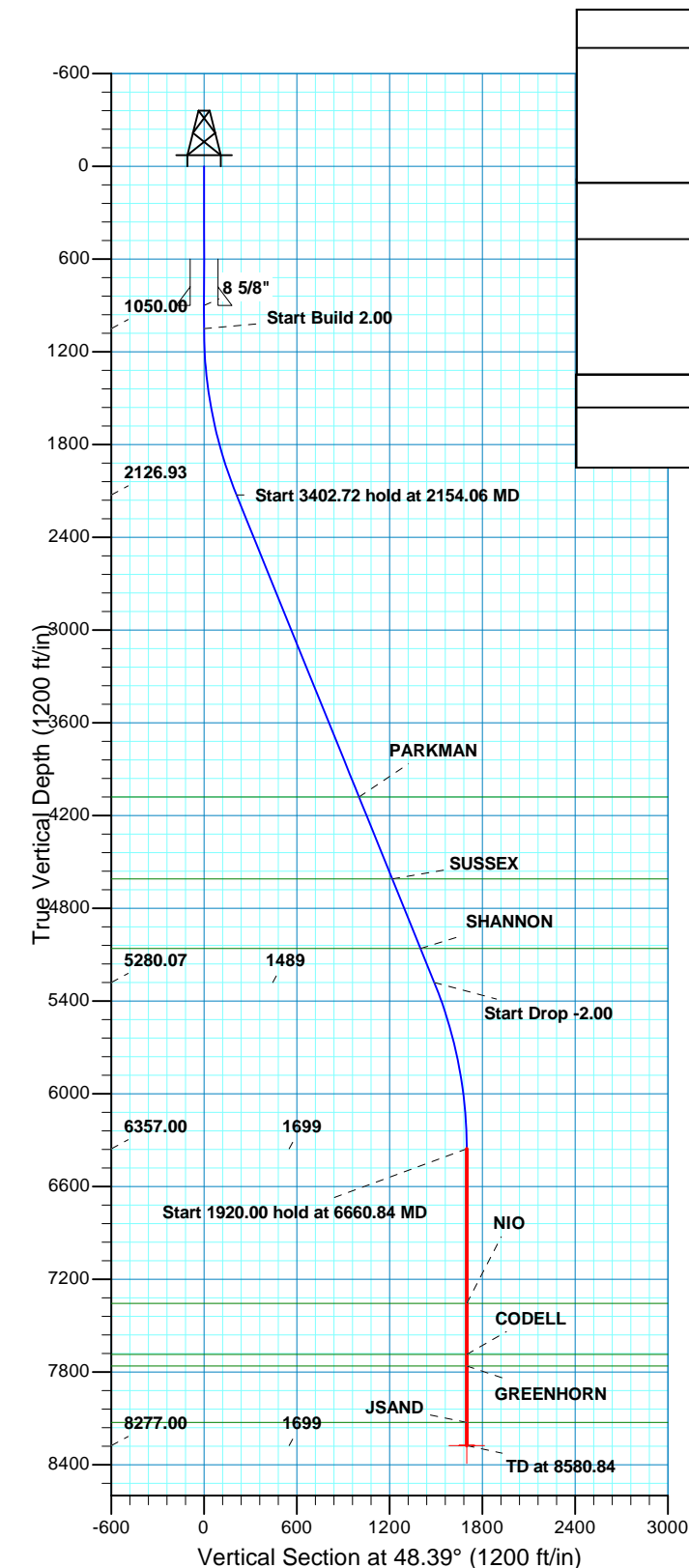


| WELL DETAILS: P_Pinnacle 34-36 | | | | | |
|--|-------|------------|------------|----------------|-------------------|
| GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) | | | | | |
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| 0.00 | 0.00 | 1274176.34 | 3149536.32 | 40° 5' 5.165 N | 104° 57' 56.041 W |

