

Tubular Running Services

Complete 2.5-Year, Large-Scale, Deepwater Operation 100% NPT Free



While online drilling operations continued, the Weatherford fully mechanized casing-running system enabled casing and tubing strings to be pre-made into stands of three joints on the auxiliary rig floor without the need for personnel to manually handle the tubulars, which enhanced both efficiency and safety.

Objectives

- Provide comprehensive tubular running services for the drilling and completion phases of a deepwater, nine-well campaign. These services included handling well center (online) and auxiliary operations, horizontal mobile bucking unit (HMBU) operations, and onshore and offshore tubular management.

Our Approach

- The Weatherford fully mechanized casing-running system made up stands of casing and tubing on the auxiliary rig floor and racked them in the derrick while online drilling operations continued without interruption. This saved time by enabling the majority of casing and tubing strings to be pre-made into stands of three joints before the team ran the casing strings online. Additionally, the remote, hands-free system enhanced safety by eliminating manual handling.
- During surface casing operations, the automatic side door elevators also enabled hands-free operations.
- The Stabberless® casing-running system helped to safely position casing and tubing strings for connection makeup, without the need for personnel to manually perform these tasks. This also prevented damage to tubulars.
- The HMBU made up and broke out 614 connections—including drillpipe, bottomhole assemblies, fishing tools, and cementing assemblies—on the auxiliary rig floor, which further enhanced safety and efficiency.

CLIENT

Chevron ABU

LOCATION

Australia

FIELD

Wheatstone/Iago Development

WELL TYPE

Deepwater, development, gas

NUMBER OF WELLS

9

TUBING SIZES AND TYPES

- 36-in. conductor
- 20-in. surface casing
- 13.625-in. intermediate casing
- 9.625-in. pilot hole casing
- 9.625-in. 13CR production liner
- 5.5-in. 13CR timed screens
- 4-in. wash pipe
- 7-in. 13CR completion tubing
- 7.625-in. 13CR completion tubing
- 9.625-in. 13CR big-bore completion string
- 8.625-in. landing string
- 9.625-in. FMC UN riser flowback tubing

PRODUCTS/SERVICES

- Mechanized casing-running system:
 - 14-50 power tong
 - 7.625-30 power tong
 - HiPer™ control system
 - PowerFrame® III tong-positioning system
- Stabberless casing-running system:
 - StabMaster® pipe-alignment system
 - RMS-2000 hydraulic slip system
 - Varco 500T slip-type elevators
 - Integrated safety interlock system
- Hydraulic mobile bucking unit
- RCS-500 completion spider and hydraulic sliding table spider
- 20-in. automatic side door elevator
- JAMPro torque-monitoring system



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Our Approach (continued)

- The JAMPro™ torque-monitoring system evaluated makeup operations to enable high-integrity connections.
- The RCS-500 completion spider and hydraulic sliding table spider ran the completion string safely and efficiently while preventing any damage to control lines and umbilicals.
- Throughout the operation, Weatherford made up 6,923 tubular connections for more than 68 drilling and completion operations totaling 2,335.22 hours and 97.3 days of online operational time.
- Overall, Weatherford averaged 12.94 joints per hour (JPH) effective run time (ERT). Additionally, the team recorded the following highest and average run rates for individual tubular-running operations*:
 - 3.33 JPH ERT (highest) and 2.84 JPH ERT (average) for 36-in. conductor
 - 10.16 JPH ERT (highest) and 8.03 JPH ERT (average) for 20-in. casing
 - 29.46 JPH ERT (highest) and 21.33 JPH ERT (average) for 13.365-in. casing
 - 30.91 JPH ERT (highest) and 21.57 JPH ERT (average) for 9.625-in. casing
 - 10.31 JPH ERT (highest) and 7.06 JPH ERT (average) for lower-completion operations
 - 15.69 JPH ERT (highest) and 12.34 JPH ERT (average) for upper-completion operations
 - 18.18 JPH ERT (highest) and 15.48 JPH ERT (average) for flowback operations

*All sizes of casing ran in stands of three except for 36- and 20-in. casing, which ran in single joints.

Value to Client

- Weatherford recorded zero nonproductive time (NPT)—and no reported incidents or injuries—for the entire 2.5-year operation.
- Weatherford tubular running technologies enabled making up tubular connections on the auxiliary rig floor, which resulted in significant online time savings valued at approximately US \$43 million, or an average of US \$4.8 million per well.
- Specific technologies contributed significantly to the success of the operation. Using the HMBU resulted in a savings of 2.91 days of online operations valued at nearly US \$3.5 million. Using the automatic side door elevators increased operational efficiency by 40.59%.



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