

“The oyster beds and pea-gravel formations are extremely problematic. The DRILPLEX system not only reduced losses to manageable levels, but also non-productive time resulting in the successful completion of what would otherwise have been a very difficult section to complete. Pre-job planning was an essential element of this success.”*

Steve Smith – Senior Technical Service Engineer

Well Information

Location.....Vermillion Parish, Louisiana, USA
Spud..... March 2002
Total Depth6,000 ft (1,829 m)
Intervals Drilled 20-in. hole from 355 ft to 5,000 ft (108 to 1,524 m)
Mud Weight..... 9.2 lb/gal
Total days on interval..... 11 days

The Situation

An operator had to drill two intervals that in the past had caused fluid losses in offset wells in a 20-in. hole section. Losses in the range of 15,000 to 20,000 bbl were not uncommon. The first objective was to drill unconsolidated pea gravel at 400 to 700 ft (122 to 213 m) with minimal losses and then the ‘oyster-reef’ – a highly porous shelly carbonate – at 5,200 ft (1,585 m) where total losses could occur and where wellbore collapse had occurred on more than one offset well. Drilling objectives for the interval were:

- Drill 20-in. hole-section to 6,000 ft (1,829 m) and set 16-in. casing in 11 days
- Minimize risks associated with total lost returns
- Drill ahead without loss of footage while taking losses

The Solution

The DRILPLEX MMO system was chosen on the basis of its excellent track record and because of its unique rheological properties that minimize losses into fractured and highly porous formations.

The Results

The DRILPLEX system successfully achieved all of the objectives, including reduced fluid losses while drilling. The section was completed on schedule.



The Details

The pea gravel was drilled at 50 ft/hr (915 m/hr) to avoid overloading the annulus and inducing fractures to the formation. The DRILPLEX system was regularly treated with pre-hydrated bentonite using well water. Other treatments of DRILPLEX additive, soda ash and caustic soda were made through the LOBESTAR* shear hopper.

Losses were inevitably taken while drilling unconsolidated sands and pea gravel, but were limited to less than 3,500 bbl. Offset wells incurred losses up to 10,000 bbl.

The oyster bed was also drilled at 50 ft/hr while taking losses that amounted to no more than 1,000 bbl.

Questions? We'll be glad to answer them.

If you'd like to know more about the DRILPLEX system and how it's performing for our other customers, please call the M-I SWACO office nearest you.

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