



## Organic Acid-Based Enhanced Waterflooding

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**Patent Status:**

Patent Pending

### Description of Technology

The average recovery amount from a typical oil field is approximately 40%. Such poor recovery efficiency results in lots of oil 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. EOR techniques traditionally use water to increase oil recovery by 10-30%.

Researchers at the University of Wyoming have been exploring ways to increase the percentage of oil recovery over traditional EOR approaches. They found that two chemicals, cyclopentane carboxylic acid and 3-cyclohexane propionic acid, can aid in EOR. These organic acids can be directly dissolved into injection water for 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 aid in enhanced oil recovery. Increasing the amount of oil recovered from a deposit not only saves money but reduces the number of drilled deposits.

### 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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