CASE STUDY

Slickline Deployed PKO Liner Top Packer's as an enabler of enhanced oil recovery.

PROJECT

A North American operator with wells completed with 3-1/2" and 4-1/2" casing wanted to embark on a well deepening program to increase production. The financial success of the program was dependent on being able to economically drill beyond existing casing and then place sealed 2-7/8" and 2-3/8" tubing in the new section.

DTI was asked to engineer a Slickline Set Liner Top Packer solution that could be landed in a Polished Bore Receptacle (PBR) at the top of the new tubing section. An engineered solution evolved from the existing PKB Slickline Bridge Plug and PKO Straddle System to deliver a sealing tool where the lower section sealed in, and landed on, the tubing PBR. Jarring down then set an element and upper slip section to create a pressure barrier inside the original casing.

RESULTS

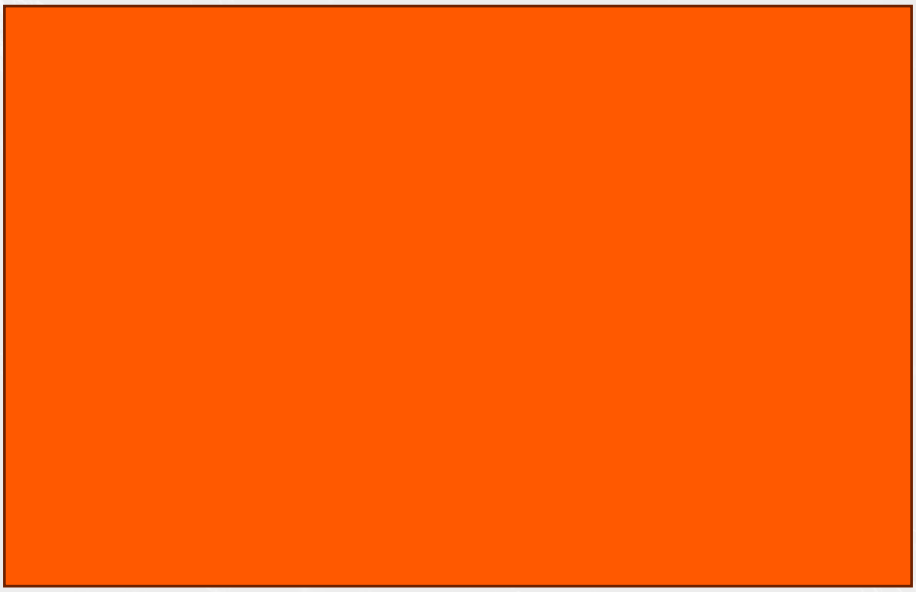
From 2015 onwards 20 x 4-1/2" and 15 x 2-1/2" 13Cr Liner Top Packers were delivered and successfully installed resulting in economical, reliable slickline deployment of a retrofittable well construction seal. The economics of the well deepening project were improved vs sealing methods involving Coiled Tubing or Electric Setting Tools.

DTI worked closely with the customer to design bespoke tools according to their brief. Additionally design advice was provided based on our experience of setting bridge plugs and packers on slickline.

FEATURES & BENEFITS

The Liner Top Packer shares similar benefits with the DTI Slickline Set, PKB Slickline Retrieve Bridge Plug and the DTI PKO Straddle System in that it is set by down jarring with a standard slickline tool string including a spang jar and GS tool. No special setting tools are required.

The sealing elements this product range features are designed to generate a reliable well barrier using only slickline down jarring. The simplicity of the setting tool string and setting operation enable any slickline crew to run and pull tools without a specialist service technician. In addition, the low setting force ensures slickline retrieval by jarring up is highly repeatable. Large slip contact and low element force reduce host tubing stress, making the products well suited to older assets.



KEY FIGURES & STATS

- Run using generic GS Pulling Tools.
- Standard slickline tool string consisting of stem/weight bars and link jar.
- Landed and sealed in Polished Bore Receptacle (PBR) of new tubing section.
- 13% Cr 80KSI Material
- A total for 35 packers supplied (20ea. of 4 ½” Packers and 15ea of 3 ½” Packers