

# UNI PERM<sup>®</sup>



## *Volumetric Sweep Improvement Flowing Gel Technology*

The Science of Enhanced Oil Recovery

Oil producing reservoir contemplated for secondary recovery must be studied prior to waterflooding to characterize the rock properties and determine how efficiently the reservoir will flood. Many exhibit a non-uniform permeability contrast that results in rapid water breakthrough at the offset producing well(s), with resulting inefficient oil recovery. If a reservoir shows a Dykstra-Parsons permeability variation greater than 0.55, then a long-term injection side application of colloidal dispersion polymer gel should be considered early in the life of the waterflood.

TIORCO's UNI PERM colloidal dispersion gel (CDG) is a polyacrylamide gel that forms in-situ after it enters the reservoir. These gels are formed from low concentration polymer augmented drive fluids, capable of entering high matrix permeability and/or fractured reservoirs in-depth, while being adsorbed onto the rock surfaces. Thus, predominate water flow paths are physically altered to reduce flow. Now the reservoir appears more uniform to the drive fluid, and more low permeability oil bearing rock is contacted. Case history data indicates expected recovery improvements up to 10% of original oil-in-place over and above waterflood recoveries with less water injected.

#### UNI PERM (Coloidal Dispersion Gels)

- Polymers
  - HI-VIS<sup>®</sup> 350
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- Crosslinkers
  - WATER-CUT<sup>®</sup> 684
  - TIORCO<sup>®</sup> 677N

**Bulk Gel Filling 50% Channel MPV**

