

Premium Liner Hanger System Isolates Perforated Sections, Halts Hydrocarbon Migration in 2 Trips

Objectives

- Isolate two perforated sections and prevent hydrocarbon migration between perforations using a scab liner system.
- Design a liner system that enables tieback from the lower packer. The liner string should float on the lower polished bore receptacle to compensate for production-string expansion and contraction.

Our Approach

- Weatherford collaborated with the client to design a two-trip operation for two 7-in. uncemented liner systems.
- The lower liner system consisted of a WPBR tie-back receptacle, WTSP5H1 liner-top packer, WPHR premium hydraulic-set rotating liner hanger, and an SHR hold-down sub. The system was run to the planned depth of 4,347 ft (1,325 m) with a final deviation of 33°.
- To hydraulically set the liner hanger and hold-down sub, the team used the retrievable-seal mandrel (RSM) cementing pack-off, lower pack-off, bypass ball seat, and ported pick-up sub. These tools also enabled the operation to maintain fluid separation, provide a pressure-tight chamber, and hydraulically release the running tools. The liner top packer was set with a rotating packer actuator.
- The upper liner consisted of a WTSP5H1 liner-top packer, WPHR premium hydraulic-set rotating liner hanger, and an SHR hold-down sub. The system was run to the planned depth of 3,365 ft (1,026 m). The team set the liner-top packer with an HPG hydraulic-packer actuator with HPH adaptor kit, which reduced the required string set-down weight.
- The installation was pressure tested and confirmed that well integrity had been restored.

Value to Client

- The Weatherford liner system—including the WTSP5H1 liner-top packer, WPHR premium hydraulic-set rotating liner hanger, and SHR hold-down sub—isolated the previously perforated sections and prevented hydrocarbon migration across perforations.
- The operation was completed in two trips, and provided an isolated conduit for further completion.



A Weatherford scab-liner system isolated previous perforations and prevented hydrocarbon migration. The operation was completed in two trips.

LOCATION

Offshore India

RIG TYPE

Jack-up

CASING SIZE

9.625-in. 47 lb/ft

LINER SIZE

7-in. 23 lb/ft

SETTING DEPTHS

4,347 and 3,365 ft
(1,325 and 1,026 m)

PRODUCTS/SERVICES

- WPBR tie-back receptacle
- WTSP5H1 liner-top packer
- WPHR rotating liner hanger
- SHR hold-down sub
- WTSS tie-back seal stem
- HPG hydraulic-packer actuator with HPH adaptor kit