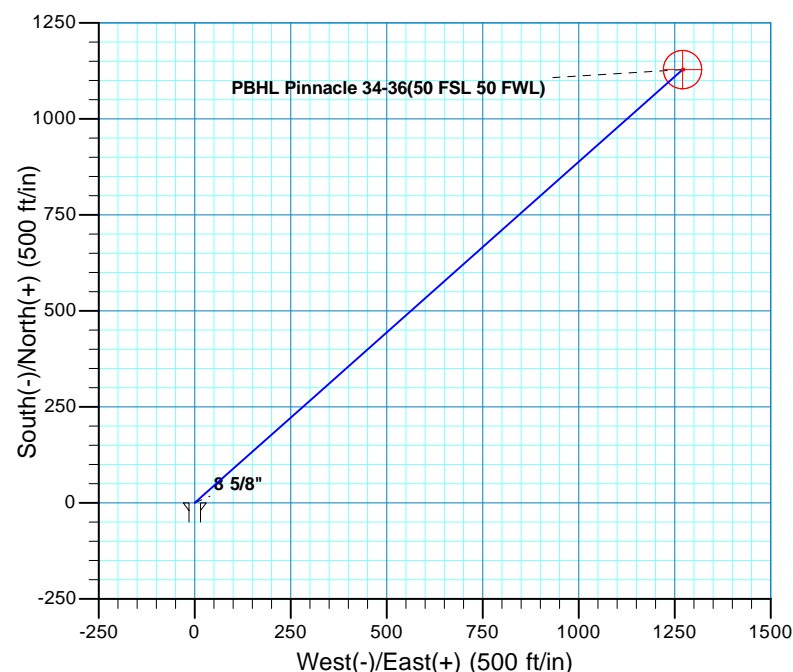
| DESIGN TARGET DETAILS | | | | | | | |
|---------------------------|------------------------|---------|---------|------------|------------|-----------------|-------------------|
| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| PBHL | 8277.00 | 1128.58 | 1270.54 | 1275312.56 | 3150800.03 | 40° 5' 16.318 N | 104° 57' 39.694 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 | | |
| 2154.06 | 22.08 | 48.39 | 2126.93 | 139.55 | 157.10 | 2.00 | 48.39 | 210.13 | | |
| 5556.78 | 22.08 | 48.39 | 5280.07 | 989.03 | 1113.44 | 0.00 | 0.00 | 1489.28 | | |
| 6660.84 | 0.00 | 0.00 | 6357.00 | 1128.58 | 1270.54 | 2.00 | 180.00 | 1699.40 | | |
| 8580.84 | 0.00 | 0.00 | 8277.00 | 1128.58 | 1270.54 | 0.00 | 0.00 | 1699.40 | PBHL Pinnacle 34-36(50 FSL 50 FWL) | |

| PROJECT DETAILS: COLORADO NORTHERN ZONE - 83 | | | | FORMATION TOP DETAILS | | |
|---|--|--|--|-----------------------|---------|-----------|
| 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 | | | | TVDPath | MDPath | Formation |
| | | | | 4081.00 | 4262.80 | PARKMAN |
| | | | | 4611.00 | 4834.75 | SUSSEX |
| | | | | 5061.00 | 5320.37 | SHANNON |
| | | | | 7357.00 | 7660.84 | NIO |
| | | | | 7687.00 | 7990.84 | CODELL |
| | | | | 7762.00 | 8065.84 | GREENHORN |
| | | | | 8127.00 | 8430.84 | 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 34-36

P_Pinnacle 34-36

Plan: Plan #2 9-8-10 RHS

Standard Planning Report

15 September, 2010

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 34-36 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 17-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 34-36 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 34-36 | | |
| Design: | Plan #2 9-8-10 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 17-2 Pad, SECTION 2 T1N R68W | | |
| Site Position: | | Northing: | 1,274,189.01 usft |
| From: | Lat/Long | Easting: | 3,149,520.85 usft |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in |
| | | Grid Convergence: | 0.35 ° |

| | | | |
|-----------------------------|---------------------------------------|----------------------------|-------------------------------------|
| Well | P_Pinnacle 34-36, 1072' FNL 1225' FEL | | |
| Well Position | +N/-S | -12.76 ft | Latitude: 40° 5' 5.291 N |
| | +E/-W | 15.39 ft | Longitude: 104° 57' 56.239 W |
| Position Uncertainty | 0.00 ft | Wellhead Elevation: | 4,982.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | P_Pinnacle 34-36 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 08/24/2010 | 9.05 | 66.79 | 53,027 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | Plan #2 9-8-10 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 | 48.39 |

