Field-Proven ISO Ultra Extreme Bridge Plug

Isolates HPHT North Sea Well Without Need for Cementing, Maintains Planned P&A Operations

Objectives

- Execute all operations in line with both customer requirements and expectations to provide isolation of the well bore.
- Install a high-pressure/high-temperature (HPHT) ISO bridge plug with a differential pressure rating of 15,000 psi (103.4 MPa) and a temperature rating of 350°F (177°C) due to well parameters to isolate for abandonment.
- Work within the timeframe set to ensure operations are executed efficiently to meet demand of the customer's rig schedule.

Our Approach

- Weatherford experts reviewed the well information and determined the optimum ISO Bridge plug required to meet the conditions in the HPHT well.
- The ISO Ultra Extreme bridge plug was selected due to the setting depth temperature of 338°F (170°C) and with being qualified to 350°F (177°C) and ISO 14310 V0. Providing this equipment ensured the parameters of the well fell within the certified limits of the ISO Ultra Extreme bridge plug and achieved the desired objectives required for the customer.
- The nonexplosive, lithium-free ISO EasySet setting tool with the adapted flask housing—increasing the temperature rating to 437°F (225°C)—was also selected, ensuring Weatherford could provide all equipment to install the ISO Ultra Extreme bridge plug.
- Installation of the ISO Ultra Extreme bridge plug was carried out with no deviation from the standard operating procedure with a successful test on completion.
- After the ISO Ultra Extreme bridge plug had been installed and tested, the customer's program was amended so that cement was no longer being used above the bridge plug. The ISO Ultra Extreme bridge plug was monitored during further operations with no pressure increase or decrease observed.
- Perforation guns of 14 ft with 12 shots per foot were then run to 65 ft (19.8 m) above the installed bridge plug with no indication the firing of the guns affecting the installed barrier isolation capabilities.
- The field engineer for this installation provided the technical expertise required to work collaboratively with the E-line crews and ensured that all safety and operational requirements were achieved.

The ISO Ultra Extreme retrievable well barrier is tested to ISO 14310 V0 standard for high-performance reliability.

LOCATION
United Kingdom, North Sea UKCS

WELL TYPE
Gas producer

HOLE SIZE AND ANGLE
4-1/2 in., 18.9#, 25Cr tubing

TEMPERATURE
338°F (170°C)

SETTING DEPTH
14,800 ft (4,511 m)

PRODUCTS/SERVICES
- Well Services
- ISO Ultra Extreme bridge plug
- ISO EasySet setting tool
- ISO EasySet HT flask

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The slips of the Weatherford ISO Ultra Extreme bridge plug are capable of withstanding a differential of 15,000 psi (103.4 MPa).

Value to Customer

- Weatherford Well Services engineered technical solutions by providing the ISO Ultra Extreme bridge plug capable of withstanding the extreme well parameters.
- With the change to the program mid-way through the operation, the customer was still able to isolate the well without changing equipment and planned abandonment.
- The customer was able to perforate 65 ft (19.8 m) from the installed bridge plug without effecting the performance of the ISO Ultra Extreme bridge plug.
- The customer's confidence in the effectiveness of these ISO Ultra Extreme bridge plugs has provided further opportunities for additional installations, which will further enhance the customer's portfolio within the United Kingdom continental shelf.

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