

## RECOMMENDED MUD PROGRAM BY CASING INTERVAL

### Surface Hole 0-1,300'

Spud with a Horizon Gel/Lime slurry, mixing one Lime per ten Gel for a 32-34 viscosity. After a depth of approximately 300', allow the native solids to maintain a viscosity of 32-34 sec./qt. While drilling the "red bed", it is important that a stable viscosity be maintained with additions of fresh water at the flowline. Lime will cause the red bed clays to thicken more rapidly, causing difficulty in maintaining a stable and consistent native mud. Therefore, we recommend that Lime not be used for PH control while drilling the surface hole.

This native mud should provide good conditions for running casing.

### Open Hole 1,300' - 3,500'

Drill out from under the surface casing with brine water 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 8.5 - 9.0 PH with Lime.

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 and spotting a 100-200 barrel pill containing fibrous-type LCM. Spot the pill from above before returning to bottom to commence drilling.

We recommend running periodic sweeps (every 100-200') with Paper.

Clear water should be sufficient to drill to a depth of approximately 2700'. At this point, we recommend returning to the working pits and mudding up with a Starch system having the following properties:

Mud Weight	10.1 - 10.2
Viscosity	30 - 32
Water Loss	30 - 35

This should provide good samples for proper evaluation.

While using Starch for fluid loss control, it is important that the PH in the fluid remain below 10.0 to avoid burning the Starch.