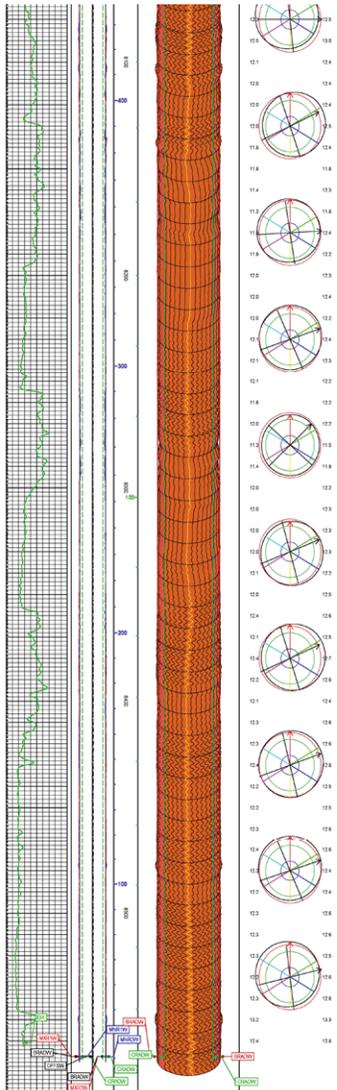




MULTIPLE CORING RUNS THROUGH TROUBLESOME SHALES USING M2-PLUS* FLUID SYSTEM



SITUATION

A Universal Fluid Services (UFS) customer in Houston, Texas was scheduled to drill a disposal well in Calcasieu Parish, Louisiana to a total depth of approximately 11,500 feet. In addition to drilling, the Operator had to run numerous coring intervals, which would leave troublesome swelling and migrating shales exposed over a period of several days while tripping in and out of the hole. To further complicate matters, the drill site was located in an environmentally sensitive area within the Louisiana marshlands. Because of the potential for environmental impact, the Operator viewed oil based drilling fluids as the choice of last resort. Due to the shales' sensitivity, typical water based fluids were risky as well. A novel approach was called for.

Adding to the Operator's dilemma was the fact that this well would serve as a test case, and if successful numerous additional wells throughout the United States could be drilled using the lessons learned here as a "best practices" scenario.

SOLUTION

The local Universal Fluid Services Drilling Fluid Specialist fully understood the difficulties associated with drilling in the area and recommended the *M2-PLUS** inhibited water based fluid system as a solution. This system utilizes water based fluids, the highly-effective and proprietary *M2-SS** shale inhibitor and other proprietary materials, to create a fully inhibited package that can replace oil based drilling fluids in many instances. The UFS Drilling Fluid Specialist was confident the *M2-PLUS** system would meet the Drilling Operator's challenge to drill this well as quickly as possible with no disruptions attributable to troublesome shales.

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NOTES:

RESULTS

The Drilling Operator agreed to implement the *M2-PLUS* approach suggested by UFS.

Key Performance Benefits

- During the drilling process, the Intermediate Section (2,500' to 8,600') was open with sensitive shales exposed for 14 days without incurring wellbore damage. Four coring runs were performed during this phase.
- During the drilling process, the Production Interval (8,600' to 11,503') was open with sensitive shales exposed for 13 days without incurring wellbore damage. Four coring runs were performed during this phase.
- No hole stability or drilling fluid related issues were encountered during the entire well drilling and coring processes.

Key Financial Benefits

- The total actual cost for drilling using the *M2-PLUS* system was \$251,000.
- The total estimated cost for drilling the well with an oil based system is approximately \$500,200. This is comprised of lost oil based fluid (\$60,000), drilling fluid products (\$213,200), diesel fuel (\$143,000), oil based fluid trucking (\$33,000), tank cleaning (\$20,000) and drill cuttings disposal (\$31,000.00).
- Based on the comparison above, utilizing the *M2-PLUS* inhibited water based drilling fluid system, the Operator was able to reduce drilling fluid costs by 49.8%.

CONCLUSIONS

The Operator viewed this drilling project as a tremendous success and subsequently Universal Fluid Services (UFS) has been asked to provide the *M2-PLUS* fluid system on all future wells where applicable.

To enjoy the benefits of *Application Excellence let Universal Fluid Services (UFS) provide the fluid management services on your next well.**