CASE STUDY

India

Custom-tailored centralizer enables successful deployment of shunt tube system

Protech™ II centralizer installation protects shunt tube and allows successful gravel pack completions

CHALLENGE

- Mitigate damage to lower completion with shunt tube system while RIH
- Successfully complete gravel pack operations

SOLUTION

- Install Protech™ II centralizers to protect shunt tube from premature damage while RIH

RESULT

- Successfully deployed shunt tube system through liner hanger
- Successful shunt activation
- TD achieved with minimum drag

Overview

Successful deployment of non-shrouded, un-centralized shunt tube gravel pack systems can present challenges that result in premature shunt tube damage, which requires rerun and significant NPT. This occurs when the lower completion string passes through the set liner hanger with an internal castellation profile.

Challenge

The shunted blank of a 3.5-in. screen for a gravel pack assembly lacked a protective outer shroud. This exposed the transport tubes on the blank joint of the shunted system to the internal restricted profile of the liner hanger.

Additionally, the transport tubes were supported by back-up rings that created a 90° shoulder, which increased the potential for hang up and premature damage during transitions from tool joints or collars while run in hole (RIH).

The conventional solution to install centralizers on Super 13 chrome tubing requires a heat-treatment process that was unavailable in the region at the time.

Solution

Upon recognition of the operator's challenges, Halliburton recommended Protech™ II centralizers as an effective solution to achieve proper centralization and protect the shunt tube.

Protech II centralizer blades consist of a ceramic and carbon fiber blend and are custom-tailored to well-specific challenges. Because the blade spacing and geometry are customized, they can provide full circumference standoff and allow unrestricted flow paths.

After detailed sensitivity analysis, Halliburton designed Protech II centralizer blades with a straight profile and a circular pattern to provide proper

centralization of the string and protect the shunt tube during installation. The tailor-made Protech II blades were molded directly onto the tubing with mechanical and chemical bonding. This installation process results in great adhesion properties and blades that do not slip or move because of their integration onto the pipe body.

Result

Protech II centralizers enabled lower slim hole completions to safely pass through the set liner hanger and achieve TD with minimum observed drag and zero damage to the gravel pack assembly.

The highly critical shunt system successfully activated and allowed the gravel pack installation to perform as planned and maintain well integrity.

Protech™ II centralizer blades are designed and molded into the pipe for proper centralization and shunt tube protection.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com