

Wellbore: OH
Design: OH

PROJECT DETAILS: US Rockies Wattenberg Planning UTM83

WELL DETAILS: Marrs 3N-10HZ

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Zone 13N (108 W to 102 W)

| | | | |
|---|------------|------------|--------------|
| GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) 4981.00 | | | |
| Northing | Easting | Latitude | Longitude |
| 14540634.27 | 1674276.15 | 40.0381110 | -104.8790280 |

ANNOTATIONS

| TVD | MD | Inc | Azi | +N/-S | +E/-W | Annotation |
|---------|----------|-------|--------|---------|---------|--|
| 126.00 | 126.00 | 0.44 | 49.05 | 0.32 | 0.37 | First Total MWD Survey |
| 1804.74 | 1837.00 | 15.78 | 213.05 | -210.05 | -141.94 | Last Total MWD Survey |
| 1906.69 | 1943.00 | 16.03 | 213.60 | -234.32 | -157.89 | First SDI MWD Survey |
| 6622.09 | 6687.00 | 3.08 | 65.77 | -420.91 | -192.02 | Curve KOP |
| 6697.81 | 6763.00 | 6.73 | 31.36 | -416.27 | -187.84 | First SDI MWD Curve Survey |
| 7290.42 | 7454.86 | 61.73 | 354.90 | -104.16 | -178.19 | Enter Land Box : 7454.86' MD & 7290.42' TVD |
| 7426.84 | 8005.00 | 84.63 | 356.07 | 423.07 | -220.66 | Last SDI MWD Curve Survey |
| 7434.05 | 8093.00 | 85.97 | 358.86 | 510.68 | -224.53 | First SDI MWD Lateral Survey |
| 7438.26 | 8155.00 | 86.26 | 359.05 | 572.52 | -225.66 | Landing Point : 1502' FNL 1783' FWL Sec 22 |
| 7444.28 | 8796.51 | 91.19 | 1.25 | 1213.33 | -215.49 | Cross 460' Line : 8796.51' MD & 7444.28' TVD 862' FNL 1795' FWL |
| 7476.57 | 14467.38 | 88.85 | 3.77 | 6880.11 | -229.56 | Cross 460' Line : 14467.38' MD & 7476.57' TVD 460' FNL 1809' FWL |
| 7454.90 | 15643.00 | 93.49 | 356.09 | 8054.70 | -230.76 | Last SDI MWD Survey |
| 7449.72 | 15728.00 | 93.49 | 356.09 | 8139.35 | -236.55 | Projection to TD : 797' FSL 1803' FWL Sec 10 |

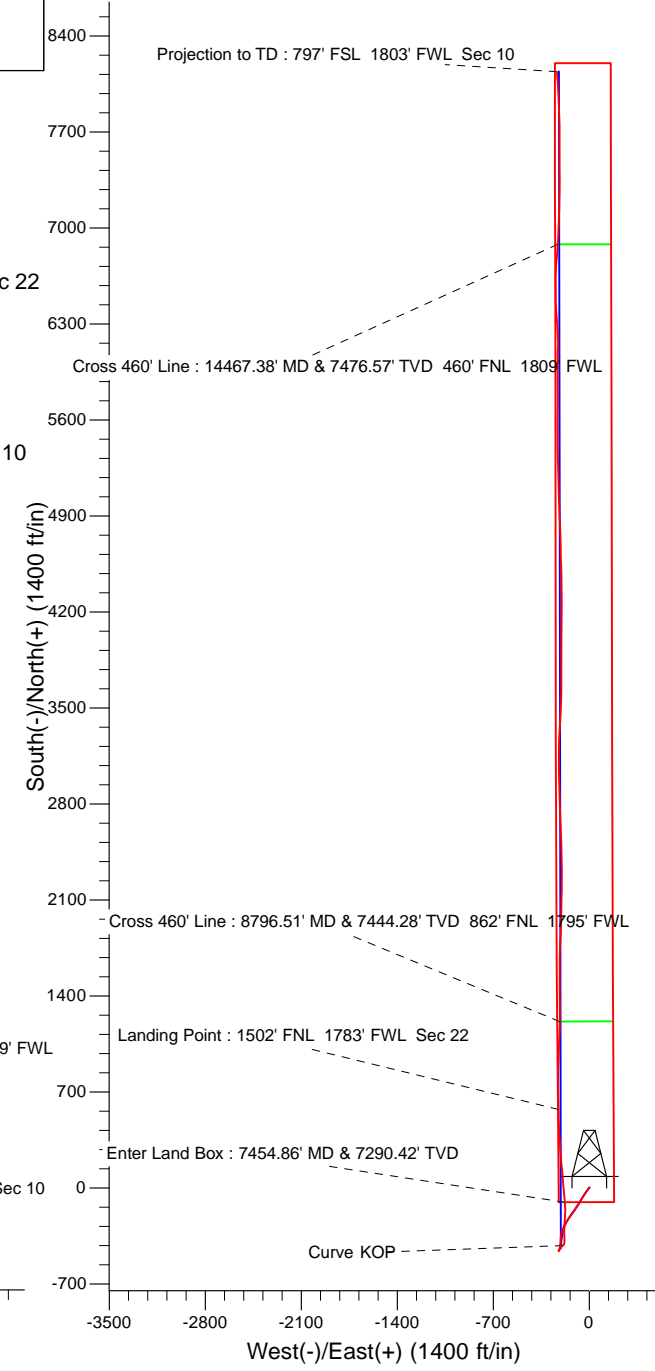
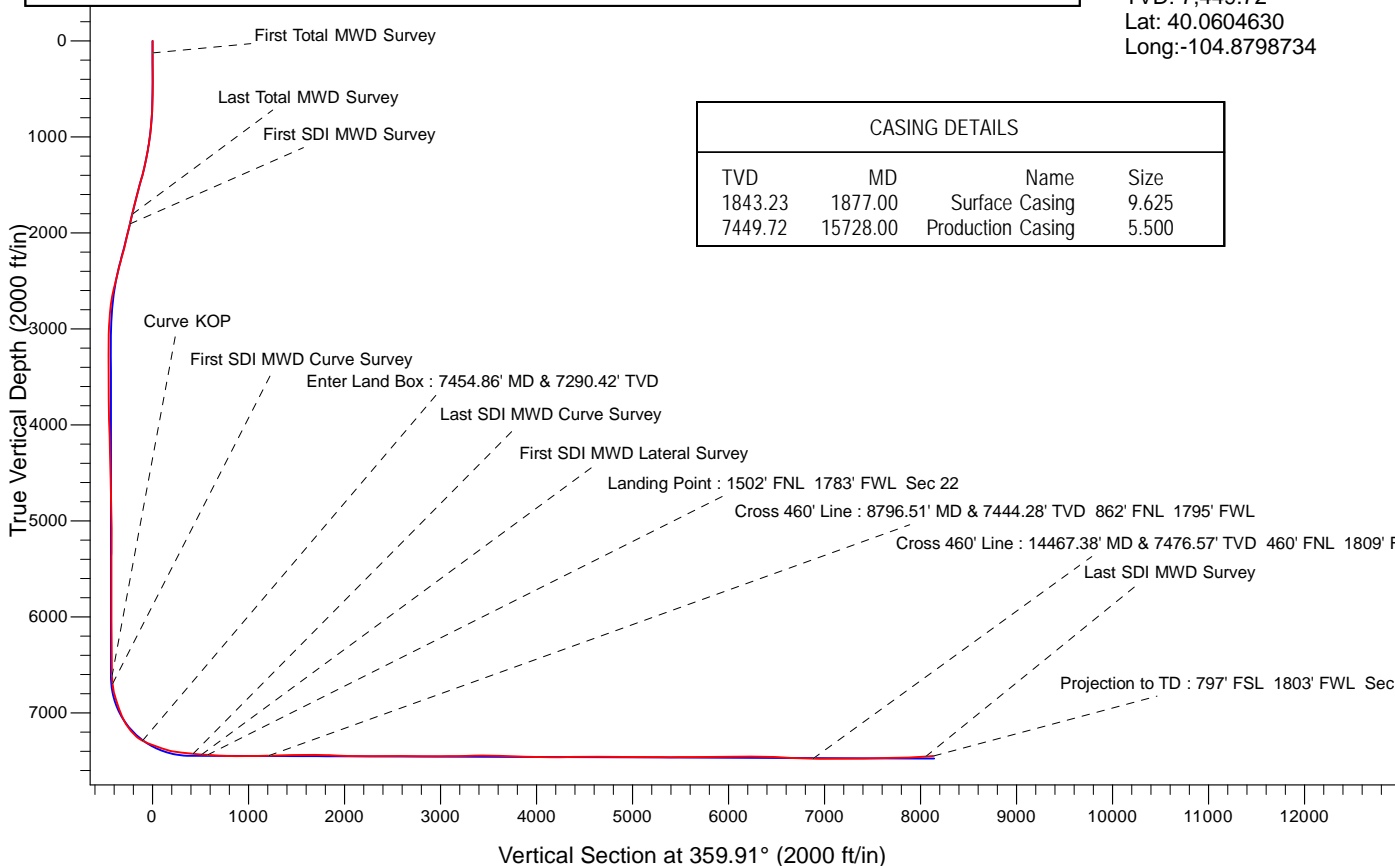
Surface Location:
 2075' FNL 2011' FWL
 Sec 22 T1N R67W

