

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level
Local North: True

Project: Weld County, CO NAD 83
Site: Anschutz-Willaims 5-61-27 CW2 Pad
Well: Anschutz-Willaims 5-61-27-4841B
Wellbore: OH
Design: Plan 1



Azimuths to True North
Magnetic North: 8.25°

Magnetic Field
Strength: 52359.6snT
Dip Angle: 67.07°
Date: 7/24/2017
Model: HDGM

Plan: Plan 1 (Anschutz-Willaims 5-61-27-4841B/OH)

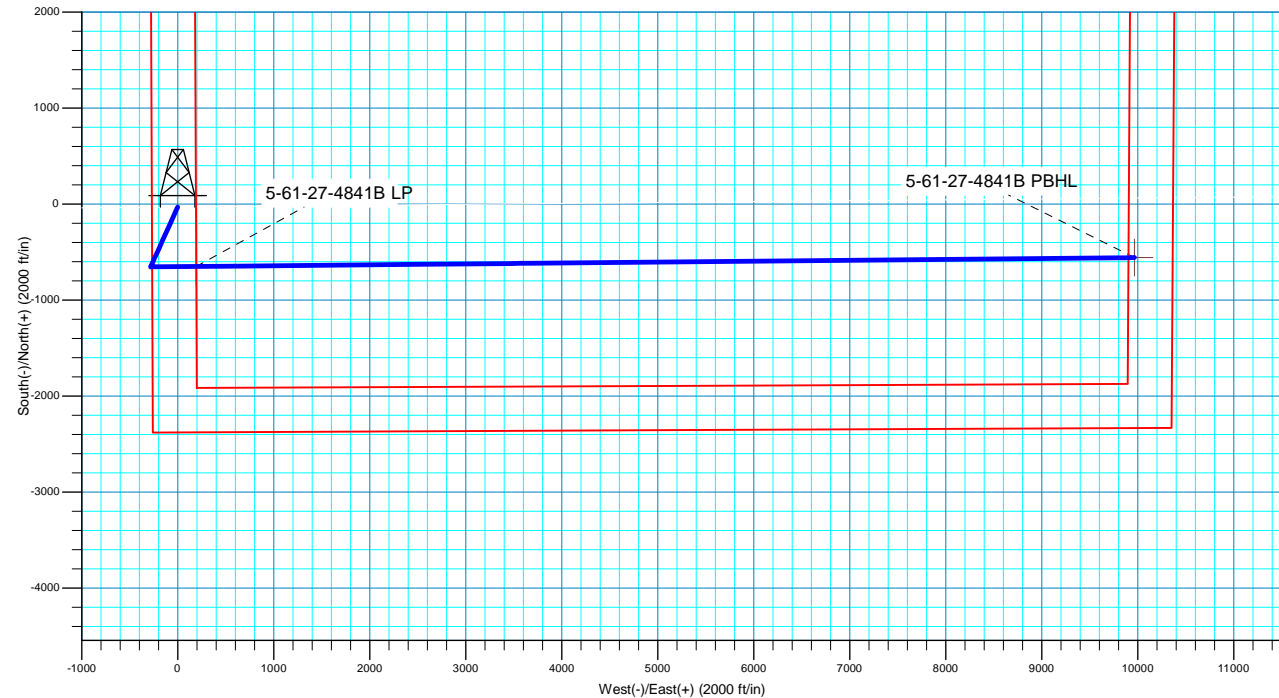
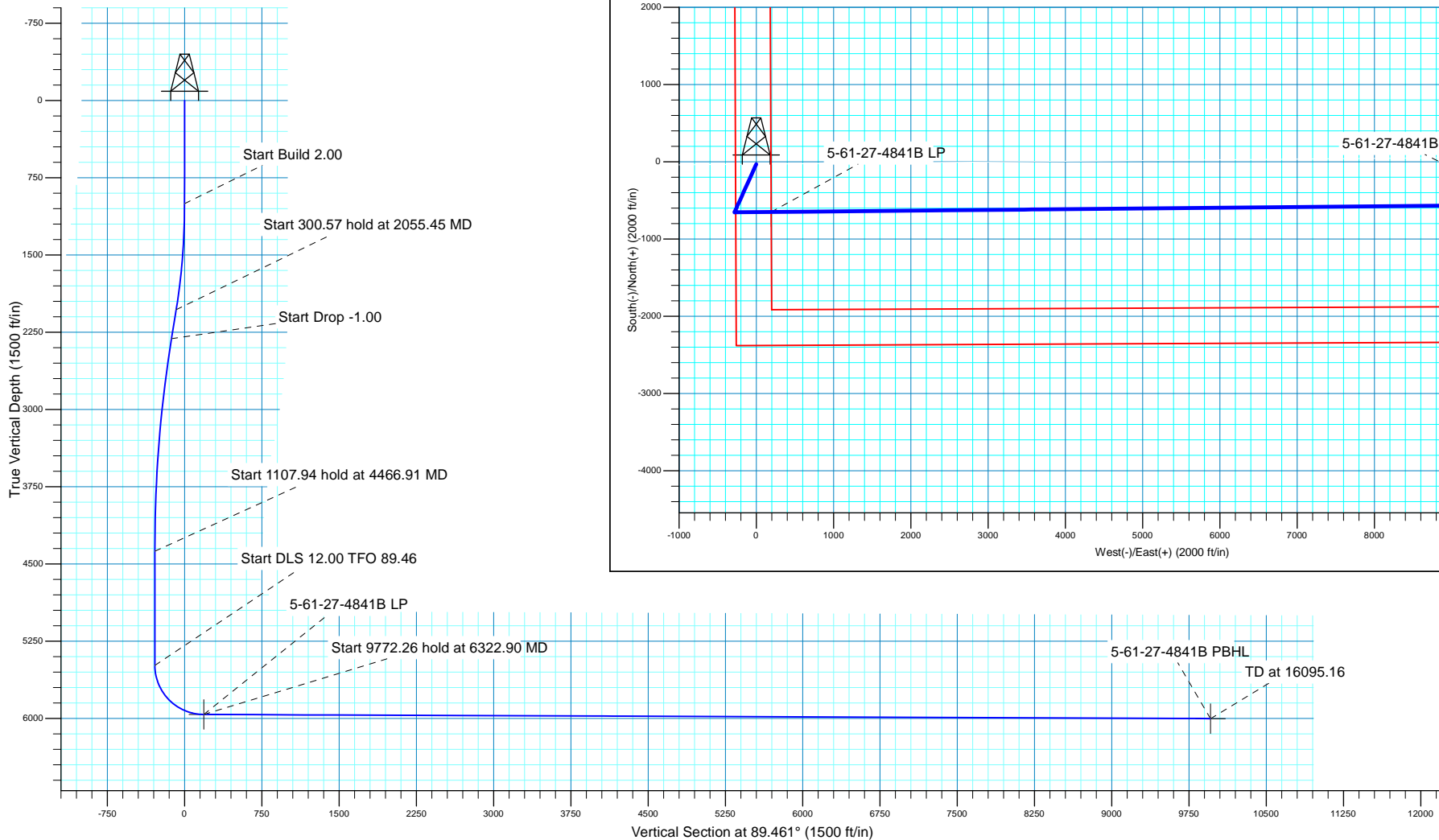
Created By: Seth Burstad Date: 7-24-2017

