

US ROCKIES WATTENBERG PLANNING



Project: WELD-NAD83-UTMFT13N

Site: 4N-68W-26 Wilson Ranch 8-26HZ

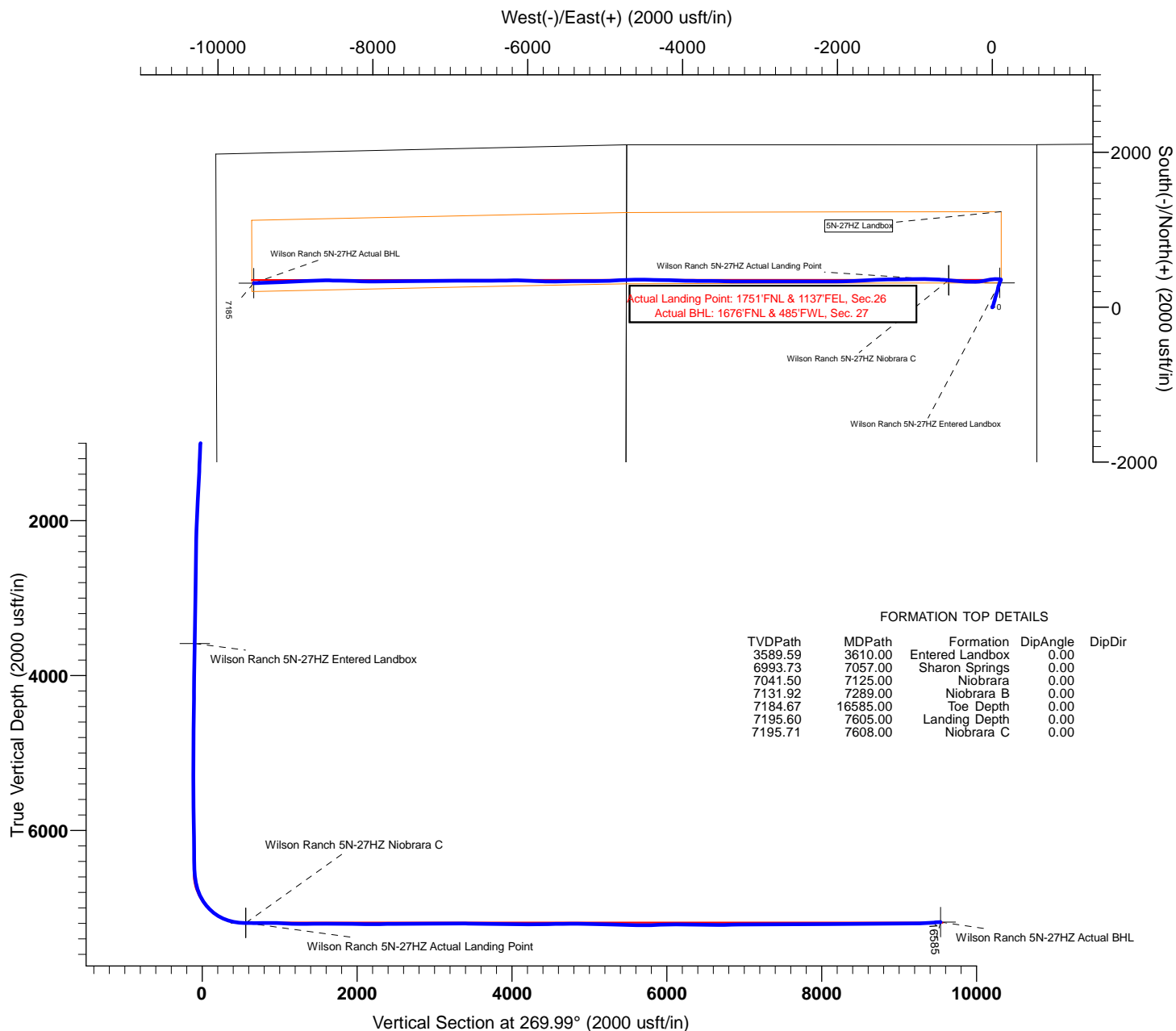
Well: Wilson Ranch 5N-27HZ

Wellbore: Wilson Ranch 5N-27HZ

Design: Actual Surveys

CASING DETAILS

| TVD | MD | Name | Size |
|---------|----------|--------|-------|
| 1832.35 | 1846.88 | 9 5/8 | 9-5/8 |
| 7185.51 | 16574.00 | 5 1/2" | 5-1/2 |



