

# AquaCUT relative permeability modifier

Cut the water, not the oil.  
Extend the economic life of your well.

High water cut in oil and gas wells leads to a host of problems, and ultimately impacts the economic life of your well. Typical solutions are indiscriminate, blocking both water and hydrocarbon production, and often require costly workovers and long shut-in times. Specifically in mature fields, the cost and risks associated with these conventional methods outweigh return-on-investment.

**AquaCUT™ relative permeability modifier (RPM)** from Baker Hughes, is a subsurface water conformance product that decreases the water cut in mature sandstone wells, reducing associated processing and disposal costs while also extending the productive life of the well. By selectively targeting only the water phase of produced fluids, AquaCUT RPM products reduce the amount of produced water with minimal impact on hydrocarbon production.

## Reduce water production

In the presence of oil, the AquaCUT RPM components deform and minimize the

restriction of the formation pore throat, allowing oil or gas to flow unimpeded. Alternatively, in the presence of water, the water-wetting polymer expands, filling the pore throats which increases the resistivity of water flow.

AquaCUT RPM can be bullheaded or pumped through coiled tubing (CT) to target and dramatically decrease the water phase of produced fluids, including high-salinity brines. Although best used for reservoirs producing excessive water through matrix flow, AquaCUT RPMs can also be used for temporary mitigation of water production through water coning.

## Cut costs and extend the economic life of your well

The ability to selectively restrict water, versus shutting off all fluid flow, helps reduce costs while extending the economic life of your well.

Wells that may have been shut in due to surface water handling/disposal can now be revitalized, increasing salable production. Less water means less build-up of scale, helping to decrease

## Applications

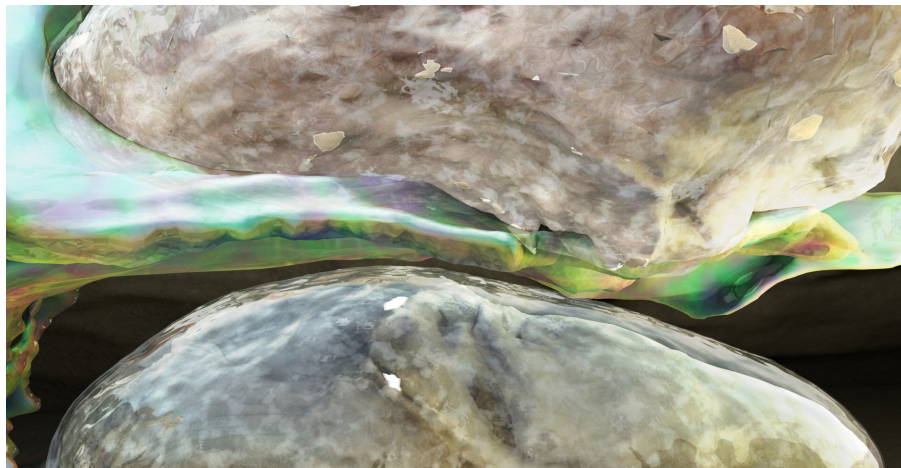
- Sandstone formations
- High water-cut wells with recoverable reserves near oil-to-water contact
- Mature wells with low pressure

## Benefits

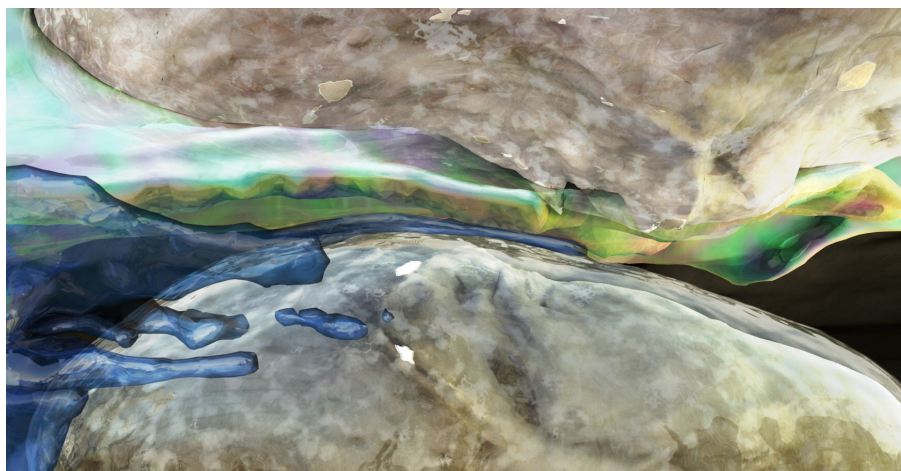
- Improves well economics by reducing water production and increasing oil or gas flow through enhanced drawdown and hydrocarbon inflow
- Reduces water disposal costs
- Eliminates costly conventional workovers
- Reduces CO<sub>2</sub> emissions by decreasing the volumes of produced water for treatment and disposal
- Mitigates inorganic scaling due to reduced water production
- Increases sellable production while decreasing disposal production
- Decreases lifting costs per unit of production

maintenance and treatment facility expenses. Decreased water production results in reduced water treatment and disposal, which helps to reduce CO<sup>2</sup> emissions. Decreased water production also minimizes the cost of downhole pump repair and surface costs for storage and handling—improving lifting costs per unit of production. By increasing saleable production and reducing water production, AquaCUT RPM treatments can often yield impressive results in economic performance.

Contact your Baker Hughes representative today to learn how AquaCUT relative permeability modifier can reduce water cut and help improve the economic life of your well.



Polymer attaches to the sandstone formation through a covalent bond – preferentially in tight spots (pore throats). The highly water-wetting polymer “lays down” in the presence of hydrocarbons (repelled).



In the presence of water, the highly water-wetting polymer expands, filling pore throats, thereby increasing resistance to water flow ( $R_w$ ).