# Customer Documents Debris Removal using Tornar® BOP Cleaning Operation Offshore Brunei



**Region:** Asia Pacific **Field:** Offshore Brunei

## **Case Benefits**

- -Complete swarf removal from BOP
- -Superior debris removal mechanism
- -Safe and simple operation
- -Client run BHA

# **Key Capabilities**

- Large OD maintains effective annular velocity
- Archer's superior magnet technology captures large amount of debris
- Tornar technology eliminates the risk of damaging the annulus and seals
- Tornar technology creates vortex effect, pulling debris out of cavities
- Multiple uses onshore and offshore without the need for redress

# **Typical Applications**

- Prior to BOP testing
- Milling jobs (whipstocks, section milling, packers)
- -General WBCU activities
- Fines recovery from drilling activities



Above: Swarf close up.

## **Challenge**

A customer in Brunei wanted document that Archer's Tornar BOP cleaning technology would reduce the damages experienced by hazardous debris when function testing blowout preventers (BOPs). Ineffective BOP jetting tools had failed to completely remove debris from the cavities, especially after extensive and successful milling operations.



Maintaining well control integrity and ensuring the BOP as an effective barrier is integral to safe operations. As well as being considered a high risk heavy lift activity, having to pull subsea BOPs to the surface and break down each component for inspection and repair is time consuming and costly.

#### Solution

The solution was that the customer conducted a documented study using Tornar BOP cleaning technology.

Archer's **Tornar® BOP cleaning technology** was used to efficiently remove debris from the BOP cavities after a jetting sub failed to remove all the debris. The assembly consisted of a **Circulation Magnet**, **BOP Cleaner** and a **BOP Magnet**.

### Result

The customer's documented study of the Tornar BOP Cleaner showed that all the debris was removed safely and effectively out of the BOP.

Substantial amounts of fines and metallic swarf build-up was observed on the Tornar BOP magnets, due to extensive milling operations prior to the cleanup operation.

The Tornar BOP Cleaner was essential to eliminating the risk of BOP stack failure. Had the BOP testing proceeded without proper cleaning, it may have resulted in permanent damage to the BOP.

Archer's Tornar technology has saved customers hours of rig time, operational cost and reduce the operational risk of pulling and inspecting the BOP.



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