Landing Point:
 1502' FNL 1783' FWL Sec 22
 MD: 8,155.00
 TVD: 7,438.26
 Lat: 40.0396833
 Long: -104.8798342

BHL:
 797' FSL 1803' FWL Sec 10
 MD: 15,728.00
 TVD: 7,449.72
 Lat: 40.0604630
 Long: -104.8798734

CASING DETAILS

| TVD | MD | Name | Size |
|---------|----------|-------------------|-------|
| 1843.23 | 1877.00 | Surface Casing | 9.625 |
| 7449.72 | 15728.00 | Production Casing | 5.500 |





US ROCKIES REGION PLANNING

US Rockies Wattenberg Planning UTM83

1N-67W-22 Marris 6-22HZ Pad

Marris 3N-10HZ

OH

Design: OH

Survey Report - Geographic

21 March, 2018



| | | | |
|------------------|--------------------------------------|-------------------------------------|---|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well Marrs 3N-10HZ |
| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | US Rockies Wattenberg Planning UTM83 | | |
| Map System: | Universal Transverse Mercator (US Survey Feet) | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Zone 13N (108 W to 102 W) | | |

| | | | | | |
|------------------------------|---|---------------------|--------------------|--------------------------|--------------|
| Site | 1N-67W-22 Marrs 6-22HZ Pad, Site Center : Marrs 3N-10HZ | | | | |
| Site Position: | | Northing: | 14,540,634.27 usft | Latitude: | 40.0381110 |
| From: | Lat/Long | Easting: | 1,674,276.15 usft | Longitude: | -104.8790280 |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in | Grid Convergence: | 0.08 ° |

| | | | | | | |
|-----------------------------|--|---------|----------------------------|--------------------|----------------------|--------------|
| Well | Marrs 3N-10HZ, 2075' FNL 2011' FWL Sec 22 T1N R67W | | | | | |
| Well Position | +N/-S | 0.00 ft | Northing: | 14,540,634.27 usft | Latitude: | 40.0381110 |
| | +E/-W | 0.00 ft | Easting: | 1,674,276.15 usft | Longitude: | -104.8790280 |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | 0.00 ft | Ground Level: | 4,981.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | BGGM2016 | 2/20/2018 | 8.35 | 66.56 | 52,117 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| Design | OH | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 359.91 | |

| | | | | | |
|-----------------------|----------------|-----------------------------|-----------------------|---|--|
| Survey Program | Date | 3/21/2018 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 126.00 | 1,837.00 | Survey #1 - Surface (OH) | APC_ISCWSA REV 2 MWD+ | Fixed:v2:crustal field declination | |
| 1,943.00 | 15,728.00 | Survey #2 - Production (OH) | APC_ISCWSA REV 2 MWD+ | Fixed:v2:Rockies, crustal dec + 3-axis correction | |

| | | | | | | | | | | |
|-------------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|----------------------------|---------------------------|-----------------|------------------|--|
| Survey | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14,540,634.27 | 1,674,276.15 | 40.0381110 | -104.8790280 | |
| 126.00 | 0.44 | 49.05 | 126.00 | 0.32 | 0.37 | 14,540,634.58 | 1,674,276.51 | 40.0381119 | -104.8790267 | |
| First Total MWD Survey | | | | | | | | | | |
| 158.00 | 0.13 | 72.25 | 158.00 | 0.41 | 0.49 | 14,540,634.67 | 1,674,276.64 | 40.0381122 | -104.8790262 | |
| 190.00 | 0.09 | 230.28 | 190.00 | 0.40 | 0.51 | 14,540,634.67 | 1,674,276.66 | 40.0381121 | -104.8790262 | |
| 222.00 | 0.53 | 295.41 | 222.00 | 0.45 | 0.36 | 14,540,634.72 | 1,674,276.50 | 40.0381123 | -104.8790267 | |
| 253.00 | 0.22 | 347.97 | 253.00 | 0.57 | 0.21 | 14,540,634.84 | 1,674,276.36 | 40.0381126 | -104.8790272 | |
| 316.00 | 0.75 | 304.55 | 315.99 | 0.92 | -0.15 | 14,540,635.19 | 1,674,276.00 | 40.0381136 | -104.8790285 | |
| 348.00 | 0.48 | 287.67 | 347.99 | 1.08 | -0.45 | 14,540,635.35 | 1,674,275.70 | 40.0381140 | -104.8790296 | |
| 379.00 | 0.53 | 316.76 | 378.99 | 1.23 | -0.67 | 14,540,635.49 | 1,674,275.47 | 40.0381144 | -104.8790304 | |
| 411.00 | 0.66 | 320.81 | 410.99 | 1.48 | -0.89 | 14,540,635.74 | 1,674,275.26 | 40.0381151 | -104.8790312 | |