FORMATION TOP DETAILS

| TVDPath | MDPath | Formation | DipAngle | DipDir |
|---------|----------|-----------------|----------|--------|
| 3589.59 | 3610.00 | Entered Landbox | 0.00 | |
| 6993.73 | 7057.00 | Sharon Springs | 0.00 | |
| 7041.50 | 7125.00 | Niobrara | 0.00 | |
| 7131.92 | 7289.00 | Niobrara B | 0.00 | |
| 7184.67 | 16585.00 | Toe Depth | 0.00 | |
| 7195.60 | 7605.00 | Landing Depth | 0.00 | |
| 7195.71 | 7608.00 | Niobrara C | 0.00 | |

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---|---------|--------|----------|-------------|------------|-----------|-------------|-------|
| Wilson Ranch 5N-27HZ Entered Landbox | 3589.59 | 315.52 | 95.06 | 14631250.03 | 1650891.45 | 40.287009 | -104.962439 | Point |
| Wilson Ranch 5N-27HZ Actual BHL | 7184.67 | 310.96 | -9536.70 | 14631241.42 | 1641259.70 | 40.286992 | -104.996977 | Point |
| Wilson Ranch 5N-27HZ Actual Landing Point | 7195.60 | 347.83 | -561.63 | 14631282.06 | 1650234.74 | 40.287098 | -104.964794 | Point |
| Wilson Ranch 5N-27HZ Niobrara C | 7195.71 | 348.12 | -564.62 | 14631282.35 | 1650231.76 | 40.287099 | -104.964805 | Point |



US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

4N-68W-26 Wilson Ranch 8-26HZ

Wilson Ranch 5N-27HZ

Wilson Ranch 5N-27HZ

Design: Actual Surveys

Standard Survey Report

06 January, 2016

PDD

Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | WELD-NAD83-UTMFT13N | | |
| 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 | 4N-68W-26 Wilson Ranch 8-26HZ, centered on 3N-25HZ | | | | |
| Site Position: | | Northing: | 14,630,963.58 usft | Latitude: | 40.286223 |
| From: | Lat/Long | Easting: | 1,650,762.21 usft | Longitude: | -104.962903 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | 0.02 ° |

| | | | | | | |
|----------------------|--|-----------|---------------------|--------------------|---------------|---------------|
| Well | Wilson Ranch 5N-27HZ, 2099 FNL 575 FEL | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 14,630,934.46 usft | Latitude: | 40.286143 |
| | +E/-W | 0.00 usft | Easting: | 1,650,796.52 usft | Longitude: | -104.962780 |
| Position Uncertainty | | 3.28 usft | Wellhead Elevation: | 0.00 usft | Ground Level: | 4,992.00 usft |

| | | | | | |
|------------------|----------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wilson Ranch 5N-27HZ | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 11/30/2015 | 8.36 | 66.77 | 52,580 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| Design | Actual Surveys | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 269.99 | |

| | | | | | |
|-----------------------|------------------|--------------------------------------|-----------------------|---|--|
| Survey Program | Date | 1/6/2016 | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 98.00 | 1,798.00 | SDI MWD Surveys (Wilson Ranch 5N-27H | APC_ISCWSA REV 2 MWD | Fixed:v2:standard declination | |
| 1,956.00 | 16,516.00 | PDD MWD+IFR+MSA (Wilson Ranch 5N-2 | APC_ISCWSA REV 2 MWD+ | Fixed:v2:Rockies, crustal dec + 3-axis correction | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| Survey | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 98.00 | 0.35 | 123.66 | 98.00 | -0.17 | 0.25 | -0.25 | 0.36 | 0.36 | 0.00 | |
| 189.00 | 1.38 | 23.10 | 188.99 | 0.69 | 0.91 | -0.91 | 1.63 | 1.13 | -110.51 | |
| 280.00 | 2.61 | 25.67 | 279.93 | 3.56 | 2.24 | -2.24 | 1.35 | 1.35 | 2.82 | |
| 386.00 | 3.72 | 24.67 | 385.77 | 8.86 | 4.72 | -4.72 | 1.05 | 1.05 | -0.94 | |
| 476.00 | 4.03 | 22.36 | 475.56 | 14.44 | 7.14 | -7.14 | 0.39 | 0.34 | -2.57 | |
| 566.00 | 4.24 | 22.99 | 565.33 | 20.43 | 9.64 | -9.65 | 0.24 | 0.23 | 0.70 | |
| 656.00 | 5.26 | 19.71 | 655.02 | 27.38 | 12.33 | -12.34 | 1.17 | 1.13 | -3.64 | |
| 746.00 | 6.07 | 16.38 | 744.58 | 35.83 | 15.07 | -15.07 | 0.97 | 0.90 | -3.70 | |
| 836.00 | 6.28 | 15.46 | 834.06 | 45.13 | 17.72 | -17.73 | 0.26 | 0.23 | -1.02 | |