| 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 | |
| 2,154.06 | 22.08 | 48.39 | 2,126.93 | 139.55 | 157.10 | 2.00 | 2.00 | 0.00 | 48.39 | |
| 5,556.78 | 22.08 | 48.39 | 5,280.07 | 989.03 | 1,113.44 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,660.84 | 0.00 | 0.00 | 6,357.00 | 1,128.58 | 1,270.54 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 8,580.84 | 0.00 | 0.00 | 8,277.00 | 1,128.58 | 1,270.54 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL Pinnacle 34-36 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 34-36 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 17-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 34-36 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 34-36 | | |
| Design: | 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 | 48.39 | 1,100.00 | 0.29 | 0.33 | 0.44 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 3.00 | 48.39 | 1,199.93 | 2.61 | 2.94 | 3.93 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 5.00 | 48.39 | 1,299.68 | 7.24 | 8.15 | 10.90 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 7.00 | 48.39 | 1,399.13 | 14.18 | 15.96 | 21.35 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 9.00 | 48.39 | 1,498.15 | 23.42 | 26.37 | 35.27 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 11.00 | 48.39 | 1,596.63 | 34.95 | 39.35 | 52.63 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 13.00 | 48.39 | 1,694.44 | 48.76 | 54.90 | 73.42 | 2.00 | 2.00 | 0.00 |
| 1,800.00 | 15.00 | 48.39 | 1,791.46 | 64.83 | 72.98 | 97.62 | 2.00 | 2.00 | 0.00 |
| 1,900.00 | 17.00 | 48.39 | 1,887.58 | 83.13 | 93.59 | 125.18 | 2.00 | 2.00 | 0.00 |
| 2,000.00 | 19.00 | 48.39 | 1,982.68 | 103.65 | 116.69 | 156.08 | 2.00 | 2.00 | 0.00 |
| 2,100.00 | 21.00 | 48.39 | 2,076.65 | 126.36 | 142.26 | 190.28 | 2.00 | 2.00 | 0.00 |
| 2,154.06 | 22.08 | 48.39 | 2,126.93 | 139.55 | 157.10 | 210.13 | 2.00 | 2.00 | 0.00 |
| Start 3402.72 hold at 2154.06 MD | | | | | | | | | |
| 2,200.00 | 22.08 | 48.39 | 2,169.50 | 151.01 | 170.01 | 227.40 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 22.08 | 48.39 | 2,262.17 | 175.98 | 198.12 | 264.99 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 22.08 | 48.39 | 2,354.83 | 200.94 | 226.22 | 302.58 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 22.08 | 48.39 | 2,447.50 | 225.91 | 254.33 | 340.17 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 22.08 | 48.39 | 2,540.16 | 250.87 | 282.43 | 377.76 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 22.08 | 48.39 | 2,632.83 | 275.84 | 310.54 | 415.36 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 22.08 | 48.39 | 2,725.49 | 300.80 | 338.64 | 452.95 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 22.08 | 48.39 | 2,818.16 | 325.77 | 366.75 | 490.54 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 22.08 | 48.39 | 2,910.82 | 350.73 | 394.85 | 528.13 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 22.08 | 48.39 | 3,003.49 | 375.70 | 422.96 | 565.72 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 22.08 | 48.39 | 3,096.15 | 400.66 | 451.06 | 603.32 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 22.08 | 48.39 | 3,188.82 | 425.63 | 479.17 | 640.91 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 22.08 | 48.39 | 3,281.49 | 450.59 | 507.27 | 678.50 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 22.08 | 48.39 | 3,374.15 | 475.56 | 535.38 | 716.09 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 22.08 | 48.39 | 3,466.82 | 500.52 | 563.48 | 753.68 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 22.08 | 48.39 | 3,559.48 | 525.49 | 591.59 | 791.28 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 22.08 | 48.39 | 3,652.15 | 550.45 | 619.69 | 828.87 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 22.08 | 48.39 | 3,744.81 | 575.42 | 647.80 | 866.46 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 22.08 | 48.39 | 3,837.48 | 600.38 | 675.91 | 904.05 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 22.08 | 48.39 | 3,930.14 | 625.35 | 704.01 | 941.64 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 22.08 | 48.39 | 4,022.81 | 650.31 | 732.12 | 979.24 | 0.00 | 0.00 | 0.00 |
| 4,262.80 | 22.08 | 48.39 | 4,081.00 | 665.99 | 749.77 | 1,002.84 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | |
| 4,300.00 | 22.08 | 48.39 | 4,115.47 | 675.28 | 760.22 | 1,016.83 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 22.08 | 48.39 | 4,208.14 | 700.24 | 788.33 | 1,054.42 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 34-36 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 17-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 34-36 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 34-36 | | |
| Design: | 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 | 22.08 | 48.39 | 4,300.80 | 725.21 | 816.43 | 1,092.01 | 0.00 | 0.00 | 0.00 | |
| 4,600.00 | 22.08 | 48.39 | 4,393.47 | 750.17 | 844.54 | 1,129.60 | 0.00 | 0.00 | 0.00 | |
| 4,700.00 | 22.08 | 48.39 | 4,486.13 | 775.14 | 872.64 | 1,167.20 | 0.00 | 0.00 | 0.00 | |
