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 15-2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 15-2 | | |
| Design: | PLAN #1 8-17-10 RHS | | |

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

| | | | |
|------------------------------|--|--------------------------|-------------------|
| Site | WELD_Pinnacle 15-2 Pad, SECTION 2 T1N R68W | | |
| Site Position: | | Northing: | 1,270,310.23 usft |
| From: | Lat/Long | Easting: | 3,148,812.69 usft |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in |
| | | Grid Convergence: | 0.34 ° |

| | | | |
|-----------------------------|-------------------------------------|----------------------------|------------------------------------|
| Well | P_Pinnacle 15-2, 386' FSL 2008' FEL | | |
| Well Position | +N/-S | -0.39 ft | Northing: 1,270,309.73 usft |
| | +E/-W | -20.15 ft | Easting: 3,148,792.54 usft |
| Position Uncertainty | 0.00 ft | Wellhead Elevation: | 5,005.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | P_Pinnacle 15-2 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 08/17/2010 | 9.05 | 66.78 | 53,023 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | PLAN #1 8-17-10 RHS | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 5.59 |

| Plan Sections | | | | | | | | | | |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|---------------------|
| 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 | |
| 1,200.87 | 3.02 | 5.59 | 1,200.80 | 3.95 | 0.39 | 2.00 | 2.00 | 0.00 | 5.59 | |
| 6,286.32 | 3.02 | 5.59 | 6,279.20 | 270.37 | 26.48 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,437.19 | 0.00 | 0.00 | 6,430.00 | 274.32 | 26.87 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 8,542.19 | 0.00 | 0.00 | 8,535.00 | 274.32 | 26.87 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL_Pinnacle 15-2(|

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 15-2 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 15-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 15-2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 15-2 | | |
| Design: | PLAN #1 8-17-10 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 | 5.59 | 1,100.00 | 0.43 | 0.04 | 0.44 | 2.00 | 2.00 | 0.00 | |
| 1,200.00 | 3.00 | 5.59 | 1,199.93 | 3.91 | 0.38 | 3.93 | 2.00 | 2.00 | 0.00 | |
| 1,200.87 | 3.02 | 5.59 | 1,200.80 | 3.95 | 0.39 | 3.97 | 2.00 | 2.00 | 0.00 | |
| Start 5085.45 hold at 1200.87 MD | | | | | | | | | | |
| 1,300.00 | 3.02 | 5.59 | 1,299.79 | 9.15 | 0.90 | 9.19 | 0.00 | 0.00 | 0.00 | |
| 1,400.00 | 3.02 | 5.59 | 1,399.65 | 14.38 | 1.41 | 14.45 | 0.00 | 0.00 | 0.00 | |
| 1,500.00 | 3.02 | 5.59 | 1,499.52 | 19.62 | 1.92 | 19.72 | 0.00 | 0.00 | 0.00 | |
| 1,600.00 | 3.02 | 5.59 | 1,599.38 | 24.86 | 2.43 | 24.98 | 0.00 | 0.00 | 0.00 | |
| 1,700.00 | 3.02 | 5.59 | 1,699.24 | 30.10 | 2.95 | 30.25 | 0.00 | 0.00 | 0.00 | |
| 1,800.00 | 3.02 | 5.59 | 1,799.10 | 35.34 | 3.46 | 35.51 | 0.00 | 0.00 | 0.00 | |
