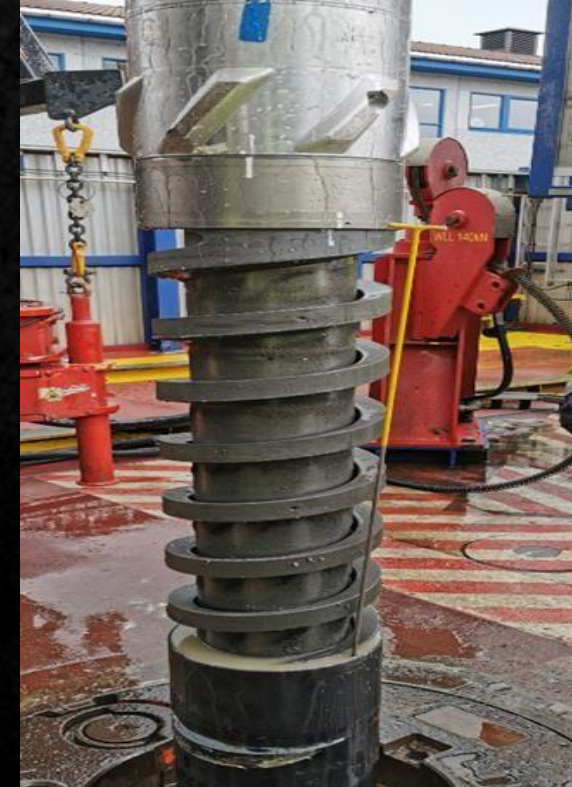




SWARFix®

Agenda

1. Introduction to Swarfix® Well Cleaning Tool (WCT)
2. Qualification summary
3. Operation summary
4. Way forward



Technology developed in co-operation with Equinor, Innovation Norway and Research Council of Norway

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Introduction to Swarfix® WCT

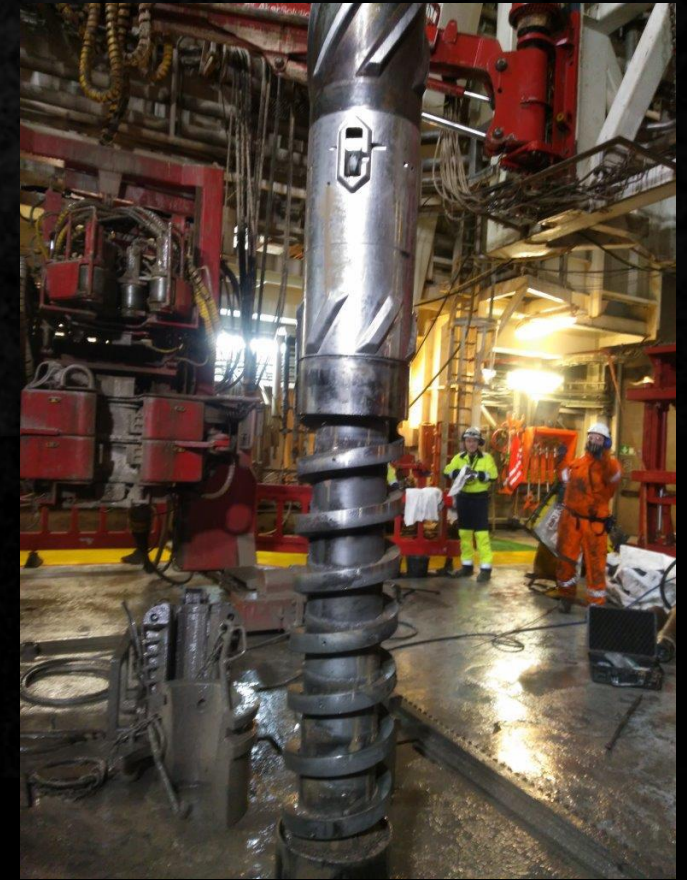
- No swarf circulated through BOP
 - Improved operational safety
 - Prevent from swarf accumulation in BOP chambers
 - Eliminate time spent on BOP cleaning
 - Support operational efficiency and cost
- No swarf to surface
 - No exposure to swarf at rig floor
 - No swarf handling offshore



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Qualification summary

- ✓ **TRL 4** qualification at Xrig & GMV H2-20
 - ✓ Swarf collection
 - ✓ 9 5/8" casing milling
 - ✓ Load duration testing
- ✓ **TRL 5 & 6** 1. pilot operation Q1-20, qualified, move to TRL7
- ✓ **TRL 7** multi use phase, additional 5 offshore pilot operation
 - ✓ 4 operations for Equinor
 - ✓ 1 operation for Neptune Energy
- ✓ **Qualified** for commercial utilisation Q2-22



Operation summary from 10 operations on NCS

- 0 NPT
- Platforms, jack-ups, semisubs
- 4 different whipstock vendors
- Inclination 0° - 65°, milling time 4.75h - 21h
- 1100 kg swarf by a single Swarfix® WCT
- Tandem configuration
- Casing 13 3/8", 13 5/8", 14"
- 9 5/8" and 10 3/4", Swarfix® in 13 3/8" section above
- Casing grade N-80, P-110, SM125S, 125S, Q-125
- String magnets in all operations



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Way forward

- Use operational experience to optimize on design
- Other sizes
- Other areas
- Solution for CT and wireline
- P&A
- New applications
- SQ
- Achievement of operational objectives



Thanks for your
attention !
www.swarfix.com