The Industry Challenge
In plug & abandonment the main challenge is to set reliable barriers for eternity. The barriers need to have high performance hydraulic isolation. It is also crucial that the barriers can be set, verified and validated effectively.

Solution
The solution is the Stronghold Barricade System. By eliminating the need for milling, Archer’s Stronghold™ systems deliver a step-change in efficiency and effectiveness for P&A and other technologies. Together with Tubing Conveyed Perforating (TCP) products and new charge development, Archer gives an efficient and safe execution of operations providing time and cost savings for our customers.

Method
With the addition of the one-trip TCP (Tubing Conveyed Perforation) module, the Barricade is designed to wash and clean the annulus of a perforated casing or liner in a selected formation zone or between casings, then accurately place a permanent barrier.

A one-trip operation with the Barricade consists of:
– Perforating the section - at which point the guns drop automatically
– Thoroughly washing the perforated annular section
– Placing spacer fluid in the annulus using our calculated “Pump and Pull” method
– Placing the barrier material using the same technique.

After the annular cleaning phase, high-circulation rates and pipe rotation enhance debris removal from the washed annulus and out of the well.

Result
A rock to rock full lateral barrier all in one trip. Enables the customers to provide high performance hydraulic isolation efficiently and reliably. Providing Permanent Caprock integrity.
Gaining Efficiency

– Section Milling is estimated at 148 hours
– The Two trip Stronghold Barriacade took 60.5 hours
– The New One Trip Stronghold Barricade only takes 45 hours
– Improving efficiency by more than 50%

Features & Benefits

– No swarf and additional surface equipment
– No tubular handling, shipping and disposal
– Defined operational window based on logging results
– Single run system for setting cross sectional barrier
– Controlled washing with SPP as main performance indicator
– Excellent hole cleaning validated by CFD analyses
– Accurate placement of cement validated by both annulus pressure remediation and Cement Bond Logging
– Field proven in over 122 runs worldwide

Total savings achieved for the technology is 200 rig days and 25M USD