| | | | |
|------------------|--------------------------------------|-------------------------------------|---|
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| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| Survey | | | | | | | | | | |
|------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 442.00 | 1.01 | 302.88 | 441.99 | 1.76 | -1.23 | 14,540,636.03 | 1,674,274.91 | 40.0381159 | -104.8790324 | |
| 474.00 | 0.70 | 319.05 | 473.98 | 2.06 | -1.60 | 14,540,636.33 | 1,674,274.55 | 40.0381167 | -104.8790337 | |
| 505.00 | 0.22 | 300.94 | 504.98 | 2.24 | -1.77 | 14,540,636.50 | 1,674,274.37 | 40.0381172 | -104.8790343 | |
| 537.00 | 0.35 | 358.16 | 536.98 | 2.37 | -1.83 | 14,540,636.63 | 1,674,274.32 | 40.0381175 | -104.8790345 | |
| 569.00 | 0.35 | 208.48 | 568.98 | 2.38 | -1.88 | 14,540,636.64 | 1,674,274.27 | 40.0381176 | -104.8790347 | |
| 601.00 | 1.27 | 204.00 | 600.98 | 1.97 | -2.07 | 14,540,636.23 | 1,674,274.08 | 40.0381164 | -104.8790354 | |
| 633.00 | 1.58 | 201.19 | 632.97 | 1.23 | -2.37 | 14,540,635.50 | 1,674,273.77 | 40.0381144 | -104.8790365 | |
| 664.00 | 2.07 | 203.74 | 663.95 | 0.32 | -2.75 | 14,540,634.58 | 1,674,273.40 | 40.0381119 | -104.8790378 | |
| 696.00 | 2.37 | 208.13 | 695.93 | -0.79 | -3.30 | 14,540,633.47 | 1,674,272.85 | 40.0381089 | -104.8790398 | |
| 728.00 | 3.30 | 215.87 | 727.89 | -2.12 | -4.15 | 14,540,632.14 | 1,674,272.00 | 40.0381052 | -104.8790428 | |
| 760.00 | 4.39 | 210.68 | 759.82 | -3.92 | -5.31 | 14,540,630.34 | 1,674,270.84 | 40.0381003 | -104.8790470 | |
| 791.00 | 5.10 | 214.20 | 790.71 | -6.08 | -6.69 | 14,540,628.18 | 1,674,269.46 | 40.0380943 | -104.8790519 | |
| 823.00 | 6.33 | 215.25 | 822.55 | -8.70 | -8.51 | 14,540,625.56 | 1,674,267.65 | 40.0380872 | -104.8790584 | |
| 855.00 | 6.46 | 214.02 | 854.35 | -11.63 | -10.54 | 14,540,622.62 | 1,674,265.63 | 40.0380791 | -104.8790656 | |
| 887.00 | 6.86 | 214.63 | 886.14 | -14.69 | -12.63 | 14,540,619.55 | 1,674,263.54 | 40.0380707 | -104.8790731 | |
| 918.00 | 7.29 | 218.59 | 916.90 | -17.75 | -14.91 | 14,540,616.49 | 1,674,261.26 | 40.0380623 | -104.8790812 | |
| 950.00 | 7.78 | 216.13 | 948.62 | -21.09 | -17.45 | 14,540,613.15 | 1,674,258.73 | 40.0380531 | -104.8790903 | |
| 982.00 | 7.78 | 215.95 | 980.33 | -24.59 | -20.00 | 14,540,609.64 | 1,674,256.18 | 40.0380435 | -104.8790994 | |
| 1,014.00 | 8.70 | 215.87 | 1,012.00 | -28.31 | -22.69 | 14,540,605.93 | 1,674,253.50 | 40.0380333 | -104.8791090 | |
| 1,045.00 | 9.84 | 215.07 | 1,042.59 | -32.38 | -25.59 | 14,540,601.85 | 1,674,250.61 | 40.0380221 | -104.8791194 | |
| 1,077.00 | 10.55 | 212.88 | 1,074.09 | -37.07 | -28.75 | 14,540,597.15 | 1,674,247.45 | 40.0380092 | -104.8791307 | |
| 1,109.00 | 11.12 | 215.16 | 1,105.52 | -42.06 | -32.12 | 14,540,592.16 | 1,674,244.09 | 40.0379955 | -104.8791427 | |
| 1,140.00 | 11.65 | 212.98 | 1,135.91 | -47.13 | -35.54 | 14,540,587.09 | 1,674,240.67 | 40.0379816 | -104.8791550 | |
| 1,172.00 | 12.30 | 212.09 | 1,167.21 | -52.72 | -39.11 | 14,540,581.49 | 1,674,237.11 | 40.0379662 | -104.8791677 | |
| 1,204.00 | 12.79 | 211.03 | 1,198.45 | -58.65 | -42.75 | 14,540,575.56 | 1,674,233.48 | 40.0379500 | -104.8791807 | |
| 1,236.00 | 13.54 | 211.30 | 1,229.60 | -64.88 | -46.52 | 14,540,569.32 | 1,674,229.72 | 40.0379328 | -104.8791942 | |
| 1,268.00 | 13.84 | 212.26 | 1,260.70 | -71.32 | -50.51 | 14,540,562.88 | 1,674,225.74 | 40.0379152 | -104.8792084 | |
| 1,299.00 | 14.37 | 210.77 | 1,290.76 | -77.76 | -54.46 | 14,540,556.43 | 1,674,221.80 | 40.0378975 | -104.8792225 | |
| 1,331.00 | 15.12 | 212.79 | 1,321.71 | -84.68 | -58.75 | 14,540,549.50 | 1,674,217.52 | 40.0378785 | -104.8792379 | |
| 1,363.00 | 16.39 | 211.91 | 1,352.50 | -92.02 | -63.39 | 14,540,542.16 | 1,674,212.88 | 40.0378583 | -104.8792545 | |
| 1,394.00 | 17.40 | 212.17 | 1,382.17 | -99.66 | -68.17 | 14,540,534.51 | 1,674,208.11 | 40.0378373 | -104.8792715 | |
| 1,426.00 | 18.02 | 211.21 | 1,412.65 | -107.94 | -73.29 | 14,540,526.22 | 1,674,203.01 | 40.0378146 | -104.8792898 | |
| 1,458.00 | 18.28 | 209.54 | 1,443.06 | -116.54 | -78.33 | 14,540,517.62 | 1,674,197.98 | 40.0377910 | -104.8793078 | |
| 1,490.00 | 18.02 | 212.79 | 1,473.47 | -125.07 | -83.48 | 14,540,509.08 | 1,674,192.84 | 40.0377676 | -104.8793262 | |
| 1,521.00 | 17.89 | 213.93 | 1,502.96 | -133.05 | -88.74 | 14,540,501.09 | 1,674,187.60 | 40.0377456 | -104.8793450 | |
| 1,584.00 | 17.27 | 213.40 | 1,563.01 | -148.89 | -99.28 | 14,540,485.24 | 1,674,177.07 | 40.0377022 | -104.8793827 | |
| 1,616.00 | 17.27 | 213.84 | 1,593.57 | -156.80 | -104.54 | 14,540,477.32 | 1,674,171.82 | 40.0376804 | -104.8794015 | |
| 1,648.00 | 17.89 | 214.55 | 1,624.08 | -164.79 | -109.98 | 14,540,469.32 | 1,674,166.40 | 40.0376585 | -104.8794209 | |
| 1,711.00 | 18.06 | 216.92 | 1,684.00 | -180.57 | -121.33 | 14,540,453.53 | 1,674,155.06 | 40.0376152 | -104.8794615 | |
| 1,743.00 | 17.53 | 216.31 | 1,714.47 | -188.42 | -127.16 | 14,540,445.67 | 1,674,149.24 | 40.0375936 | -104.8794823 | |
| 1,775.00 | 16.22 | 214.72 | 1,745.09 | -195.98 | -132.56 | 14,540,438.11 | 1,674,143.85 | 40.0375728 | -104.8795016 | |
| 1,807.00 | 15.64 | 213.40 | 1,775.86 | -203.25 | -137.48 | 14,540,430.83 | 1,674,138.94 | 40.0375529 | -104.8795192 | |
| 1,837.00 | 15.78 | 213.05 | 1,804.74 | -210.05 | -141.94 | 14,540,424.03 | 1,674,134.50 | 40.0375342 | -104.8795351 | |
| Last Total MWD Survey | | | | | | | | | | |
| 1,943.00 | 16.03 | 213.60 | 1,906.69 | -234.32 | -157.89 | 14,540,399.73 | 1,674,118.57 | 40.0374676 | -104.8795921 | |
| First SDI MWD Survey | | | | | | | | | | |
| 2,032.00 | 15.00 | 212.39 | 1,992.44 | -254.28 | -170.87 | 14,540,379.75 | 1,674,105.63 | 40.0374127 | -104.8796384 | |
| 2,121.00 | 15.46 | 206.47 | 2,078.32 | -274.62 | -182.32 | 14,540,359.39 | 1,674,094.20 | 40.0373569 | -104.8796794 | |
| 2,210.00 | 15.57 | 204.15 | 2,164.08 | -296.14 | -192.50 | 14,540,337.86 | 1,674,084.06 | 40.0372978 | -104.8797157 | |
| 2,299.00 | 15.77 | 195.82 | 2,249.78 | -318.68 | -200.68 | 14,540,315.31 | 1,674,075.90 | 40.0372359 | -104.8797450 | |
| 2,388.00 | 14.68 | 188.42 | 2,335.66 | -341.47 | -205.63 | 14,540,292.51 | 1,674,070.98 | 40.0371733 | -104.8797626 | |
| 2,501.00 | 13.95 | 185.14 | 2,445.16 | -369.21 | -208.95 | 14,540,264.78 | 1,674,067.70 | 40.0370971 | -104.8797745 | |
| 2,590.00 | 13.45 | 185.02 | 2,531.62 | -390.20 | -210.81 | 14,540,243.79 | 1,674,065.87 | 40.0370395 | -104.8797812 | |
| 2,679.00 | 12.95 | 184.76 | 2,618.27 | -410.45 | -212.55 | 14,540,223.54 | 1,674,064.16 | 40.0369839 | -104.8797873 | |
| 2,768.00 | 8.50 | 194.14 | 2,705.70 | -426.78 | -214.98 | 14,540,207.21 | 1,674,061.75 | 40.0369390 | -104.8797960 | |