PDD

Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 926.00 | 6.46 | 12.73 | 923.50 | 54.82 | 20.15 | -20.16 | 0.39 | 0.20 | -3.03 |
| 1,016.00 | 7.67 | 16.77 | 1,012.82 | 65.51 | 23.00 | -23.01 | 1.45 | 1.34 | 4.49 |
| 1,106.00 | 8.24 | 17.42 | 1,101.95 | 77.41 | 26.66 | -26.68 | 0.64 | 0.63 | 0.72 |
| 1,196.00 | 8.48 | 17.23 | 1,190.99 | 89.90 | 30.56 | -30.57 | 0.27 | 0.27 | -0.21 |
| 1,287.00 | 9.33 | 13.81 | 1,280.90 | 103.48 | 34.31 | -34.32 | 1.10 | 0.93 | -3.76 |
| 1,377.00 | 9.84 | 12.31 | 1,369.64 | 118.07 | 37.69 | -37.71 | 0.63 | 0.57 | -1.67 |
| 1,467.00 | 10.88 | 14.68 | 1,458.17 | 133.80 | 41.48 | -41.50 | 1.25 | 1.16 | 2.63 |
| 1,557.00 | 10.44 | 17.38 | 1,546.62 | 149.80 | 46.07 | -46.09 | 0.74 | -0.49 | 3.00 |
| 1,647.00 | 9.90 | 14.82 | 1,635.21 | 165.06 | 50.48 | -50.51 | 0.78 | -0.60 | -2.84 |
| 1,737.00 | 9.38 | 19.73 | 1,723.94 | 179.45 | 54.94 | -54.97 | 1.08 | -0.58 | 5.46 |
| 1,798.00 | 9.42 | 18.52 | 1,784.12 | 188.86 | 58.20 | -58.23 | 0.33 | 0.07 | -1.98 |
| 1,956.00 | 9.12 | 18.83 | 1,940.05 | 212.97 | 66.35 | -66.39 | 0.19 | -0.19 | 0.20 |
| 2,145.00 | 7.10 | 11.34 | 2,127.16 | 238.60 | 73.48 | -73.52 | 1.20 | -1.07 | -3.96 |
| 2,335.00 | 4.99 | 6.97 | 2,316.09 | 258.32 | 76.79 | -76.84 | 1.14 | -1.11 | -2.30 |
| 2,525.00 | 2.78 | 13.63 | 2,505.65 | 271.00 | 78.88 | -78.93 | 1.19 | -1.16 | 3.51 |
| 2,715.00 | 2.60 | 34.09 | 2,695.44 | 279.05 | 82.38 | -82.43 | 0.51 | -0.09 | 10.77 |
| 2,902.00 | 2.11 | 23.25 | 2,882.28 | 285.73 | 86.12 | -86.17 | 0.35 | -0.26 | -5.80 |
| 3,091.00 | 2.33 | 13.54 | 3,071.14 | 292.66 | 88.39 | -88.44 | 0.23 | 0.12 | -5.14 |
| 3,281.00 | 2.43 | 11.63 | 3,260.98 | 300.36 | 90.11 | -90.16 | 0.07 | 0.05 | -1.01 |
| 3,471.00 | 2.82 | 18.00 | 3,450.78 | 308.75 | 92.37 | -92.42 | 0.26 | 0.21 | 3.35 |
| 3,660.00 | 3.35 | 26.96 | 3,639.51 | 318.09 | 96.31 | -96.36 | 0.38 | 0.28 | 4.74 |
| 3,850.00 | 2.82 | 19.06 | 3,829.23 | 327.46 | 100.35 | -100.41 | 0.36 | -0.28 | -4.16 |
| 4,040.00 | 2.13 | 16.90 | 4,019.05 | 335.25 | 102.90 | -102.96 | 0.37 | -0.36 | -1.14 |
| 4,230.00 | 2.71 | 8.70 | 4,208.88 | 343.07 | 104.61 | -104.67 | 0.35 | 0.31 | -4.32 |
| 4,417.00 | 1.66 | 33.39 | 4,395.75 | 349.70 | 106.77 | -106.83 | 0.74 | -0.56 | 13.20 |
| 4,606.00 | 0.64 | 62.79 | 4,584.71 | 352.47 | 109.21 | -109.27 | 0.61 | -0.54 | 15.56 |
| 4,794.00 | 0.80 | 57.15 | 4,772.69 | 353.67 | 111.25 | -111.31 | 0.09 | 0.09 | -3.00 |
| 4,980.00 | 0.56 | 34.25 | 4,958.68 | 355.12 | 112.85 | -112.91 | 0.19 | -0.13 | -12.31 |
| 5,167.00 | 0.28 | 20.64 | 5,145.68 | 356.30 | 113.53 | -113.59 | 0.16 | -0.15 | -7.28 |
| 5,356.00 | 0.20 | 297.41 | 5,334.67 | 356.89 | 113.40 | -113.46 | 0.17 | -0.04 | -44.04 |
| 5,544.00 | 0.54 | 319.25 | 5,522.67 | 357.71 | 112.53 | -112.59 | 0.19 | 0.18 | 11.62 |
| 5,732.00 | 0.79 | 280.36 | 5,710.66 | 358.61 | 110.67 | -110.74 | 0.27 | 0.13 | -20.69 |
| 5,922.00 | 0.75 | 276.67 | 5,900.64 | 358.99 | 108.15 | -108.21 | 0.03 | -0.02 | -1.94 |
| 6,113.00 | 0.65 | 276.38 | 6,091.63 | 359.26 | 105.83 | -105.89 | 0.05 | -0.05 | -0.15 |
| 6,303.00 | 0.79 | 277.98 | 6,281.61 | 359.56 | 103.46 | -103.53 | 0.07 | 0.07 | 0.84 |
| 6,492.00 | 0.76 | 271.92 | 6,470.59 | 359.78 | 100.92 | -100.98 | 0.05 | -0.02 | -3.21 |
| 6,587.00 | 2.91 | 273.63 | 6,565.54 | 359.96 | 97.88 | -97.95 | 2.26 | 2.26 | 1.80 |
| 6,682.00 | 12.15 | 275.90 | 6,659.62 | 361.14 | 85.51 | -85.57 | 9.73 | 9.73 | 2.39 |
| 6,778.00 | 17.07 | 279.30 | 6,752.49 | 364.46 | 61.54 | -61.60 | 5.20 | 5.13 | 3.54 |
| 6,872.00 | 25.17 | 264.54 | 6,840.16 | 364.79 | 27.94 | -28.01 | 10.25 | 8.62 | -15.70 |
| 6,967.00 | 33.91 | 259.28 | 6,922.75 | 357.92 | -18.30 | 18.24 | 9.59 | 9.20 | -5.54 |
| 7,062.00 | 42.28 | 259.58 | 6,997.44 | 347.19 | -75.87 | 75.81 | 8.81 | 8.81 | 0.32 |
| 7,155.00 | 52.09 | 261.13 | 7,060.57 | 335.85 | -143.05 | 142.99 | 10.62 | 10.55 | 1.67 |

