




Company: Carrizo Oil & Gas
 Site: WCR100 Group
 Well: 14-11-8-61
 Project: Weld County, Colorado (NAD83)
 Rig Name: Xtreme 19



Planning: 936.442.2510 Fax: 936.442.2515
 Operations: 936.442.2500 Fax: 936.442.2599



Azimuths to Grid North
 True North: -0.85°
 Magnetic North: 7.71°

Magnetic Field
 Strength: 53344.0snT
 Dip Angle: 67.36°
 Date: 6/7/2011
 Model: WMM_2010

US State Plane 1983
 Colorado Northern Zone

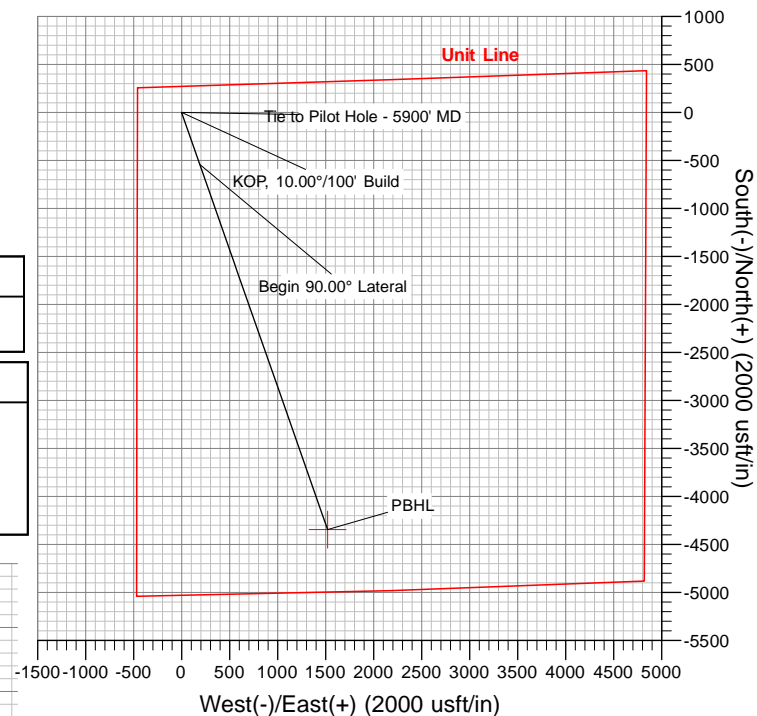
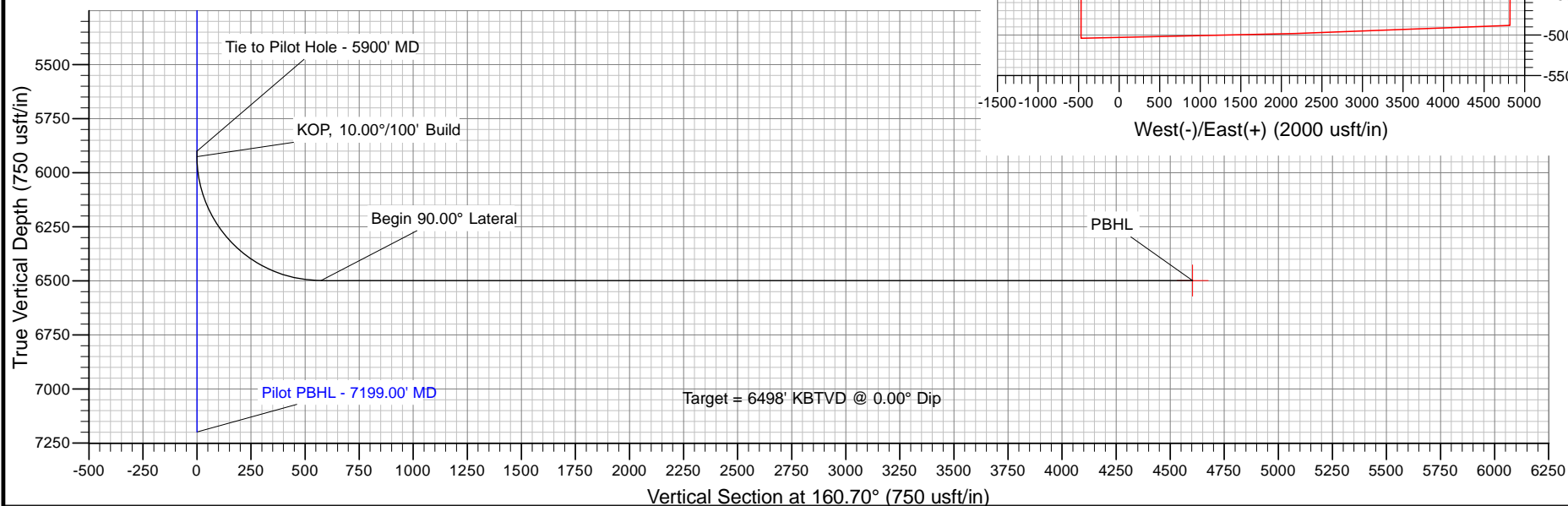
Created By: Vanessa Thom
 Date: 10:13, June 07 2011
 Plan: Design #1

