



Proposed PA WBD - Vertical

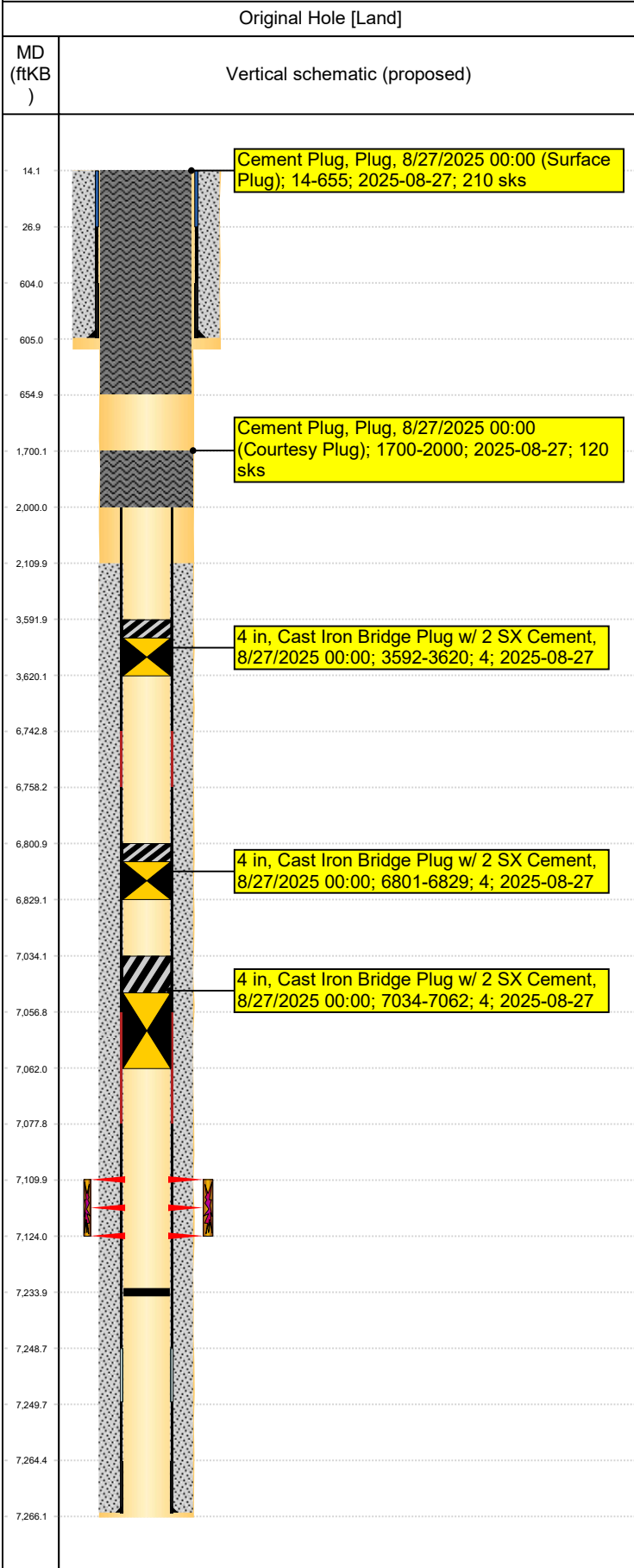
Well Name: HUNGENBERG E21-25

| Original Hole [Land] | | Well Header | | | |
|----------------------|-------------------------------|--------------------------------|---------------------|---------------|-----------------|
| MD (ftKB) | Vertical schematic (proposed) | Surface UWI | Business Unit | Gov Auth Dist | Prod Tree Loc |
| | | 0512326556 | Rockies | | Land |
| | | Orig. KB to Gnd (ft) | Original Spud Date | Abandon Date | Well Sub-Status |
| | | 14.00 | 1/13/2008 | | PR |
| | | Comment | | | |
| | | Geologic Horizons | | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | FOX HILLS BASE EST | | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | FOX HILLS BASE EST | 410.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | UPPER PIERRE AQUIFER-BASE PROD | 1,428.8 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | A SAND-BASE PROD | 2,941.6 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | FOXHILLS-BASE PROD | 351.8 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO C MARL | 7,032.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO A CHALK | 6,802.4 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SHARON SPRING MKR | 6,773.4 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | PARKMAN-TOP PROD | 3,668.2 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | INTRA SHARON SPGS MK | 6,772.2 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | UPPER PIERRE AQUIFER-TOP PROD | 464.8 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIOBRARA-TOP PROD | 6,877.4 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SHANNON-TOP PROD | 4,934.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SHANNON-BASE PROD | 5,089.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO D CHALK | 7,062.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SUSSEX-BASE PROD | 4,541.6 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO C CHALK | 6,997.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO A MARL | 6,824.3 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | PARKMAN-BASE PROD | 4,114.9 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | A SAND-TOP PROD | 2,469.4 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO B CHALK | 6,919.5 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO FT HAYS | 7,086.3 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SUSSEX-TOP PROD | 4,235.1 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIO B MARL | 6,951.6 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | CARLILE | 7,126.9 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SUSSEX | 4,165.8 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | PIERRE | 7,126.9 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | PARKMAN | 3,645.2 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | SHANNON | 7,109.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | TEEPEE BUTTES | 7,109.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIOBRARA | 6,802.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | FORT HAYS | 7,109.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | CODELL | 7,109.3 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIOBRARA A | 6,920.0 | | |
| | | Formation Name | Final Top MD (ftKB) | | |
| | | NIOBRARA B | 6,997.0 | | |



