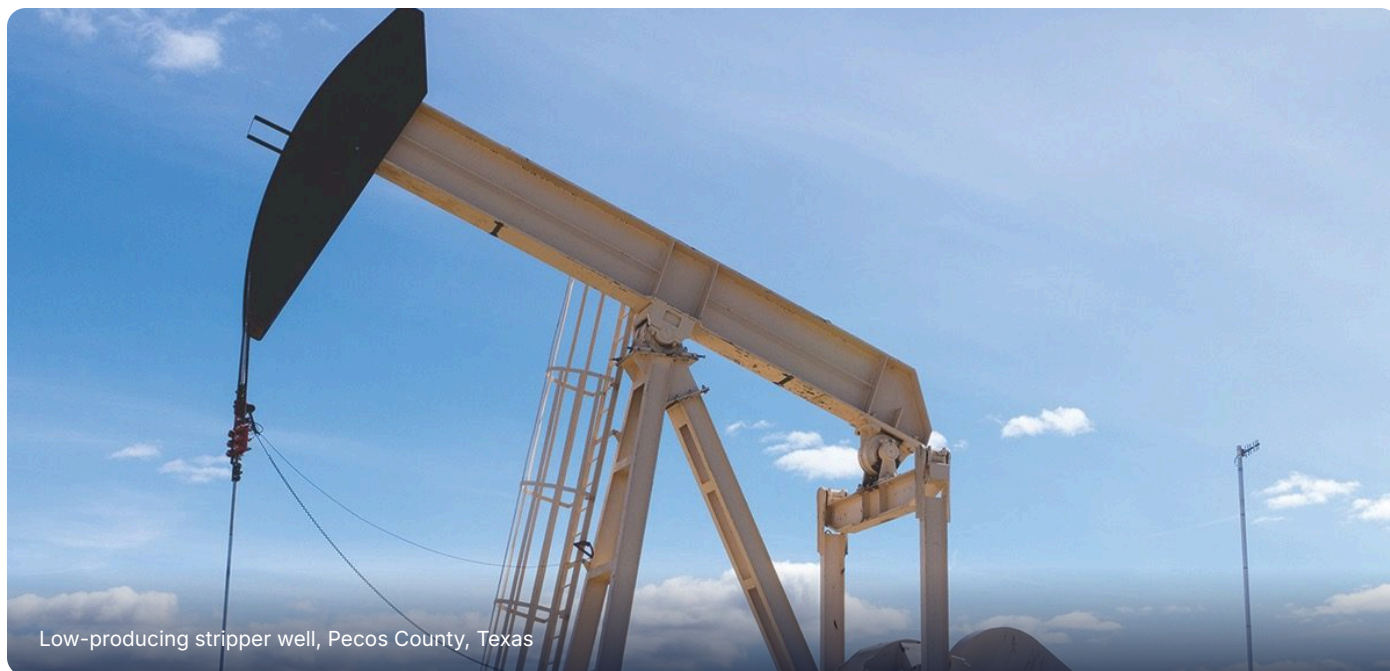


FIELD STUDY • OIL & GAS

Hydroxyl Radical Ions Increase Stripper-Well Output

A Texas field study took low-producing stripper wells from 1–2 barrels per day to 15 — for less than \$100/day — using DZ 9450 to clear paraffin, biofilm, and hydrogen sulfide.



Low-producing stripper well, Pecos County, Texas

1→15 BBLDAILY OIL
PRODUCTION**<\$100/day**TREATMENT
COST**0**DETECTABLE H₂S,
IRON & BACTERIA

In February 2020, a private independent oil-service firm from Houston conducted a field study on four low-producing wells (stripper wells) in Pecos County, TX, each generating 1–2 barrels of oil per day. Using several methods of injecting DZ 9450 into the well, production increased to 15 barrels per day for five days, then settled to 10 barrels per day for two weeks. After the operator injected 5 gallons per day of DZ 9450 into the well casing, the well produced 15 barrels every 12 hours of operation.

Hydrogen sulfide was eliminated in both the gas and liquid phases. Paraffin and asphaltenes — known problems in the system — were minimized, because DZ 9450 changed the surface structure of paraffin and asphaltenes so they would not deposit. Produced water tested with no detectable iron, bacteria, or hydrogen sulfide, and visibly looked cleaner.

— Why stripper wells stop producing

A stripper well is an oil or gas well averaging 15 barrels or less per day — typically just 1–2 per the National Stripper Well Association (NSWA). The NSWA estimates over 770,000 stripper wells operate in the U.S., contributing 11.3% of U.S. oil production and 8.3% of gas. Most sit on top of untapped resources: an estimated 50–70% of the oil beneath them cannot be recovered, for three reasons — pressure, permeability, and paraffin.

As these fields produce, wellbore pressure drops and output falls. Thermal energy entering the wellbore lowers permeability, and the oil crosses its cloud point — paraffin crystals precipitate as oil moves from the pore space to the wellbore. If flow slows, paraffin forms a thick deposit that further chokes flow. Biofilm compounds the problem: it generates a sticky extracellular polymeric substance (EPS) that attracts paraffin crystals, asphaltenes, and iron sulfide, building deposits on any surface.

— How DZ 9450 works

DZ 9450 uses reactive oxygen species (ROS) to form a strong oxidizing agent that quickly reacts with hydrogen sulfide, iron sulfide, biofilm, and bacteria. It also acts as an emulsion breaker and micro-flocculant in produced-water treatment, and can destabilize paraffin and asphaltenes. As a green, environmentally friendly technology, DZ 9450 generates a high concentration of hydroxyl radical ions that react to form inert mineral oxides.

THE RESULT

Cleaner produced water, no detectable H₂S or iron sulfide, minimized paraffin and asphaltene deposits — and a stripper well producing 15× more, for under \$100/day.



For more information, contact D&Z Worldwide at deepak@dz-worldwide.com or www.dz-worldwide.com.