

Case study: Indonesia

Perseus pump-through cutter reduced rig time by six hours, saved customer \$70k USD

A major offshore operator in Indonesia was planning to re-enter a well to retrieve the existing 9 5/8-in. casing and cement plug the 12 1/4-in. openhole section to enable an open hole sidetrack. The customer previously had a similar re-entry case and sought for a more efficient way.

Conventional cut and pull operations typically require two separate trips. Also, the standpipe pressure reading tends to be high when displacing fluid before initiating a cut, this is due to an orifice installed in a conventional cutter.

Baker Hughes recommended a more efficient way to reduce cost and rig time significantly.

The Perseus™ pump-through cutter is hydraulically operated and designed to cut a single string of casing on command. Ideal for P&A or slot recovery operations, the knives are dressed with METAL MUNCHER™ Advanced Milling Technology (AMT) carbide that provides the industry's most durable, effective cutting and swarf control tungsten-carbide to cut or mill even the toughest steels.

The Perseus tool is designed to remain dormant and maintain pressure integrity while a plug is set either mechanically or hydraulically, after

which the cutting sequence is initiated. Unrestricted flow before activating also reduces the standpipe pressure.

Alternatively, the cutter can be run above a mill or bit to dress a cement plug, confirm well isolation, and then activated to cut the casing. A positive pressure indication at surface signals a successful cutout, providing assurance a cut has been completed, eliminating the guesswork associated with conventional technology.

Baker Hughes team deployed an 8 1/4-in. Perseus pump-through cutter in tandem with the bridge plug to enable all to be done in one trip. The bridge plug was then set mechanically and the 9 5/8-in. casing was cut with limited RPM due to equipment limitation imposed by the setting tool drag springs. The casing then retrieved within the same run.

By using the Perseus cutter on this platform, the customer saved a total of six hours of rig time, incurring zero HSE issues. The cost of one hour of rig time was \$11,650 USD, corresponding to a total cost saving of \$70,000 USD.

Challenges

- 9 5/8-in. bridge plug provided by other service company, with limited rotational speed capability
- Tight timeline from planning to the execution

Results

- Saved six hours equivalent to 70K USD of daily spread cost
- Retrieved the 9 5/8-in. casing successfully in one run
- Encountered zero equipment HSE issues



9 5/8-in. casing stump, with clean cut.