CHALLENGE

Foreign particle invasion and plugging, formation clay dispersion and migration, chemically incompatible fluids, and fluid invasion are all potential causes of formation damage that, if not addressed, can lead to lost circulation, wellbore stability issues, and ultimately, decreased production.

OVERVIEW

The BRINEDRIL-N® system is one of the fluid systems within Baroid’s DRIL-N™ fluids family. It is a high-density, brine-based polymer system specifically designed for drilling, completion, and workover operations. The BRINEDRIL-N system contains carefully formulated polymers that provide exceptional rheological, suspension, and fluid-loss characteristics in a nondamaging, thermally-stable fluid. In addition, carefully sized BARACARB® bridging agent can be added to promote a thin, low-permeability filter cake for drilling permeable formations.

BENEFITS

- Non-damaging to the reservoir
- Can ensure wellbore stability and effective hole cleaning
- Provides exceptional rheological, suspension, and fluid-loss characteristics
- Enables fast penetration rates
- Easy to prepare and maintain the required density with clear brine or dry salts
- Formulations can be customized for specific reservoir conditions, pilot-tested in the laboratories, then recommended for the field applications
- Helps increase production rates

FEATURES

The BRINEDRIL-N system is a heavy brine fluid system utilizing water-soluble salts such as potassium chloride, sodium chloride, sodium bromide, calcium chloride, calcium bromide, zinc bromide, or sodium, potassium and cesium formate brines.
- Densities ranging from 9.5 to 18.0 lb/gal (1,138 to 2,157 kg/m³)
- Exhibits unique high-shear viscosities at low-shear rates and shear-thinning capabilities
- Superior lubricating characteristics

RETURN PERMEABILITY

Return permeability studies have consistently shown greater than 85% return permeability.

PARTICLE SIZE DISTRIBUTION SELECTION

The bridging material in the BRINEDRIL-N system can be customized using Baroid’s DGF™ modeling software for selecting the proper particle size distribution for the reservoir rock average pore throat size. This custom sizing capability minimizes particle invasion and fluid loss to the producing formation.

The above displays the particle size distribution of the BARACARB® bridging material that can be used in the BARADRIL-N system.
## Conclusion

Carefully formulated with exceptional rheological, suspension, and fluid-loss properties, BRINEDRIL-N drill-in fluids are highly effective in drilling, completion, and workover operations. The high-density fluids help ensure wellbore integrity and well control as well as optimal production rates.

In addition, BRINEDRIL-N fluids are customized based on the reservoir’s specific conditions for optimal results.

For optimum performance, BRINEDRIL-N drill-in fluid is recommended to be followed by a breaker treatment, such as Baroid’s N-FLOW™ filter cake breaker.