



# Weatherford®

## REAL RESULTS

### TorkWrench™ 10-100 Iron Roughneck and PowerArm 2.1 Device Enhance Rig Safety, Improve Efficiency

#### Objectives

- Enhance safety and efficiency by implementing hands-free operation with a durable iron roughneck. Previous iron roughnecks had been installed by competitors and did not meet client expectations.
- Integrate a hydraulic iron roughneck with a self-supporting positioning device for trackless and suspension-line-free movement.
- Provide installation and commissioning along with operation and maintenance training for the iron roughneck.

#### Results

- Weatherford provided complete installation and commissioning within the 7-day rig move and on-site operator and maintenance training for 3 additional days before operation.
- The *TorkWrench* 10-100 iron roughneck was deployed with the PowerArm 2.1 self-supporting positioning system on the rig floor.
- The PowerArm device positioned the iron roughneck over the well center and mousehole without rails or suspension tug lines, while providing 6.6 ft (2 m) of maximum stroke and 3.3 ft (1 m) of flexible lift with full 360° rotation.
- The *TorkWrench* 10-100's drillpipe spinner rotated pipe at 53 rpm with a high torque output of 3,212 ft-lbf (4,355 N·m).
- The easy-to-use intelligent pneumatic control box enabled safe, hands-free operation.

#### Value to Client

- The Weatherford *TorkWrench* 10-100 iron roughneck provided the solution to mitigate previous iron roughneck issues, enabling quicker, safer makeup and breakout operations and maintenance.
- The high-torque performance of the *TorkWrench* iron roughneck facilitated connection makeup and breakout with one rotation of the clamping element, improving operational efficiency.
- The PowerArm device enabled quick access to well center and mousehole operations and rotation out of hazardous zones for safer offline maintenance.
- The remotely controlled iron roughneck enabled hands-free operations, removing personnel from hazardous rig-floor areas for enhanced safety and efficiency.



The Weatherford *TorkWrench* 10-100 iron roughneck provided up to 100,000 lbf-ft (135,582 N·m) of torque and a 40° wrenching angle for easy connection makeup and breakout. With a durable design that increases overall reliability, the *TorkWrench* 10-100 outperformed previous iron roughnecks, which had multiple failures and high maintenance costs.

**Client**  
Vantage Drilling

**Location**  
East Malaysia

**Rig Type**  
Jackup

#### Products/Services

- Tubular running services
- Rig system services
- *TorkWrench* 10-100 iron roughneck
- PowerArm 2.1 tong-positioning system
- Pneumatic control device

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