



**OFFSHORE
UKCS**

PROJECT SUMMARY

Product Name

7,000' 20spf SBH Cluster
EC2-70K3532 ISOLOC™

Region

UKCS

Well Type

Abandonment

Depth

10,250 – 10,450 Feet

Casing

Primary: 9 7/8" 68.80# TN110SS
Secondary: 14.000" 100#
TN110SS

CASE STUDY

Delivering ISOLOC™ TCP Perforating Technology to the UKCS

THE CHALLENGE

GEODynamics was contacted by a major independent oil & gas operator offshore U.K. Continental Shelf to discuss an application for ISOLOC™ perforating technology for an abandonment Perf Wash and Cement application where limited entry perforating charges would be required to gain access to the annulus for a cement barrier to be placed. The well was classified as high temperature and required HMX based charges. The gun system would be conveyed using the operators 5 1/2" uGPDS workstring and activated using the GEODynamics 4" LP Hydraulic Actuated firing head.

The customers goals were to:

- Perforate a 200' interval with an average entry hole of 1.00" or larger for Wash and Cement efficiency/placement.
- Perforate 9 7/8" 68.80# TN110SS casing, but not damage the 14.00" 100# TN110SS secondary casing.
- When perforating minimize the shock wave impact on the cast iron bridge plug set below the perforation interval.
- Perforate the interval with a high shot density to assist in a more efficient wash.
- Post perforating be able to do a controlled release of the gun string to avoid hard impact on the lower bridge plug.

THE SOLUTION

- GEODynamics designed an HMX Super Big Hole ISOLOC™ charge based on the customers' requirements.
- Coupon testing was conducted to verify the charge design and limited entry of the perforating jet. A total of three charges were shot for the final report which delivered an average hole size of 1.15"
- Incorporated a third party hydraulic disconnect into the gun system BHA to aide the controlled release of the guns once fired.

THE RESULTS

GEODynamics met the customer's expectations and designed, built, certified, and imported a new 35g HMX ISOLOC™ charge within an acceptable timescale of 12 weeks. A single run of 200' of 20spf Super Big Hole perforating guns with the new 35g ISOLOC™ was run and the interval was perforated safely, efficiently and successfully. The guns were then lowered to place them ~5' above the bridge plug where an hydraulic disconnect sub was activated to performed a controlled release to disconnect the BHA from the workstring.

