



eRED® Valve Replaces Ball-Drop Method to Set Hydraulic Packer

UNITED KINGDOM

CHALLENGE

- » Reduce difficulties with pumping/gravitating ball on the seat in highly deviated well
- » Eliminate rig time spent with contingencies if ball does not get on seat

SOLUTION

- » eRED® valve integrated with packer running tool
- » Ball-drop still available as contingency

RESULT

- » Saved rig time
- » Reduced risk of issues landing ball on seat by the used of remote command trigger system

OVERVIEW

The Captain Field, operated by Chevron North Sea Limited (Chevron), is located in the Moray Firth Basin of the UK Continental Shelf. Chevron had previously experienced some challenges when dropping a ball to set a hydraulic packer on another well. Faced with a similar situation on a highly deviated well with a long horizontal section, Chevron recognized the potential for issues when they needed to set the packer. Halliburton proposed using a packer running tool combined with the eRED® retrievable, computer-controlled ball valve. The addition of the eRED valve to the packer running tool allowed Chevron to set the hydraulic packer without dropping a ball, reducing risk and saving rig time.

CHALLENGE

Chevron wanted to simplify the operation of setting a hydraulic packer. During a previous run in a similar application, issues had been encountered that made the ball-drop method problematic. Such a method poses potential difficulties with pumping or gravitating balls on seat as well as rig time spent with contingencies that could result in several hours of non-productive time (NPT).

SOLUTION

Understanding these challenges, Halliburton leveraged an earlier success with the eRED valve for Chevron and proposed using the eRED valve to negate ball-drop as the primary packer-setting method. The eRED valve is a retrievable, computer-controlled ball valve that can be repeatedly opened and closed by remote command, making it ideal for highly deviated or extended-reach drilling (ERD) type wells.

The eRED valve was connected below the existing ball seat on a packer running tool and stabbed inside the running tool body to allow onshore pre-job testing to take place. The packer assembly was run in hole with the eRED valve in the open position to allow for



fluid bypass and washdown/circulation capability. Upon reaching setting depth, the eRED valve was commanded to close remotely to allow the production packer to be set and pressure-tested. The eRED valve was then remotely commanded to open to allow enhanced fluid bypass when pulling out of hole with the running tool string. The open eRED valve allowed fluid to be circulated, which meant that the ball-drop method could still take place as a contingency to that valve function.

RESULT

Successful installation of the remotely operated running tool allowed Chevron to save time and eliminate the risk associated with dropping a ball to set the hydraulic packer. This was a notable achievement since such operations often pose risk in terms of recesses, debris, and/or remains of cement or thread dope located in the workstring which could potentially hinder landing a ball on seat. By mitigating such risks and removing the potential consequences, the eRED valve brings added value to packer-setting applications in challenging wellbore applications.

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