

Firma™ Solution Delivers Permanent Well Abandonment, Cuts Rig Time by 7 Days in Challenging North Sea Environment

Objectives

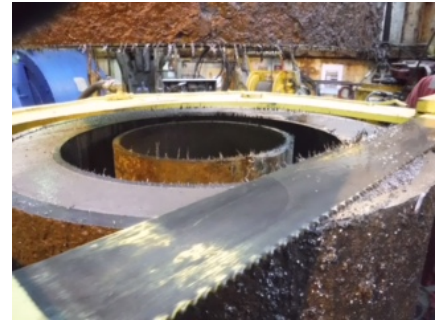
- Employ integrated services to permanently and safely abandon a well in compliance with guidelines for the United Kingdom North Sea.
- Complete plug and abandonment (P&A) operations within the AFE budget and without nonproductive time (NPT) or health, safety, security, or environmental (HSSE) incidents.
- Reduce the number of rig personnel on board (POB) by using multiskilled personnel.
- Maintain well integrity during operations by effectively managing the parted 30-in. conductor casing and connection integrity issues.

Our Approach

- As part of the Firma abandonment solution, the Weatherford P&A team reviewed well data with the client and identified procedures and equipment to manage the conductor integrity issues and other potential risks.
- Weatherford familiarized an integrated multiskilled offshore crew with the work scope and planned procedures before mobilization; the crew was mobilized to execute operations and optimize POB.
- The offshore crew began by using a tubing spear assembly to recover 1,000 ft (304.8 m) of production tubing before setting a 9 5/8-in. bridge plug above the cut tubing.
- After setting a cement plug above the bridge plug, the crew cut and recovered the 9 5/8-in. casing. Then they set a 13 3/8-in. bridge plug above the cut point and another set cement plug.
- The crew cut and pulled the 13 3/8-in. casing, ran a milling assembly to clean the inside of the 20-in. casing, and cut both the 20-in. casing and 30-in. conductor casing with a mechanical casing cutter.
- Because of the integrity of the conductor connections, the crew ran the 20-in. casing spear just above the cut point on a 13 3/8-in. sacrificial string.
- To complete abandonment operations, the crew performed cut, bore, and pin operations to recover the 20-in. casing, 30-in. conductor casing, and sacrificial string.
- The operation resulted in compliant abandonment and reliable wellbore integrity ahead of client schedule and budget.

Value to Customer

- In a challenging North Sea well, Weatherford provided permanent well abandonment 7 days earlier than planned, within the client's budget and with zero NPT or HSSE incidents.
- The integrated and multiskilled P&A crew reduced the number of rig POB without compromising safety or operational performance.
- The experienced P&A team effectively managed well integrity issues with comprehensive planning and preparation that outlined the necessary procedures and identified the required equipment.



The Weatherford P&A team used a guillotine saw to cut through the 13 3/8-, 20-, and 30-in. casing strings.

LOCATION

United Kingdom, North Sea

WELL TYPE

Offshore, fixed-platform oil producer

FORMATION

Brent Reservoir

CASING SIZE AND TYPE

- 5 1/2-in. production tubing
- 9 5/8-in. casing
- 13 3/8-in. casing
- 20-in. casing
- 30-in. conductor casing

PRODUCTS/SERVICES

- Firma abandonment and slot recovery solutions
- Cutting, boring, and pinning services
- Fishing and milling services
- Tubular running services
- P&A engineering services
- Drilling rental tools
- Mechanical bridge plugs
- Cementing equipment

