

# **EFFECTIVENESS OF PARTIALLY HYDROLYZED POLYACRYLAMIDE – HEXAMINE – PYROCATECHOL GEL FOR PROFILE MODIFICATION JOBS**

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## **ABSTRACT**

A major problem in maximizing oil production potential is the maintenance of adequate mobility control and favorable permeability profiles within the reservoir. Currently, polymer gel systems are receiving a great deal of attention in this application. A laboratory investigation of a partially hydrolyzed polyacrylamide-hexamine-pyrocatechol gel system was conducted to determine whether the system develops In-depth permeability modification in unconsolidated sand packs. Flow experiments were conducted in 35cm long, 2.85cm internal diameter unconsolidated sand packs in which the gel solution was mixed before injection. Injection rates were designed to provide adequate residence time for the gel solution to develop in-situ flow resistance during displacements based on bulk gel characterization tests. Sand pack core flooding experiments show that the mentioned gel has good plugging ability and may be used for profile modification jobs in the oilfields.

**KEYWORDS:** Profile Modification, Cross, Linked Polymer Gel, Gelation Time, In-Situ Gelation, Plugging Ability