| 4,800.00 | 22.08 | 48.39 | 4,578.80 | 800.10 | 900.75 | 1,204.79 | 0.00 | 0.00 | 0.00 | |
| 4,834.75 | 22.08 | 48.39 | 4,611.00 | 808.78 | 910.51 | 1,217.85 | 0.00 | 0.00 | 0.00 | |
| SUSSEX | | | | | | | | | | |
| 4,900.00 | 22.08 | 48.39 | 4,671.46 | 825.07 | 928.85 | 1,242.38 | 0.00 | 0.00 | 0.00 | |
| 5,000.00 | 22.08 | 48.39 | 4,764.13 | 850.03 | 956.96 | 1,279.97 | 0.00 | 0.00 | 0.00 | |
| 5,100.00 | 22.08 | 48.39 | 4,856.79 | 875.00 | 985.06 | 1,317.56 | 0.00 | 0.00 | 0.00 | |
| 5,200.00 | 22.08 | 48.39 | 4,949.46 | 899.96 | 1,013.17 | 1,355.16 | 0.00 | 0.00 | 0.00 | |
| 5,300.00 | 22.08 | 48.39 | 5,042.12 | 924.93 | 1,041.27 | 1,392.75 | 0.00 | 0.00 | 0.00 | |
| 5,320.37 | 22.08 | 48.39 | 5,061.00 | 930.01 | 1,047.00 | 1,400.40 | 0.00 | 0.00 | 0.00 | |
| SHANNON | | | | | | | | | | |
| 5,400.00 | 22.08 | 48.39 | 5,134.79 | 949.89 | 1,069.38 | 1,430.34 | 0.00 | 0.00 | 0.00 | |
| 5,500.00 | 22.08 | 48.39 | 5,227.46 | 974.86 | 1,097.48 | 1,467.93 | 0.00 | 0.00 | 0.00 | |
| 5,556.78 | 22.08 | 48.39 | 5,280.07 | 989.03 | 1,113.44 | 1,489.28 | 0.00 | 0.00 | 0.00 | |
| Start Drop -2.00 | | | | | | | | | | |
| 5,600.00 | 21.22 | 48.39 | 5,320.24 | 999.62 | 1,125.36 | 1,505.22 | 2.00 | -2.00 | 0.00 | |
| 5,700.00 | 19.22 | 48.39 | 5,414.08 | 1,022.57 | 1,151.20 | 1,539.78 | 2.00 | -2.00 | 0.00 | |
| 5,800.00 | 17.22 | 48.39 | 5,509.06 | 1,043.33 | 1,174.57 | 1,571.04 | 2.00 | -2.00 | 0.00 | |
| 5,900.00 | 15.22 | 48.39 | 5,605.08 | 1,061.88 | 1,195.45 | 1,598.96 | 2.00 | -2.00 | 0.00 | |
| 6,000.00 | 13.22 | 48.39 | 5,702.01 | 1,078.18 | 1,213.81 | 1,623.52 | 2.00 | -2.00 | 0.00 | |
| 6,100.00 | 11.22 | 48.39 | 5,799.74 | 1,092.24 | 1,229.63 | 1,644.68 | 2.00 | -2.00 | 0.00 | |
| 6,200.00 | 9.22 | 48.39 | 5,898.15 | 1,104.02 | 1,242.89 | 1,662.42 | 2.00 | -2.00 | 0.00 | |
| 6,300.00 | 7.22 | 48.39 | 5,997.12 | 1,113.51 | 1,253.57 | 1,676.71 | 2.00 | -2.00 | 0.00 | |
| 6,400.00 | 5.22 | 48.39 | 6,096.52 | 1,120.70 | 1,261.67 | 1,687.53 | 2.00 | -2.00 | 0.00 | |
| 6,500.00 | 3.22 | 48.39 | 6,196.25 | 1,125.58 | 1,267.17 | 1,694.89 | 2.00 | -2.00 | 0.00 | |
| 6,600.00 | 1.22 | 48.39 | 6,296.17 | 1,128.15 | 1,270.06 | 1,698.76 | 2.00 | -2.00 | 0.00 | |
| 6,660.84 | 0.00 | 0.00 | 6,357.00 | 1,128.58 | 1,270.54 | 1,699.40 | 2.00 | -2.00 | 0.00 | |
| Start 1920.00 hold at 6660.84 MD | | | | | | | | | | |
| 6,700.00 | 0.00 | 0.00 | 6,396.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 6,800.00 | 0.00 | 0.00 | 6,496.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 6,900.00 | 0.00 | 0.00 | 6,596.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,000.00 | 0.00 | 0.00 | 6,696.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,100.00 | 0.00 | 0.00 | 6,796.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,200.00 | 0.00 | 0.00 | 6,896.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,300.00 | 0.00 | 0.00 | 6,996.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,400.00 | 0.00 | 0.00 | 7,096.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,500.00 | 0.00 | 0.00 | 7,196.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,600.00 | 0.00 | 0.00 | 7,296.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,660.84 | 0.00 | 0.00 | 7,357.00 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| NIO | | | | | | | | | | |
| 7,700.00 | 0.00 | 0.00 | 7,396.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,800.00 | 0.00 | 0.00 | 7,496.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,900.00 | 0.00 | 0.00 | 7,596.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 7,990.84 | 0.00 | 0.00 | 7,687.00 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| CODELL | | | | | | | | | | |
| 8,000.00 | 0.00 | 0.00 | 7,696.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 8,065.84 | 0.00 | 0.00 | 7,762.00 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| GREENHORN | | | | | | | | | | |
| 8,100.00 | 0.00 | 0.00 | 7,796.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--|
| Database: | EDM5000-RobertS-Local | Local Co-ordinate Reference: | Well P_Pinnacle 34-36 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | GL 4882' & RKB 15' @ 4997.00ft (ASSUMED) |
| Site: | WELD_Pinnacle 17-2 Pad | North Reference: | True |
| Well: | P_Pinnacle 34-36 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_Pinnacle 34-36 | | |
| Design: | 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 | 7,896.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 8,300.00 | 0.00 | 0.00 | 7,996.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 8,400.00 | 0.00 | 0.00 | 8,096.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 8,430.84 | 0.00 | 0.00 | 8,127.00 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| JSAND | | | | | | | | | | |
| 8,500.00 | 0.00 | 0.00 | 8,196.16 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| 8,580.84 | 0.00 | 0.00 | 8,277.00 | 1,128.58 | 1,270.54 | 1,699.40 | 0.00 | 0.00 | 0.00 | |
| TD at 8580.84 - PBHL Pinnacle 34-36(50 FSL 50 FWL) | | | | | | | | | | |