PILOT ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation |
|---------|------|------|---------|-------|-------|-------|-----------|--------------------------|
| 7199.00 | 0.00 | 0.00 | 7199.00 | 0.00 | 0.00 | 0.00 | 0.00 | Pilot PBHL - 7199.00' MD |

ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation |
|----------|-------|--------|---------|----------|---------|---------|-----------|------------------------------|
| 5900.00 | 0.00 | 0.00 | 5900.00 | 0.00 | 0.00 | 0.00 | 0.00 | Tie to Pilot Hole - 5900' MD |
| 5925.04 | 0.00 | 0.00 | 5925.04 | 0.00 | 0.00 | 0.00 | 0.00 | KOP, 10.00°/100' Build |
| 6825.04 | 90.00 | 160.70 | 6498.00 | -540.77 | 189.35 | 572.96 | 572.96 | Begin 90.00° Lateral |
| 10855.21 | 90.00 | 160.70 | 6498.00 | -4344.49 | 1521.23 | 4603.12 | 4603.12 | PBHL |



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.



Carrizo Oil & Gas

Weld County, Colorado (NAD83)

WCR100 Group

14-11-8-61

Wellbore #1

Plan: Design #1

Standard Planning Report

07 June, 2011

| | | | |
|------------------|-------------------------------|-------------------------------------|--------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 14-11-8-61 |
| Company: | Carrizo Oil & Gas | TVD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Project: | Weld County, Colorado (NAD83) | MD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Site: | WCR100 Group | North Reference: | Grid |
| Well: | 14-11-8-61 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| | | | |
|--------------------|-------------------------------|----------------------|----------------|
| Project | Weld County, Colorado (NAD83) | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | |
|-----------------------------|--------------|-------------------|----------------------------|-------------------|
| Well | 14-11-8-61 | | | |
| Well Position | +N/-S | 1,489,071.80 usft | Northing: | 1,489,071.80 usft |
| | +E/-W | 3,366,108.27 usft | Easting: | 3,366,108.27 usft |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | |
| | | | Latitude: | 40° 40' 6.3027 N |
| | | | Longitude: | 104° 10' 48.730 W |
| | | | Ground Level: | 4,984.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | WMM_2010 | 6/7/2011 | 8.56 | 67.36 | 53,344 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|--|
| Design | Design #1 | | | | |
| Audit Notes: | | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 5,900.00 | |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 160.70 | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|-------------------------------|------------------------------|----------------|--------------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 5,900.00 | 0.00 | 0.00 | 5,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,925.04 | 0.00 | 0.00 | 5,925.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,825.04 | 90.00 | 160.70 | 6,498.00 | -540.77 | 189.35 | 10.00 | 10.00 | 0.00 | 160.70 | |
| 10,855.21 | 90.00 | 160.70 | 6,498.00 | -4,344.49 | 1,521.23 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL v1 - WCR100 C |

