

Firma™ Abandonment Solution

Helps Customer to P&A 13 North Sea Wells and Save 125 Days Worth \$35 Million

Objectives

- Permanently plug and abandon (P&A) 13 North Sea wells in accordance with guidelines established by Oil & Gas UK.
- Safely complete all P&A operations with no quality, health, safety, or environmental (QHSE) incidents.
- P&A each well within the budget set forth in the authorization for expenditure (AFE).
- Reduce the number of personnel on board (POB) by using multi-skilled crews.
- Use a single Weatherford contract to cover the full range of integrated services, from tubular running services, fishing and re-entry, and drilling rental tools, to conductor recovery, wellbore cleanup, setting of permanent bridge plugs, and management of third-party services.

Our Approach

- As part of a Firma abandonment solution, Weatherford dedicated an experienced well abandonment project manager to oversee the integrated services contract throughout project planning, operations, and close out.
- The Weatherford project manager worked with product line experts to review well data and operational programs in order to identify optimal solutions for each well.
- Weatherford cross-trained the well abandonment crews to perform a variety of functions. This enabled them to safely and successfully execute the P&A campaign through numerous operations involving completion recovery, casing scraper and cleanup runs, casing cutting and pulling, setting of permanent bridge plugs, section milling, conductor recovery, tubular handling, and management of third parties in swarf handling, abrasive multistring cutting, and conductor cleaning.

Value to Customer

- The Weatherford Firma abandonment solution helped the customer achieve its objective of completing the project within the AFE allowance by finishing 125 days ahead of schedule for a savings of US \$35 million.
- Multi-skilled Weatherford well abandonment crews enabled the customer to significantly reduce POB during the 13-month P&A campaign.
- The crews safely executed this project with no lost-time incidents (LTIs) and minimal nonproductive time (NPT) accounting for only 1.13% of total project time.
- The Weatherford single-trip section mill and bridge plug system saved the customer approximately 80 hours of critical-path time during the overall campaign.



After successfully removing 100 ft (30 m) of 7-in., 29-lb/ft N80 casing, this section mill exhibited only 14% wear.

LOCATION

North Sea,
United Kingdom Continental Shelf (UKCS)

WELL TYPE

- Seven oil production wells
- Six gas injection wells

HOLE ANGLE

Ranging from 0 to 60°

CASING SIZE

From 7-in. casing to 30-in. conductor

WATER DEPTH

147 ft (44.8 m)

PRODUCTS/SERVICES

- Firma abandonment and slot recovery solutions
- Tubular running services (TRS)
- Fishing and re-entry services (FRE)
- Conductor recovery
- Drilling rental tools (DRT)
- Wellbore cleanup (WBCU)
- Permanent bridge plugs and setting tools
- Management of third-party services

