

# Positive Sealing Plug and Perforation Increase Production Rate 70% Beyond Expectation

## Objectives

- Perform isolation of lower interval—12,165.35 to 12,286.75 ft (3,708 to 3,745 m)—with differential pressure barrier of 10,000 psi (68.95 MPa).
- Perforate to initiate production of a secondary interval at 11,896.33 to 11,994.75 ft (3,626 to 3656 m).
- Perform rigless operations using through-tubing deployment.

## Our Approach

- The client needed to isolate the production zone without removing tubing from the well. A previous intervention to repair a different interval in this well had been performed by using coiled tubing with a 2.25-in. OD.
- Weatherford proposed to use a positive sealing plug (PSP) that can expand up to 3.5 times the run-in diameter of the plug. The PSP for 7-in. casing has a 2.125-in. run-in diameter.
- The client needed 10,000 psi of differential pressure. The PSP for 7-in. casing itself has 2,000 psi of differential pressure. The additional required pressure was achieved by placing cement from the dump bailer on top of the PSP.
- The gun system was 2.125 in. in diameter and had 60° phasing and super deep penetrating charges in a retrievable tubing gun.

## Value to Client

- The client expected to achieve 2,000 bpd from the recompletion. After stimulation, the well produced 3,400 bpd.
- There was no need to remove the tubing to perform the operation, which saved the client thousands of dollars and man hours.
- The operation eliminated the need to use a workover rig and placed the well on production cycle faster than expected for a quicker return on investment (ROI).
- The wireline operation was performed with the aid of a multipurpose offshore vessel in satellite platform without the use of a rig.



Wireline offshore operations with aid of support vessel in Gulf of Mexico

**Client**  
Typhoon - Pemex

**LOCATION**  
Gulf of Mexico

**Field**  
Abkatun

**WELL TYPE**  
Offshore, production

**HOLE SIZE AND ANGLE**  
8.5 in.  
Maximum deviation 2.5° at 2,650.0 m

**CASING TYPE AND SIZE**  
7.63 in., N-80, 39 lb/ft, HDTs

**TEMPERATURE**  
261.77°F (127.65°C)

**PRESSURE**  
2,608 psi

**PLUG DEPTH**  
3,692 m

**PRODUCTS/SERVICES**  
Positive sealing plug (PSP)  
Dump bailer  
Perforating