| | | | |
|------------------|-------------------------------|-------------------------------------|--------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 14-11-8-61 |
| Company: | Carrizo Oil & Gas | TVD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Project: | Weld County, Colorado (NAD83) | MD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Site: | WCR100 Group | North Reference: | Grid |
| Well: | 14-11-8-61 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| Planned 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) | |
| 5,900.00 | 0.00 | 0.00 | 5,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Tie to Pilot Hole - 5900' MD | | | | | | | | | | |
| 5,925.04 | 0.00 | 0.00 | 5,925.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| KOP, 10.00°/100' Build | | | | | | | | | | |
| 5,950.00 | 2.50 | 160.70 | 5,949.99 | -0.51 | 0.18 | 0.54 | 10.00 | 10.00 | 0.00 | |
| 6,000.00 | 7.50 | 160.70 | 5,999.79 | -4.62 | 1.62 | 4.90 | 10.00 | 10.00 | 0.00 | |
| 6,050.00 | 12.50 | 160.70 | 6,049.01 | -12.81 | 4.49 | 13.57 | 10.00 | 10.00 | 0.00 | |
| 6,100.00 | 17.50 | 160.70 | 6,097.29 | -25.02 | 8.76 | 26.51 | 10.00 | 10.00 | 0.00 | |
| 6,150.00 | 22.50 | 160.70 | 6,144.26 | -41.15 | 14.41 | 43.60 | 10.00 | 10.00 | 0.00 | |
| 6,200.00 | 27.50 | 160.70 | 6,189.57 | -61.08 | 21.39 | 64.72 | 10.00 | 10.00 | 0.00 | |
| 6,250.00 | 32.50 | 160.70 | 6,232.86 | -84.67 | 29.65 | 89.71 | 10.00 | 10.00 | 0.00 | |
| 6,300.00 | 37.50 | 160.70 | 6,273.80 | -111.72 | 39.12 | 118.37 | 10.00 | 10.00 | 0.00 | |
| 6,350.00 | 42.50 | 160.70 | 6,312.10 | -142.04 | 49.74 | 150.50 | 10.00 | 10.00 | 0.00 | |
| 6,400.00 | 47.50 | 160.70 | 6,347.44 | -175.40 | 61.42 | 185.84 | 10.00 | 10.00 | 0.00 | |
| 6,450.00 | 52.50 | 160.70 | 6,379.57 | -211.54 | 74.07 | 224.13 | 10.00 | 10.00 | 0.00 | |
| 6,500.00 | 57.50 | 160.70 | 6,408.25 | -250.18 | 87.60 | 265.07 | 10.00 | 10.00 | 0.00 | |
| 6,550.00 | 62.50 | 160.70 | 6,433.24 | -291.03 | 101.91 | 308.36 | 10.00 | 10.00 | 0.00 | |
| 6,600.00 | 67.50 | 160.70 | 6,454.37 | -333.79 | 116.88 | 353.66 | 10.00 | 10.00 | 0.00 | |
| 6,650.00 | 72.50 | 160.70 | 6,471.47 | -378.12 | 132.40 | 400.63 | 10.00 | 10.00 | 0.00 | |
| 6,700.00 | 77.50 | 160.70 | 6,484.41 | -423.68 | 148.35 | 448.91 | 10.00 | 10.00 | 0.00 | |
| 6,750.00 | 82.50 | 160.70 | 6,493.09 | -470.14 | 164.62 | 498.13 | 10.00 | 10.00 | 0.00 | |
| 6,800.00 | 87.50 | 160.70 | 6,497.45 | -517.14 | 181.08 | 547.92 | 10.00 | 10.00 | 0.00 | |
| 6,825.04 | 90.00 | 160.70 | 6,498.00 | -540.77 | 189.35 | 572.96 | 10.00 | 10.00 | 0.00 | |
| Begin 90.00° Lateral | | | | | | | | | | |
| 6,900.00 | 90.00 | 160.70 | 6,498.00 | -611.51 | 214.12 | 647.92 | 0.00 | 0.00 | 0.00 | |
