CASE STUDY

HALLIBURTON

Western Australia

# Expandable liner system enables liner installation in challenging deepwater well

XtremeGrip® ELH LECD system helps operator reach TD and cement liner in unstable borehole offshore Western Australia

## CHALLENGE

- Borehole instability in depleted formation
- Severe fluid losses during drilling
- Required aggressive reaming over 1,000 m
- High torque and rpm needed to maintain progress
- Sensitive ECD conditions during cementing

## SOLUTION

- Deploy XtremeGrip® ELH LECD system for effective string manipulation in high-weight mud and cement to deploy and cement production liner

## RESULT

- Reamed entire open hole without tripping
- Installed full-size liner without intermediate string
- Saved rig time and reduced costs by USD 8M
- Achieved successful leak-off test
- Demonstrated performance in extreme well conditions

## Overview

In the deepwater Carnarvon Basin offshore Western Australia, a major operator faced repeated failures in drilling and completing a challenging well. Severe borehole instability and fluid losses had compromised previous attempts. To overcome these issues and reach total depth (TD), the operator selected the XtremeGrip® expandable liner hanger (ELH) low equivalent circulation density (LECD) system. This robust solution enabled the successful installation and cementing of a 9 5/8-in. production liner in a depleted formation with complex wellbore conditions.

During the run-in-hole (RIH) operation, the well presented significant challenges, including the need for aggressive reaming for >1000 m from just outside the casing shoe through the open hole (OH).

The operator required liner system with gas-tight integrity and the ability to maintain LECD throughout cementing to protect the sensitive formation. Halliburton used its global footprint to expedite logistics and deliver the system on short notice.

## Challenge

The well encountered significant fluid losses and borehole stability issues because of the requirement to reduce mud weight to manage the losses. Reaming was required throughout the entire OH section, from 3360 to 4390 m and extended wash periods were necessary. High torque and revolutions per minute were applied to maintain progress. The depleted formation demanded careful management of equivalent circulating density (ECD) to avoid further losses during liner deployment and cementing.

XtremeGrip® ELH system

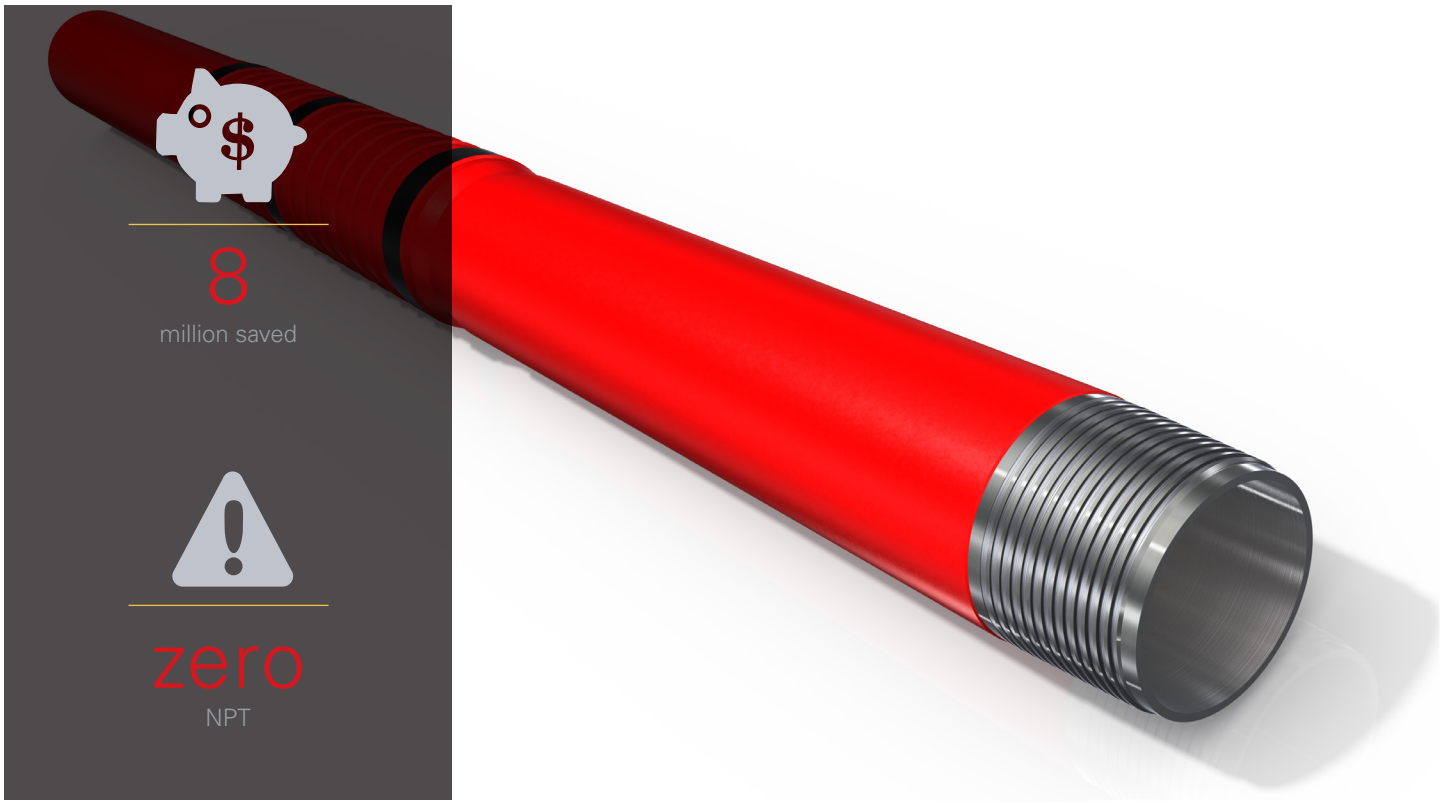
## Solution

To address these challenges, the operator deployed the XtremeGrip® ELH LECD system. This technology provided the flexibility needed for aggressive string manipulation, including reaming, circulating, rotating, and weight-down operations. Its ability to maintain low ECD during cementing was critical for protecting the depleted formation and ensuring high-quality cement placement. The system's robust design and debris tolerance enabled it to operate effectively in complex borehole geometries and handle suspected cuttings and cave-ins without compromising performance.

Halliburton's rapid response and global inventory ensured timely delivery of the system, allowing the operator to proceed without delay. The XtremeGrip ELH LECD system's adaptability and strength made it the ideal choice for this high-risk environment.

## Result

The XtremeGrip ELH LECD system allowed the operator to ream the entire open hole section—more than 1,000 m—without tripping out, underreaming, or reducing liner size. The 9 5/8-in. liner was successfully installed and cemented without the need for an intermediate drilling liner, significantly improving operational efficiency. This approach saved rig time and reduced overall costs by an estimated USD 8 million. Beyond financial savings, the system demonstrated its capability to perform in extreme conditions, including depleted reservoirs, severe fluid losses, and unstable boreholes. The successful leak-off test confirmed the integrity of the cement job, validating the system's performance and reinforcing its value in complex deepwater applications.




**For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com**

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H015050 11/25 © 2025 Halliburton. All Rights Reserved.

**halliburton.com**

HALLIBURTON