CASE STUDY

HALLIBURTON

Asia Pacific

Hydraulic workover intervention increases gas production by 20%

Restores reservoir access and recovers full CT string from high pressure gas well

CHALLENGE

- High-pressure gas well with well-control risks
- CT string left in hole restricting reservoir access
- Previous retrieval attempts unsuccessful
- Limited offshore platform space

SOLUTION

- Deploy 460K HWO/snubbing unit for live-well fishing
- Use wash over, pull, and CCOS techniques to remove CT
- Design custom BOP stack to support slip-and-shear operations
- Coordinate with in-country service providers for compliance

RESULT

- Restored full reservoir access
- Recovered CT string safely

Overview

An operator in the Asia Pacific region sought to restore full access to key reservoir intervals after a 2-in. coiled tubing (CT) string remained downhole from a previous intervention. The fish obstructed access to reservoir intervals and limited production. Halliburton collaborated with the operator to evaluate live-well intervention options and recommended a hydraulic workover (HWO)/snubbing solution that would increase the probability of successful recovery and reduce the logistical challenges associated with deployment of larger CT. Due to local regulatory requirements, the project also required close coordination with local service providers to ensure compliance and streamline service delivery.

Challenge

The operator needed to recover the CT string left in the well during a previous cement operation. The obstruction prevented access to reservoir intervals necessary to restore production, and previous CT retrieval attempts removed only the first 1710 m of pipe, which left an additional fish that extended to a depth of 3865 m.

The well conditions introduced several technical risks, such as potential pipe parting during recovery and elevated well control exposure during the attempt to regain access to the high-pressure gas reservoir. The intervention also faced practical constraints, as the normally unmanned offshore platform offered limited deck space for equipment and required detailed logistical planning for mobilization, rig-up, and personnel support. Failure to resolve the obstruction would result in significantly higher costs associated with heavy workover or sidetrack operations.

Solution

To help the operator re establish reservoir access safely and efficiently, Halliburton deployed a 460K HWO/snubbing unit available within the region. A combined technical and operations team with expertise in live-well operations on unmanned platforms mobilized to execute the intervention supported by tender vessels. The staged fishing plan incorporated a conventional wash over and pull, followed by a continuous cutting overshot (CCOS) to retrieve the pipe in manageable sections.

With an expected wellhead pressure of approximately 3,600 psi, the surface handling plan relied on slip-and-shear methodology supported by a blowout preventer (BOP) stack. Halliburton incorporated in-country consortium providers to supply ancillary equipment and associated services to meet regulatory requirements and maintain operational efficiency. The multi-country mobilization concluded with a successful systems integration test to confirm the equipment package was ready for offshore deployment.

Live-well hydraulic workover restored reservoir access and delivered a 20% production uplift.

Result

The intervention restored access to the reservoir and confirmed well integrity. Using the HWO unit in snubbing mode, the team recovered the entire CT string without any health, safety, or environmental (HSE) or service quality incidents. The application of the CCOS on jointed pipe was key to retrieval success. The operator achieved potential production increases of up to 20% compared to existing field output and avoided the higher cost and operational risks associated with heavy workover or sidetrack operations.

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