PDD

Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| Survey | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 7,251.00 | 60.22 | 268.59 | 7,114.05 | 328.97 | -222.33 | 222.27 | 10.64 | 8.47 | 7.77 | |
| 7,346.00 | 68.85 | 272.47 | 7,154.87 | 329.86 | -307.99 | 307.93 | 9.80 | 9.08 | 4.08 | |
| 7,441.00 | 78.99 | 273.17 | 7,181.15 | 334.36 | -399.04 | 398.98 | 10.70 | 10.67 | 0.74 | |
| 7,536.00 | 87.16 | 275.33 | 7,192.59 | 341.36 | -493.00 | 492.94 | 8.89 | 8.60 | 2.27 | |
| 7,632.00 | 88.12 | 275.49 | 7,196.55 | 350.40 | -588.49 | 588.43 | 1.01 | 1.00 | 0.17 | |
| 7,727.00 | 89.45 | 272.68 | 7,198.56 | 357.17 | -683.22 | 683.16 | 3.27 | 1.40 | -2.96 | |
| 7,823.00 | 91.37 | 272.55 | 7,197.87 | 361.55 | -779.11 | 779.05 | 2.00 | 2.00 | -0.14 | |
| 7,917.00 | 90.81 | 271.48 | 7,196.09 | 364.85 | -873.04 | 872.97 | 1.28 | -0.60 | -1.14 | |
| 8,012.00 | 87.31 | 269.00 | 7,197.64 | 365.25 | -968.00 | 967.94 | 4.51 | -3.68 | -2.61 | |
| 8,107.00 | 87.25 | 268.59 | 7,202.15 | 363.26 | -1,062.87 | 1,062.81 | 0.44 | -0.06 | -0.43 | |
| 8,202.00 | 87.33 | 268.73 | 7,206.64 | 361.04 | -1,157.74 | 1,157.68 | 0.17 | 0.08 | 0.15 | |
| 8,298.00 | 89.52 | 269.80 | 7,209.28 | 359.81 | -1,253.69 | 1,253.63 | 2.54 | 2.28 | 1.11 | |
| 8,393.00 | 91.34 | 269.31 | 7,208.57 | 359.07 | -1,348.68 | 1,348.62 | 1.98 | 1.92 | -0.52 | |
| 8,487.00 | 89.92 | 267.20 | 7,207.54 | 356.21 | -1,442.62 | 1,442.56 | 2.71 | -1.51 | -2.24 | |
| 8,581.00 | 90.38 | 266.48 | 7,207.29 | 351.03 | -1,536.48 | 1,536.42 | 0.91 | 0.49 | -0.77 | |
| 8,675.00 | 89.36 | 267.61 | 7,207.50 | 346.18 | -1,630.35 | 1,630.29 | 1.62 | -1.09 | 1.20 | |
| 8,770.00 | 91.16 | 267.34 | 7,207.07 | 341.99 | -1,725.25 | 1,725.19 | 1.92 | 1.89 | -0.28 | |
| 8,866.00 | 89.79 | 268.06 | 7,206.28 | 338.14 | -1,821.17 | 1,821.11 | 1.61 | -1.43 | 0.75 | |
| 8,960.00 | 88.43 | 268.90 | 7,207.74 | 335.65 | -1,915.12 | 1,915.06 | 1.70 | -1.45 | 0.89 | |
| 9,055.00 | 88.69 | 268.64 | 7,210.12 | 333.61 | -2,010.07 | 2,010.01 | 0.39 | 0.27 | -0.27 | |
| 9,150.00 | 90.46 | 270.55 | 7,210.83 | 332.94 | -2,105.06 | 2,105.00 | 2.74 | 1.86 | 2.01 | |
| 9,245.00 | 90.13 | 269.87 | 7,210.34 | 333.29 | -2,200.05 | 2,200.00 | 0.80 | -0.35 | -0.72 | |
| 9,341.00 | 89.68 | 269.31 | 7,210.50 | 332.60 | -2,296.05 | 2,295.99 | 0.75 | -0.47 | -0.58 | |
| 9,436.00 | 91.01 | 271.05 | 7,209.93 | 332.90 | -2,391.04 | 2,390.98 | 2.31 | 1.40 | 1.83 | |
| 9,531.00 | 89.95 | 269.62 | 7,209.13 | 333.45 | -2,486.03 | 2,485.98 | 1.87 | -1.12 | -1.51 | |
| 9,626.00 | 90.76 | 268.89 | 7,208.54 | 332.22 | -2,581.02 | 2,580.96 | 1.15 | 0.85 | -0.77 | |
| 9,721.00 | 91.05 | 270.62 | 7,207.04 | 331.81 | -2,676.01 | 2,675.95 | 1.85 | 0.31 | 1.82 | |
| 9,816.00 | 90.10 | 270.57 | 7,206.09 | 332.80 | -2,770.99 | 2,770.94 | 1.00 | -1.00 | -0.05 | |
| 9,911.00 | 90.66 | 269.64 | 7,205.46 | 332.97 | -2,865.99 | 2,865.93 | 1.14 | 0.59 | -0.98 | |
| 10,006.00 | 89.32 | 270.93 | 7,205.48 | 333.45 | -2,960.99 | 2,960.93 | 1.96 | -1.41 | 1.36 | |
| 10,101.00 | 90.09 | 270.16 | 7,205.96 | 334.35 | -3,055.98 | 3,055.92 | 1.15 | 0.81 | -0.81 | |
| 10,196.00 | 91.14 | 269.94 | 7,204.94 | 334.43 | -3,150.97 | 3,150.91 | 1.13 | 1.11 | -0.23 | |
| 10,291.00 | 89.53 | 269.86 | 7,204.39 | 334.27 | -3,245.97 | 3,245.91 | 1.70 | -1.69 | -0.08 | |
| 10,385.00 | 90.86 | 269.58 | 7,204.07 | 333.81 | -3,339.96 | 3,339.90 | 1.45 | 1.41 | -0.30 | |
| 10,479.00 | 88.65 | 271.46 | 7,204.47 | 334.66 | -3,433.95 | 3,433.89 | 3.09 | -2.35 | 2.00 | |
| 10,572.00 | 88.69 | 270.89 | 7,206.63 | 336.57 | -3,526.90 | 3,526.84 | 0.61 | 0.04 | -0.61 | |
| 10,668.00 | 89.59 | 271.16 | 7,208.07 | 338.28 | -3,622.88 | 3,622.82 | 0.98 | 0.94 | 0.28 | |
| 10,762.00 | 89.55 | 270.32 | 7,208.78 | 339.50 | -3,716.86 | 3,716.81 | 0.89 | -0.04 | -0.89 | |
| 10,858.00 | 89.10 | 270.02 | 7,209.91 | 339.78 | -3,812.86 | 3,812.80 | 0.56 | -0.47 | -0.31 | |
| 10,951.00 | 89.21 | 271.79 | 7,211.28 | 341.25 | -3,905.83 | 3,905.77 | 1.91 | 0.12 | 1.90 | |
| 11,047.00 | 89.51 | 271.34 | 7,212.35 | 343.87 | -4,001.79 | 4,001.73 | 0.56 | 0.31 | -0.47 | |
| 11,142.00 | 89.77 | 271.81 | 7,212.95 | 346.48 | -4,096.75 | 4,096.69 | 0.57 | 0.27 | 0.49 | |
| 11,237.00 | 89.85 | 271.53 | 7,213.26 | 349.25 | -4,191.71 | 4,191.65 | 0.31 | 0.08 | -0.29 | |