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect |
|----------|-------|---------|---------|---------|---------|-------|--------|---------|
| 0.00 | 0.00 | 0.000 | 0.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1000.00 | 0.00 | 0.000 | 1000.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2055.45 | 21.11 | 204.399 | 2031.73 | -205.32 | -79.41 | 2.00 | 204.40 | -81.05 |
| 2356.02 | 21.11 | 204.399 | 2312.14 | -303.90 | -124.13 | 0.00 | 0.00 | -126.70 |
| 4466.91 | 0.00 | 0.000 | 4375.60 | -654.03 | -282.95 | 1.00 | 180.00 | -288.81 |
| 5574.85 | 0.00 | 0.000 | 5483.54 | -654.03 | -282.95 | 0.00 | 0.00 | -288.81 |
| 6322.90 | 89.77 | 89.461 | 5961.00 | -649.55 | 192.54 | 12.00 | 89.46 | 186.71 |
| 16095.16 | 89.77 | 89.461 | 6001.00 | -557.55 | 9964.29 | 0.00 | 0.00 | 9958.89 |

WELL DETAILS: Anschutz-Willaims 5-61-27-4841B

| | | GL 4601' & KB 20' @ 4621.00ft | | 4601.00 | Longitude |
|--------|-------|-------------------------------|------------|------------------|-------------------|
| +N/-S | +E/-W | Northing | Easting | Latitude | |
| -30.25 | 0.00 | 1380673.82 | 3361209.66 | 40° 22' 15.971 N | 104° 12' 12.859 W |





Bill Barrett Corporation

Bill Barrett Corp.

