Case study: Australia

E-line deployed electro-mechanical cutter completes precise cut in 7 in., 13 Cr casing

A major customer in Australia required a solution to cut 7 in. tubing to retrieve an old completion string in an offshore well.

The tubing was estimated to be under approximately 35,000 lbs of compression at the required cutting depth at an inclination of 62°. In addition, the customer's acceptance criteria in order to be able to pull the tubing post-cut was for <1 mm wall thickness to remain.

Solution

The Baker Hughes' **Downhole Electric Cutter Tool (DECT)** was chosen for the job due to its ability to cut pipe in compression, whilst eliminating the use of hazardous chemicals or explosives.

Cerberus™ Tension modelling was conducted and risk reduction technologies such as the **Addressable Release Tool (ART)** and High Efficiency Rollers were deployed, eliminating the need for a wireline tractor.

Leveraging on Baker Hughes' experience in mechanical cutting, analysis showed that the remaining wall thickness post cut completion, was within the customer's tolerance for pulling.

Due to travel restrictions, the planned DECT specialist was not able to travel to the site location. Therefore we utilized local Baker Hughes wireline engineers combined with remote support for pre-job training and real-time monitoring during the operation.

Results

Despite facing challenges due to changes in job schedule and rig up methodology, the DECT tool was deployed to the cut depth as per tension model under gravity. The cut was completed within the acceptance criteria, and the customer was able to separate the completion within required pull limits.

The solutions from Baker Hughes resulted in delivery of a precise, high quality cut, saving deployment time, while remote support provided competency assurance and technical support in a challenging offshore environment.

Images from the cut tubing

Challenges

- Pipe: 7 in. OD, 13Cr, 29 lbs/ft, 0.408 in. wall thickness
- Pipe status: estimated 35,000 lbs compression
- Cut inclination: 62°
- Crew travel restrictions

Results

- Wireline deployed solution with high efficiency rollers and releasable cable head
- Remote real-time support
- Tool deployed to depth without tractor requirement
- Precise cut delivered in under 3 mins
- Remaining wall thickness within customer specifications