

# Restoring Integrity to an Unconventional Cement Packer Design

Date: February 2019  
Region: Trinidad



## Key Capabilities

- Facilitated the development of an additional reservoir for the client.
- A plug independent of annular condition.
- Selective penetration with max reach topside.
- No damage to second casing in the eccentric annulus.
- Run on wireline.

## Challenge

A client needed to overcome gas influx issues and unlock additional accumulations surrounding the wellbore. During operations to unlock these additional accumulations, the A- and B-annuli in the well developed gas influx issues which could not be addressed by conventional methods of sealing.

The risk of sealant filling the reservoir through the perforated sections was high and the cement below the estimated A-annulus Top of Cement was of unknown quality.

Perforating through the thick cement sheet, while not damaging the outer casing on the low side, was vital to the success of the project which aimed to remove or reduce the gas leak to within acceptable limits.

## Solution

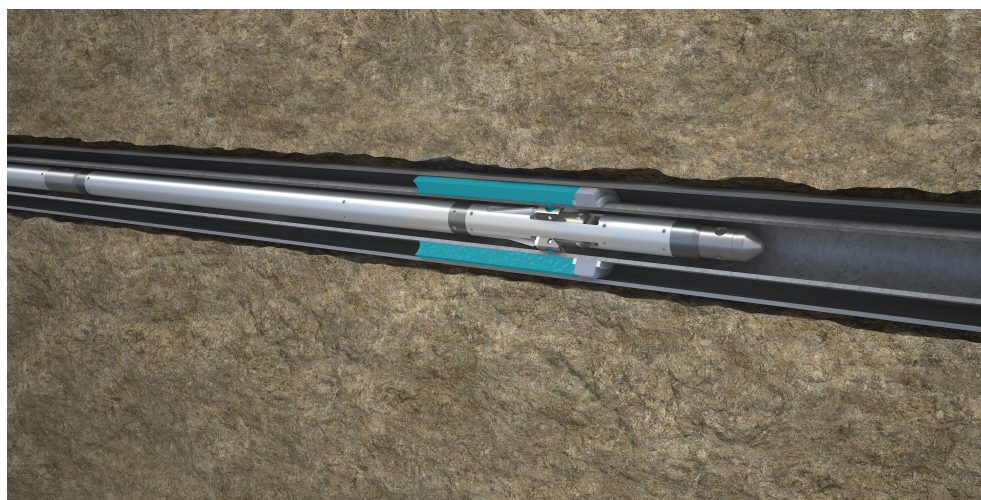
Our CannSeal IntegritySeal was run on wireline to perforate and inject epoxy in the cement above the top perforation interval. Our high viscous sealant forms a doughnut around the tubing in an open void or fills large channels in a poor cement matrix. This process creates a plug independent of annular condition.

Our delivery tool is fitted with a g-sensor, which shows the tools relative orientation. As a result, eccentric centralisers were used to point the perforation gun in the desired direction. This allows selective penetration with max reach topside to occur, while not damaging the second casing in the eccentric annulus.

## Value Created

A total of three epoxy injections were completed (31,6L ea.) throughout the job. The injections were placed in close proximity, and our heater tool was deployed to increase the strength of the plug material. This enabled it to withstand high delta pressure in an anticipated large, open void in the event there was no cement. Orientation of the tool was successful despite a low clearance, making the concept viable for larger casings in the future.

The aim of lowering the gas leak rate was successfully achieved. A month after the treatment was completed the situation was reported to be similar, with the pressure build reduced to a minimum. This successful operation facilitated the development of an additional reservoir for the client.



CannSeal IntegritySeal epoxy.