| | | | |
|------------------|--------------------------------------|-------------------------------------|---|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well Marrs 3N-10HZ |
| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| Survey | | | | | | | | | | |
|-----------------------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 2,856.00 | 6.60 | 187.01 | 2,792.94 | -438.10 | -217.19 | 14,540,195.88 | 1,674,059.56 | 40.0369079 | -104.8798039 | |
| 2,945.00 | 3.77 | 187.16 | 2,881.56 | -446.08 | -218.18 | 14,540,187.90 | 1,674,058.58 | 40.0368860 | -104.8798075 | |
| 3,034.00 | 2.98 | 190.64 | 2,970.41 | -451.26 | -218.97 | 14,540,182.72 | 1,674,057.79 | 40.0368718 | -104.8798103 | |
| 3,123.00 | 2.94 | 186.04 | 3,059.29 | -455.80 | -219.64 | 14,540,178.17 | 1,674,057.13 | 40.0368593 | -104.8798127 | |
| 3,211.00 | 0.23 | 15.68 | 3,147.26 | -457.88 | -219.83 | 14,540,176.10 | 1,674,056.94 | 40.0368536 | -104.8798134 | |
| 3,300.00 | 0.41 | 302.78 | 3,236.25 | -457.54 | -220.05 | 14,540,176.44 | 1,674,056.72 | 40.0368546 | -104.8798141 | |
| 3,388.00 | 0.67 | 334.58 | 3,324.25 | -456.90 | -220.53 | 14,540,177.08 | 1,674,056.24 | 40.0368563 | -104.8798159 | |
| 3,477.00 | 0.34 | 335.08 | 3,413.25 | -456.19 | -220.87 | 14,540,177.79 | 1,674,055.90 | 40.0368583 | -104.8798171 | |
| 3,566.00 | 0.67 | 252.00 | 3,502.24 | -456.11 | -221.47 | 14,540,177.86 | 1,674,055.30 | 40.0368585 | -104.8798192 | |
| 3,655.00 | 0.50 | 287.70 | 3,591.24 | -456.15 | -222.34 | 14,540,177.82 | 1,674,054.43 | 40.0368584 | -104.8798223 | |
| 3,743.00 | 0.73 | 278.67 | 3,679.23 | -455.95 | -223.26 | 14,540,178.02 | 1,674,053.51 | 40.0368589 | -104.8798256 | |
| 3,832.00 | 0.50 | 246.97 | 3,768.23 | -456.02 | -224.18 | 14,540,177.95 | 1,674,052.59 | 40.0368587 | -104.8798289 | |
| 3,921.00 | 2.50 | 41.44 | 3,857.21 | -454.72 | -223.25 | 14,540,179.26 | 1,674,053.52 | 40.0368623 | -104.8798256 | |
| 4,010.00 | 3.04 | 48.20 | 3,946.10 | -451.69 | -220.21 | 14,540,182.29 | 1,674,056.56 | 40.0368706 | -104.8798147 | |
| 4,099.00 | 2.65 | 47.75 | 4,034.99 | -448.73 | -216.92 | 14,540,185.25 | 1,674,059.84 | 40.0368787 | -104.8798030 | |
| 4,187.00 | 2.07 | 45.09 | 4,122.92 | -446.24 | -214.29 | 14,540,187.74 | 1,674,062.47 | 40.0368856 | -104.8797936 | |
| 4,276.00 | 2.23 | 41.76 | 4,211.85 | -443.82 | -212.00 | 14,540,190.17 | 1,674,064.75 | 40.0368922 | -104.8797854 | |
| 4,365.00 | 2.10 | 45.38 | 4,300.79 | -441.38 | -209.69 | 14,540,192.61 | 1,674,067.06 | 40.0368989 | -104.8797771 | |
| 4,454.00 | 1.78 | 47.50 | 4,389.74 | -439.30 | -207.51 | 14,540,194.70 | 1,674,069.24 | 40.0369046 | -104.8797693 | |
| 4,542.00 | 1.58 | 40.97 | 4,477.70 | -437.46 | -205.70 | 14,540,196.54 | 1,674,071.04 | 40.0369097 | -104.8797629 | |
| 4,631.00 | 0.97 | 26.26 | 4,566.68 | -435.86 | -204.57 | 14,540,198.14 | 1,674,072.18 | 40.0369141 | -104.8797588 | |
| 4,720.00 | 1.25 | 344.14 | 4,655.66 | -434.25 | -204.50 | 14,540,199.75 | 1,674,072.24 | 40.0369185 | -104.8797586 | |
| 4,809.00 | 1.92 | 330.92 | 4,744.63 | -432.01 | -205.49 | 14,540,201.99 | 1,674,071.25 | 40.0369247 | -104.8797621 | |
| 4,898.00 | 2.15 | 324.03 | 4,833.57 | -429.36 | -207.19 | 14,540,204.64 | 1,674,069.54 | 40.0369319 | -104.8797682 | |
| 4,987.00 | 1.99 | 317.56 | 4,922.52 | -426.87 | -209.22 | 14,540,207.13 | 1,674,067.51 | 40.0369388 | -104.8797754 | |