| 1,900.00 | 3.02 | 5.59 | 1,898.96 | 40.58 | 3.97 | 40.77 | 0.00 | 0.00 | 0.00 | |
| 2,000.00 | 3.02 | 5.59 | 1,998.82 | 45.82 | 4.49 | 46.04 | 0.00 | 0.00 | 0.00 | |
| 2,100.00 | 3.02 | 5.59 | 2,098.68 | 51.06 | 5.00 | 51.30 | 0.00 | 0.00 | 0.00 | |
| 2,200.00 | 3.02 | 5.59 | 2,198.55 | 56.30 | 5.51 | 56.56 | 0.00 | 0.00 | 0.00 | |
| 2,300.00 | 3.02 | 5.59 | 2,298.41 | 61.53 | 6.03 | 61.83 | 0.00 | 0.00 | 0.00 | |
| 2,400.00 | 3.02 | 5.59 | 2,398.27 | 66.77 | 6.54 | 67.09 | 0.00 | 0.00 | 0.00 | |
| 2,500.00 | 3.02 | 5.59 | 2,498.13 | 72.01 | 7.05 | 72.36 | 0.00 | 0.00 | 0.00 | |
| 2,600.00 | 3.02 | 5.59 | 2,597.99 | 77.25 | 7.57 | 77.62 | 0.00 | 0.00 | 0.00 | |
| 2,700.00 | 3.02 | 5.59 | 2,697.85 | 82.49 | 8.08 | 82.88 | 0.00 | 0.00 | 0.00 | |
| 2,800.00 | 3.02 | 5.59 | 2,797.71 | 87.73 | 8.59 | 88.15 | 0.00 | 0.00 | 0.00 | |
| 2,900.00 | 3.02 | 5.59 | 2,897.57 | 92.97 | 9.10 | 93.41 | 0.00 | 0.00 | 0.00 | |
| 3,000.00 | 3.02 | 5.59 | 2,997.44 | 98.21 | 9.62 | 98.68 | 0.00 | 0.00 | 0.00 | |
| 3,100.00 | 3.02 | 5.59 | 3,097.30 | 103.44 | 10.13 | 103.94 | 0.00 | 0.00 | 0.00 | |
| 3,200.00 | 3.02 | 5.59 | 3,197.16 | 108.68 | 10.64 | 109.20 | 0.00 | 0.00 | 0.00 | |
| 3,300.00 | 3.02 | 5.59 | 3,297.02 | 113.92 | 11.16 | 114.47 | 0.00 | 0.00 | 0.00 | |
| 3,400.00 | 3.02 | 5.59 | 3,396.88 | 119.16 | 11.67 | 119.73 | 0.00 | 0.00 | 0.00 | |
| 3,500.00 | 3.02 | 5.59 | 3,496.74 | 124.40 | 12.18 | 124.99 | 0.00 | 0.00 | 0.00 | |
| 3,600.00 | 3.02 | 5.59 | 3,596.60 | 129.64 | 12.70 | 130.26 | 0.00 | 0.00 | 0.00 | |
| 3,700.00 | 3.02 | 5.59 | 3,696.47 | 134.88 | 13.21 | 135.52 | 0.00 | 0.00 | 0.00 | |
| 3,800.00 | 3.02 | 5.59 | 3,796.33 | 140.12 | 13.72 | 140.79 | 0.00 | 0.00 | 0.00 | |
| 3,900.00 | 3.02 | 5.59 | 3,896.19 | 145.35 | 14.24 | 146.05 | 0.00 | 0.00 | 0.00 | |
| 4,000.00 | 3.02 | 5.59 | 3,996.05 | 150.59 | 14.75 | 151.31 | 0.00 | 0.00 | 0.00 | |
| 4,100.00 | 3.02 | 5.59 | 4,095.91 | 155.83 | 15.26 | 156.58 | 0.00 | 0.00 | 0.00 | |
| 4,158.17 | 3.02 | 5.59 | 4,154.00 | 158.88 | 15.56 | 159.64 | 0.00 | 0.00 | 0.00 | |
| PARKMAN | | | | | | | | | | |
| 4,200.00 | 3.02 | 5.59 | 4,195.77 | 161.07 | 15.77 | 161.84 | 0.00 | 0.00 | 0.00 | |
| 4,300.00 | 3.02 | 5.59 | 4,295.63 | 166.31 | 16.29 | 167.11 | 0.00 | 0.00 | 0.00 | |
| 4,400.00 | 3.02 | 5.59 | 4,395.50 | 171.55 | 16.80 | 172.37 | 0.00 | 0.00 | 0.00 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 15-2 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 15-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 15-2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 15-2 | | |
| Design: | PLAN #1 8-17-10 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 | 3.02 | 5.59 | 4,495.36 | 176.79 | 17.31 | 177.63 | 0.00 | 0.00 | 0.00 | |
| 4,600.00 | 3.02 | 5.59 | 4,595.22 | 182.03 | 17.83 | 182.90 | 0.00 | 0.00 | 0.00 | |
| 4,688.91 | 3.02 | 5.59 | 4,684.00 | 186.68 | 18.28 | 187.58 | 0.00 | 0.00 | 0.00 | |
| SUSSEX | | | | | | | | | | |
