



Project: Mesa County, CO
 Site: Hayward 0993 25-09 Pad
 Well: Hayward 0993-25-04E
 Wellbore: B-5
 Design: Design #2
 Latitude: 39.244847
 Longitude: -107.715859
 Ground Level: 8007.0
 RKB @ 8037.0usft (H&P #522)



PROJECT DETAILS: Mesa County, CO

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

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSec | Annotation |
|--------|-------|------|--------|--------|-------|------|--------|--------|-------------------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | KOP (Build 3"/100') |
| 335.0 | 0.00 | 0.00 | 335.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 766.5 | 12.95 | 8.29 | 762.9 | 48.0 | 7.0 | 3.00 | 8.29 | 47.4 | EOB @ 12.95" Inc. / 8.29" Azm |
| 6262.5 | 12.95 | 8.29 | 6119.1 | 1266.4 | 184.4 | 0.00 | 0.00 | 1248.5 | Drop 3" / 100' |
| 6694.0 | 0.00 | 0.00 | 6547.0 | 1314.5 | 191.4 | 3.00 | 180.00 | 1295.9 | EOD @ Vertical |
| 8644.0 | 0.00 | 0.00 | 8497.0 | 1314.5 | 191.4 | 0.00 | 0.00 | 1295.9 | TD @ 8644.0' MD / 8497.0' TVD |

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|----------------------------|--------|--------|-------|------------|------------|-----------|-------------|
| PBHL - Hayward 0993-25-04E | 8497.0 | 1314.5 | 191.4 | 1523032.39 | 2372737.97 | 39.244846 | -107.715183 |