| 5,076.00 | 1.66 | 301.82 | 5,011.47 | -425.05 | -211.35 | 14,540,208.94 | 1,674,065.37 | 40.0369438 | -104.8797831 | |
| 5,165.00 | 0.96 | 248.06 | 5,100.45 | -424.64 | -213.14 | 14,540,209.34 | 1,674,063.59 | 40.0369449 | -104.8797895 | |
| 5,253.00 | 1.10 | 248.76 | 5,188.44 | -425.23 | -214.61 | 14,540,208.76 | 1,674,062.12 | 40.0369433 | -104.8797947 | |
| 5,342.00 | 1.00 | 252.32 | 5,277.42 | -425.77 | -216.15 | 14,540,208.21 | 1,674,060.58 | 40.0369418 | -104.8798002 | |
| 5,431.00 | 2.14 | 112.37 | 5,366.40 | -426.64 | -215.35 | 14,540,207.34 | 1,674,061.38 | 40.0369394 | -104.8797974 | |
| 5,520.00 | 1.44 | 106.88 | 5,455.36 | -427.60 | -212.74 | 14,540,206.39 | 1,674,063.99 | 40.0369368 | -104.8797880 | |
| 5,609.00 | 1.25 | 99.74 | 5,544.33 | -428.09 | -210.72 | 14,540,205.90 | 1,674,066.01 | 40.0369354 | -104.8797808 | |
| 5,698.00 | 0.72 | 76.62 | 5,633.32 | -428.12 | -209.22 | 14,540,205.87 | 1,674,067.52 | 40.0369353 | -104.8797754 | |
| 5,786.00 | 0.57 | 94.05 | 5,721.32 | -428.02 | -208.24 | 14,540,205.97 | 1,674,068.49 | 40.0369356 | -104.8797720 | |
| 5,875.00 | 0.42 | 80.55 | 5,810.31 | -428.00 | -207.48 | 14,540,205.99 | 1,674,069.25 | 40.0369357 | -104.8797692 | |
| 5,964.00 | 0.54 | 66.55 | 5,899.31 | -427.78 | -206.77 | 14,540,206.21 | 1,674,069.96 | 40.0369363 | -104.8797667 | |
| 6,053.00 | 0.86 | 69.83 | 5,988.30 | -427.38 | -205.76 | 14,540,206.61 | 1,674,070.97 | 40.0369374 | -104.8797631 | |
| 6,142.00 | 0.89 | 63.90 | 6,077.29 | -426.85 | -204.51 | 14,540,207.15 | 1,674,072.22 | 40.0369388 | -104.8797586 | |
| 6,230.00 | 1.17 | 52.18 | 6,165.28 | -426.00 | -203.19 | 14,540,208.00 | 1,674,073.54 | 40.0369412 | -104.8797539 | |
| 6,319.00 | 1.02 | 45.99 | 6,254.26 | -424.89 | -201.90 | 14,540,209.11 | 1,674,074.83 | 40.0369442 | -104.8797493 | |
| 6,408.00 | 1.30 | 51.81 | 6,343.24 | -423.72 | -200.54 | 14,540,210.29 | 1,674,076.19 | 40.0369474 | -104.8797444 | |
| 6,497.00 | 1.53 | 73.03 | 6,432.22 | -422.74 | -198.61 | 14,540,211.26 | 1,674,078.12 | 40.0369501 | -104.8797375 | |
| 6,586.00 | 1.88 | 72.75 | 6,521.18 | -421.97 | -196.08 | 14,540,212.04 | 1,674,080.65 | 40.0369522 | -104.8797285 | |
| 6,675.00 | 2.75 | 78.37 | 6,610.10 | -421.10 | -192.59 | 14,540,212.91 | 1,674,084.13 | 40.0369546 | -104.8797160 | |
| 6,687.00 | 3.08 | 65.77 | 6,622.09 | -420.91 | -192.02 | 14,540,213.10 | 1,674,084.70 | 40.0369551 | -104.8797140 | |
| Curve KOP | | | | | | | | | | |
| 6,763.00 | 6.73 | 31.36 | 6,697.81 | -416.27 | -187.84 | 14,540,217.75 | 1,674,088.88 | 40.0369679 | -104.8796991 | |
| First SDI MWD Curve Survey | | | | | | | | | | |
| 6,852.00 | 13.40 | 11.00 | 6,785.42 | -401.67 | -183.15 | 14,540,232.35 | 1,674,093.55 | 40.0370080 | -104.8796823 | |
| 6,940.00 | 18.18 | 359.98 | 6,870.09 | -377.92 | -181.21 | 14,540,256.10 | 1,674,095.46 | 40.0370732 | -104.8796754 | |
| 7,029.00 | 19.04 | 356.61 | 6,954.44 | -349.54 | -182.07 | 14,540,284.48 | 1,674,094.55 | 40.0371511 | -104.8796785 | |
| 7,118.00 | 23.66 | 358.01 | 7,037.31 | -317.18 | -183.55 | 14,540,316.84 | 1,674,093.03 | 40.0372400 | -104.8796837 | |
| 7,206.00 | 31.57 | 2.86 | 7,115.23 | -276.46 | -183.01 | 14,540,357.56 | 1,674,093.51 | 40.0373518 | -104.8796818 | |
| 7,295.00 | 39.30 | 6.85 | 7,187.70 | -225.12 | -178.48 | 14,540,408.90 | 1,674,097.97 | 40.0374928 | -104.8796656 | |
| 7,384.00 | 50.24 | 359.72 | 7,250.83 | -162.70 | -175.28 | 14,540,471.33 | 1,674,101.10 | 40.0376642 | -104.8796542 | |