PDD

Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| Survey | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 11,331.00 | 89.65 | 271.17 | 7,213.67 | 351.47 | -4,285.68 | 4,285.62 | 0.44 | -0.21 | -0.38 | |
| 11,424.00 | 91.07 | 271.93 | 7,213.09 | 353.98 | -4,378.64 | 4,378.58 | 1.73 | 1.53 | 0.82 | |
| 11,517.00 | 90.84 | 270.48 | 7,211.54 | 355.94 | -4,471.61 | 4,471.55 | 1.58 | -0.25 | -1.56 | |
| 11,611.00 | 91.08 | 269.76 | 7,209.96 | 356.13 | -4,565.59 | 4,565.53 | 0.81 | 0.26 | -0.77 | |
| 11,705.00 | 91.25 | 268.47 | 7,208.05 | 354.68 | -4,659.56 | 4,659.50 | 1.38 | 0.18 | -1.37 | |
| 11,800.00 | 90.87 | 266.81 | 7,206.30 | 350.77 | -4,754.46 | 4,754.40 | 1.79 | -0.40 | -1.75 | |
| 11,894.00 | 88.82 | 267.58 | 7,206.55 | 346.17 | -4,848.34 | 4,848.28 | 2.33 | -2.18 | 0.82 | |
| 11,989.00 | 88.72 | 266.88 | 7,208.59 | 341.58 | -4,943.21 | 4,943.15 | 0.74 | -0.11 | -0.74 | |
| 12,084.00 | 88.62 | 269.52 | 7,210.79 | 338.60 | -5,038.13 | 5,038.07 | 2.78 | -0.11 | 2.78 | |
| 12,179.00 | 90.30 | 269.68 | 7,211.69 | 337.94 | -5,133.12 | 5,133.06 | 1.78 | 1.77 | 0.17 | |
| 12,274.00 | 87.74 | 269.91 | 7,213.31 | 337.60 | -5,228.10 | 5,228.04 | 2.71 | -2.69 | 0.24 | |
| 12,369.00 | 87.59 | 269.49 | 7,217.18 | 337.10 | -5,323.02 | 5,322.96 | 0.47 | -0.16 | -0.44 | |
| 12,465.00 | 88.14 | 269.33 | 7,220.76 | 336.11 | -5,418.94 | 5,418.88 | 0.60 | 0.57 | -0.17 | |
| 12,559.00 | 88.76 | 269.23 | 7,223.30 | 334.93 | -5,512.90 | 5,512.84 | 0.67 | 0.66 | -0.11 | |
| 12,655.00 | 89.75 | 268.88 | 7,224.55 | 333.35 | -5,608.88 | 5,608.82 | 1.09 | 1.03 | -0.36 | |
| 12,750.00 | 89.67 | 269.77 | 7,225.03 | 332.23 | -5,703.87 | 5,703.81 | 0.94 | -0.08 | 0.94 | |
| 12,845.00 | 91.54 | 272.44 | 7,224.03 | 334.06 | -5,798.83 | 5,798.78 | 3.43 | 1.97 | 2.81 | |
| 12,940.00 | 92.29 | 272.18 | 7,220.85 | 337.89 | -5,893.70 | 5,893.64 | 0.84 | 0.79 | -0.27 | |
| 13,035.00 | 91.75 | 273.06 | 7,217.51 | 342.23 | -5,988.54 | 5,988.48 | 1.09 | -0.57 | 0.93 | |
| 13,130.00 | 91.17 | 271.31 | 7,215.09 | 345.85 | -6,083.44 | 6,083.38 | 1.94 | -0.61 | -1.84 | |
| 13,224.00 | 88.54 | 269.76 | 7,215.32 | 346.72 | -6,177.42 | 6,177.36 | 3.25 | -2.80 | -1.65 | |
