

#### Background

An operator required an alternative fluid system to oil-based mud to drill a 17½-in section to TD without NPT caused by fluid-related issues. Because the operator did not want to reduce the fluid's technical grade to the common KCl/glycol drilling fluid, M-I SWACO recommended the HydraGlyde Optima\* flexible high-performance water-based drilling fluid system for a field trial with minimum risk. The large saving in waste cost by not having to ship oil-based cuttings to shore was taken into consideration when selecting the HydraGlyde Optima water-based system over a potentially more robust oil-based one.

The 17½-in section was drilled in one bit run over five days, from the 20-in casing shoe at 4,109 ft [1,252 m] to section TD at 8,662 ft [2,640 m]. Zero NPT was experienced. A small volume of the system was contaminated with high-pH fluid, but isolated. Casing was run and cemented without any losses or fluid problems. This second consecutive well proved the chosen concept of drilling with an optimized high-performance water-based mud instead of the usual oil-based mud.

#### Technology

HydraGlyde Optima flexible high-performance water-based drilling fluid system

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## Water-Based Fluid System Delivers Oil-Based Performance

No NPT and significant waste cost savings were experienced over the trial well section



*The water-based HydraGlyde Optima system demonstrated good inhibitive properties as shown at left in drilling chalk and at right in a clay formation.*