

# NEXT GENERATION CEMENT THRU SYSTEM

Set bridge plug & test, place cement, dress/tag, cut casing & recover to surface in a single trip



**Single Trip**  
capabilities enable  
operational time  
saving



Up to **11 hours**  
**time saving** vs  
conventional  
approach



**Increase Safety**  
Reduced time spent  
in the Redzone

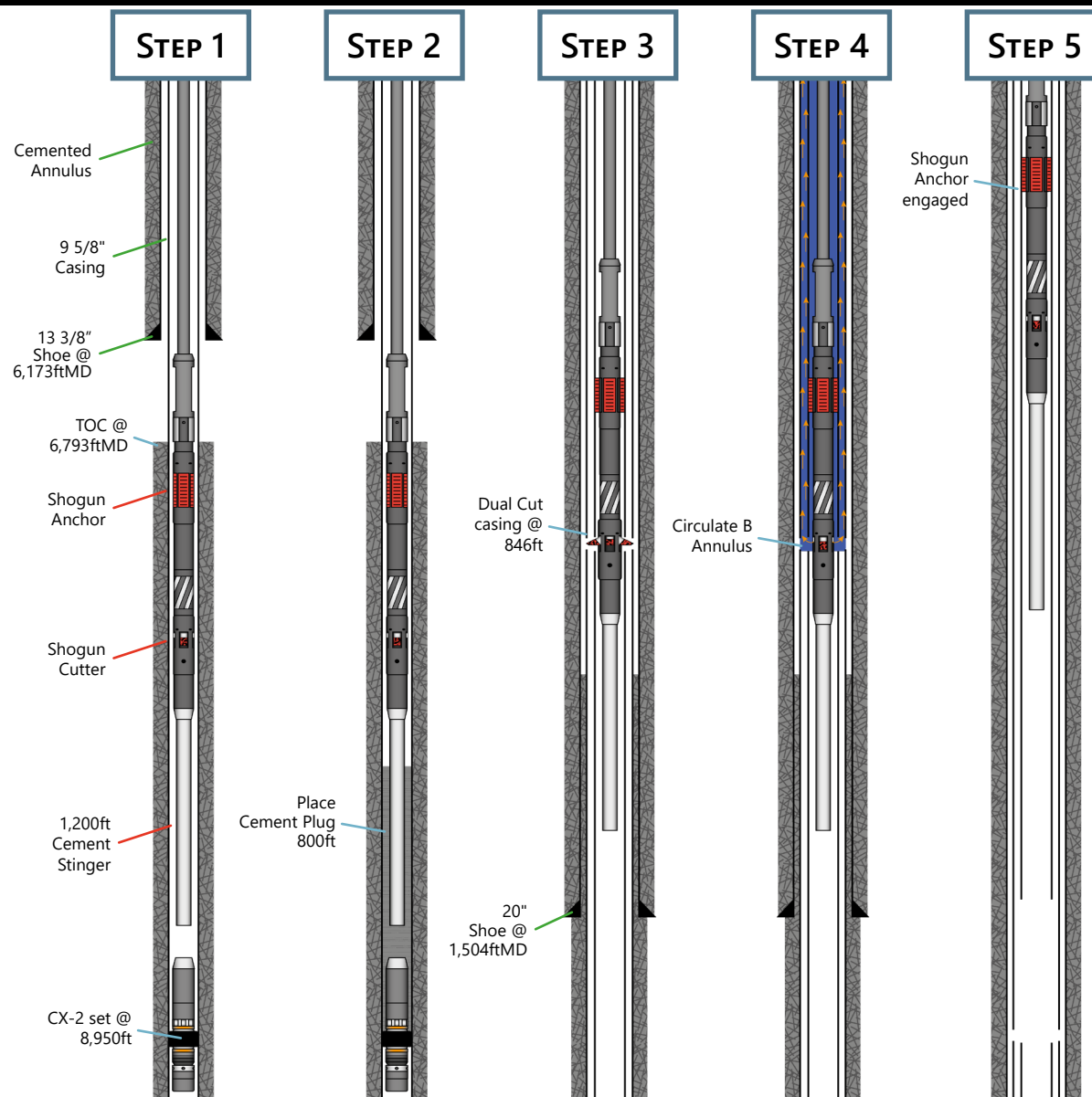
Ardyne completed the first UKCS run with the Shogun Cement Thru System, on EnQuest's Heather Platform.

The operation included the setting of a bridge plug, placing cement barrier, dual cutting of the 9 5/8" & 13 3/8" casing, circulating the B Annulus contents and recovering the 9 5/8" casing, all completed in a single trip.

This type of operation not only reduces operational time it reduces trips downhole, providing an HSE benefit with less time spent in the redzone.

## OPERATIONAL SEQUENCE

- 1 - Set Coretrax CX-2 Bridge Plug @ 8,950ft & tag
- 2 - Place 800ft cement plug
- 3 - Pick up & dual cut the 9 5/8" & 13 3/8" casing @ 846ft
- 4 - Circulate B Annulus contents
- 5 - Pull back to casing hanger engage Shogun Anchor & recover 9 5/8" casing to surface



# THE TECHNOLOGY

Time saving benefits - reduce your planned operational hours

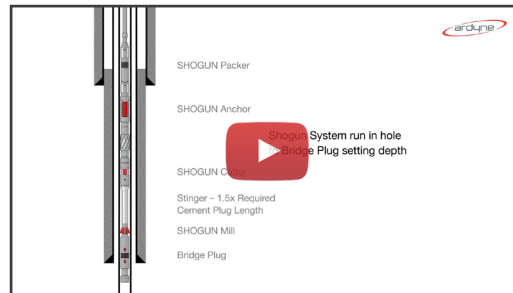


## SHOGUN CEMENT THRU SYSTEM

The **SHOGUN System** is a multi-function cement through cut and pull BHA.

It allows for a number of time and trip saving benefits including:

- Hydraulic or mechanically set Bridge Plug & tag / pressure test
- Pumping cement
- Hang off for surface operations while waiting on cement
- Tagging / dressing cement plugs
- Displacing the well to desired well fluid
- Performing multiple casing cuts
  - ◊ Anchoring on demand for depth control when cutting
  - ◊ No need to run a marine swivel
- Pulling and recovering casing:
  - ◊ Verify casing is free by pulling at cutting depth
  - ◊ Pulling from the hanger and recovering to surface



See Shogun System animation for more info  
Click to Watch



Shogun Data Sheets  
available on request

View Ardyne Shogun System Webpage  
Click to Open



## THE VALUE PROPOSITION

The time recorded below is actual timings from the Shogun System operation on EnQuest's Heather platform, completed as part of Ardyne's ongoing Well Abandonment campaign.

The single trip efficiencies reduce the amount of trips down hole to complete the abandonment, not only reducing operational time but increasing safety from less tripping and BHA handling.