| 13,318.00 | 88.92 | 269.26 | 7,217.41 | 345.92 | -6,271.40 | 6,271.34 | 0.67 | 0.40 | -0.53 | |
| 13,414.00 | 89.56 | 269.25 | 7,218.68 | 344.67 | -6,367.38 | 6,367.32 | 0.67 | 0.67 | -0.01 | |
| 13,509.00 | 89.52 | 269.73 | 7,219.44 | 343.83 | -6,462.37 | 6,462.31 | 0.51 | -0.04 | 0.51 | |
| 13,604.00 | 89.49 | 269.28 | 7,220.26 | 343.01 | -6,557.37 | 6,557.31 | 0.47 | -0.03 | -0.47 | |
| 13,697.00 | 90.15 | 269.70 | 7,220.56 | 342.18 | -6,650.36 | 6,650.30 | 0.84 | 0.71 | 0.45 | |
| 13,791.00 | 90.40 | 269.80 | 7,220.10 | 341.77 | -6,744.36 | 6,744.30 | 0.29 | 0.27 | 0.11 | |
| 13,885.00 | 90.92 | 270.24 | 7,219.02 | 341.80 | -6,838.35 | 6,838.29 | 0.72 | 0.55 | 0.47 | |
| 13,979.00 | 91.72 | 270.31 | 7,216.86 | 342.25 | -6,932.33 | 6,932.27 | 0.85 | 0.85 | 0.07 | |
| 14,074.00 | 89.19 | 269.82 | 7,216.10 | 342.36 | -7,027.31 | 7,027.25 | 2.71 | -2.66 | -0.52 | |
| 14,167.00 | 89.78 | 269.69 | 7,216.94 | 341.96 | -7,120.31 | 7,120.25 | 0.65 | 0.63 | -0.14 | |
| 14,259.00 | 90.24 | 269.21 | 7,216.92 | 341.08 | -7,212.30 | 7,212.24 | 0.72 | 0.50 | -0.52 | |
| 14,352.00 | 90.48 | 269.05 | 7,216.34 | 339.67 | -7,305.29 | 7,305.23 | 0.31 | 0.26 | -0.17 | |
| 14,445.00 | 91.37 | 269.14 | 7,214.84 | 338.20 | -7,398.27 | 7,398.21 | 0.96 | 0.96 | 0.10 | |
| 14,538.00 | 89.82 | 269.71 | 7,213.87 | 337.27 | -7,491.25 | 7,491.20 | 1.78 | -1.67 | 0.61 | |
| 14,632.00 | 90.06 | 269.39 | 7,213.97 | 336.53 | -7,585.25 | 7,585.19 | 0.43 | 0.26 | -0.34 | |
| 14,724.00 | 90.23 | 268.95 | 7,213.74 | 335.19 | -7,677.24 | 7,677.18 | 0.51 | 0.18 | -0.48 | |
| 14,818.00 | 91.57 | 269.44 | 7,212.26 | 333.87 | -7,771.22 | 7,771.16 | 1.52 | 1.43 | 0.52 | |
| 14,911.00 | 89.47 | 269.93 | 7,211.42 | 333.36 | -7,864.21 | 7,864.15 | 2.32 | -2.26 | 0.53 | |
| 15,005.00 | 90.30 | 269.82 | 7,211.60 | 333.16 | -7,958.21 | 7,958.15 | 0.89 | 0.88 | -0.12 | |
| 15,100.00 | 91.14 | 271.11 | 7,210.41 | 333.93 | -8,053.19 | 8,053.13 | 1.62 | 0.88 | 1.36 | |
| 15,194.00 | 89.87 | 271.27 | 7,209.58 | 335.88 | -8,147.17 | 8,147.11 | 1.36 | -1.35 | 0.17 | |
| 15,286.00 | 90.41 | 271.91 | 7,209.36 | 338.43 | -8,239.13 | 8,239.07 | 0.91 | 0.59 | 0.70 | |
| 15,380.00 | 91.11 | 272.06 | 7,208.11 | 341.69 | -8,333.06 | 8,333.00 | 0.76 | 0.74 | 0.16 | |