Weld County, CO NAD 83

Anschutz-Willaims 5-61-27 CW2 Pad

Anschutz-Willaims 5-61-27-4841B

OH

Plan: Plan 1

Standard Planning Report

24 July, 2017



Scientific Drilling

www.scientificdrilling.com



| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | Casper District | Local Co-ordinate Reference: | Site Anschutz-Willaims 5-61-27 CW2 Pad |
| Company: | Bill Barrett Corp. | TVD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Project: | Weld County, CO NAD 83 | MD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Site: | Anschutz-Willaims 5-61-27 CW2 Pad | North Reference: | True |
| Well: | Anscutz-Willaims 5-61-27-4841B | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Weld County, CO NAD 83 | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | |
|------------------------------|--|---------------------|-------------------|-------------------------------------|
| Site | Anschutz-Willaims 5-61-27 CW2 Pad, Site Center : Anschutz-Willaims 5-61-27-3225B | | | |
| Site Position: | | Northing: | 1,380,704.06 usft | Latitude: 40° 22' 16.270 N |
| From: | Lat/Long | Easting: | 3,361,209.22 usft | Longitude: 104° 12' 12.859 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in | Grid Convergence: 0.84 ° |

| | | | | |
|-----------------------------|--|-----------|----------------------------|-------------------|
| Well | Anscutz-Willaims 5-61-27-4841B, 2348' FSL 270' FWL Sec 27 T5N R61W | | | |
| Well Position | +N/-S | -30.25 ft | Northing: | 1,380,673.82 usft |
| | +E/-W | 0.00 ft | Easting: | 3,361,209.66 usft |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | 0.00 ft |
| | | | Ground Level: | 4,601.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 7/24/2017 | 8.25 | 67.07 | 52,360 |

| | | | | |
|--------------------------|-------------------------|-------------------|----------------------|----------------------|
| Design | Plan 1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.00 | -30.25 | 0.00 | 89.461 |

| 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 | 0.000 | 0.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,000.00 | 0.00 | 0.000 | 1,000.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,055.45 | 21.11 | 204.399 | 2,031.73 | -205.32 | -79.41 | 2.00 | 2.00 | 0.00 | 204.40 | |
| 2,356.02 | 21.11 | 204.399 | 2,312.14 | -303.90 | -124.13 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,466.91 | 0.00 | 0.000 | 4,375.60 | -654.03 | -282.95 | 1.00 | -1.00 | 0.00 | 180.00 | |
| 5,574.85 | 0.00 | 0.000 | 5,483.54 | -654.03 | -282.95 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,322.90 | 89.77 | 89.461 | 5,961.00 | -649.55 | 192.54 | 12.00 | 12.00 | 11.96 | 89.46 | |
| 16,095.16 | 89.77 | 89.461 | 6,001.00 | -557.55 | 9,964.29 | 0.00 | 0.00 | 0.00 | 0.00 | 5-61-27-4841B PBHL |

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | Casper District | Local Co-ordinate Reference: | Site Anschutz-Willaims 5-61-27 CW2 Pad |
| Company: | Bill Barrett Corp. | TVD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Project: | Weld County, CO NAD 83 | MD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Site: | Anschutz-Willaims 5-61-27 CW2 Pad | North Reference: | True |
| Well: | Anschutz-Willaims 5-61-27-4841B | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 1 | | |

