

Aligning drilling and completion goals



Conflicting technical priorities

During well construction drilling teams need a reservoir drill-in fluid (RDF) capable of carrying cuttings away from the bit while forming an impermeable barrier in its wake to protect the freshly drilled reservoir section from fluid invasion. Yet during completion the situation is reversed – completions engineers need residues removed and the cleanest possible fluids to protect downhole equipment and ultimately well productivity.

The technical challenge is finding a pairing of drilling and cleanup products that will work together in concert without affecting each other's performance along the way. And achieving all of this in the context of today's environmentally responsible, water-based systems.

Integration – a good idea all-round

The integration of two pioneering systems – CleanDrill™ reservoir drill-in fluid (RDF) and ORCA for WBM breakers – allows operators to cover all bases without compromise.

- CleanDrill is a minimally damaging monovalent brine-based RDF, allowing for easy cleanup of the filter cake and achieving minimal drawdown pressures. It features a proprietary viscosifier and starch combination – achieving excellent cuttings transport, robust filtration control and generates an impermeable filter cake that is readily removable.

- ORCA for WBM is a highly effective, single treatment cleanup solution to tackle water-based RDF filter cakes. The breaker system dissolves both the weighting and fluid loss additives as well as the polymers that comprise the filter cake. Since an organic acid is generated in-situ after fluid placement, it enables uniform cleanup across extended horizontal intervals and in heterogeneous formations. Its benign nature makes it safe to transport and handle.

The perfect match

Reservoir information and formation samples form the basis of a rigorous lab test and evaluation process that includes ClearTrack; Newpark's bridging particle size distribution analysis software. The result is a properly blended, fit-for-purpose RDF and breaker system that complements optimal drilling performance in water-based fluids with uniform and efficient filter cake removal.

Taking an integrated approach that builds RDF and breaker formulation directly into a comprehensive fluids program makes sure that each component is in the right place, at the right time, with the right downhole conditions to have the greatest possible impact.

This integrated approach also benefits operators that may have lost in-house expertise and are now outsourcing specialized project components to third parties: it's an opportunity to create greater cohesion between drilling and completion operations.

Making a difference you can measure

Deploy the CleanDrill and ORCA for WBM combo in a wide variety of applications, including:

- Production wells with screens where operators cannot rely on production flow to fully lift residues, and where the presence of residual filter cake risks plugging screens and reducing productivity.
- Wells such as water injectors with no opportunity for back flow, to avoid pushing damage into the formation, blocking pores and limiting injectivity rates.
- Operators can still be confident of success in scenarios where fluid systems are not pumped straightaway, as CleanDrill recently demonstrated after 2 months of storage at a Texas wellsite.
- Despite limited fluid volumes and restricted fluid communication between tubing and wellbore face, an effective filter cake cleanup was also delivered for operators in offshore Australia.

Time to bring it all together?

An integrated fluids system allows drilling teams and completions engineers to focus on what they do best.

For cleaner, more productive wells make an integrated reservoir drill-in fluid and breaker package from Newpark part of your next fluids program design.



Contact Newpark fluids specialists for more information
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