Hydros™

Next generation high-performance water-based drilling fluid system

Hydros™ versatile, high-performance water-based drilling fluid system is a sustainable and economical option engineered to solve a wide range of drilling challenges – from onshore to ultra-deepwater. Its unique blend of proprietary components are **field-proven to enhance drilling performance** through challenging shale sections and depleted zones.

System overview and application

The Hydros system is engineered for drilling water-sensitive and unstable formations. The key components limit clay hydration and swelling, providing effective encapsulation and reduced cuttings dispersion in the wellbore.

Hydros is strategically formulated to allow for drilling highly overbalanced zones and depleted formations. Hydros can be modified to seal microfractures and has successfully drilled wells with more than 2000 psi overbalance. It can also be enhanced with wellbore strengthening additives to provide assurance when drilling through depleted and unstable formations.

Hydros combines clay inhibition and cuttings encapsulation from modified polymer chemistry and an adaptable nano-sized particle sealing package. Interchangeable components allow the fluid to be tailored to meet a wide range of well conditions based on formation challenges and stricter regional environmental requirements.

Why Hydros

Combining performance with cost effectiveness, Hydros provides a high level of inhibition, encapsulation, and wellbore sealing at a competitive cost/bbl compared to non-aqueous systems. The benefits are even further evident when considering the indirect costs related to managing non-aqueous fluid systems.

Strategically engineered with a blend of specialized additives for high-quality performance and low environmental impact, Hydros can be used in the most environmentally sensitive drilling areas. It is resistant to the most common contaminants encountered while drilling—reducing treatment costs and improving overall drilling performance.

DESIGNED FOR:

- Conventional land, offshore, and deepwater drilling
- Depleted sands and reactive formations
- Operations seeking a water-based alternative to non-aqueous fluids
- Regions with restrictive environmental regulations

ADVANTAGES:

- Provides clay inhibition and time-dependent wellbore stability
- Encapsulates cuttings to support integrity and improve solids-control removal efficiency
- Improves lubricity, ROP, and torque & drag performance
- Supports low-temperature rheology and improved ECD control
- Adaptable component package for specific drilling challenges and regional regulatory requirements

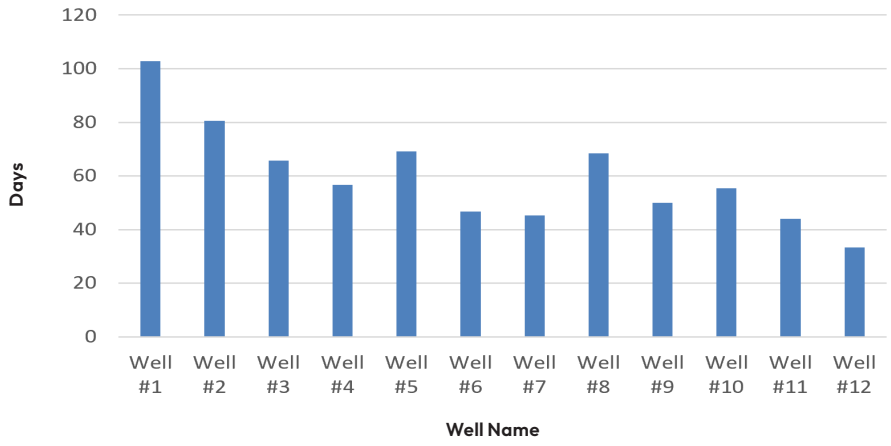
Proven field success

A large operator in Oman approached Newpark after repeated successes in the nearby Saiwan and Farha Fields, where a total of 80 wells had been drilled with Newpark's support and without any significant issues. To combat a combination of reactive shales in various formations, bit balling, and loose sand, our technical team designed and implemented an engineered and fit-for-purpose solution using Hydros.

The Hydros system was implemented, and drilling performance was significantly improved. Penetration rates increased 164% and days per well was reduced by 68% (103 days to 33 days). Additionally, zero NPT or lost time incidents (LTI) were recorded during the project.

Oman operation results

Total Days (Spud-Release)



Note: In Well #12, Newpark achieved a record performance with lowest total drilling days, lowest total cost, and the highest m/day ratio.

Anticipate and overcome your fluids challenges before they occur
Take a look at our complete drilling fluid solutions to see which best fits your operation's needs.

Explore the full portfolio at **newpark.com/total-fluids-solutions/drilling-fluids**

newpark.com
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