| | | | |
|------------------|--------------------------------------|-------------------------------------|---|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well Marrs 3N-10HZ |
| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| Survey | | | | | | | | | | |
|--|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 7,454.86 | 61.73 | 354.90 | 7,290.42 | -104.16 | -178.19 | 14,540,529.86 | 1,674,098.10 | 40.0378250 | -104.8796646 | |
| Enter Land Box : 7454.86' MD & 7290.42' TVD | | | | | | | | | | |
| 7,472.00 | 64.53 | 353.90 | 7,298.17 | -88.95 | -179.69 | 14,540,545.07 | 1,674,096.58 | 40.0378668 | -104.8796699 | |
| 7,561.00 | 68.97 | 355.04 | 7,333.29 | -7.58 | -187.55 | 14,540,626.43 | 1,674,088.61 | 40.0380902 | -104.8796981 | |
| 7,649.00 | 71.62 | 355.48 | 7,362.96 | 74.98 | -194.39 | 14,540,708.98 | 1,674,081.65 | 40.0383169 | -104.8797225 | |
| 7,738.00 | 74.53 | 354.25 | 7,388.87 | 159.77 | -202.02 | 14,540,793.76 | 1,674,073.91 | 40.0385498 | -104.8797498 | |
| 7,827.00 | 82.34 | 356.47 | 7,406.70 | 246.61 | -209.05 | 14,540,880.59 | 1,674,066.77 | 40.0387883 | -104.8797748 | |
| 7,916.00 | 83.52 | 356.20 | 7,417.65 | 334.75 | -214.69 | 14,540,968.72 | 1,674,061.00 | 40.0390303 | -104.8797950 | |
| 8,005.00 | 84.63 | 356.07 | 7,426.84 | 423.07 | -220.66 | 14,541,057.03 | 1,674,054.92 | 40.0392728 | -104.8798163 | |
| Last SDI MWD Curve Survey | | | | | | | | | | |
| 8,093.00 | 85.97 | 358.86 | 7,434.05 | 510.68 | -224.53 | 14,541,144.64 | 1,674,050.92 | 40.0395134 | -104.8798302 | |
| First SDI MWD Lateral Survey | | | | | | | | | | |
| 8,155.00 | 86.26 | 359.05 | 7,438.26 | 572.52 | -225.66 | 14,541,206.48 | 1,674,049.71 | 40.0396833 | -104.8798342 | |
| Landing Point : 1502' FNL 1783' FWL Sec 22 | | | | | | | | | | |
| 8,182.00 | 86.38 | 359.13 | 7,439.99 | 599.46 | -226.09 | 14,541,233.42 | 1,674,049.24 | 40.0397573 | -104.8798358 | |
| 8,271.00 | 86.95 | 358.75 | 7,445.17 | 688.30 | -227.74 | 14,541,322.25 | 1,674,047.48 | 40.0400012 | -104.8798416 | |
| 8,360.00 | 88.59 | 359.43 | 7,448.63 | 777.22 | -229.15 | 14,541,411.17 | 1,674,045.95 | 40.0402454 | -104.8798467 | |
| 8,449.00 | 88.59 | 2.32 | 7,450.82 | 866.17 | -227.79 | 14,541,500.12 | 1,674,047.18 | 40.0404897 | -104.8798418 | |
| 8,538.00 | 90.23 | 2.22 | 7,451.74 | 955.09 | -224.26 | 14,541,589.05 | 1,674,050.59 | 40.0407339 | -104.8798292 | |
| 8,626.00 | 91.81 | 1.90 | 7,450.17 | 1,043.02 | -221.10 | 14,541,676.98 | 1,674,053.63 | 40.0409753 | -104.8798180 | |
| 8,715.00 | 92.45 | 2.18 | 7,446.86 | 1,131.90 | -217.94 | 14,541,765.86 | 1,674,056.68 | 40.0412194 | -104.8798066 | |
| 8,796.51 | 91.19 | 1.25 | 7,444.28 | 1,213.33 | -215.49 | 14,541,847.30 | 1,674,059.01 | 40.0414430 | -104.8797979 | |
| Cross 460' Line : 8796.51' MD & 7444.28' TVD 862' FNL 1795' FWL | | | | | | | | | | |
| 8,804.00 | 91.07 | 1.17 | 7,444.13 | 1,220.82 | -215.34 | 14,541,854.78 | 1,674,059.16 | 40.0414636 | -104.8797974 | |
| 8,893.00 | 91.61 | 359.44 | 7,442.05 | 1,309.79 | -214.86 | 14,541,943.76 | 1,674,059.51 | 40.0417079 | -104.8797957 | |
| 8,982.00 | 90.27 | 359.08 | 7,440.59 | 1,398.76 | -216.01 | 14,542,032.73 | 1,674,058.24 | 40.0419523 | -104.8797998 | |
| 9,071.00 | 90.77 | 0.22 | 7,439.78 | 1,487.76 | -216.56 | 14,542,121.72 | 1,674,057.57 | 40.0421967 | -104.8798017 | |
| 9,159.00 | 89.26 | 0.00 | 7,439.76 | 1,575.75 | -216.39 | 14,542,209.72 | 1,674,057.62 | 40.0424383 | -104.8798011 | |
| 9,248.00 | 91.01 | 0.83 | 7,439.55 | 1,664.75 | -215.74 | 14,542,298.72 | 1,674,058.15 | 40.0426827 | -104.8797988 | |
| 9,337.00 | 89.43 | 2.64 | 7,439.21 | 1,753.70 | -213.05 | 14,542,387.67 | 1,674,060.72 | 40.0429270 | -104.8797892 | |
| 9,425.00 | 87.15 | 2.08 | 7,441.83 | 1,841.58 | -209.43 | 14,542,475.56 | 1,674,064.22 | 40.0431683 | -104.8797763 | |
| 9,514.00 | 87.92 | 1.39 | 7,445.66 | 1,930.46 | -206.73 | 14,542,564.43 | 1,674,066.79 | 40.0434124 | -104.8797666 | |
| 9,603.00 | 88.26 | 1.10 | 7,448.63 | 2,019.39 | -204.80 | 14,542,653.37 | 1,674,068.61 | 40.0436566 | -104.8797597 | |
| 9,692.00 | 88.76 | 0.99 | 7,450.94 | 2,108.34 | -203.18 | 14,542,742.32 | 1,674,070.11 | 40.0439009 | -104.8797539 | |
| 9,780.00 | 89.30 | 0.19 | 7,452.43 | 2,196.32 | -202.27 | 14,542,830.31 | 1,674,070.89 | 40.0441425 | -104.8797507 | |
| 9,869.00 | 90.07 | 359.84 | 7,452.92 | 2,285.32 | -202.25 | 14,542,919.30 | 1,674,070.80 | 40.0443869 | -104.8797506 | |
| 9,958.00 | 91.88 | 359.74 | 7,451.41 | 2,374.30 | -202.58 | 14,543,008.29 | 1,674,070.35 | 40.0446313 | -104.8797518 | |
| 10,047.00 | 89.93 | 359.07 | 7,450.00 | 2,463.28 | -203.50 | 14,543,097.26 | 1,674,069.31 | 40.0448756 | -104.8797551 | |
| 10,135.00 | 88.59 | 358.23 | 7,451.14 | 2,551.25 | -205.57 | 14,543,185.23 | 1,674,067.11 | 40.0451172 | -104.8797625 | |
| 10,224.00 | 90.44 | 357.48 | 7,451.89 | 2,640.18 | -208.90 | 14,543,274.15 | 1,674,063.66 | 40.0453614 | -104.8797744 | |
| 10,313.00 | 89.10 | 357.98 | 7,452.25 | 2,729.10 | -212.43 | 14,543,363.07 | 1,674,060.02 | 40.0456056 | -104.8797870 | |
| 10,402.00 | 89.36 | 357.86 | 7,453.44 | 2,818.04 | -215.66 | 14,543,452.00 | 1,674,056.66 | 40.0458498 | -104.8797986 | |
| 10,490.00 | 90.10 | 357.45 | 7,453.86 | 2,905.96 | -219.26 | 14,543,539.92 | 1,674,052.94 | 40.0460913 | -104.8798114 | |
| 10,579.00 | 91.14 | 358.72 | 7,452.89 | 2,994.90 | -222.23 | 14,543,628.86 | 1,674,049.85 | 40.0463355 | -104.8798221 | |
| 10,668.00 | 91.27 | 0.36 | 7,451.02 | 3,083.88 | -222.95 | 14,543,717.83 | 1,674,049.01 | 40.0465799 | -104.8798246 | |
| 10,757.00 | 90.00 | 1.00 | 7,450.04 | 3,172.86 | -221.89 | 14,543,806.82 | 1,674,049.95 | 40.0468242 | -104.8798208 | |
| 10,846.00 | 92.18 | 1.79 | 7,448.34 | 3,261.82 | -219.72 | 14,543,895.77 | 1,674,052.00 | 40.0470685 | -104.8798131 | |
| 10,935.00 | 91.54 | 3.15 | 7,445.45 | 3,350.68 | -215.89 | 14,543,984.65 | 1,674,055.71 | 40.0473126 | -104.8797994 | |
| 11,023.00 | 89.63 | 3.55 | 7,444.56 | 3,438.52 | -210.75 | 14,544,072.49 | 1,674,060.73 | 40.0475538 | -104.8797810 | |
| 11,112.00 | 89.50 | 2.55 | 7,445.23 | 3,527.39 | -206.01 | 14,544,161.37 | 1,674,065.34 | 40.0477978 | -104.8797641 | |
| 11,201.00 | 86.98 | 359.66 | 7,447.97 | 3,616.32 | -204.30 | 14,544,250.30 | 1,674,066.94 | 40.0480420 | -104.8797580 | |
| 11,290.00 | 87.95 | 359.63 | 7,451.90 | 3,705.23 | -204.85 | 14,544,339.21 | 1,674,066.27 | 40.0482862 | -104.8797600 | |
| 11,379.00 | 88.49 | 0.43 | 7,454.67 | 3,794.19 | -204.80 | 14,544,428.16 | 1,674,066.20 | 40.0485305 | -104.8797598 | |
| 11,467.00 | 89.46 | 0.29 | 7,456.24 | 3,882.17 | -204.25 | 14,544,516.15 | 1,674,066.63 | 40.0487721 | -104.8797578 | |