| 4,700.00 | 3.02 | 5.59 | 4,695.08 | 187.27 | 18.34 | 188.16 | 0.00 | 0.00 | 0.00 | |
| 4,800.00 | 3.02 | 5.59 | 4,794.94 | 192.50 | 18.85 | 193.42 | 0.00 | 0.00 | 0.00 | |
| 4,900.00 | 3.02 | 5.59 | 4,894.80 | 197.74 | 19.37 | 198.69 | 0.00 | 0.00 | 0.00 | |
| 5,000.00 | 3.02 | 5.59 | 4,994.66 | 202.98 | 19.88 | 203.95 | 0.00 | 0.00 | 0.00 | |
| 5,100.00 | 3.02 | 5.59 | 5,094.52 | 208.22 | 20.39 | 209.22 | 0.00 | 0.00 | 0.00 | |
| 5,139.53 | 3.02 | 5.59 | 5,134.00 | 210.29 | 20.59 | 211.30 | 0.00 | 0.00 | 0.00 | |
| SHANNON | | | | | | | | | | |
| 5,200.00 | 3.02 | 5.59 | 5,194.39 | 213.46 | 20.90 | 214.48 | 0.00 | 0.00 | 0.00 | |
| 5,300.00 | 3.02 | 5.59 | 5,294.25 | 218.70 | 21.42 | 219.74 | 0.00 | 0.00 | 0.00 | |
| 5,400.00 | 3.02 | 5.59 | 5,394.11 | 223.94 | 21.93 | 225.01 | 0.00 | 0.00 | 0.00 | |
| 5,500.00 | 3.02 | 5.59 | 5,493.97 | 229.18 | 22.44 | 230.27 | 0.00 | 0.00 | 0.00 | |
| 5,600.00 | 3.02 | 5.59 | 5,593.83 | 234.41 | 22.96 | 235.54 | 0.00 | 0.00 | 0.00 | |
| 5,700.00 | 3.02 | 5.59 | 5,693.69 | 239.65 | 23.47 | 240.80 | 0.00 | 0.00 | 0.00 | |
| 5,800.00 | 3.02 | 5.59 | 5,793.55 | 244.89 | 23.98 | 246.06 | 0.00 | 0.00 | 0.00 | |
| 5,900.00 | 3.02 | 5.59 | 5,893.42 | 250.13 | 24.50 | 251.33 | 0.00 | 0.00 | 0.00 | |
| 6,000.00 | 3.02 | 5.59 | 5,993.28 | 255.37 | 25.01 | 256.59 | 0.00 | 0.00 | 0.00 | |
| 6,100.00 | 3.02 | 5.59 | 6,093.14 | 260.61 | 25.52 | 261.85 | 0.00 | 0.00 | 0.00 | |
| 6,200.00 | 3.02 | 5.59 | 6,193.00 | 265.85 | 26.04 | 267.12 | 0.00 | 0.00 | 0.00 | |
| 6,286.32 | 3.02 | 5.59 | 6,279.20 | 270.37 | 26.48 | 271.66 | 0.00 | 0.00 | 0.00 | |
| Start Drop -2.00 | | | | | | | | | | |
| 6,300.00 | 2.74 | 5.59 | 6,292.86 | 271.05 | 26.55 | 272.35 | 2.00 | -2.00 | 0.00 | |
| 6,400.00 | 0.74 | 5.59 | 6,392.81 | 274.08 | 26.84 | 275.39 | 2.00 | -2.00 | 0.00 | |
| 6,437.19 | 0.00 | 0.00 | 6,430.00 | 274.32 | 26.87 | 275.63 | 2.00 | -2.00 | 0.00 | |
| Start 2105.00 hold at 6437.19 MD | | | | | | | | | | |
| 6,500.00 | 0.00 | 0.00 | 6,492.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 6,600.00 | 0.00 | 0.00 | 6,592.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 6,700.00 | 0.00 | 0.00 | 6,692.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 6,800.00 | 0.00 | 0.00 | 6,792.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 6,900.00 | 0.00 | 0.00 | 6,892.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,000.00 | 0.00 | 0.00 | 6,992.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,100.00 | 0.00 | 0.00 | 7,092.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,200.00 | 0.00 | 0.00 | 7,192.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,300.00 | 0.00 | 0.00 | 7,292.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,400.00 | 0.00 | 0.00 | 7,392.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,437.19 | 0.00 | 0.00 | 7,430.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| NIO | | | | | | | | | | |