| 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 | 0.000 | 0.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.000 | 100.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.000 | 200.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.000 | 300.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.000 | 400.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 500.00 | 0.00 | 0.000 | 500.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.000 | 600.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.000 | 700.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.000 | 800.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.000 | 900.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 0.00 | 0.000 | 1,000.00 | -30.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start Build 2.00 | | | | | | | | | |
| 1,100.00 | 2.00 | 204.399 | 1,099.98 | -31.84 | -0.72 | -0.74 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 4.00 | 204.399 | 1,199.84 | -36.60 | -2.88 | -2.94 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 6.00 | 204.399 | 1,299.45 | -44.54 | -6.48 | -6.62 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 8.00 | 204.399 | 1,398.70 | -55.64 | -11.52 | -11.76 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 10.00 | 204.399 | 1,497.47 | -69.88 | -17.98 | -18.35 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 12.00 | 204.399 | 1,595.62 | -87.26 | -25.86 | -26.40 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 14.00 | 204.399 | 1,693.06 | -107.75 | -35.15 | -35.88 | 2.00 | 2.00 | 0.00 |
| 1,800.00 | 16.00 | 204.399 | 1,789.64 | -131.31 | -45.84 | -46.79 | 2.00 | 2.00 | 0.00 |
| 1,900.00 | 18.00 | 204.399 | 1,885.27 | -157.94 | -57.92 | -59.12 | 2.00 | 2.00 | 0.00 |
| 2,000.00 | 20.00 | 204.399 | 1,979.82 | -187.59 | -71.37 | -72.85 | 2.00 | 2.00 | 0.00 |
| 2,055.45 | 21.11 | 204.399 | 2,031.73 | -205.32 | -79.41 | -81.05 | 2.00 | 2.00 | 0.00 |
| Start 300.57 hold at 2055.45 MD | | | | | | | | | |
| 2,100.00 | 21.11 | 204.399 | 2,073.30 | -219.93 | -86.04 | -87.82 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 21.11 | 204.399 | 2,166.59 | -252.73 | -100.92 | -103.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 21.11 | 204.399 | 2,259.87 | -285.52 | -115.79 | -118.19 | 0.00 | 0.00 | 0.00 |
| 2,356.02 | 21.11 | 204.399 | 2,312.14 | -303.90 | -124.13 | -126.70 | 0.00 | 0.00 | 0.00 |
| Start Drop -1.00 | | | | | | | | | |
| 2,400.00 | 20.67 | 204.399 | 2,353.22 | -318.18 | -130.61 | -133.31 | 1.00 | -1.00 | 0.00 |
| 2,500.00 | 19.67 | 204.399 | 2,447.09 | -349.58 | -144.85 | -147.85 | 1.00 | -1.00 | 0.00 |
| 2,600.00 | 18.67 | 204.399 | 2,541.55 | -379.48 | -158.41 | -161.69 | 1.00 | -1.00 | 0.00 |
| 2,700.00 | 17.67 | 204.399 | 2,636.56 | -407.88 | -171.29 | -174.84 | 1.00 | -1.00 | 0.00 |
| 2,800.00 | 16.67 | 204.399 | 2,732.10 | -434.76 | -183.49 | -187.29 | 1.00 | -1.00 | 0.00 |
| 2,900.00 | 15.67 | 204.399 | 2,828.14 | -460.12 | -194.99 | -199.03 | 1.00 | -1.00 | 0.00 |
| 3,000.00 | 14.67 | 204.399 | 2,924.66 | -483.95 | -205.80 | -210.06 | 1.00 | -1.00 | 0.00 |
| 3,100.00 | 13.67 | 204.399 | 3,021.62 | -506.24 | -215.91 | -220.38 | 1.00 | -1.00 | 0.00 |
| 3,200.00 | 12.67 | 204.399 | 3,118.98 | -526.99 | -225.32 | -229.99 | 1.00 | -1.00 | 0.00 |
| 3,300.00 | 11.67 | 204.399 | 3,216.74 | -546.19 | -234.03 | -238.87 | 1.00 | -1.00 | 0.00 |
| 3,400.00 | 10.67 | 204.399 | 3,314.84 | -563.83 | -242.03 | -247.04 | 1.00 | -1.00 | 0.00 |
| 3,500.00 | 9.67 | 204.399 | 3,413.27 | -579.90 | -249.33 | -254.49 | 1.00 | -1.00 | 0.00 |
| 3,600.00 | 8.67 | 204.399 | 3,511.99 | -594.42 | -255.91 | -261.21 | 1.00 | -1.00 | 0.00 |
| 3,700.00 | 7.67 | 204.399 | 3,610.97 | -607.36 | -261.78 | -267.20 | 1.00 | -1.00 | 0.00 |
| 3,800.00 | 6.67 | 204.399 | 3,710.19 | -618.72 | -266.93 | -272.46 | 1.00 | -1.00 | 0.00 |
| 3,900.00 | 5.67 | 204.399 | 3,809.61 | -628.51 | -271.37 | -276.99 | 1.00 | -1.00 | 0.00 |
| 4,000.00 | 4.67 | 204.399 | 3,909.20 | -636.71 | -275.10 | -280.79 | 1.00 | -1.00 | 0.00 |
| 4,100.00 | 3.67 | 204.399 | 4,008.94 | -643.33 | -278.10 | -283.85 | 1.00 | -1.00 | 0.00 |
| 4,200.00 | 2.67 | 204.399 | 4,108.78 | -648.37 | -280.38 | -286.18 | 1.00 | -1.00 | 0.00 |
| 4,300.00 | 1.67 | 204.399 | 4,208.71 | -651.81 | -281.95 | -287.78 | 1.00 | -1.00 | 0.00 |
| 4,400.00 | 0.67 | 204.399 | 4,308.69 | -653.67 | -282.79 | -288.64 | 1.00 | -1.00 | 0.00 |
| 4,466.91 | 0.00 | 0.000 | 4,375.60 | -654.03 | -282.95 | -288.81 | 1.00 | -1.00 | 0.00 |
| Start 1107.94 hold at 4466.91 MD | | | | | | | | | |
| 4,500.00 | 0.00 | 0.000 | 4,408.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 0.00 | 0.000 | 4,508.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | Casper District | Local Co-ordinate Reference: | Site Anschutz-Willaims 5-61-27 CW2 Pad |
| Company: | Bill Barrett Corp. | TVD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Project: | Weld County, CO NAD 83 | MD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Site: | Anschutz-Willaims 5-61-27 CW2 Pad | North Reference: | True |
| Well: | Anschutz-Willaims 5-61-27-4841B | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 1 | | |

