

Australia

**CHALLENGES**

- Isolate 1000+-m long well section as part of decommissioning plan
- Increase overall efficiency and success of cement plug operations, particularly in highly deviated wells

**SOLUTION**

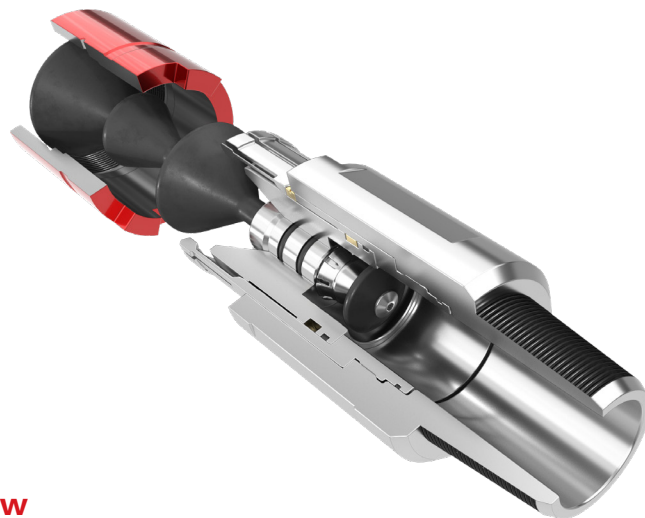
- Deploy BHKA well abandonment plug setting aid to place single cement plug across caprock

**RESULTS**

- Successfully reached planned depth
- Placed 1239-m single cement plug
- Clear pressure indication and tailpipe disconnection
- Confirmed required isolation
- Saved four days of rig time equal to more than USD 350,000

# Industry Leading Plug Setting Aid Saves Operator Four Days of Rig Time and More Than USD 350,000 in Rig Costs

BHKA™ plug setting aid used to place cement plug during mature gas-well abandonment

**Overview**

As part of a major operator's decommissioning plan for more than 400 wells in Australia, reservoir and intermediate barriers are isolated by spotting cement plugs in separate stages. Deployment of an industry leading plug setting aid in one of these wells allowed Halliburton to successfully spot a 1239-m cement plug in a single run. This covered the required intervals with a single barrier and significantly reduced rig time and costs for the operator.

**Challenges**

During a plug and abandonment campaign, an operator faced challenges isolating reservoir and intermediate barriers along a 1000+-m well section deviated more than 50°. Previous cement solutions required more than seven days to achieve caprock isolation using a conventional balanced plug method to help reduce operational risks.



In this highly deviated well, pulling out of hole (POOH) after the cement plug is in place could increase the potential for fluid swabbing and contamination—both causes of cement plug failure. Because this well is critical to regulatory approval, it was necessary to engineer a solution for more efficient zonal isolation and lay the foundation for similar wellbore geometries while significantly reducing rig time.

### Solution

Halliburton recommended the BHKA™ plug setting aid (disconnect tool) to isolate the interval through placement of a single, undisturbed cement plug, which would maximize both operational efficiency and effectiveness.

The BHKA plug setting aid is an industry leading solution that has been widely used in wells both on and offshore. This tool features a displacement dart-driven disconnect mechanism that releases a section of the string. This feature negates the need for stinging out because the tailpipe remains within the balanced cement plug to help prevent fluid swabbing and contamination risks. The release feature also provides the operator the option to safely place longer cement plugs because it eliminates the potential for the work string to become stuck. Additionally, the cement slurry can then be tailored to different design criteria, such as compressive and gel-strength development for the extended length of the plug and optimize overall operations.

### Results

The work string was run to a measured depth of 2379 m and navigated through the highly deviated section without concerns for torque or tension stress. A 1239-m cement plug was successfully pumped and displaced with the BHKA plug setting aid solution. The immersed tailpipe was released at the designed pressure, which allowed for optimized and effective well abandonment.

The BHKA plug setting aid allowed the operator to reduce rig time by more than 50%, which saved more than USD 350,000. The success of this operation created an avenue for the operator to safely pump longer cement plugs in a single run across the entire plug and abandonment campaign to achieve required zonal isolation.

The infographic is a vertical black rectangle. At the top is a white stopwatch icon. Below it is a thin horizontal line, followed by the text '4 days' in large red font, and 'rig time savings' in smaller red font below it. At the bottom is a white circular icon containing a dollar sign with a curved arrow around it. Below this icon is another thin horizontal line, followed by the text '+350k' in large red font, and 'USD saved' in smaller red font below it.

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

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