| 7,500.00 | 0.00 | 0.00 | 7,492.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,600.00 | 0.00 | 0.00 | 7,592.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,700.00 | 0.00 | 0.00 | 7,692.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,767.19 | 0.00 | 0.00 | 7,760.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| CODELL | | | | | | | | | | |
| 7,800.00 | 0.00 | 0.00 | 7,792.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 7,842.19 | 0.00 | 0.00 | 7,835.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| GREENHORN | | | | | | | | | | |
| 7,900.00 | 0.00 | 0.00 | 7,892.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,000.00 | 0.00 | 0.00 | 7,992.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,100.00 | 0.00 | 0.00 | 8,092.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 15-2 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 15-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 15-2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 15-2 | | |
| Design: | PLAN #1 8-17-10 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 | 8,192.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,207.19 | 0.00 | 0.00 | 8,200.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| JSAND | | | | | | | | | | |
| 8,300.00 | 0.00 | 0.00 | 8,292.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,342.19 | 0.00 | 0.00 | 8,335.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| DAKOTA | | | | | | | | | | |
| 8,400.00 | 0.00 | 0.00 | 8,392.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,500.00 | 0.00 | 0.00 | 8,492.81 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| 8,542.19 | 0.00 | 0.00 | 8,535.00 | 274.32 | 26.87 | 275.63 | 0.00 | 0.00 | 0.00 | |
| PBHL_Pinnacle 15-2(660' FSL 1980' 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 15-2(66 | 0.00 | 0.00 | 8,535.00 | 274.32 | 26.87 | 1,270,584.21 | 3,148,817.76 | 40° 4' 29.708 N | 104° 58' 5.563 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 (°) | | | | |
| 4,158.17 | 4,154.00 | PARKMAN | | | | | | | |
| 4,688.91 | 4,684.00 | SUSSEX | | | | | | | |
| 5,139.53 | 5,134.00 | SHANNON | | | | | | | |
| 7,437.19 | 7,430.00 | NIO | | | | | | | |
| 7,767.19 | 7,760.00 | CODELL | | | | | | | |
| 7,842.19 | 7,835.00 | GREENHORN | | | | | | | |
| 8,207.19 | 8,200.00 | JSAND | | | | | | | |
| 8,342.19 | 8,335.00 | DAKOTA | | | | | | | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 15-2 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 5005' & RKB 15' @ 5020.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 15-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 15-2 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 15-2 | | |
| Design: | PLAN #1 8-17-10 RHS | | |

| 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 |
| 1,200.87 | 1,200.80 | 3.95 | 0.39 | Start 5085.45 hold at 1200.87 MD |
| 6,286.32 | 6,279.20 | 270.37 | 26.48 | Start Drop -2.00 |
| 6,437.19 | 6,430.00 | 274.32 | 26.87 | Start 2105.00 hold at 6437.19 MD |
| 8,542.19 | 8,535.00 | 274.32 | 26.87 | TD at 8542.19 |