| 7,000.00 | 90.00 | 160.70 | 6,498.00 | -705.89 | 247.17 | 747.92 | 0.00 | 0.00 | 0.00 | |
| 7,100.00 | 90.00 | 160.70 | 6,498.00 | -800.27 | 280.22 | 847.92 | 0.00 | 0.00 | 0.00 | |
| 7,200.00 | 90.00 | 160.70 | 6,498.00 | -894.66 | 313.27 | 947.92 | 0.00 | 0.00 | 0.00 | |
| 7,300.00 | 90.00 | 160.70 | 6,498.00 | -989.04 | 346.31 | 1,047.92 | 0.00 | 0.00 | 0.00 | |
| 7,400.00 | 90.00 | 160.70 | 6,498.00 | -1,083.42 | 379.36 | 1,147.92 | 0.00 | 0.00 | 0.00 | |
| 7,500.00 | 90.00 | 160.70 | 6,498.00 | -1,177.80 | 412.41 | 1,247.92 | 0.00 | 0.00 | 0.00 | |
| 7,600.00 | 90.00 | 160.70 | 6,498.00 | -1,272.18 | 445.46 | 1,347.92 | 0.00 | 0.00 | 0.00 | |
| 7,700.00 | 90.00 | 160.70 | 6,498.00 | -1,366.56 | 478.50 | 1,447.92 | 0.00 | 0.00 | 0.00 | |
| 7,800.00 | 90.00 | 160.70 | 6,498.00 | -1,460.94 | 511.55 | 1,547.92 | 0.00 | 0.00 | 0.00 | |
| 7,900.00 | 90.00 | 160.70 | 6,498.00 | -1,555.33 | 544.60 | 1,647.92 | 0.00 | 0.00 | 0.00 | |
| 8,000.00 | 90.00 | 160.70 | 6,498.00 | -1,649.71 | 577.65 | 1,747.92 | 0.00 | 0.00 | 0.00 | |
| 8,100.00 | 90.00 | 160.70 | 6,498.00 | -1,744.09 | 610.70 | 1,847.92 | 0.00 | 0.00 | 0.00 | |
| 8,200.00 | 90.00 | 160.70 | 6,498.00 | -1,838.47 | 643.74 | 1,947.92 | 0.00 | 0.00 | 0.00 | |
| 8,300.00 | 90.00 | 160.70 | 6,498.00 | -1,932.85 | 676.79 | 2,047.92 | 0.00 | 0.00 | 0.00 | |
| 8,400.00 | 90.00 | 160.70 | 6,498.00 | -2,027.23 | 709.84 | 2,147.92 | 0.00 | 0.00 | 0.00 | |
| 8,500.00 | 90.00 | 160.70 | 6,498.00 | -2,121.61 | 742.89 | 2,247.92 | 0.00 | 0.00 | 0.00 | |
| 8,600.00 | 90.00 | 160.70 | 6,498.00 | -2,216.00 | 775.93 | 2,347.92 | 0.00 | 0.00 | 0.00 | |
| 8,700.00 | 90.00 | 160.70 | 6,498.00 | -2,310.38 | 808.98 | 2,447.92 | 0.00 | 0.00 | 0.00 | |
| 8,800.00 | 90.00 | 160.70 | 6,498.00 | -2,404.76 | 842.03 | 2,547.92 | 0.00 | 0.00 | 0.00 | |
| 8,900.00 | 90.00 | 160.70 | 6,498.00 | -2,499.14 | 875.08 | 2,647.92 | 0.00 | 0.00 | 0.00 | |
| 9,000.00 | 90.00 | 160.70 | 6,498.00 | -2,593.52 | 908.13 | 2,747.92 | 0.00 | 0.00 | 0.00 | |
| 9,100.00 | 90.00 | 160.70 | 6,498.00 | -2,687.90 | 941.17 | 2,847.92 | 0.00 | 0.00 | 0.00 | |
| 9,200.00 | 90.00 | 160.70 | 6,498.00 | -2,782.28 | 974.22 | 2,947.92 | 0.00 | 0.00 | 0.00 | |
| 9,300.00 | 90.00 | 160.70 | 6,498.00 | -2,876.66 | 1,007.27 | 3,047.92 | 0.00 | 0.00 | 0.00 | |
| 9,400.00 | 90.00 | 160.70 | 6,498.00 | -2,971.05 | 1,040.32 | 3,147.92 | 0.00 | 0.00 | 0.00 | |
| 9,500.00 | 90.00 | 160.70 | 6,498.00 | -3,065.43 | 1,073.36 | 3,247.92 | 0.00 | 0.00 | 0.00 | |
| 9,600.00 | 90.00 | 160.70 | 6,498.00 | -3,159.81 | 1,106.41 | 3,347.92 | 0.00 | 0.00 | 0.00 | |
| 9,700.00 | 90.00 | 160.70 | 6,498.00 | -3,254.19 | 1,139.46 | 3,447.92 | 0.00 | 0.00 | 0.00 | |

