

OilSEEKER

High-water-cut acidizing diverter

APPLICATIONS

- Acid diversion during matrix stimulation of carbonate or sandstone formations in layers with high water saturation

BENEFITS

- Avoids formation damage and slow cleanup
- Allows preferential treatment of oil zones
- Improves zonal coverage during matrix stimulation
- Improves treatment success, ultimately increasing production

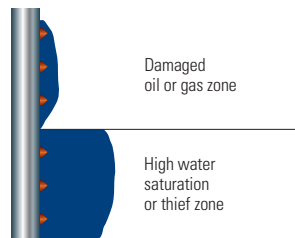
FEATURES

- Nonpolymeric, nonparticulate aqueous system
- Gelation in water-saturated matrix or fissure
- Nondamaging to the formation
- No nitrogen requirement
- Operational range from 75 to 250 degF [24 to 121 degC]
- Easy mixing and pumping

During standard acidizing treatments, the treating fluid favors the zones with higher water saturation and/or higher permeability. Water cuts may climb even higher if nonthief hydrocarbon-bearing zones are not effectively stimulated. OilSEEKER* high-water-cut acidizing diverter, engineered for both sandstone and carbonates, selectively reduces injectivity in zones with high water saturation, forcing the acid to enter the zones with high oil saturation. OilSEEKER diverter decreases water cut while increasing the production of oil.

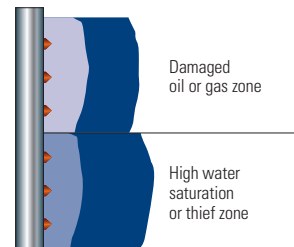
Stage 1

Inject a brine or acid preflush to create a region with 100% water saturation near the wellbore in the zone with high water saturation.



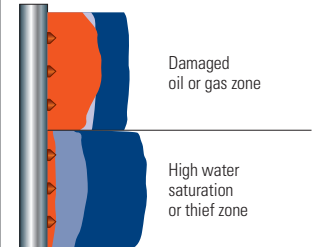
Stage 2

Inject OilSEEKER diverter to form a viscous plug in that zone.



Stage 3

Inject the main acid treating fluid. It preferentially enters the target oil zone, taking the path of least resistance.



■ Brine or acid preflush

■ Broken OilSEEKER diverter

■ Viscous OilSEEKER diverter

■ Acid

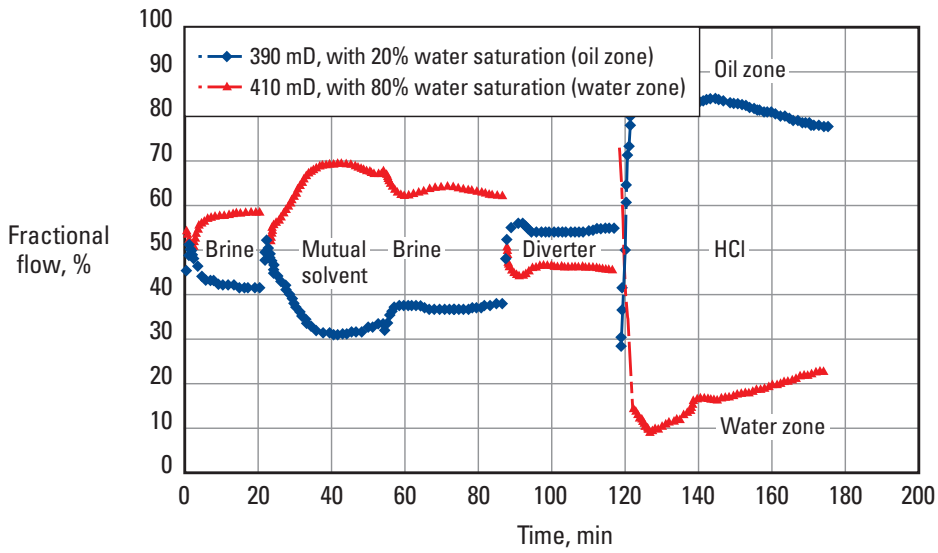
Treatment stages using OilSEEKER diverter.

Laboratory tests

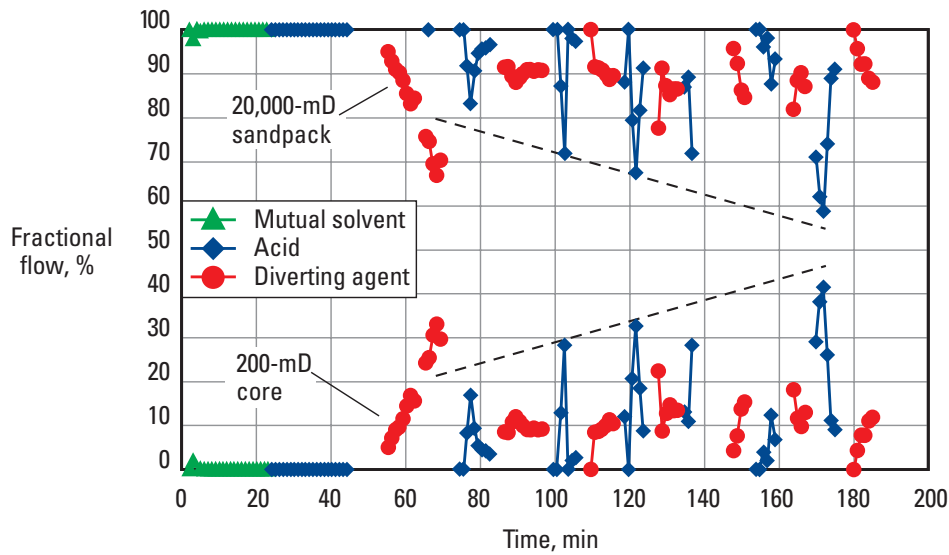
Laboratory tests were performed at 150 degF [66 degC] on cores before and after injection of OilSEEKER diverter to evaluate effectiveness in diverting fluid from a highly water-saturated or thief zone to a zone with high oil saturation. Before OilSEEKER diverter injections, fluid predominantly entered the zone with a high degree of water saturation. After injection, fluid was diverted to the oil zone.

Laboratory testing also demonstrated the superior OilSEEKER diverter performance in diverting acid from 20,000-mD sandpack to 200-mD rock, an extremely unfavorable permeability contrast. Nearly 40% of the acid could actually be injected into the low-permeability zone after several stages of OilSEEKER diverter injection.

The near-wellbore area is cleaned first, and the zone with high water saturation is then preferentially treated with OilSEEKER diverter. Acid is forced into the zones with high oil saturation, which results in effective stimulation of your pay zone.



Core tests demonstrate the diversion of acid treatment from the water zone to the oil zone using OiSEEKER diverter.



Laboratory tests demonstrate the diversion of acid treatment from high-to-low-permeability zones using OiSEEKER diverter.