



Open Hole 1,650'-8,500'

Drill out from under the surface casing with brinewater and circulate through the reserve pit to minimize solids build-up. A flocculant (MF-55) can be used to aid in dropping solids, providing a clear fluid and maximum penetration rates.

We recommend maintaining an 9.0-9.5 pH with Lime before mud-up and Caustic after mud-up..

It is always possible in this general area to encounter lost circulation in the San Andres and Glorieta formations. Utilize Paper to control seepage loss. Should complete loss of returns occur while drilling, we recommend pulling a few stands off bottom to avoid differential sticking and spotting a 100-200 barrel pill containing fibrous-type LCM. Spot the pill from above at a reduced pump rate before returning to bottom to commence drilling.

Run periodic sweeps (every 100-200') with Paper while drilling with water.

We recommend that the surface pit system have a minimum of 400-500 barrels volume and a Double-Screen Shale Shaker for solids control. This will avoid costly dilution to maintain a clean fluid. It may also be possible to circulate through the reserve pit for solids control.

Clear water should be sufficient to drill to a depth of approximately 6,800'. At this point, we recommend returning to the working pits and mudding up by 6,900' with a Starch/MF-55/DCS system to achieve the following properties:

Mud Weight	10.1-10.2
Viscosity	30-32
Water Loss	<10

This should provide good samples for proper evaluation.

MF-55 is a non-ionic polymer that helps tie-up the water phase of the fluid. This has proven effective at minimizing invasion of the formation. MF-55 is also a flocculant and will aid in dropping solids.

We recommend using DCS surfactant as a mud additive to provide the following benefits:

1. minimize the usage of Mud Products
2. help drop solids providing a cleaner mud, lower mud weight and a thinner filter cake
3. improve clean-up of the pay zone should whole mud losses be encountered