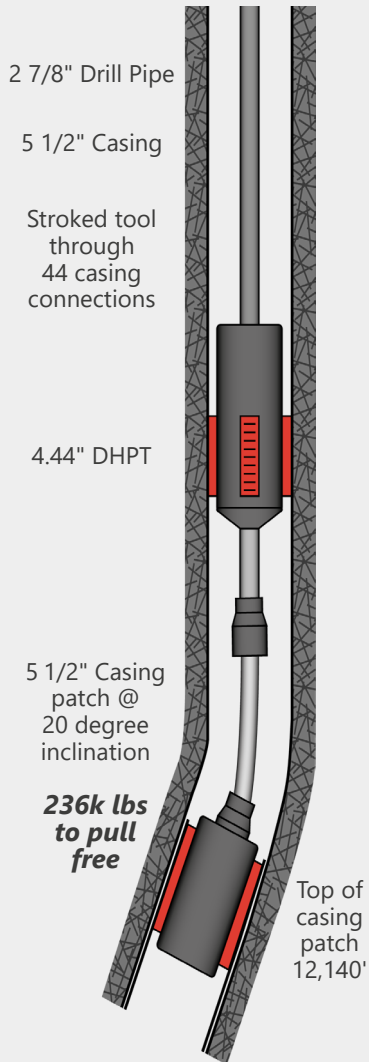


DOWNHOLE POWER TOOL (DHPT) - UNCONVENTIONAL FISHING

Upgrade your pulling capacity - Over 230k lbs applied down hole to free, with 44 strokes required to recover



Rig pull at surface 110k lbs



THE CHALLENGE

Annulus pressure on the well caused the Stainless Expandable Seamless (SES) casing patch to collapse, closing off access to the well and allowing communication behind the 5 1/2" casing.

Previous attempts to recover the casing patch had proven unsuccessful, with insufficient rig power being a major issue in the recovery operation. Prior to Ardyne arriving on-site, the following operations were carried out:

- The patch was initially engaged and moved 3' prior to running out of overpull with the rig
- The tubing was parted around 1,300' while attempting to get the casing patch moving again, resulting in a damaged work string
- The final unsuccessful run was attempted to recover the casing patch, leaving an engaged spear with the inability to release
- A wireline back off was conducted, leaving the following down hole: SES casing patch, spear, bumper sub & two drill collars

THE SOLUTION

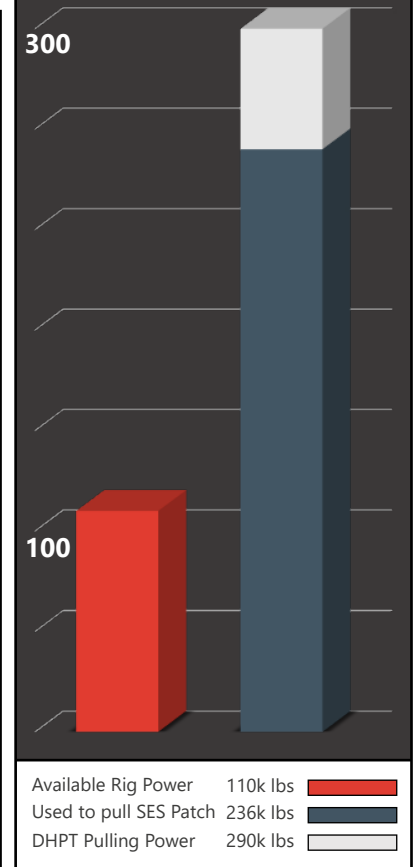
Ardyne's 4.44" DHPT was run in hole, screwed into fish and worked for two hours between 3,500 – 6,500 psi, equivalent to 127,085 – 236,015 lbs of pulling force. After working various pressures for two hours, the fish broke free and began to move. All reactionary forces were contained down hole due to the DHPT.

When attempting to pull out of the hole, the casing patch became wedged on the next 1,760' of casing collar connections, requiring repeated activation of the DHPT. After 44 activations, the rig was able to pull the casing patch without assistance from the DHPT.

Collapsed 5 1/2" SES casing patch recovered with DHPT



4.44" tool delivers up to 290k lbs



Ardyne DownHole Power Tool (DHPT) - Over 1,000 runs globally

