Pressure Pumping Services Revives Abandoned Well, Increases Oil Production by 350 Barrels Per Day

Objectives

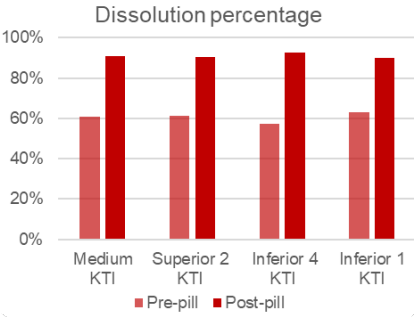
- Perform an acid-frac treatment to generate conductive fractures and revive production within a previously abandoned well.
- Determine actual reservoir potential following the stimulation job.

Our Approach

- Weatherford pressure-pumping experts met with the operator to review plans to revive an abandoned oil well. To guide the acid-frac program, the Weatherford team conducted an extensive pre-job analysis, and sent formation samples to a laboratory for carbonate dissolution testing.
- When lab testing revealed that the team would first need to treat organic-rich drilling-mud residues that would impede the acid from contacting and acting on the carbonate pay zone, the team recommended including an oxidizing pill in the acid-frac program.
- At the wellsite, the Weatherford team performed a three-stage treatment. The first stage involved organic cleaning using a solvent system and mobility enhancer to penetrate a 5-ft radius around the wellbore. They next pumped an oxidizing pill as a pre-flush treatment to remove the organic residue and leave the carbonate exposed to the upcoming acid treatment. The acid-fracture stage followed, where reticulated gel, acidic and diversion systems were used.
- The team carried out the acid-frac treatment in accordance with the job design and witnessed an increase in surface pressures to indicate successful diverting-agent performance. They performed the entire operation with no equipment or safety problems.

Value to Customer

- By conducting thorough testing, the Weatherford team was able to determine the optimal combination of stimulation fluids to address the reservoir conditions unique to this well. The three-stage acid-frac treatment generated a network of conductive fractures that revived production with average of 350 barrels of oil per day.
- The operator used production data from this well to evaluate the reservoir potential and open the way for reactivating other wells in this dormant field.



Pre-job dissolution testing demonstrated a significant improvement in acid performance following treatment with an oxidizing pill.

LOCATION
Veracruz State, Mexico

WELL TYPE
Onshore oil producer

DIRECTIONAL WELL DESIGN
J-shape

FORMATION
Lower-Cretaceous carbonates

TOTAL DEPTH
8,688 ft (2,648 m) MD

TEMPERATURE
201°F (94°C)

PRESSURE
3,670 psi (25.3 MPa)

PRODUCTS/SERVICES
- Pressure Pumping Services
- AcidSure services
- Oxidation pill

Weatherford®

 13295.00