| 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) |
| 4,700.00 | 0.00 | 0.000 | 4,608.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 0.00 | 0.000 | 4,708.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 0.00 | 0.000 | 4,808.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 0.00 | 0.000 | 4,908.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 0.00 | 0.000 | 5,008.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 0.00 | 0.000 | 5,108.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 0.00 | 0.000 | 5,208.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 0.00 | 0.000 | 5,308.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 0.00 | 0.000 | 5,408.69 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| 5,574.85 | 0.00 | 0.000 | 5,483.54 | -654.03 | -282.95 | -288.81 | 0.00 | 0.00 | 0.00 |
| Start DLS 12.00 TFO 89.46 | | | | | | | | | |
| 5,600.00 | 3.02 | 89.461 | 5,508.67 | -654.02 | -282.29 | -288.14 | 12.00 | 12.00 | 0.00 |
| 5,700.00 | 15.02 | 89.461 | 5,607.26 | -653.88 | -266.64 | -272.50 | 12.00 | 12.00 | 0.00 |
| 5,800.00 | 27.02 | 89.461 | 5,700.43 | -653.54 | -230.85 | -236.70 | 12.00 | 12.00 | 0.00 |
| 5,900.00 | 39.02 | 89.461 | 5,784.13 | -653.03 | -176.46 | -182.31 | 12.00 | 12.00 | 0.00 |
| 6,000.00 | 51.02 | 89.461 | 5,854.69 | -652.36 | -105.86 | -111.71 | 12.00 | 12.00 | 0.00 |
| 6,100.00 | 63.02 | 89.461 | 5,909.03 | -651.57 | -22.13 | -27.98 | 12.00 | 12.00 | 0.00 |
| 6,200.00 | 75.02 | 89.461 | 5,944.77 | -650.70 | 71.06 | 65.22 | 12.00 | 12.00 | 0.00 |
| 6,300.00 | 87.02 | 89.461 | 5,960.36 | -649.77 | 169.65 | 163.82 | 12.00 | 12.00 | 0.00 |
| 6,322.90 | 89.77 | 89.461 | 5,961.00 | -649.55 | 192.54 | 186.71 | 12.00 | 12.00 | 0.00 |
| Start 9772.26 hold at 6322.90 MD | | | | | | | | | |
| 6,400.00 | 89.77 | 89.461 | 5,961.32 | -648.83 | 269.64 | 263.80 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 89.77 | 89.461 | 5,961.73 | -647.88 | 369.63 | 363.80 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 89.77 | 89.461 | 5,962.14 | -646.94 | 469.62 | 463.80 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 89.77 | 89.461 | 5,962.54 | -646.00 | 569.62 | 563.80 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 89.77 | 89.461 | 5,962.95 | -645.06 | 669.61 | 663.80 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 89.77 | 89.461 | 5,963.36 | -644.12 | 769.61 | 763.80 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 89.77 | 89.461 | 5,963.77 | -643.18 | 869.60 | 863.80 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 89.77 | 89.461 | 5,964.18 | -642.24 | 969.60 | 963.80 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 89.77 | 89.461 | 5,964.59 | -641.29 | 1,069.59 | 1,063.80 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 89.77 | 89.461 | 5,965.00 | -640.35 | 1,169.59 | 1,163.80 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 89.77 | 89.461 | 5,965.41 | -639.41 | 1,269.58 | 1,263.80 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 89.77 | 89.461 | 5,965.82 | -638.47 | 1,369.58 | 1,363.79 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 89.77 | 89.461 | 5,966.23 | -637.53 | 1,469.57 | 1,463.79 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 89.77 | 89.461 | 5,966.64 | -636.59 | 1,569.57 | 1,563.79 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 89.77 | 89.461 | 5,967.05 | -635.65 | 1,669.56 | 1,663.79 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.77 | 89.461 | 5,967.46 | -634.70 | 1,769.56 | 1,763.79 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.77 | 89.461 | 5,967.87 | -633.76 | 1,869.55 | 1,863.79 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.77 | 89.461 | 5,968.27 | -632.82 | 1,969.55 | 1,963.79 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.77 | 89.461 | 5,968.68 | -631.88 | 2,069.54 | 2,063.79 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.77 | 89.461 | 5,969.09 | -630.94 | 2,169.53 | 2,163.79 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.77 | 89.461 | 5,969.50 | -630.00 | 2,269.53 | 2,263.79 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.77 | 89.461 | 5,969.91 | -629.06 | 2,369.52 | 2,363.79 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.77 | 89.461 | 5,970.32 | -628.11 | 2,469.52 | 2,463.79 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.77 | 89.461 | 5,970.73 | -627.17 | 2,569.51 | 2,563.78 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.77 | 89.461 | 5,971.14 | -626.23 | 2,669.51 | 2,663.78 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.77 | 89.461 | 5,971.55 | -625.29 | 2,769.50 | 2,763.78 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 89.77 | 89.461 | 5,971.96 | -624.35 | 2,869.50 | 2,863.78 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.77 | 89.461 | 5,972.37 | -623.41 | 2,969.49 | 2,963.78 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.77 | 89.461 | 5,972.78 | -622.46 | 3,069.49 | 3,063.78 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.77 | 89.461 | 5,973.19 | -621.52 | 3,169.48 | 3,163.78 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.77 | 89.461 | 5,973.60 | -620.58 | 3,269.48 | 3,263.78 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.77 | 89.461 | 5,974.01 | -619.64 | 3,369.47 | 3,363.78 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | Casper District | Local Co-ordinate Reference: | Site Anschutz-Willaims 5-61-27 CW2 Pad |
| Company: | Bill Barrett Corp. | TVD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Project: | Weld County, CO NAD 83 | MD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Site: | Anschutz-Willaims 5-61-27 CW2 Pad | North Reference: | True |
| Well: | Anschutz-Willaims 5-61-27-4841B | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 1 | | |

