

Perseus cutter drilled cement, cut casing in one run, saved \$150,000 USD

As part of its plug and abandonment campaign, a major customer in Norway needed to drill a cement plug and cut the casing. Traditionally, these operations required two trips: one to mechanically set a plug and no allowance to set cement above the plug/retainer; and a second trip to cut and retrieve the casing. Naturally, with two runs needed, a customer must incur all the associated rig time and costs.

Baker Hughes, a GE company (BHGE), suggested the **Perseus™ pump-through cutter**. Hydraulically operated and designed to cut a single string of casing on command, the PERSEUS is ideal for plug-and-abandonment (P&A) or slot recovery jobs. 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 remains dormant and maintains pressure integrity while a plug is set either mechanically or hydraulically

after which the cutting sequence is initiated. Alternatively, the cutter can be run above a mill/bit to dress a cement plug, confirm well isolation and then activated to cut the casing. A positive indication, at surface, signals a successful cutout providing assurance a cut has been completed.

In hopes of reducing the trips from two to one, the Perseus cutter was deployed. It provided a full-bore inside diameter (ID) through the tool, enabling the customer to drill the cement with full flow and displacement back to the surface.

After a successful cement weight test, the Perseus tool was positioned at the required cutting depth of 3057 ft (932 m). The cut was made in one minute. With the casing free, it pulled easily. The AMT cutters were examined at the surface and showed minimal wear.

The single-trip run was completed safely, with zero health, safety, and environmental (HSE) issues. By needing only one run to drill out cement and cut the casing, the Perseus tool enabled the customer to reduce HSE exposure to field personnel and save the cost of one trip, an estimated \$150,000.

Challenge

Reduce overall costs associated with plug and abandonment applications

Results

- Saved the customer one trip during P&A operations by combining cement drilling and casing cutting in one run
- Reduced HSE handling exposure on the rig floor by eliminating the need for an additional trip
- Saved the customer approximately \$150,000

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