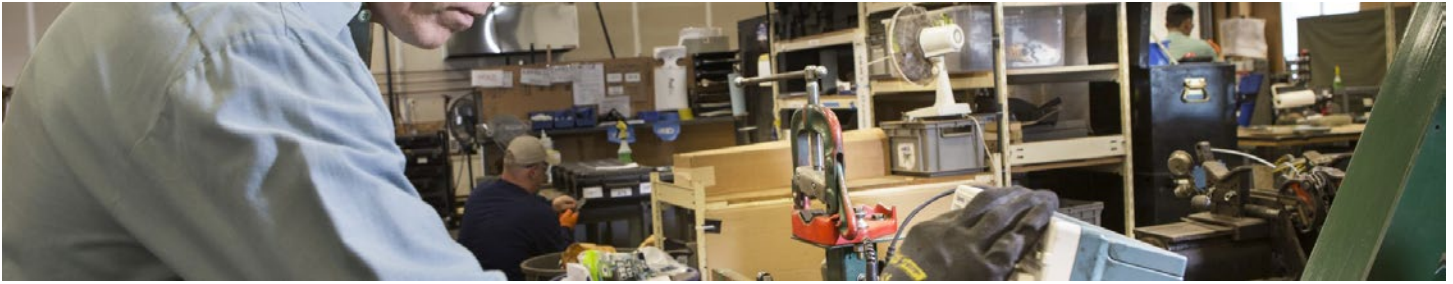


Case History: HydroPull™ SC Stimulation and Cleanout



HydroPull™ SC Stimulation and Cleanout Tool – Gulf of Mexico Deepwater Asphaltene Cleanout

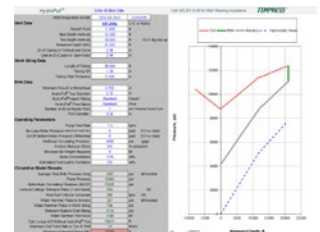
A Gulf of Mexico deepwater, offshore gas well was shut-in due to a high asphaltenes and the Operator wished to clean the well in preparation for temporary abandonment. The water depth was 3,853 ft. and the producing gas sand was located at 18,225 ft. to 18,338 ft. MD. The production tubing was:

- 4-½-in. (3.826-in. ID) to 17,412 ft. MD
- 3-½-in. (2.992-in. ID) to 18,031 ft. MD
- a 60 ft. inverted telescopic joint with a minimum ID profile of 2.75-in.
- 3-½-in. sand screen across the reservoir, 18,225 ft. to 18,338 ft. MD

A plan was prepared to clean the completion with 29,000 ft. of 1 ½-in. coiled tubing deployed on the Helix Q4000. A 2 ⅝-in. HydroPull™ SC Stimulation and Cleanout tool equipped with a Carbide Hammer Bit and six, 0.106-in diameter forward facing cleaning jets was specified. Results of the Tempress proprietary HydroPull Job Performance Planning Software showed that pumping 1.25 bpm of xylene would generate 850 psid pulsed jets and 327 psid water hammer suction pulses in the annulus and would require pumping pressure at 10,491 psi with 4,200 psi wellhead pressure.

The job was performed by the Oil States Energy Services Thru Tubing group and slick line run in the well tagged bottom at 17,557 ft. MD, 668 ft. above the top of the sand. Xylene was pumped at 1 bpm/9,200 psi at 17,400 ft. MD and the fill was tagged at 17,597 ft. MD. Pumping continued for an hour and the pumps were stopped for an hour to allow the xylene to soak. Pumping resumed for an hour at 1 bpm and again for another hour at 1.25 bpm/10,200 psi until 18,250 ft. MD, which was 25 ft. MD below the top of the completion screen. The wellhead pressure was 4,200 psi, but climbed to 4,750 psi as the tools entered the screens. The Operator then confirmed the ability to bullhead fluid into the completion in preparation for cement placement. Total pumping time was 3 hours with 3.25 bbl of xylene placed. This job illustrates the ability to clean heavy asphaltene with the Tempress HydroPull SC Tool that was obstructing access to a small diameter completion. The job was completed quickly and without incident despite high well pressure and the limited, small diameter coiled tubing available.