| | | | |
|------------------|-------------------------------|-------------------------------------|--------------------------------|
| Database: | Southern Region | Local Co-ordinate Reference: | Well 14-11-8-61 |
| Company: | Carrizo Oil & Gas | TVD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Project: | Weld County, Colorado (NAD83) | MD Reference: | WELL @ 4999.00usft (Xtreme 19) |
| Site: | WCR100 Group | North Reference: | Grid |
| Well: | 14-11-8-61 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

| Planned 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) | |
| 9,800.00 | 90.00 | 160.70 | 6,498.00 | -3,348.57 | 1,172.51 | 3,547.92 | 0.00 | 0.00 | 0.00 | |
| 9,900.00 | 90.00 | 160.70 | 6,498.00 | -3,442.95 | 1,205.56 | 3,647.92 | 0.00 | 0.00 | 0.00 | |
| 10,000.00 | 90.00 | 160.70 | 6,498.00 | -3,537.33 | 1,238.60 | 3,747.92 | 0.00 | 0.00 | 0.00 | |
| 10,100.00 | 90.00 | 160.70 | 6,498.00 | -3,631.72 | 1,271.65 | 3,847.92 | 0.00 | 0.00 | 0.00 | |
| 10,200.00 | 90.00 | 160.70 | 6,498.00 | -3,726.10 | 1,304.70 | 3,947.92 | 0.00 | 0.00 | 0.00 | |
| 10,300.00 | 90.00 | 160.70 | 6,498.00 | -3,820.48 | 1,337.75 | 4,047.92 | 0.00 | 0.00 | 0.00 | |
| 10,400.00 | 90.00 | 160.70 | 6,498.00 | -3,914.86 | 1,370.79 | 4,147.92 | 0.00 | 0.00 | 0.00 | |
| 10,500.00 | 90.00 | 160.70 | 6,498.00 | -4,009.24 | 1,403.84 | 4,247.92 | 0.00 | 0.00 | 0.00 | |
| 10,600.00 | 90.00 | 160.70 | 6,498.00 | -4,103.62 | 1,436.89 | 4,347.92 | 0.00 | 0.00 | 0.00 | |
| 10,700.00 | 90.00 | 160.70 | 6,498.00 | -4,198.00 | 1,469.94 | 4,447.92 | 0.00 | 0.00 | 0.00 | |
| 10,800.00 | 90.00 | 160.70 | 6,498.00 | -4,292.39 | 1,502.99 | 4,547.92 | 0.00 | 0.00 | 0.00 | |
| 10,855.21 | 90.00 | 160.70 | 6,498.00 | -4,344.49 | 1,521.23 | 4,603.12 | 0.00 | 0.00 | 0.00 | |
| PBHL | | | | | | | | | | |

| Design Targets | | | | | | | | | |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-------------------|-------------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| PBHL v1 - WCR100 Gro | 0.00 | 0.00 | 6,498.00 | -4,344.49 | 1,521.23 | 1,484,727.31 | 3,367,629.50 | 40° 39' 23.1537 N | 104° 10' 29.833 W |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Plan Annotations | | | | |
|-----------------------|-----------------------|-------------------|--------------|------------------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment |
| | | +N/-S (usft) | +E/-W (usft) | |
| 5,900.00 | 5,900.00 | 0.00 | 0.00 | Tie to Pilot Hole - 5900' MD |
| 5,925.04 | 5,925.04 | 0.00 | 0.00 | KOP, 10.00°/100' Build |
| 6,825.04 | 6,498.00 | -540.77 | 189.35 | Begin 90.00° Lateral |
| 10,855.21 | 6,498.00 | -4,344.49 | 1,521.23 | PBHL |