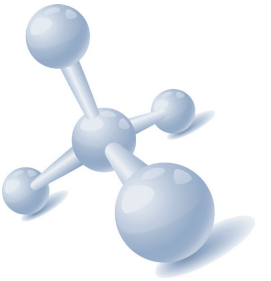

Solutions

for conformance improvement and water shut-off

APPLICATION

The gel can be injected into production or injection wells and can solve the following problems:

- Producing Wells: Bottom water coning, early water breakthrough, fracturing out of zone, conduit from injector to producer, natural fractures connected to bottom water drive
- Injection Wells: Conduit from injector to producer, injection out of zone, thief intervals of natural fractures or high permeability streaks

DESCRIPTION

The gel is made up of a polymer and a crosslinker. The polymer and crosslinker are added at the surface, then injected down into the formation. The reaction rate is sufficiently delayed to allow placement some distance from the wellbore.

ADVANTAGES

- Robust, versatile gel chemistry that does not require exact chemical concentrations
- Can be used in almost any type of mix water
- 80% success at reducing water production at least 60% without reducing oil
- May not require zone isolation in fractured reservoirs
- Can place large volumes to block water flow paths further out from the wellbore than other methods, which reduces new flow paths bypassing the gel
- Works up to 210°F
- Payout is often within 6 to 9 months, based on incremental oil production alone

CRITICAL DESIGN FACTORS

- Producers with surface fluid levels are excellent candidates
- Perfs must be clean so the gellant can be readily injected
- Minimum efficient injection rate and maximum injection pressure constrain treatment volumes
- Should be able to place at least 1,000 BBLS of gel without reaching pressure limit

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