| 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) |
| 9,600.00 | 89.77 | 89.461 | 5,974.41 | -618.70 | 3,469.47 | 3,463.78 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.77 | 89.461 | 5,974.82 | -617.76 | 3,569.46 | 3,563.78 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.77 | 89.461 | 5,975.23 | -616.82 | 3,669.46 | 3,663.78 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.77 | 89.461 | 5,975.64 | -615.87 | 3,769.45 | 3,763.77 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.77 | 89.461 | 5,976.05 | -614.93 | 3,869.45 | 3,863.77 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.77 | 89.461 | 5,976.46 | -613.99 | 3,969.44 | 3,963.77 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.77 | 89.461 | 5,976.87 | -613.05 | 4,069.43 | 4,063.77 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.77 | 89.461 | 5,977.28 | -612.11 | 4,169.43 | 4,163.77 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.77 | 89.461 | 5,977.69 | -611.17 | 4,269.42 | 4,263.77 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.77 | 89.461 | 5,978.10 | -610.23 | 4,369.42 | 4,363.77 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.77 | 89.461 | 5,978.51 | -609.28 | 4,469.41 | 4,463.77 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.77 | 89.461 | 5,978.92 | -608.34 | 4,569.41 | 4,563.77 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.77 | 89.461 | 5,979.33 | -607.40 | 4,669.40 | 4,663.77 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.77 | 89.461 | 5,979.74 | -606.46 | 4,769.40 | 4,763.77 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.77 | 89.461 | 5,980.14 | -605.52 | 4,869.39 | 4,863.77 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.77 | 89.461 | 5,980.55 | -604.58 | 4,969.39 | 4,963.76 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.77 | 89.461 | 5,980.96 | -603.64 | 5,069.38 | 5,063.76 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.77 | 89.461 | 5,981.37 | -602.69 | 5,169.38 | 5,163.76 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.77 | 89.461 | 5,981.78 | -601.75 | 5,269.37 | 5,263.76 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.77 | 89.461 | 5,982.19 | -600.81 | 5,369.37 | 5,363.76 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.77 | 89.461 | 5,982.60 | -599.87 | 5,469.36 | 5,463.76 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.77 | 89.461 | 5,983.01 | -598.93 | 5,569.36 | 5,563.76 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.77 | 89.461 | 5,983.42 | -597.99 | 5,669.35 | 5,663.76 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.77 | 89.461 | 5,983.83 | -597.04 | 5,769.35 | 5,763.76 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.77 | 89.461 | 5,984.24 | -596.10 | 5,869.34 | 5,863.76 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.77 | 89.461 | 5,984.65 | -595.16 | 5,969.33 | 5,963.76 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.77 | 89.461 | 5,985.06 | -594.22 | 6,069.33 | 6,063.76 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.77 | 89.461 | 5,985.47 | -593.28 | 6,169.32 | 6,163.75 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.77 | 89.461 | 5,985.88 | -592.34 | 6,269.32 | 6,263.75 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.77 | 89.461 | 5,986.28 | -591.40 | 6,369.31 | 6,363.75 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.77 | 89.461 | 5,986.69 | -590.45 | 6,469.31 | 6,463.75 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.77 | 89.461 | 5,987.10 | -589.51 | 6,569.30 | 6,563.75 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.77 | 89.461 | 5,987.51 | -588.57 | 6,669.30 | 6,663.75 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.77 | 89.461 | 5,987.92 | -587.63 | 6,769.29 | 6,763.75 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.77 | 89.461 | 5,988.33 | -586.69 | 6,869.29 | 6,863.75 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 89.77 | 89.461 | 5,988.74 | -585.75 | 6,969.28 | 6,963.75 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 89.77 | 89.461 | 5,989.15 | -584.81 | 7,069.28 | 7,063.75 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 89.77 | 89.461 | 5,989.56 | -583.86 | 7,169.27 | 7,163.75 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 89.77 | 89.461 | 5,989.97 | -582.92 | 7,269.27 | 7,263.75 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 89.77 | 89.461 | 5,990.38 | -581.98 | 7,369.26 | 7,363.74 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 89.77 | 89.461 | 5,990.79 | -581.04 | 7,469.26 | 7,463.74 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 89.77 | 89.461 | 5,991.20 | -580.10 | 7,569.25 | 7,563.74 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 89.77 | 89.461 | 5,991.61 | -579.16 | 7,669.25 | 7,663.74 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 89.77 | 89.461 | 5,992.02 | -578.22 | 7,769.24 | 7,763.74 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 89.77 | 89.461 | 5,992.42 | -577.27 | 7,869.23 | 7,863.74 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 89.77 | 89.461 | 5,992.83 | -576.33 | 7,969.23 | 7,963.74 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 89.77 | 89.461 | 5,993.24 | -575.39 | 8,069.22 | 8,063.74 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 89.77 | 89.461 | 5,993.65 | -574.45 | 8,169.22 | 8,163.74 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 89.77 | 89.461 | 5,994.06 | -573.51 | 8,269.21 | 8,263.74 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 89.77 | 89.461 | 5,994.47 | -572.57 | 8,369.21 | 8,363.74 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 89.77 | 89.461 | 5,994.88 | -571.63 | 8,469.20 | 8,463.74 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 89.77 | 89.461 | 5,995.29 | -570.68 | 8,569.20 | 8,563.73 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 89.77 | 89.461 | 5,995.70 | -569.74 | 8,669.19 | 8,663.73 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 89.77 | 89.461 | 5,996.11 | -568.80 | 8,769.19 | 8,763.73 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | Casper District | Local Co-ordinate Reference: | Site Anschutz-Willaims 5-61-27 CW2 Pad |
| Company: | Bill Barrett Corp. | TVD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Project: | Weld County, CO NAD 83 | MD Reference: | GL 4601' & KB 20' @ 4621.00ft |
| Site: | Anschutz-Willaims 5-61-27 CW2 Pad | North Reference: | True |
| Well: | Anschutz-Willaims 5-61-27-4841B | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan 1 | | |

