

BACK OF BOAT CONDUCTOR INSTALLATION

Adding Value and Accelerating Production | May 2012

Woodside is the first operator in Australia to successfully install subsea well conductors from a boat resulting in significant cost savings and accelerated production.

In a first for Woodside and the Australian region a decision was made in 2009 to install four 30" wellhead conductors and Flowline Support Bases (FSBs) in the Vincent/Enfield field using a vessel instead of a drilling rig.

The wellhead conductor acts as the foundation for the well. Like all foundations, construction within specification is a critical acceptance criterion. In production wells, rotational alignment, vertical stick-up and vertical alignment are all critical.

A significant amount of planning and engineering was undertaken to ensure that the system could be safely installed from the vessel with minimal impact on the environment.

Pile driving creates a lot of noise. A 3km marine mammal observation zone was set up around the vessel. In the event that a marine mammal was detected, the power to the piling system would be reduced or shutdown in accordance with maximum noise limits.

The conductor string was assembled vertically on the vessel using a hang off tower. Each of the ~10m long 30" diameter conductor sections were connected with a special threaded connector system which required less than one turn to fully assemble. The overall length of the conductor string was 43m and weighed 24 tonnes in water.

Installation of the conductor within specification was achieved through the use of a "Fast Frame". This piece of

equipment was deployed subsea prior to make-up of the conductor and served as a guide base for accurate stabbing and piling installation of the conductor.

Four conductors and FSBs were safely installed using this system which resulted in significant cost savings and accelerated production.

The next challenge is for vessels such as the one pictured below to drill the 26" top hole section of subsea wells to circa 2,200m and install 20" casing and the high pressure wellhead. This will further reduce well cost and free up further valuable drilling rig time.

QUICK FACTS

- Four 30" pile driven wellhead conductors and flowbases successfully installed to specifications for Enfield and Vincent.
- Allowed installation of subsea flowbase, metrology and subsea infrastructure tie-ins before the well was drilled.
- Enabled immediate (accelerated) production from the well as soon as the rig finished.
- Significant reduction in well and drill rig cost.
- Another Woodside and Australian first.



Havila Harmony installing wellhead conductors on location.