

# Successful Velocity String Installations Across 5 Wells in Southern North Sea Creates New Production Paths, Enhances Gas Production in UKCS

## Objectives

- Install velocity strings within existing completions (4-1/2 in. and 5-1/2 in.) to create a new production path.
- Execute all operations in line with both customer requirements and expectations to provide uplift in production.
- Work within the timeframe set to ensure operations are executed efficiently to meet demand of customer rig schedule.

## Our Approach

- In collaboration with the customer, Weatherford experts reviewed the well information to engineer, design, and plan the optimal velocity string requirements for the five-well campaign in the Southern North Sea.
- The V0-rated WidePak™ packers along with the compression/tension packers and hangers were selected to support and seal the coiled-tubing (CT) strings. These solutions are designed to consistently maximize performance and achieve the desired results required by the customer's well plan.
- Weatherford field personnel used 2 3/8-in. CT strings to install the systems in four wells while a 2 7/8-in. CT unit installed the fifth. The length totaled more than 57,000 ft (17,373 m) with hang-off weights up to 61,000 lb (27,669 kg).
- Operations were performed under live well conditions, with rupture discs expelled via either pressure activation or slickline tools after the velocity strings were installed and inflow tested. For the wells that deviation allowed access, the slickline method minimized any fluid being pumped down the string and into the well.
- Field personnel for these installations provided the technical expertise required to work collaboratively with the CT and slickline crews and ensured that all safety and operational requirements were achieved.

## Value to Customer

- The Weatherford Well Services team engineered cost-effective solutions by providing complete downhole tooling requirements as a single source for the five-well campaign.
- The new design of the hang-off and sealing system enabled remedial work to be carried out without recovering the complete CT velocity string.
- The installation of five velocity strings provided sustained gas production, with gains of around +5 MMscf/d.
- The customer's confidence in the effectiveness of these installations provided further opportunities for additional installations.



Using the unique Weatherford velocity string hang-off system provided the path for the production uplift in line with the customer's expectations.

### LOCATION

United Kingdom, Southern North Sea

### WELL TYPE

Gas producer

### TUBING SIZES

4-1/2 in. and 5-1/2 in. with 2-3/8 in. and 2-7/8 in. coiled tubing velocity strings installed

### PRODUCTS/SERVICES

- WidePak packers
- Compression/tension packers deployed on coiled tubing
- Compression/tension hangers deployed on coiled tubing
- Seal stingers
- Heavy weight tubing end connectors
- Setting subs
- Rupture discs