| 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) |
| 15,000.00 | 89.77 | 89.461 | 5,996.52 | -567.86 | 8,869.18 | 8,863.73 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 89.77 | 89.461 | 5,996.93 | -566.92 | 8,969.18 | 8,963.73 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 89.77 | 89.461 | 5,997.34 | -565.98 | 9,069.17 | 9,063.73 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 89.77 | 89.461 | 5,997.75 | -565.03 | 9,169.17 | 9,163.73 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 89.77 | 89.461 | 5,998.15 | -564.09 | 9,269.16 | 9,263.73 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 89.77 | 89.461 | 5,998.56 | -563.15 | 9,369.16 | 9,363.73 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 89.77 | 89.461 | 5,998.97 | -562.21 | 9,469.15 | 9,463.73 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 89.77 | 89.461 | 5,999.38 | -561.27 | 9,569.15 | 9,563.73 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 89.77 | 89.461 | 5,999.79 | -560.33 | 9,669.14 | 9,663.73 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 89.77 | 89.461 | 6,000.20 | -559.39 | 9,769.13 | 9,763.72 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 89.77 | 89.461 | 6,000.61 | -558.44 | 9,869.13 | 9,863.72 | 0.00 | 0.00 | 0.00 |
| 16,095.16 | 89.77 | 89.461 | 6,001.00 | -557.55 | 9,964.29 | 9,958.89 | 0.00 | 0.00 | 0.00 |
| TD at 16095.16 | | | | | | | | | |