| 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 34-36(50 FSL 50 FWL) | 0.00 | 0.00 | 8,277.00 | 1,128.58 | 1,270.54 | 1,275,312.56 | 3,150,800.03 | 40° 5' 16.318 N | 104° 57' 39.694 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 (°) | |
| 4,262.80 | 4,081.00 | PARKMAN | | | | |
| 4,834.75 | 4,611.00 | SUSSEX | | | | |
| 5,320.37 | 5,061.00 | SHANNON | | | | |
| 7,660.84 | 7,357.00 | NIO | | | | |
| 7,990.84 | 7,687.00 | CODELL | | | | |
| 8,065.84 | 7,762.00 | GREENHORN | | | | |
| 8,430.84 | 8,127.00 | JSAND | | | | |

| Plan Annotations | | | | | |
|---------------------|---------------------|------------|------------|----------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Comment | |
| 1,050.00 | 1,050.00 | 0.00 | 0.00 | Start Build 2.00 | |
| 2,154.06 | 2,126.93 | 139.55 | 157.10 | Start 3402.72 hold at 2154.06 MD | |
| 5,556.78 | 5,280.07 | 989.03 | 1,113.44 | Start Drop -2.00 | |
| 6,660.84 | 6,357.00 | 1,128.58 | 1,270.54 | Start 1920.00 hold at 6660.84 MD | |
| 8,580.84 | 8,277.00 | 1,128.58 | 1,270.54 | TD at 8580.84 | |