PDD Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 15,472.00 | 89.39 | 270.83 | 7,207.71 | 344.01 | -8,425.03 | 8,424.97 | 2.30 | -1.87 | -1.34 |
| 15,566.00 | 90.17 | 271.31 | 7,208.07 | 345.76 | -8,519.01 | 8,518.95 | 0.97 | 0.83 | 0.51 |
| 15,658.00 | 90.36 | 269.97 | 7,207.64 | 346.79 | -8,611.00 | 8,610.94 | 1.47 | 0.21 | -1.46 |
| 15,752.00 | 89.94 | 268.11 | 7,207.40 | 345.22 | -8,704.98 | 8,704.92 | 2.03 | -0.45 | -1.98 |
| 15,845.00 | 91.12 | 267.88 | 7,206.54 | 341.96 | -8,797.92 | 8,797.86 | 1.29 | 1.27 | -0.25 |
| 15,940.00 | 91.65 | 266.48 | 7,204.24 | 337.29 | -8,892.78 | 8,892.72 | 1.58 | 0.56 | -1.47 |
| 16,033.00 | 89.27 | 267.92 | 7,203.50 | 332.75 | -8,985.65 | 8,985.59 | 2.99 | -2.56 | 1.55 |
| 16,128.00 | 90.32 | 267.74 | 7,203.84 | 329.15 | -9,080.58 | 9,080.53 | 1.12 | 1.11 | -0.19 |
| 16,222.00 | 91.29 | 267.46 | 7,202.51 | 325.22 | -9,174.49 | 9,174.43 | 1.07 | 1.03 | -0.30 |
| 16,317.00 | 91.60 | 267.84 | 7,200.12 | 321.32 | -9,269.38 | 9,269.32 | 0.52 | 0.33 | 0.40 |
| 16,411.00 | 92.81 | 267.77 | 7,196.50 | 317.72 | -9,363.24 | 9,363.18 | 1.29 | 1.29 | -0.07 |
| 16,506.00 | 94.19 | 267.98 | 7,190.70 | 314.21 | -9,457.99 | 9,457.94 | 1.47 | 1.45 | 0.22 |
| 16,516.00 | 94.39 | 267.61 | 7,189.95 | 313.82 | -9,467.96 | 9,467.90 | 4.20 | 2.00 | -3.70 |
| 16,585.00 | 94.39 | 267.61 | 7,184.67 | 310.96 | -9,536.70 | 9,536.64 | 0.00 | 0.00 | 0.00 |

