

Thru-Tubing Services Revives Shut-In Well, Achieves Sand-Free Production of 600 BOPD

Objectives

- Install a thru-tubing gravel pack system to achieve sand-free, continuous production in a well previously shut-in because of sand problems.
- Eliminate the need for further interventions to clean out sand. Wells in the field had a history of requiring cleanout runs to remove sand and restore production. Sand reduced the production rate and damaged production tubing and surface equipment.

Our Approach

- Weatherford determined the placement of the high-rate frac pack and provided all necessary well conditioning prior to installation.
- The system was deployed using 1.5-in. OD coiled tubing, 100 ft (30 m) of Dura-Grip® screens, 10-ft (3-m) blank pipe, a high-rate frac valve, and an ER packer.
- The bottomhole assembly (BHA) was deployed using slickline, and then the BHA was conveyed to the setting depth using coiled tubing.
- After setting the packer, the gravel pack was placed by pumping the gravel slurry, which consisted of 20/40 bauxite, from the surface. The team pumped a total volume of 341 bbl (54 m³) at a rate of up to 5.0 bbl/min (0.013 m³/s), and they recorded a screen-out, which indicated proper gravel packing.
- The success of gravel placement left no excess of sand in the tubing, which reduced the time required to perform a second coiled-tubing run for cleaning out excess gravel.
- A retrieval tool was run to latch onto and close the high-rate frac valve (HRFV) in one run without any difficulties.
- In simultaneous actions, the diverter plug of the HRFV was pulled and the sleeve was shifted, which resulted in closed access to the annulus and open access to the screen bore to begin production.
- The operation to install the gravel pack was completed in 5 days and incurred no health, safety, or environmental incidents.

Value to Client

- Thru-tubing services installed a gravel pack that resulted in sand-free, stable production and eliminated time and expense for further sand cleanout operations.
- After the installation, the previously shut-in well produced oil at a rate of 600 BOPD (95 m³/d).



Weatherford provided a thru-tubing solution that included a high-rate squeeze gravel pack (shown above) in a well plagued by sand problems.

LOCATION

Malaysia

WELL TYPE

Offshore, oil

TUBING SIZE

3-1/2 in., 9.2 lb/ft

LINER

7 in., 26 lb/ft

MINIMUM WELL RESTRICTION

2.813 in. (71.5 mm)

WELL MEASURED DEPTH

5,400 ft (1,646 m)

PRODUCTS/SERVICES

- Thru-tubing services
- High-rate frac valve
- Dura-Grip screens
- ER packer

