

Case History

REPacker™ Open-Hole Packer System

Multilateral zonal isolation in Mexico achieves 500% increase in gas production.

Problem

Recuperate gas production lost from water invasion into a low-pressure productive zone and isolate a non-desirable thief zone. Due to crossflow, the operator decided to drill a re-entry well and complete a new lateral leg using multilateral L2 technology.

Solution

- A whipstock system was selected to provide re-entry to the well
- REPackers were selected to isolate the zone above the pay zone because the hole is not very consolidated, and thus cementing operations were not successful. For that reason, two 5-in. REPackers were chosen in conjunction with FLEX-LOCK™ liner hangers to get better zonal isolation than with cement
- Packer dimensions and properties were customized for the application
- To respond to the urgency of the project, Baker Hughes engineered the solution and delivered the equipment to the rig site in ten days

Results

- The multilateral completion was successfully installed and the trouble zone successfully isolated with dedicated wellbore isolation personnel at the rig site
- No complicated equipment or procedures were required to run and activate the reactive element
- Reaction time was optimized to allow safe deployment with minimum wait on swell time
- Continuous swelling process tracking performed matched the downhole process
- The engineered solution saved two days of rig time and squeeze cement jobs, and associated cost and risk
- The well was returned to production with 2,670 psi (3.022 MMcfd), instead of 730 psi (0.480 MMcfd) without the REPackers. Results: 500% increase in gas production, 150% increase in oil production, and 0% increase in water production. In addition, the work resulted in significant savings in time, money, and operating risks

Project Details

Location: Veracruz, Mexico

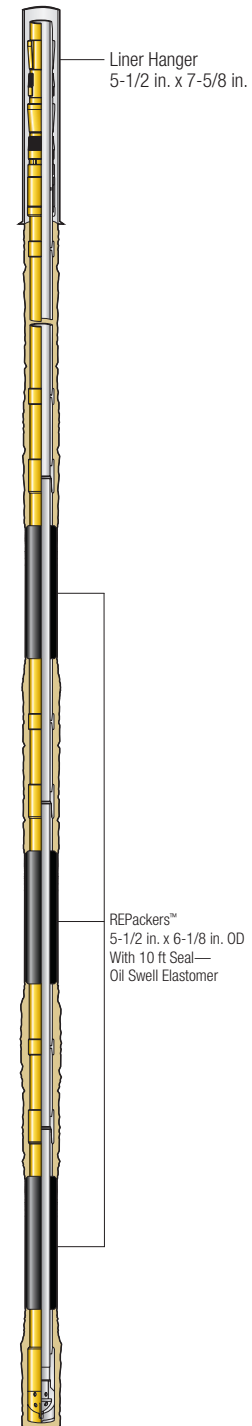
Setting Depth: 9,215 ft, 9,176 ft (top zone) and 9,317 ft (bottom zone)

Open-Hole ID: 6 in.

Drilling Fluid: Water-based mud

REPackers: 5-in. x 5.75-in.; water-reactive element

Other Baker Oil Tools Equipment: FLEX-LOCK liner hanger and WindowMaster™ casing exit system



REPacker™ open-hole packer system