TARANAKI
Thru Tubing Tools

Efficient Tubing Severance in P&A Campaign using Hydraulic Tubing Cutter and Thru Tubing Motor

Background & Challenges

- This technical case study showcases a tubing severance operation performed with coiled tubing conducted during a P&A three-well campaign.
- The operation involved using TT Hydraulic Pipe Cutters to cut two 4.5" tubing at 2,351m and 2,385m, and one 5.5" tubing at 1,982m. The tubing severance was performed in preparation for future sidetrack operations, and the project team carefully evaluated the conditions and requirements for a safe and successful execution.

Tubing Severance Operation

- The first tubing severance job aimed to cut a 5.5" tubing - 17ppt-13CHR L-80 at 1,982m in a vertical well. A Severance BHA consisting of a 3.625" OD Hydraulic Pipe Cutter, 2.875" OD Thru Tubing Downhole Motor, Non-Rotating Stabiliser, and Hydraulic Tubing Anchor. The tubing severance operation was completed successfully using pumping parameters ranging from 0.5 to 1.5 bpm.
- The team performed the next two tubing severance jobs in separate wells, involving the cutting of 2 x 4.5" tubing at 2,351m and 2,385m. The severance BHA for both jobs consisted of 2.875" OD Hydraulic Pipe Cutters deployed with 2.875" OD Thru Tubing Downhole Motors, Non-Rotating Stabilizers, and Hydraulic Tubing Anchor. Both severances were successfully completed using pumping rates ranging from 0.5 to 1.4 bpm.
- The well abandonment campaign began after completing the tubing severances, and both 4.5" and 5.5" tubings were successfully retrieved to the surface without any issues. The customer praised the clean and precise tubing severance achieved due to proper planning and effective BHA design application.

Hydraulic Cutter designed with robust knife, dressed with abrasion-resistant tungsten carbide insert.

Overview

Location: New Zealand
Operation: TT Tubing Severance
Solution Provided: TT Hydraulic Pipe Cutter, TT Downhole Motor.

Results

- Hydraulic Pipe Cutter provided clear cut profiles compared to conventional explosive severance techniques.
- All severances were completed in a single run for each well, and the tubing pipes were retrieved efficiently as planned during the abandonment campaign. This approach proved to be cost-effective for the customer.

Benefits

- The 4TL TT Hydraulic Pipe Cutters offer durable tungsten carbide insert knives and carbide inserts that resist abrasion.
- The Hydraulic Pipe Cutters offer a range of benefits, including an emergency shear release mechanism, Flow-disc-spring activation, and interchangeable nozzles. The blade design increases stability and centralization while the nozzles help to clean and cool the knives during severance.

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