**BaSOL 2000 HP Scale Dissolver Increases Oil Production 733%**

Scale dissolver helps restore well productivity and avoid well shut-in through dissolution of deposited barite sulfate scale in well

**CHALLENGE**
Cost-effectively remove heavy scaling and restore well productivity after many failed treatments.

**SOLUTION**
Pump BaSOL 2000 HP* scale dissolver in batches to unblock the oil-producing zone.

**RESULTS**
Increased oil production from 81 bbl/d to 675 bbl/d, avoiding unnecessary well shut-in.

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**Treat scale to prevent well shut-in**

Many onshore oil fields located in southern Mexico suffer from severe barium sulfate scale deposition that causes flow assurance issues. Production declines led the operator to close in many wells due to uneconomic production rates.

Although the operator worked with many companies to apply chemical treatments over the years, none of them could successfully restore production. The operator needed technologies and methodologies that could solve these flow assurance issues. It approached Schlumberger to find a way to restore productivity.

**Apply BaSOL 2000 HP scale dissolver as optimal solution**

Schlumberger requested a field-scale sample for a full characterization of the mineralogy. Identification confirmed that the scale was mainly a mix of barium sulfate and strontium sulfate for which Schlumberger proposed using its proprietary barite scale dissolver, BaSOL 2000 HP scale dissolver. BaSOL 2000 HP scale dissolver delivers the optimal pH conditions for sulfate scale dissolution. With capacities of up to 80 g/L, the converting and catalyzing agents integral to BaSOL 2000 HP scale dissolver ensure delivery of rapid dissolution rates compared with other industry products.

Schlumberger performed a production logging tool run, including caliper and gamma log readings, which confirmed that the oil-producing zone was partially blocked due to severe scale deposition. Taking the high bottomhole pressure, operational complexities, and well depth into account, Schlumberger integrated the chemical treatment design into a proper and integral field application design. The product was pumped by coiled tubing for a specific number of batches of 1.5 m³, and contact time was calculated to be 2 hours per batch. The team provided agitation by pumping a small quantity of dissolver to displace the spent product. This methodology provided fresh batches of BaSOL 2000 HP scale dissolver and displaced the spent product out of the area of interest to keep the dissolution process ongoing after every batch pumped.

**Increased oil production 733%, saved well from shut-in**

During flowback of the well, samples were taken at regular intervals and analyzed on pH, flow rates, ions, and basic sediment and water. The treatment was extremely successful—increasing oil production from just 81 bbl/d to 675 bbl/d while decreasing water cut. The cost of the intervention was a fraction of the value of the incremental barrels of oil produced.

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Oil and water production data before and after treatment with BaSOL 2000 HP scale dissolver.