

PERFORATION & BALLISTICS

NEW TUBING PUNCH TECHNOLOGY FOR WELL ABANDONMENT

Country: UK
Year: 2016
Technologies: **DynaSlot™ Tubing Punch**

MAKING INTERVENTION
SMARTER

Altus Intervention are the first to successfully deploy a new tubing punch technology for a well abandonment operation in the North Sea.

CHALLENGE

A North Sea operator wished to safely abandon an existing wellbore and re-use the slot for a sidetrack to access by-passed oil. The challenge was to punch 5^{1/2} 7/8 lb/ft tubing above TOC with no damage to the 9 5/8" casing using slickline conveyance. Due to a 45° well deviation, it was likely that the tubing was 'sitting' low-side against the casing. The operator was keen to use the new DynaSlot™ slot-type shaped charges that had been tested only at surface. Previous tubing punch operations using other technologies under similar well conditions did not yield optimum results.

SOLUTION

Following a programme of stack-up experiments, including surface testing at an approved test facility with the known tubing configuration, an oriented gun arrangement was selected. The punch was initiated using a memory trigger system on slickline to provide a cost-efficient service.

RESULTS

The tubing punch successfully achieved large overlapping holes without damaging the casing. The punch's effectiveness was evident when the tubing and annulus pressures were monitored during circulation. Low circulating pressures and a high circulation rate was evident. Success was confirmed when the tubing was retrieved (Image). This was the first run of DynaSlot™ in the North Sea and offshore globally. The successful results have instilled client confidence and will be utilised in subsequent operations.

