



Organic Acid-Based Enhanced Waterflooding

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Patent Status:

Patent Pending

Description of Technology

The average oil recovery from a typical oil field is approximately 40%. This results in lots of oil being left behind that has already been identified and has infrastructure set up for production. Enhanced oil recovery (EOR) is the process of pumping a substance into an underground oil deposit to displace the oil making it easier to pump out of the deposit. Doing this can increase oil recovery by 10-30%. EOR is traditionally done with water.

Researchers at the University of Wyoming have been exploring ways to increase percentages of oil recovery. They have found that two chemicals, cyclopentane carboxylic acid and 3-cyclohexane propionic acid, that can aid in EOR. These organic acids can be directly dissolved into injection water for water flooding and do not need to be used in high concentrations, which can save money. With these two chemicals aiding in EOR, the incremental recovery factor over traditional water flooding is expected to be 5% or higher.

Applications

This technology can help aid in enhanced oil recovery. Increasing the amount of oil that is able to be recovered from a deposit not only saves money but makes it so that not as many deposits need to be drilled.

Features & Benefits

- The acids can be dissolved directly into injection water
- Can be used in low concentrations
- Potential increase of oil recovery by up to 5%

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