

ISOLATION REQUIREMENTS FOR TYPICAL WELLS

Date 10/31/2016

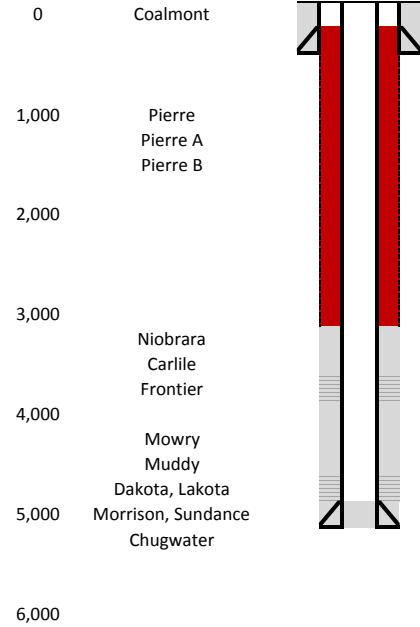
COGCC Document No. 2056247

FIELD NAME BATTLESHIP
FIELD NUMBER 5680

LOCATION

Basin North Park
Township(s) 10N
Range(s) 79W

Depth Formation/Member



Casing and Cement Coverage

North Park Casing and Cement Standards (2013)

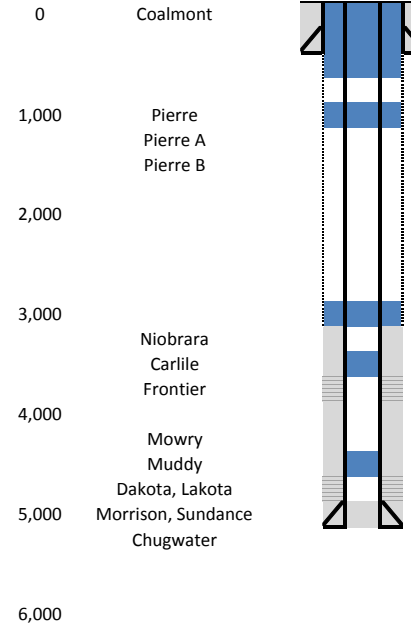
Set surface casing 50' below Pierre Shale top or minimum 1150' if Pierre Shale top is deeper than 1100'.

Cement must provide coverage across all oil, gas, or water-bearing zones, including the Coalmont Formation, minimum cement top is 200' above surface casing shoe

Typical Older Well Configuration

TOC generally covers the Frontier and underlying formations, but cement coverage of the Coalmont, Pierre, and Niobrara may be lacking

Depth Formation/Member



Plug Placement

Surface plug
Surface casing shoe plug

Plug in casing above Pierre (if cemented); squeeze cement across Pierre top if not previously cemented behind casing

Plug in casing above Niobrara (if cemented); squeeze cement across Niobrara top if not previously cemented behind casing

Plug in casing above Frontier (if completed or cemented); squeeze cement across Frontier if not previously cemented behind casing

Plug in casing above Dakota/Lakota Completions and across Muddy