

# Riser- and Tong-Handling Systems Decommission High-Torque Drilling Riser Without NPT or Safety Incidents, Save 2 Days of Rig Time and \$2 Million

## Objectives

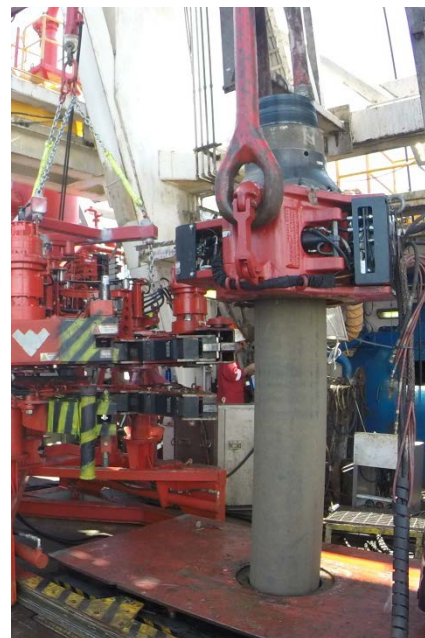
- Safely and efficiently decommission a drilling riser string for the first time in a well that had been operational for more than 8 years.
- Use handling equipment that is rated up to 500 tons (453,592 kg) and a power tong that generates 300,000 ft-lb (406,745 N·m) of torque.
- Minimize damage to the riser connections and modifications to the existing rig structure.

## Our Approach

- Weatherford recommended the mechanized 21-300 riser tong because it is capable of handling pipe with outside diameters (ODs) ranging from 9-5/8 to 21 in. with a maximum continuous torque of 300,000 ft-lb (406,745 N·m). All handling equipment was rated for 500 tons (453,592 kg).
- The HiPer™ control system controlled the riser tong remotely.
- The team worked around limitations in the capability of the rig floor to handle the size and weight of the riser tong by placing a custom tong-positioning system (TPS) on temporary tracks on the rig floor. The TPS worked in conjunction with the remotely operated MiniScope tong-positioning scope to move the tong from the parked position to the well center.
- A remotely operated automated false rotary table (AFRT) and a dual automatic side door (ASD) elevator system handled the riser. The AFRT enabled the large-OD assembly and specialty joints, as well as the 19.25-in. riser connector, to pass through the rotary table. The AFRT centered the ASD on the pipe without the need for manual intervention. The team installed custom bushings on the ASD to suit the 16.77-in. riser and beveled shoulder connection, which enabled no penetration or marking on the riser body or connection.
- All riser connections were recorded and broken out with a maximum torque of more than 257,000 ft-lb (348,445 N·m).

## Value to Client

- The riser- and tong-handling systems met all client objectives.
- The systems enabled remote operations, which enhanced the safety of rig personnel by removing them from the rig floor during the positioning and operation of heavy equipment. Weatherford completed the job with no recordable safety incidents or nonproductive time (NPT).
- The team completed the job 2 days ahead of the planned drilling schedule, which amounts to US \$2 million in associated rig costs.



### LOCATION

Malaysia

### WELL TYPE

Deepwater, oil

### DRILLING RISER TYPE AND SIZE

OPT ZF2005, 16.77 in.

### TORQUE

> 257,000 ft-lb (348,445 N·m)

### CONNECTIONS

60

### PRODUCTS/SERVICES

- Mechanized 21-300 riser tong
- HiPer control system
- Custom TPS
- MiniScope tong-positioning scope
- AFRT
- Dual ASD
- JAMPro™ torque-turn monitoring system
- TorkPro™ torque-turn evaluation software

