Successful Barricade Job Sets New Benchmark in Perforate, Wash and Cement Efficiency

Region: North Sea  
Customer: Major Operator  
Field: UK Continental Shelf  
Well Type: Oil and Gas

Case benefits
- Eliminates the need for mill casing.  
- Ensures controlled direction of cement due to pumping cement out between cups.  
- No wait on cement (WOC) with squeeze pressure.  
- Eliminates need to squeeze cement.

Key capabilities
- Field proven  
- High circulation rates  
- Dual swab cup design  
- High performance swivel

Typical Applications
- Permanent plug and abandonment (P&A)  
- Slot recovery  
- Perforate wash, cut and pull  
- Seal annular pressure

Challenge
A major operator in the UK challenged Archer to create a rock to rock barrier and isolate pressure from the overburden.

The objective was to plug and abandon the well according to government and customer requirements. The customer required a time and cost efficient method of plugging and abandoning the well.

Solution
The solution was the Stronghold Barricade system. The field proven Barricade perforates, washes, and cements the annulus, creating a rock to rock barrier in just one trip.

One of the benefits of washing the perforations with the Barricade system is that the standpipe pressure is a key performance indicator. High pressure indicates a high amount of debris on the back side of the casing; low pressure indicates a low amount of debris on the back side of the casing.

On this job, using a flow rate of 420 gpm, a circulation pressure of only 200 psi was achieved constantly over the entire perforated area, indicating a low amount of debris.

The 168 ft long perforated interval was washed in only 2 hours. When using pressure as a performance indicator, the washing can be optimized and time spent can be minimized. The 550 ft cement plug, with a 168 ft rock to rock lateral barrier, was completed in just 3 hours.

Result
The perforating, washing and cementing to achieve a 550 ft cement plug with a 168 ft solid lateral barrier was completed in only 5 hours. The total time from run in hole (RIH) until the tool was at surface was 15.5 hours from a depth of 2431 ft. The plug was verified by load and pressure test.

A rock-to-rock barrier was achieved in 15.5 hours, which exceeded the customer’s expectations and sets a new benchmark in perforate, wash and cement efficiency.

Archer is a global oil services company with a heritage that stretches back over 40 years. With a strong focus on safety and delivering the highest quality products and services, Archer operates in 40 locations over 19 countries providing drilling services, well integrity & intervention, plug & abandonment and decommissioning to its upstream oil and gas clients. We are Archer.

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