NOVEL VISCOELASTIC MODEL FOR ENHANCED OIL RECOVERY AND RESERVOIR SIMULATION
ID# 2016095

HIGHLIGHTS

- A predictive model for polymer behavior
- can be used for recovering oil from a depleted oil reservoir and for screening polymers

OPPORTUNITY

University of Alberta researchers have developed a model that can more accurately predict the behavior of viscoelastic polymers. This method utilizes an independent core flood model that can be integrated into any commercial reservoir simulator for predicting polymer behavior in an oil reservoir. The model can effectively predict pressure drop, injectivity, and the onset of viscoelasticity. It can also classify the porous media behavior of similar shear viscoelastic polymers. Companies using this technology will have the ability to significantly increase the accuracy of polymer screening for injectivity and oil recovery operations, as well as the accuracy of numerical reservoir simulation and polymer manufacturing and testing, without needing to rely on extensive coreflood measurements.

The model can be incorporated into commercial numerical simulators to predict injectivity and recovery due to viscoelastic thickening independently, thereby assisting in the quick screening of polymers for oil recovery applications.

COMPETITIVE ADVANTAGE

- Eliminates coreflood experiments - quick screening of polymers
- Predicts the behavior of viscoelastic polymers
- Can be adopted in commercial reservoir simulators

IP STATUS

- [US 11,268,014](#)

Publication

- '[Novel viscoelastic model for predicting the synthetic polymer's viscoelastic behavior in porous media using direct extensional rheological measurements](#)'

MORE INFORMATION

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