

SIMplus Retrievable Bridge Plug Installs Reliable Barrier for Sealing Tubing Leak

LIVE digital slickline services perform within offshore space constraints in pinpointing leak and deploying SIMplus plug and remedy, Venezuela

CHALLENGE

Efficiently diagnose and remediate possible leak suspected between a subsurface safety valve and the production tree.

SOLUTION

Accommodate to the limited space on the offshore production platform by deploying the following on LIVE* digital slickline services:

- LIVE PL* digital slickline production logging services to pinpoint the leak
- 7-in SIMplus* retrievable bridge plug from Peak Well Systems, a Schlumberger company, to install a retrievable flow control barrier and apply sealing fluid.

RESULTS

Successfully identified and remediated the leak, as confirmed by pressure testing, to bring the well back to its original production potential of nearly 85-MMcf/d gas.



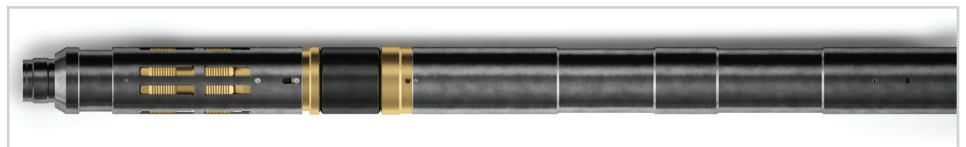
Diagnose and remediate leak in constrained operating conditions

An operator suspected possible communication between the casing and tubing in a well offshore Venezuela. The typically limited space on the production platform necessitated performing the diagnosis and remediation on slickline. However, conducting well intervention techniques on conventional slickline could not provide precise depth placement, much less real-time control and monitoring capabilities to confirm operations.

Perform digital slickline operations with real-time control and monitoring

LIVE digital slickline services pair the simplicity and compact footprint of slickline operations with real-time digital telemetry to deliver relevant downhole measurement data to the surface in real time for significant improvements in control, quality, and safety. These capabilities enable running real-time production logs on LIVE PL digital slickline production logging services where previously memory logging was the only option.

The SIMplus retrievable bridge plug is an expandable barrier that can be deployed on slickline, electric line, coiled tubing, drillpipe, or tractor to install a high-performance seal in fluid- and temperature-cycling environments. The SIMplus plug is the only plug that can be mechanically set by conventional slickline jarring and has achieved a 14310:2008 grade V3 rating to provide operators with reliable conformance to the most stringent well barrier criteria. Its advanced setting mechanism and large internal diameter make it the ideal sealing solution for leak detection and remediation.



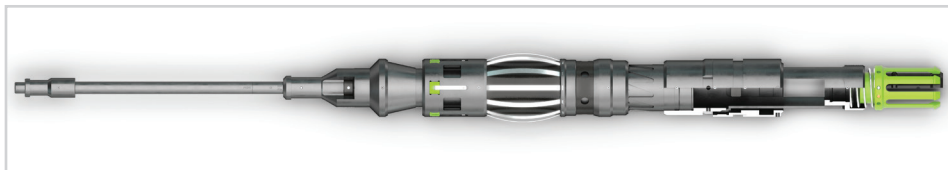
Available in standard industry sizes from 2½ to 7 in, the reliable SIMplus retrievable bridge plug is easily set on slickline and other forms of deployment.

Precisely install and easily retrieve reliable well barrier

LIVE PL production logging services were deployed to detect the leak in the tubing hanger in real time by the variation of the quartz gauge's pressure and temperature measurements and spinner movement of the flowmeter.

With the depth of the leak accurately placed, Peak Well System's Boost running tool was deployed with a 5.74-in junk basket on LIVE digital slickline services to perform a drift run and confirm that the 7-in SIMplus plug could be set as a retrievable flow control barrier below the tubing hanger in 7-in tubing. The SIMplus plug was then easily installed. The 2-ppm H₂S content of the well was not a concern for the rugged SIMplus plug, which is qualified to NACE MR0175 specifications.

CASE STUDY: SIMplus plug installed with LIVE digital slickline services to seal leak, offshore Venezuela



The Boost running tool incorporates a hydraulic chamber that can generate high forces as necessary to set a large-bore SIMplus retrievable bridge plug or other devices.

An inflow test was performed to the bottomhole pressure of 3,600 psi to confirm that the SIMplus plug was fully set and sealing the well. Brine was pumped on top of the SIMplus plug and the pressure test was successful. A sealing fluid was placed to go through the tubing hanger to seal the leak, as confirmed by pressure testing. Once the leak was confirmed sealed, a standard GS pulling tool was used to retrieve the SIMplus plug. The presence of debris in the hole did not adversely affect the debris-tolerant design of the plug.

With the leak efficiently remediated, the well was returned to its original production potential of nearly 85-MMcf/d gas.

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