Chelating Fluid for EOR in Carbonate Reservoirs

Abstract
The chelating fluid for enhanced oil recovery in carbonate reservoirs and the method of using the same utilizes a chelating fluid injected into a carbonate oil reservoir through a fluid injection system. The chelating fluid is a solution of a polyamino carboxylic acid chelating agent in brine, with the polyamino carboxylic acid chelating agent having a concentration of approximately 5 wt % of the solution, with the solution having a pH of approximately 11.0.

The Invention
This invention is for oil producing companies to enhance production from carbonate reservoirs specially those how utilize seawater for EOR projects. Using Chelating agents as a part of the injected sea water was proved to enhance production through a series of core flooding experiments.

Market Need
Using the invented technique will solve the problem of formation damage when sea water is used for EOR which in sample time enhancing the oil recovery more than seawater. The presence of chelating agent like EDTA will eliminate the interaction between damage forming elements.

Competitive Advantage
It combines the benefit of Formation damage free system and EOR system. High oil recovery can be achieved without introducing any formation damage to the flooded zone so Injection wells infectivity decline is avoided. Same Seawater used for pressure maintain ace can be mixed with EDTA and used for EOR application

Readiness for Market / Looking for a Development Partner
To prove out invention in a field scale a pilot test should by carried with a carbonate reservoir owner company. A section of a carbonate reservoir should undergo injection of the invention solution and oil recovery increase is to be noticed to evaluate the invention in a filed scale. Saudi Arabia partner such as Saudi Aramco can be involved in such filed application providing the reservoir section and required facilities to implement this invention.

About KFUPM
King Fahd University of Petroleum & Minerals is a leading educational organization for science and technology. KFUPM Innovation Center is the IP management and technology licensing office tasked with taking innovation from lab to market place.

Patent Protection
This technology is protected by a pending US patent application number US13/932986.

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