

# RFID Technology Simplifies Underreaming in Extreme Downhole Conditions, Delivers Operational Efficiency and Safety

## Objectives

- Deploy a hole-enlargement tool with the following requirements:
  - Can be activated and deactivated and locked closed
  - Able to open in a range of 9-1/4 to 9-1/2 in.
  - Placed above MWD and perform hole enlargement while drilling

## Our Approach

- Weatherford deployed the Riptide® RFID underreamer, designed for high-performance underreaming in challenging conditions.
- Key features included:
  - Radio-frequency identification (RFID) tag activation/deactivation: Eliminates the need for ball drops, enabling seamless control.
  - Multiple activation mechanisms: Ensures operational flexibility.
  - Temperature rating: Tool capable of operating at 302°F (150°C), near the high-temperature limit.
  - Custom cutter blocks: Provided 9 1/4-in. cutter blocks tailored for the operation.
  - MWD compatibility: Can be placed above any MWD component without requiring communication with MWD tools.
- The section was successfully underreamed, maintaining a high rate of penetration (ROP) with zero tool failures.
- The data was downloaded, and no issues were reported by the DDMWD provider.

## Value to Customer

- Operational efficiency: RFID activation eliminated ball-drop procedures, reducing complexity and time.
- Reliability in extreme conditions: Tool performed flawlessly near temperature limits.
- Enhanced drilling performance: Achieved high ROP and precise hole enlargement in a challenging well profile.
- Customer confidence: Demonstrated robust technology and dependable execution.



The 9 1/4-in. cutter blocks after the hole enlargement operation.

### LOCATION

Malaysia, Offshore Terengganu

### WELL TYPE

Development

### FORMATION

Soft

### HOLE SIZE AND ANGLE

8 1/2 x 9 1/4-in., 89°

### TEMPERATURE

302°F (150°C)

### DEPTH

11,194 to 15,731 ft (3,412 to 4,795 m)

### PRODUCTS/SERVICES

- Riptide RFID underreamer
- CENTRO™ well construction optimization software (for planning)
- HD cutter blocks

