



Acid Stimulation with Slim WWT 212 Tractor and CT Services Fiber Optic DTS

Objective

The objective of the operation was to reach the complete Open Hole section of the extended reach well to complete pre-stimulation logging, pump stimulation fluids with optimized placement and perform post-stim logging to monitor the results.

Problem

Small upper tubing restrictions due to ESP bypass system, long horizontal Open Hole created an access challenge for CT and logging equipment. Secondly, multiple runs for pre-stimulation logging, stimulation run, and post stimulation logging created an extremely expensive overall intervention with a lot of complexity.

Solution

WWT's 212 Slim Hydraulic Tractor was combined with CT Services Real-Time fiber optic enabled CT to complete the operation in 1 run.

The WWT 212 ELG Tractor was slim enough to pass through the ESP bypass, then expand outward to grip in 6-1/8" Open Hole and pull CT to required depth. CT initially locked-up at 20,084 ft. The WWT 212 tractor was activated by pumping pre-flush fluid and the tractor continued pull CT until TD was reached at 24,702 ft MD.

At TD the fiber optic enabled Coiled Tubing performed a distributed temperature survey to optimize stimulation placement. The tractor and fiber optic system are both Acid and H₂S resistant, allowing the stimulation fluids to be pumped without concern.

After successfully pumping the stimulation a post run DTS survey was completed to monitor effectiveness of stimulation treatment in real time.

The combination of the WWT 212 ELG tractor with CT services fiber optics turned a complex costly intervention into a simple 1 run intervention, with improved quality results.

Location: KSA.

Well Type: Oil Producer Well

Objective: Logging and Stimulation in ERD well

Solution: WWT 212 ELG Tractor/ CT services Fiber Optic.

Results: Open Hole effectively Cleaned out and Acid Stimulated at TD.

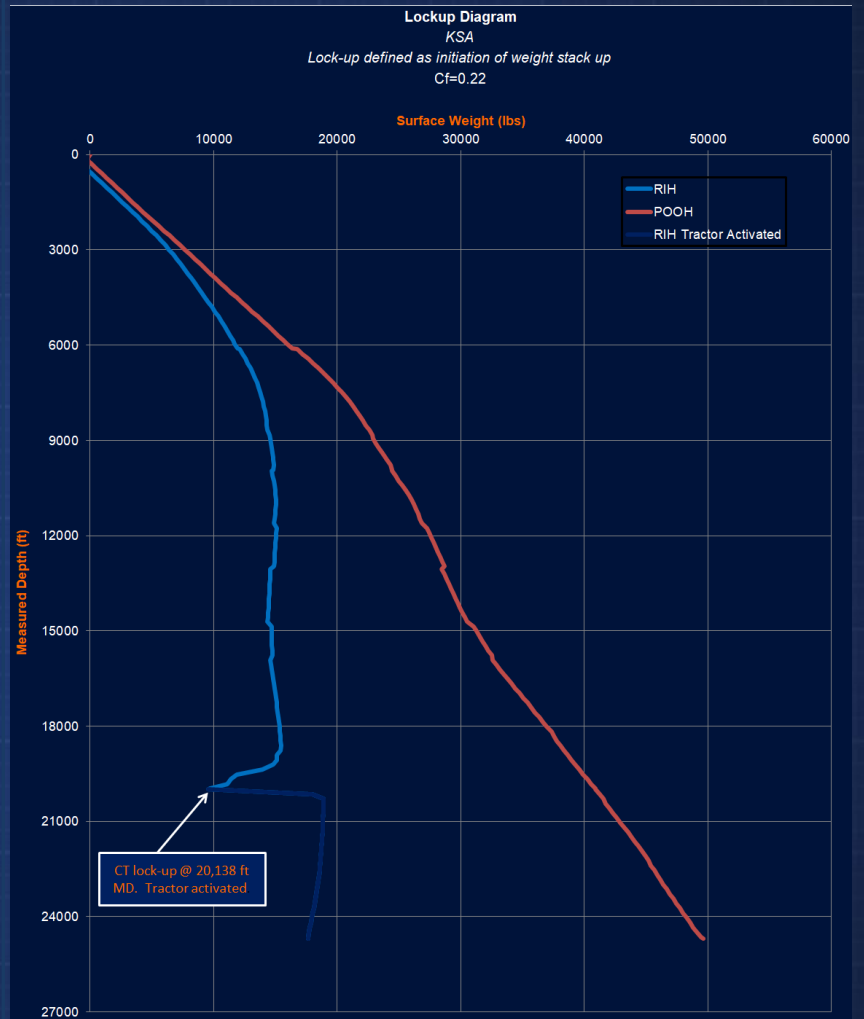


Figure 1 Tubing Force Analysis



Figure 2 WWT Eccentric Link Gripper