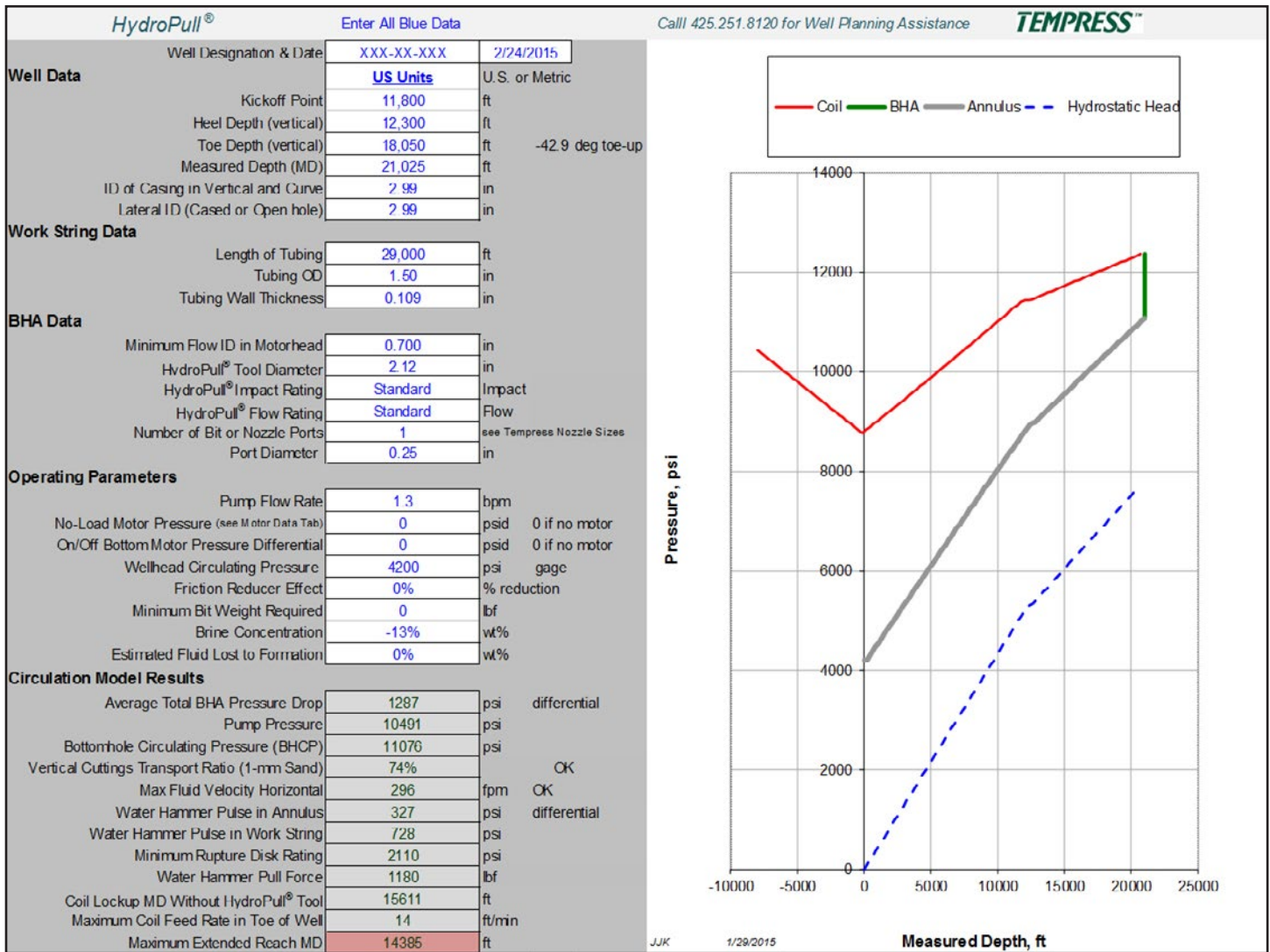
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TEMPRESS®

OIL STATES Energy Services

HydroPull™ SC Stimulation and Cleanout Tool – Gulf of Mexico Deepwater Asphaltene Cleanout



HydroPull™ SC Job Planning Software showing circulating pressure on this job