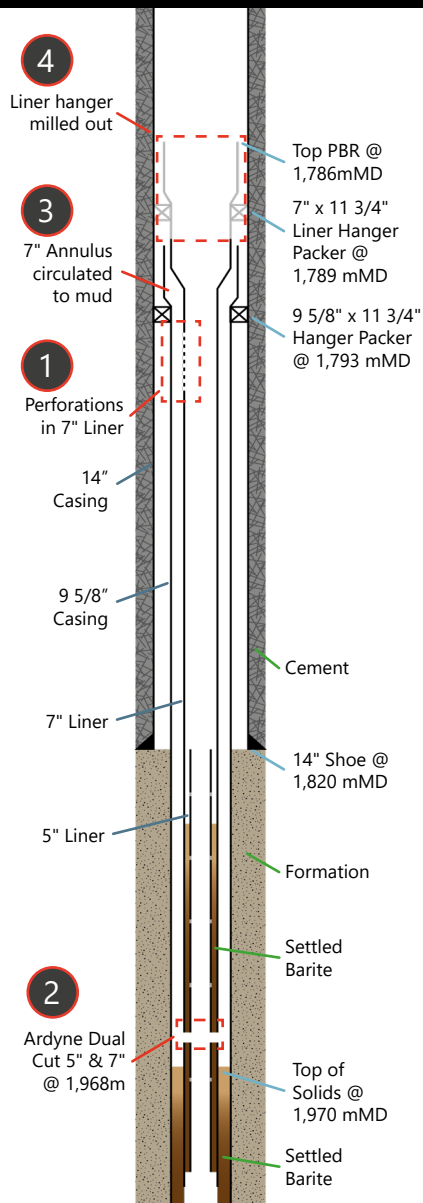
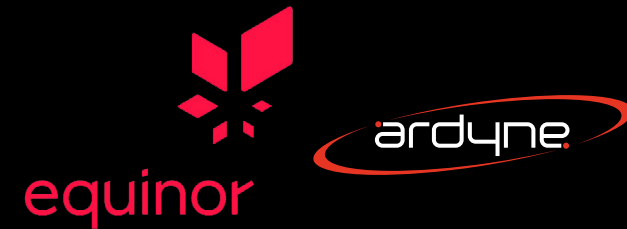


# BESPOKE FISHING & MILLING SOLUTION

Delivering on challenging P&A Operation for Slot Recovery



## THE CHALLENGE

Ardyne were challenged to bring a new solution to a challenging lower zone P&A Operation, which included the recovery of the 5" and 7" Liners from Gullfaks C-37 Well. Previous recovery attempts had been unsuccessful in challenging well conditions.

- Suspected collapse of the 7" Liner
- 5" Liner stuck inside 7" due to settled solids / barite



Gullfaks C Installation

## THE SOLUTION

- Extensive Pre-Job Planning alongside client
- New technology ~ 4 1/4" cutter & knives developed, built and tested
- Contingency plans & equipment ready to mobilise
- Collaborated with specialist suppliers to provide single source expertise
- Dual cut on 5" and 7" Liners ~ completed in 45 minutes
- Specially designed 7" Mill to mill out Liner Hanger
- Spear run to recover dual 5" and 7" Liners ~ 31 ton overpull to free

## THE RESULT

*With traditional operations proving unsuccessful, Ardyne were able to provide engineering and tooling to deliver on a creative solution to our C-37 Well Abandonment issues.*

*This unorthodox approach was wildly successful, and can be used as a benchmark for similar operations in the future.*

**Keino Roxman - Equinor Senior Engineer D&W Ops**



Rapid response solutions  
Engineering design, onshore pre-qualification  
testing before delivery offshore

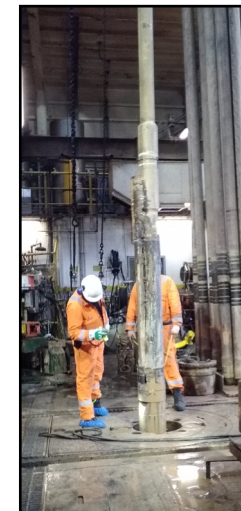
Pre-Job Planning + contingency planning &  
equipment to deliver results  
The "One Team Approach"

Operations executed as per the plan &  
delivering results for the client

New 4 1/4" Cutter  
undergoing testing



Dual 5" & 7" Liners  
recovered to surface



5" & 7" Liner with Settled  
Barite in Annulus