| 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 | | | | | | | | | |
| 5-61-27-4841B LP | 0.00 | 0.000 | 5,961.00 | -649.54 | 192.54 | 1,380,057.41 | 3,361,411.23 | 40° 22' 9.851 N | 104° 12' 10.372 W |
| - plan misses target center by 0.01ft at 6322.90ft MD (5961.00 TVD, -649.55 N, 192.54 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| 5-61-27-4841B PBHL | 0.00 | 0.000 | 6,001.00 | -557.55 | 9,964.29 | 1,380,292.25 | 3,371,180.57 | 40° 22' 10.740 N | 104° 10' 4.120 W |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Plan Annotations | | | | |
|---------------------|---------------------|-------------------|------------|----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 1,000.00 | 1,000.00 | -30.25 | 0.00 | Start Build 2.00 |
| 2,055.45 | 2,031.73 | -205.32 | -79.41 | Start 300.57 hold at 2055.45 MD |
| 2,356.02 | 2,312.14 | -303.90 | -124.13 | Start Drop -1.00 |
| 4,466.91 | 4,375.60 | -654.03 | -282.95 | Start 1107.94 hold at 4466.91 MD |
| 5,574.85 | 5,483.54 | -654.03 | -282.95 | Start DLS 12.00 TFO 89.46 |
| 6,322.90 | 5,961.00 | -649.55 | 192.54 | Start 9772.26 hold at 6322.90 MD |
| 16,095.16 | 6,001.00 | -557.55 | 9,964.29 | TD at 16095.16 |