Weatherford®

REAL RESULTS

SurgeMaster™ II Tool Runs Liners Faster and Safer Than Conventional Systems and Avoids Mud Losses

Objectives

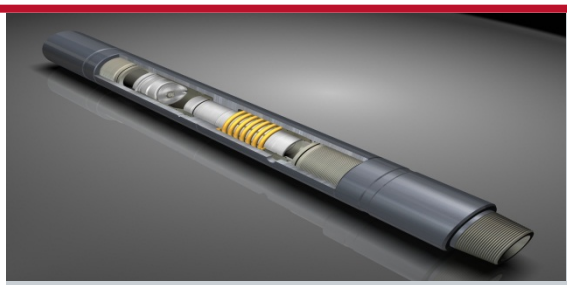
- Run 11 3/4- and 9 5/8-in. liners to total depth (TD) in a depleted well with low pore and fracture pressure.
- Properly manage high surge and circulating pressures expected during liner running because of tight tolerances.
- Minimize mud losses and avoid mud spills on the rig floor.

Results

- Based on hydraulic SurgeMOD simulations, Weatherford personnel deployed the following equipment: WPHS hanger, WTSP4R packer, and autofill equipment (L222 guide shoe, L45WP large-bore autofill collar) in conjunction with the Sub-Surface Release plug set and the SurgeMaster II multiple-opening diverter tool.
- The first liner system was run to a TD of 10,000 ft (3,340 m), and the second liner system was run to a TD of 11,200 ft (3,740 m). Both liner systems were run at a rate of approximately 40 ft/min (12 m/min) while avoiding mud losses. This rate amounts to about 2-1/2 minutes per stand, which is faster than a conventional system.
- The L45WP autofill collar was converted with a flow rate of 5 bbl/min (0.013 m^3/s) and a consequent dropping pressure of about 600 psi (4.1 MPa) without a need to drop anything from surface. To set the WPHS hanger and hydraulically release the R running tool, a 2 1/8-in. brass ball was dropped on the mechanical ball seat (MBS). The MBS disk was sheared with 3,000 psi (20.7 MPa), and a cement job was performed by releasing the Sub-Surface Release plugs from the top-drive cementing head.
- The WTSP4R packer was set and successfully tested with 1,500 psi (10.3 MPa). The disk in the SurgeMaster II tool was ruptured and mud was reverse circulated.

Value to Client

- Using the Weatherford autofill equipment and the SurgeMaster II tool enabled the operator to run the liner systems to TD significantly quicker than with conventional technology, while completely avoiding mud losses and saving rig time.
- The low-flow-rate conversion of the autofill collar eliminated the requirement to drop a shear ball, thereby minimizing the circulating pressure on the wellbore and avoiding losses.
- The SurgeMaster II tool enabled the operator to maintain a clean rig floor with zero mud spills and zero recordable incidents.



The Weatherford SurgeMaster II multiple-opening diverter tool ran two liner systems in the wellbore at a rate of 40 ft/min (12 m/min), which enabled the operator to reach TD quicker than with conventional technology.

Location
Adriatic Sea, Italy

Well Type
Offshore, gas, production

Hole Size
12-1/4 and 10-5/8 in.

Total Depth
13,000 ft (4,300 m)

Casing Size
- Liner A: 13-3/8 in.
- Liner B: 11-3/4 in.

Liner Size
- Liner A: 11-3/4 in.
- Liner B: 9-5/8 in.

Top of Liner
- Liner A: 4,000 ft (1,340 m)
- Liner B: 9,800 ft (3,273 m)

Products/Services
- WTSP4R liner top packer
- WPHS liner hanger
- Sub-Surface Release plug set
- Mechanical ball seat
- L222 guide shoe
- L45WP autofill float collar
- SurgeMaster II multiple-opening diverter tool

Weatherford
Matteo Recchioni
Liner Hanger and Cementing Products Manager
matteo.recchionio@eu.weatherford.com

