



Southwestern Drilling Mud Service, Inc.

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DISCUSSION OF RECOMMENDATIONS

The drilling fluid recommendations for this well are based on information gained from several offsets in the area. The key offset is Penroc's Ross Draw Unit No. 5, located in the same area. The other offsets are shown on the enclosed location map.

The significance of using the Penroc well as the key offset becomes apparent when examining all the offset wells. The Ross Draw Unit #5 is the only well in the area to essentially experience no formation related drilling problems. All other wells experienced loss of circulation problems and more abnormal pressure problems than the Penroc well. Considering this data, our recommendations are based primarily on the Penroc well but contingency plans are also included to handle some of the problems encountered on the other wells.

Following is an interval by interval discussion of our recommendations.

INTERVAL 0-300'

Spud in with a conventional Fresh Water Gel and Lime spud mud with sufficient viscosity to clean the hole. Use Paper to control seepage losses. We recommend using 2 lb/bbl Paper. Complete loss of circulation is a possibility. If complete losses do occur, use concentrated pills containing Paper and Cottonseed Hulls.

INTERVAL 300-3500'

This interval should be drilled with brine water as salt sections will be penetrated. We recommend drilling out with the existing spud mud and circulating the reserve. Jet Jel should be used to flocculate and settle out all spud mud solids. Volume additions to the reserve pit should be brine water. This will convert the fluid to salt system and prevent excessive wash-out of the salt section.

Maintain a pH of 10-11 with Caustic Soda for corrosion inhibition. Use Paper, as necessary, to control seepage losses. Daily treatments of Jet Jel should also be used to maintain solids free fluid. We do recommend using viscous sweeps of Sea Mud to insure a clean hole. A sweep should also be used prior to running casing.