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|------------------|--------------------------------------|-------------------------------------|---|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well Marrs 3N-10HZ |
| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| Survey | | | | | | | | | | |
|---|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|------------|--------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 11,556.00 | 88.26 | 0.83 | 7,458.01 | 3,971.15 | -203.38 | 14,544,605.12 | 1,674,067.38 | 40.0490164 | -104.8797547 | |
| 11,645.00 | 88.49 | 359.94 | 7,460.54 | 4,060.11 | -202.78 | 14,544,694.08 | 1,674,067.85 | 40.0492607 | -104.8797526 | |
| 11,734.00 | 88.99 | 0.31 | 7,462.49 | 4,149.08 | -202.59 | 14,544,783.06 | 1,674,067.93 | 40.0495051 | -104.8797519 | |
| 11,823.00 | 90.47 | 0.02 | 7,462.91 | 4,238.08 | -202.33 | 14,544,872.06 | 1,674,068.06 | 40.0497495 | -104.8797510 | |
| 11,912.00 | 91.78 | 359.85 | 7,461.16 | 4,327.06 | -202.43 | 14,544,961.04 | 1,674,067.84 | 40.0499938 | -104.8797513 | |
| 12,001.00 | 91.51 | 359.76 | 7,458.61 | 4,416.02 | -202.73 | 14,545,050.00 | 1,674,067.42 | 40.0502382 | -104.8797524 | |
| 12,089.00 | 90.07 | 358.11 | 7,457.40 | 4,503.99 | -204.37 | 14,545,137.97 | 1,674,065.66 | 40.0504797 | -104.8797583 | |
| 12,178.00 | 90.94 | 358.45 | 7,456.61 | 4,592.95 | -207.04 | 14,545,226.92 | 1,674,062.87 | 40.0507240 | -104.8797678 | |
| 12,267.00 | 88.93 | 358.64 | 7,456.71 | 4,681.92 | -209.30 | 14,545,315.88 | 1,674,060.49 | 40.0509683 | -104.8797759 | |
| 12,355.00 | 89.03 | 358.11 | 7,458.28 | 4,769.87 | -211.80 | 14,545,403.83 | 1,674,057.88 | 40.0512099 | -104.8797848 | |
| 12,444.00 | 90.60 | 358.00 | 7,458.57 | 4,858.81 | -214.82 | 14,545,492.77 | 1,674,054.73 | 40.0514541 | -104.8797956 | |
| 12,533.00 | 88.99 | 358.47 | 7,458.89 | 4,947.77 | -217.56 | 14,545,581.72 | 1,674,051.87 | 40.0516984 | -104.8798054 | |
| 12,622.00 | 88.82 | 357.72 | 7,460.59 | 5,036.70 | -220.52 | 14,545,670.65 | 1,674,048.79 | 40.0519426 | -104.8798160 | |
| 12,711.00 | 89.73 | 357.96 | 7,461.71 | 5,125.63 | -223.87 | 14,545,759.58 | 1,674,045.32 | 40.0521868 | -104.8798280 | |
| 12,800.00 | 90.13 | 357.42 | 7,461.82 | 5,214.56 | -227.46 | 14,545,848.50 | 1,674,041.61 | 40.0524310 | -104.8798408 | |
| 12,889.00 | 89.70 | 359.51 | 7,461.95 | 5,303.52 | -229.84 | 14,545,937.46 | 1,674,039.11 | 40.0526754 | -104.8798493 | |
| 12,978.00 | 90.13 | 359.88 | 7,462.08 | 5,392.52 | -230.32 | 14,546,026.45 | 1,674,038.51 | 40.0529198 | -104.8798510 | |
| 13,066.00 | 91.38 | 359.48 | 7,460.93 | 5,480.51 | -230.81 | 14,546,114.44 | 1,674,037.90 | 40.0531614 | -104.8798528 | |
| 13,155.00 | 88.66 | 0.78 | 7,460.89 | 5,569.50 | -230.60 | 14,546,203.43 | 1,674,037.98 | 40.0534058 | -104.8798520 | |
| 13,244.00 | 90.00 | 0.17 | 7,461.93 | 5,658.48 | -229.87 | 14,546,292.42 | 1,674,038.60 | 40.0536501 | -104.8798494 | |
| 13,333.00 | 90.77 | 359.52 | 7,461.34 | 5,747.48 | -230.11 | 14,546,381.42 | 1,674,038.24 | 40.0538945 | -104.8798503 | |
| 13,422.00 | 92.35 | 359.31 | 7,458.91 | 5,836.44 | -231.02 | 14,546,470.37 | 1,674,037.21 | 40.0541388 | -104.8798535 | |
| 13,511.00 | 89.90 | 359.90 | 7,457.17 | 5,925.41 | -231.63 | 14,546,559.35 | 1,674,036.47 | 40.0543832 | -104.8798557 | |
| 13,600.00 | 91.21 | 359.87 | 7,456.30 | 6,014.41 | -231.81 | 14,546,648.34 | 1,674,036.17 | 40.0546276 | -104.8798564 | |
| 13,689.00 | 90.17 | 1.96 | 7,455.23 | 6,103.38 | -230.39 | 14,546,737.32 | 1,674,037.47 | 40.0548719 | -104.8798513 | |
| 13,777.00 | 89.83 | 359.58 | 7,455.23 | 6,191.37 | -229.20 | 14,546,825.31 | 1,674,038.54 | 40.0551135 | -104.8798471 | |
| 13,866.00 | 88.96 | 356.10 | 7,456.17 | 6,280.29 | -232.56 | 14,546,914.22 | 1,674,035.06 | 40.0553577 | -104.8798591 | |
| 13,955.00 | 89.26 | 354.61 | 7,457.56 | 6,368.98 | -239.76 | 14,547,002.90 | 1,674,027.74 | 40.0556013 | -104.8798848 | |
| 14,044.00 | 88.19 | 358.68 | 7,459.54 | 6,457.79 | -244.97 | 14,547,091.70 | 1,674,022.41 | 40.0558452 | -104.8799034 | |
| 14,132.00 | 86.67 | 359.82 | 7,463.48 | 6,545.69 | -246.12 | 14,547,179.60 | 1,674,021.14 | 40.0560865 | -104.8799075 | |
| 14,221.00 | 87.01 | 359.59 | 7,468.39 | 6,634.55 | -246.58 | 14,547,268.46 | 1,674,020.56 | 40.0563306 | -104.8799092 | |
| 14,310.00 | 87.92 | 5.56 | 7,472.33 | 6,723.33 | -242.58 | 14,547,357.25 | 1,674,024.43 | 40.0565744 | -104.8798949 | |
| 14,399.00 | 88.59 | 4.72 | 7,475.04 | 6,811.93 | -234.62 | 14,547,445.86 | 1,674,032.28 | 40.0568177 | -104.8798664 | |
| 14,467.38 | 88.85 | 3.77 | 7,476.57 | 6,880.11 | -229.56 | 14,547,514.04 | 1,674,037.25 | 40.0570049 | -104.8798483 | |
| Cross 460' Line : 14467.38' MD & 7476.57' TVD 460' FNL 1809' FWL | | | | | | | | | | |
| 14,577.00 | 89.26 | 2.24 | 7,478.38 | 6,989.56 | -223.81 | 14,547,623.50 | 1,674,042.84 | 40.0573055 | -104.8798278 | |
| 14,665.00 | 89.33 | 1.41 | 7,479.46 | 7,077.50 | -221.01 | 14,547,711.45 | 1,674,045.53 | 40.0575470 | -104.8798178 | |
| 14,754.00 | 90.27 | 1.47 | 7,479.77 | 7,166.48 | -218.78 | 14,547,800.42 | 1,674,047.64 | 40.0577913 | -104.8798098 | |
| 14,843.00 | 90.77 | 0.71 | 7,478.96 | 7,255.45 | -217.08 | 14,547,889.40 | 1,674,049.21 | 40.0580357 | -104.8798038 | |
| 14,932.00 | 91.21 | 359.86 | 7,477.43 | 7,344.44 | -216.64 | 14,547,978.39 | 1,674,049.53 | 40.0582800 | -104.8798022 | |
| 15,021.00 | 92.15 | 359.64 | 7,474.82 | 7,433.40 | -217.03 | 14,548,067.35 | 1,674,049.03 | 40.0585243 | -104.8798036 | |
| 15,110.00 | 90.54 | 359.87 | 7,472.73 | 7,522.37 | -217.41 | 14,548,156.32 | 1,674,048.52 | 40.0587687 | -104.8798049 | |
| 15,199.00 | 91.85 | 359.88 | 7,470.87 | 7,611.35 | -217.60 | 14,548,245.30 | 1,674,048.21 | 40.0590130 | -104.8798056 | |
| 15,288.00 | 90.70 | 0.03 | 7,468.89 | 7,700.33 | -217.67 | 14,548,334.27 | 1,674,048.02 | 40.0592574 | -104.8798059 | |
| 15,377.00 | 91.17 | 358.55 | 7,467.44 | 7,789.30 | -218.77 | 14,548,423.25 | 1,674,046.80 | 40.0595017 | -104.8798098 | |
| 15,466.00 | 92.69 | 357.89 | 7,464.44 | 7,878.21 | -221.54 | 14,548,512.15 | 1,674,043.91 | 40.0597459 | -104.8798197 | |
| 15,554.00 | 93.09 | 357.03 | 7,460.01 | 7,966.01 | -225.43 | 14,548,599.94 | 1,674,039.90 | 40.0599870 | -104.8798336 | |
| 15,643.00 | 93.49 | 356.09 | 7,454.90 | 8,054.70 | -230.76 | 14,548,688.63 | 1,674,034.45 | 40.0602305 | -104.8798527 | |
| Last SDI MWD Survey | | | | | | | | | | |
| 15,728.00 | 93.49 | 356.09 | 7,449.72 | 8,139.35 | -236.55 | 14,548,773.27 | 1,674,028.55 | 40.0604630 | -104.8798734 | |
| Projection to TD : 797' FSL 1803' FWL Sec 10 | | | | | | | | | | |

