



# Weatherford®

## REAL RESULTS

### Plug Indicator System Helps Avoid Cementing Risks, Eliminates Need for Expensive Remedial Operations

#### Objectives

- Perform successful primary cementing operations while minimizing errors in calculated displacement volumes common with cement plugs in 13 3/8- to 14-in. casing strings.

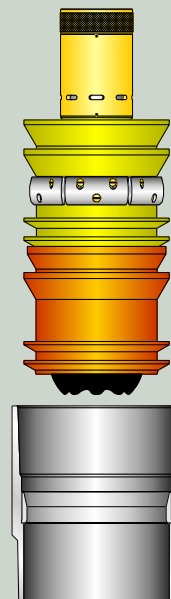
#### Results

- The client ran Weatherford's 13 3/8-in. plug indicator system in conjunction with a Sub-Surface Release™ MB plug set to provide a positive indication of the top plug passing through the indicator collar, located 177 ft (54 m) above the Model 402NP float collar.
- During cementing operations, both the bottom and top Sub-Surface Release MB plugs were successfully launched. After the bottom plug bumped the float collar, cement displacement continued until the top plug passed through the indicator collar, providing a positive pressure indication on surface of 150 psi.
- The top plug pressure indication allowed the operator to determine both the exact location of the top plug in the casing string and the displacement volume required to successfully bump the top plug without risk of cement over-displacement.

#### Value to Client

- Weatherford's plug indicator system enabled the operator to successfully bump the plugs, preventing a wet shoe and avoiding an expensive remedial cementing operation.
- The operator also saved valuable rig time by eliminating the need to drill out excessive cement because top-plug placement was too high.

Weatherford's plug indicator system is used to produce a recognizable indication when the cementing top plug passes through the indicator collar located above the float collar. The system eliminates most errors in displacement volumes, such as fluid compression, casing ID variances, and incorrect pump efficiencies.



#### Client

Sabah Shell Petroleum Co. Ltd.

#### Location

South China Sea, Malaysia

#### Type of Well

Offshore deepwater appraisal well

#### Hole Size and Angle

16 in., 22°

#### Casing

13 3/8-in., P110, 72-lb/ft P110 VAM® TOP®

#### Casing Length

5,681 ft (1,793 m)

#### Products/Services

- Plug indicator system
- Sub-Surface Release MB Plug Set
- Model 402NP Float Collar

VAM TOP is a registered trademark of Vallourec Mannesman Oil and Gas France Corporation.

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