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Well Name: HUNGENBERG E21-25



| Geologic Horizons | | | | | | | | | |
|--------------------------------------|---------------------------------------|------------------------|-----------------------------|--------------------------------|---------------------------------|-----------------------|----------------------------------|---------------------------------|--|
| Formation Name NIOBRARA C | | | | | | | | Final Top MD (ftKB) 7,086.0 | |
| Formation Name GREENHORN | | | | | | | | Final Top MD (ftKB) 7,193.0 | |
| Surface Location (Congressional) | | | | | | | | | |
| Qtr 3 NW | Qtr 4 SW | Section 21 | Twnshp 6 | Twnsh... N | Range 65 | Rng E... W | Latitude (°) 40.46867549 9 | Longitude (°) -104.673634741 | |
| Wellbore Sections | | | | | | | | | |
| Section Des | | Hole Size (in) | | Top Depth (ftKB) | | Btm Depth (ftKB) | | | |
| SURFACE | | 12 1/4 | | 14.0 | | 615.0 | | | |
| PRODUCTION | | 7 7/8 | | 615.0 | | 7,277.0 | | | |
| Casing Strings | | | | | | | | | |
| Csg Des | | Run Date | OD (in) | Wt/Len (lb/ft) | Grade | Top Depth (MD) (ftKB) | Set Depth (MD) (ftKB) | | |
| Surface | | 1/13/2008 | 8 5/8 | 24.00 | J-55 | 14 | 605 | | |
| Production Casing | | 1/16/2008 | 4 1/2 | 11.60 | M-80 | 14 | 7266 | | |
| Cement | | | | | | | | | |
| Des | | | | Start Date | Top (ftKB) | Btm (ftKB) | | | |
| SURFACE CASING CEMENT | | | | 1/14/2008 | 14.0 | 605.0 | | | |
| PRODUCTION CASING CEMENT | | | | 1/16/2008 | 2,110.0 | 7,266.0 | | | |
| Stim/Frac Summary | | | | | | | | | |
| Min Top Depth (ftKB) 7,110.0 | | | | | Max Btm Depth (ftKB) 7,124.0 | | | | |
| Perforations | | | | | | | | | |
| Linked Zone CODELL, Original Hole | | Date 2/5/2008 09:00 | Top Depth (ftKB) 7,110.0 | Bottom Depth (ftKB) 7,124.0 | | | | | |
| Other In Hole | | | | | | | | | |
| Run Date | Des | | Make | OD (in) | Top (ftKB) | Btm (ftKB) | | | |
| | | | | | | | | | |
| Logs | | | | | | | | | |
| Date | Type | | | | Depth Top (MD) (ftKB) | Btm (ftKB) | | | |
| 1/16/2008 | Caliper/Comp.Density/Neutron/GR/SP/ML | | | | 2,650 | 7,255.0 | | | |
| 1/16/2008 | DIL/GR/SP/Caliper | | | | 605 | 7,275.0 | | | |
| 2/4/2008 | CBL/CCL/GR | | | | 1,960 | 7,234.0 | | | |
| 10/24/2018 | GYRO | | | | 14 | 7,000.0 | | | |
| Wellbore Plug Back Total Depths | | | | | | | | | |
| Date | Type | Com | | | PBTD (ftKB) | | | | |
| 1/16/2008 | FLOAT COLLAR | TOP OF FLOAT COLLAR | | | 7,250 | | | | |
| 2/4/2008 | FILL | CBL DEPTH LOGGER | | | 7,234 | | | | |