



Weatherford®

REAL RESULTS

Steam-Bypass Rod Pumps Decrease Deferred Production by Almost 100%, Reduce Workovers

Objectives

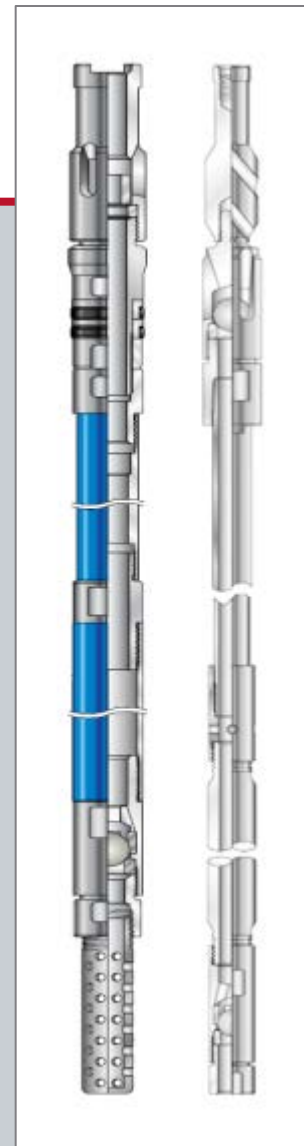
- Increase or maximize the run life of rod pumps in heavy oil-producing wells that use cyclic steam stimulation (CSS). The existing process consisted of cyclic steam injection through the casing and tubing annulus, with the downhole rod-pumping equipment being removed from the well prior to injection. This process resulted in a high rate of pump failures from casing deterioration, lower quality steam, premature pump failure (anchor, cage, and balls), and loss or inefficiency of the steam cycles.

Results

- Weatherford installed the steam-bypass rod pumps with hollow tubes on two wells to test the performance of these systems in the client's existing environment.
- The steam-bypass pumps—consisting of a mechanical downhole rod pump—enabled the passage of steam without removing the pump from the well and introduced enhancements and accessories that prevented the solids deposition and other damage to internal components during the injection phase that causes premature failure.

Value to Client

- Weatherford's steam-bypass rod pump effectively produced the client's two steam-injected wells and decreased deferred production by almost 100%.
- With the steam-bypass system installed, the pump resisted up to three steaming cycles, which reduced workover interventions.
- Pump components and accessories prevented premature failures that occurred with conventional rod pumps. Failures were prevented by reducing the solids deposition and internal wear in the pump's critical elements via the steam-bypass rod pumps' enhanced components and accessories.
- In addition, the hollow tube eliminates the valve rod, which is the weakest link in any rod pump.



Combined with Weatherford's standard American Petroleum Institute (API) insert-rod pumps, the steam-bypass system provides a method of injecting steam into the producing formation without removing the subsurface pump from the well.

Location

Lagunillas, Venezuela

Well Type

Onshore heavy oil, steam-injected

Products/Services

Steam-bypass 30-250-RWAF-TS-12-2 rod pump with hollow tube

Weatherford
po-info@weatherford.com