| Design Targets | | | | | | | | | |
|---|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| Wilson Ranch 5N-27HZ - actual wellpath hits target center - Point | 0.00 | 0.00 | 3,589.59 | 315.52 | 95.06 | 14,631,250.03 | 1,650,891.44 | 40.287010 | -104.962439 |
| Wilson Ranch 5N-27HZ - actual wellpath hits target center - Point | 0.00 | 0.00 | 7,184.67 | 310.96 | -9,536.70 | 14,631,241.41 | 1,641,259.69 | 40.286992 | -104.996977 |
| Wilson Ranch 5N-27HZ - actual wellpath hits target center - Point | 0.00 | 0.00 | 7,195.60 | 347.83 | -561.63 | 14,631,282.06 | 1,650,234.74 | 40.287098 | -104.964794 |
| Wilson Ranch 5N-27HZ - actual wellpath hits target center - Point | 0.00 | 0.00 | 7,195.71 | 348.12 | -564.62 | 14,631,282.34 | 1,650,231.76 | 40.287099 | -104.964805 |

| Casing Points | | | | | |
|-----------------------|-----------------------|--------|---------------------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") | |
| 1,846.88 | 1,832.35 | 9 5/8 | 9-5/8 | 13-1/2 | |
| 16,574.00 | 7,185.51 | 5 1/2" | 5-1/2 | 8-1/2 | |

PDD

Survey Report

| | | | |
|------------------|--------------------------------|-------------------------------------|--|
| Company: | US ROCKIES WATTENBERG PLANNING | Local Co-ordinate Reference: | Well Wilson Ranch 5N-27HZ |
| Project: | WELD-NAD83-UTMFT13N | TVD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Site: | 4N-68W-26 Wilson Ranch 8-26HZ | MD Reference: | 4992' GL + 20' KB @ 5012.00usft (P462) |
| Well: | Wilson Ranch 5N-27HZ | North Reference: | True |
| Wellbore: | Wilson Ranch 5N-27HZ | Survey Calculation Method: | Minimum Curvature |
| Design: | Actual Surveys | Database: | EDM 5000.1 Single User Db |

| Formations | | | | | | |
|-----------------------|-----------------------|-----------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,610.00 | 3,589.59 | Entered Landbox | | 0.00 | | |
| 7,057.00 | 6,993.73 | Sharon Springs | | 0.00 | | |
| 7,125.00 | 7,041.50 | Niobrara | | 0.00 | | |
| 7,289.00 | 7,131.92 | Niobrara B | | 0.00 | | |
| 16,585.00 | 7,184.67 | Toe Depth | | 0.00 | | |
| 7,605.00 | 7,195.60 | Landing Depth | | 0.00 | | |
| 7,608.00 | 7,195.71 | Niobrara C | | 0.00 | | |

| Design Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment | |
| | | +N/-S (usft) | +E/-W (usft) | | |
| 16,585.00 | 7,184.67 | 310.96 | -9,536.70 | Projection to Bit | |

| | | |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|