WELL DETAILS: Hayward 0993-25-04E

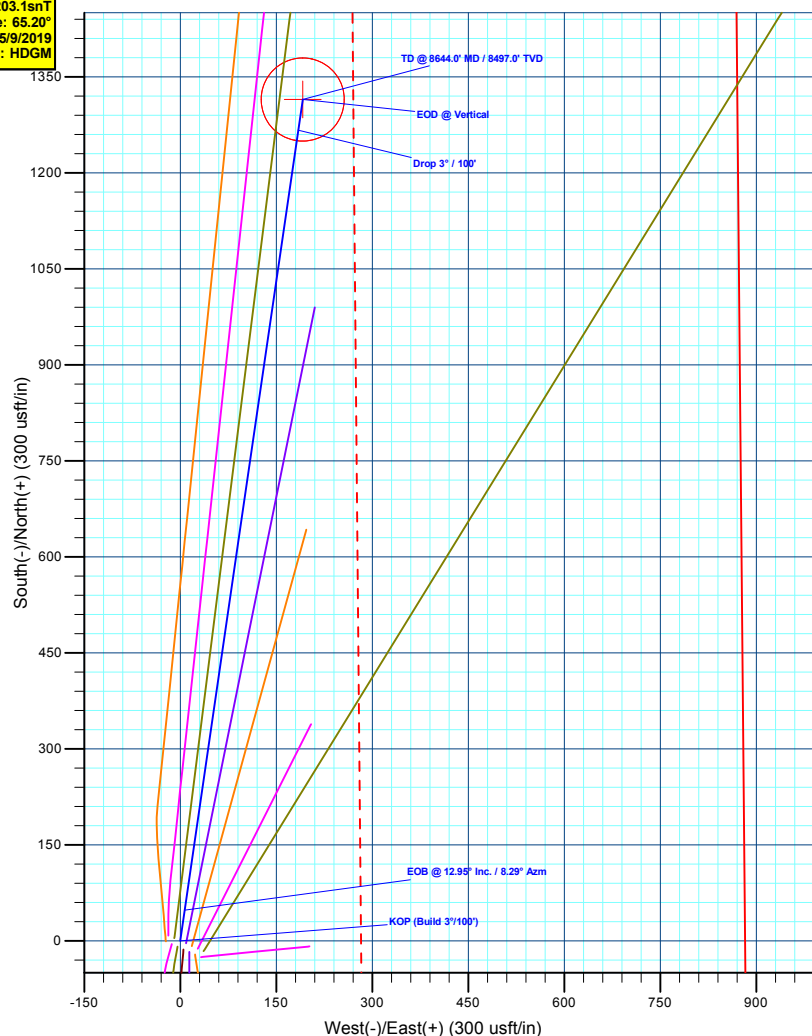
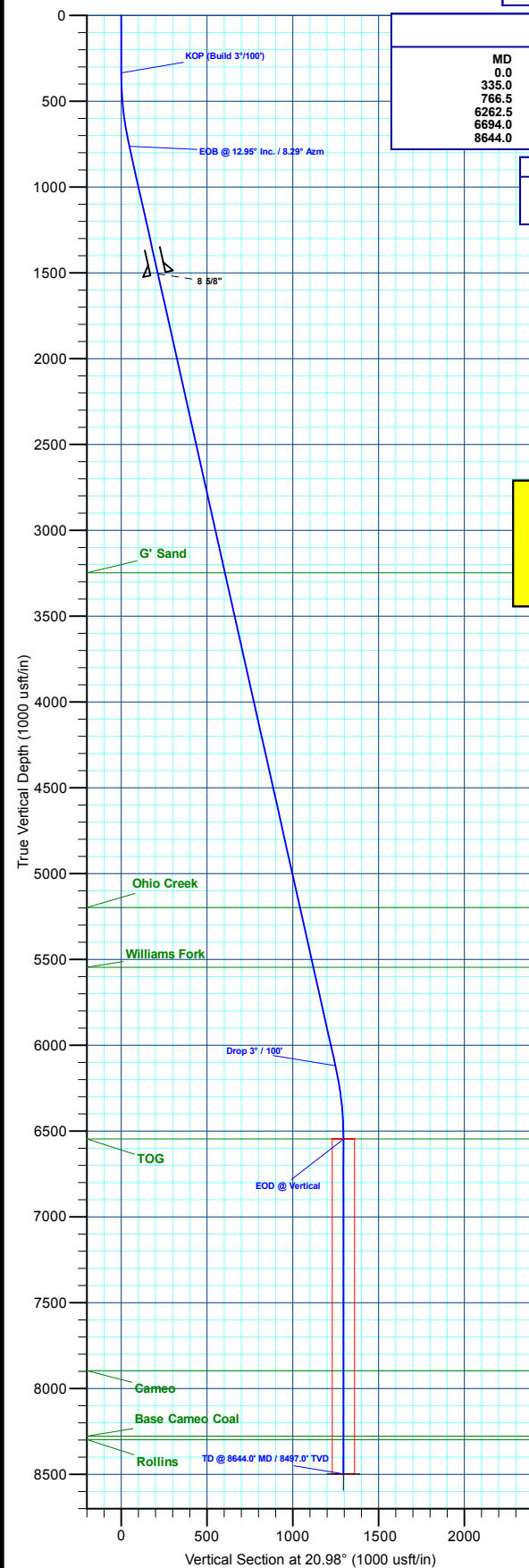
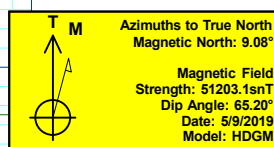
| +N/-S | +E/-W | Northing | 8007.0 Easting | Latitude | Longitude |
|-------|-------|------------|-------------------|-----------|-------------|
| 0.0 | 0.0 | 1521722.98 | 2372514.53 | 39.244847 | -107.715859 |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|--------|-----------------|
| 3247.0 | 3315.4 | G' Sand |
| 5197.0 | 5316.3 | Ohio Creek |
| 5547.0 | 5675.4 | Williams Fork |
| 5547.0 | 6694.0 | TOG |
| 7897.0 | 8044.0 | Cameo |
| 8277.0 | 8424.0 | Base Cameo Coal |
| 8297.0 | 8444.0 | Rollins |

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Hayward 0993-25-04E, True North
 Vertical (TVD) Reference: RKB @ 8037.0usft (H&P #522)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: RKB @ 8037.0usft (H&P #522)
 Calculation Method: Minimum Curvature



Plan: Design #2 (Hayward 0993-25-04E/B-5)

Created By: Will Jircik Date: 9:39, May 14 2019