| | | | |
|------------------|--------------------------------------|-------------------------------------|---|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well Marrs 3N-10HZ |
| Project: | US Rockies Wattenberg Planning UTM83 | TVD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Site: | 1N-67W-22 Marrs 6-22HZ Pad | MD Reference: | GL 4981' & KB 17' @ 4998.00ft (Xtreme 24) |
| Well: | Marrs 3N-10HZ | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Denver Sales Office |

| Design Targets | | | | | | | | | |
|--|-----------|----------|----------|--------|---------|---------------|--------------|------------|--------------|
| Target Name | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| - hit/miss target | (°) | (°) | (ft) | (ft) | (ft) | (usft) | (usft) | | |
| - Shape | | | | | | | | | |
| Marrs 3N-10HZ LP | 0.00 | 0.00 | 7,447.00 | 328.09 | -209.36 | 14,540,962.07 | 1,674,066.35 | 40.0390120 | -104.8797760 |
| - actual wellpath misses target center by 30.34ft at 7912.69ft MD (7417.28 TVD, 331.46 N, -214.47 E) | | | | | | | | | |
| - Point | | | | | | | | | |

| Casing Points | | | | | |
|----------------|----------------|-------------------|-----------------|---------------|--|
| Measured Depth | Vertical Depth | Name | Casing Diameter | Hole Diameter | |
| (ft) | (ft) | | (in) | (in) | |
| 1,877.00 | 1,843.23 | Surface Casing | 9.625 | 12.250 | |
| 15,728.00 | 7,449.72 | Production Casing | 5.500 | 8.500 | |

| Design Annotations | | | | | |
|--------------------|----------------|-------------------|---------|--|--|
| Measured Depth | Vertical Depth | Local Coordinates | | Comment | |
| (ft) | (ft) | +N/-S | +E/-W | | |
| (ft) | (ft) | (ft) | (ft) | | |
| 126.00 | 126.00 | 0.32 | 0.37 | First Total MWD Survey | |
| 1,837.00 | 1,804.74 | -210.05 | -141.94 | Last Total MWD Survey | |
| 1,943.00 | 1,906.69 | -234.32 | -157.89 | First SDI MWD Survey | |
| 6,687.00 | 6,622.09 | -420.91 | -192.02 | Curve KOP | |
| 6,763.00 | 6,697.81 | -416.27 | -187.84 | First SDI MWD Curve Survey | |
| 7,454.86 | 7,290.42 | -104.16 | -178.19 | Enter Land Box : 7454.86' MD & 7290.42' TVD | |
| 8,005.00 | 7,426.84 | 423.07 | -220.66 | Last SDI MWD Curve Survey | |
| 8,093.00 | 7,434.05 | 510.68 | -224.53 | First SDI MWD Lateral Survey | |
| 8,155.00 | 7,438.26 | 572.52 | -225.66 | Landing Point : 1502' FNL 1783' FWL Sec 22 | |
| 8,796.51 | 7,444.28 | 1,213.33 | -215.49 | Cross 460' Line : 8796.51' MD & 7444.28' TVD 862' FNL 1795' FWL | |
| 14,467.38 | 7,476.57 | 6,880.11 | -229.56 | Cross 460' Line : 14467.38' MD & 7476.57' TVD 460' FNL 1809' FWL | |
| 15,643.00 | 7,454.90 | 8,054.70 | -230.76 | Last SDI MWD Survey | |
| 15,728.00 | 7,449.72 | 8,139.35 | -236.55 | Projection to TD : 797' FSL 1803' FWL Sec 10 | |

Checked By: _____ Approved By: _____ Date: _____