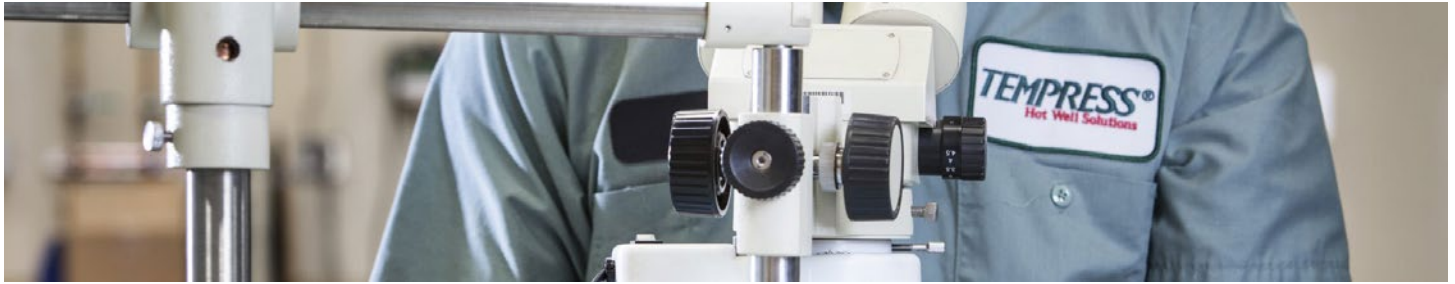


Case History: HydroPull™



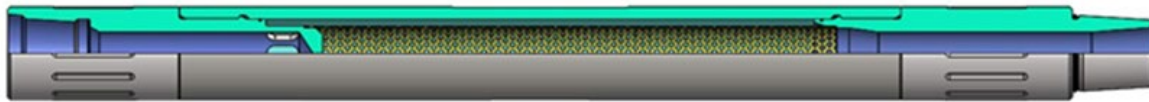
Milling Bridge Plugs with Two-Phase Flow in Depleted Well — HydroPull™ and MGS™ Combine

An Operator required the milling of composite bridge plugs in a depleted gas well. The BHA was designed and a 2 7/8-in. (73 mm) HydroPull™ tool was run with a PDM and a mill on 2-in. (51 mm) coiled tubing.

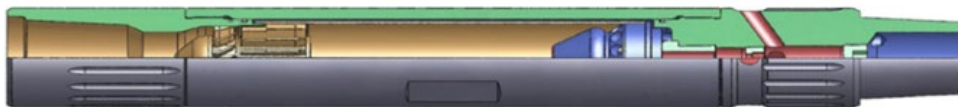
The objective was to mill bridge plugs inside 5 1/2-in. (140 mm) casing from 7,500 ft. to 13,000 ft. (2,286 m to 3,962 m) MD on four horizontal depleted gas well completions, possessing horizontal lateral lengths of 5,500 ft. (1,676 m).

A Tempress Motor Gas Separator (MGS™) tool was run below the HydroPull™ tool and above the PDM. The tools were operated at 3.25 bpm (517 lpm) with 0.5 bpm (80 lpm) fluid, or gas equivalent, bypassed by the Motor Gas Separator (MGS™).

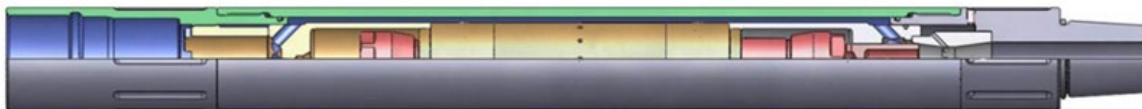
The result was eight bridge plugs were milled in an average time of 8 minutes each. In offset wells running a competitive agitation tool, instead of the HydroPull™ tool, the average milling time was 40 minutes per plug. Nitrogen dampened the pulse amplitude of the HydroPull™ tool but increased plug milling speed by five times.



Tempress Screen Sub



Tempress Motor Gas Separator Tool (MGS™) Tool



Tempress HydroPull™ Tool

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