

## MUD PROGRAM

### 0-700' (16" casing point)

Use gel and lime spud mud. Use fiber and cottonseed hulls for lost circulation zone 500' - 700 feet.

### 700 - 5100'

Use brine water treated with mud detergent and co-polymer, flocculent to retard solids build up. Use amine corrosion inhibitor to help reduce drill string corrosion.

### 5100' - 5200' (10 3/4" casing point)

Lower the fluid loss of existing fluid to 10 - 15cc with starch and polyanionic cellulose. Increase viscosity to 36 - 38 sec/1000 cc with gel. Use fiber and mica flakes for lost circulation.

### Special Equipment

A doubledeck shaker should be used from 11800' to 14700' (TD) to reduce drill solids in the mud. A degasser and adjustable choke and mud gas separator should also be used through this section.

### 5200' - 12700' ( 7 5/8" casing point)

Drill out with fresh water and control pH to 10.5 - 11.0 with lime. Treat with amine corrosion inhibitor to reduce corrosion of drill string. Use co-polymer, flocculent to retard solids build up. Prior to logging and setting the 7 5/8" protection string, mud up with a low-solids, gel organic polymer, polyanionic cellulose, non-dispersed mud with 34 sec/1000cc viscosity, 10cc or less fluid loss, and 8.5 ppg weight. Possible gas kicks below 12000' may require 9.0 - 9.2 ppg mud.

### 12700' - 12900'

Drill out with existing mud and increase the weight to 12.6 ppg. Maintain the viscosity at 38-40 sec/1000cc with gel and the fluid loss at 4 - 5cc with organic polymer and polyanionic cellulose.

### 12900' - 14700' (5" liner)

Increase mud weight to 12.8 ppg and maintain viscosity at 38 - 40 sec/1000cc and fluid loss at 4 - 5cc. Weight up if necessary to control any kicks.