DIAMOND OFFSHORE
OCEAN BOUNTY MODU

Cellar Deck / Pedestal Crane and Tree Handling System Upgrade

ICON was contracted by Diamond Offshore to upgrade the Ocean Bounty MODU to improve the rig's tree handling capabilities. ICON carried out the project on a turnkey basis to ABS rules. The scope included a major re-configuration of the cellar deck area, repositioning of two deck cranes, installation of a new deck crane and provision of a subsea tree skidding system.

The work was undertaken while the rig was under tow from a drilling location in Bass Strait in the SE corner of Australia to a location on the Northwest Shelf Western Australia. Careful planning avoided an expensive shipyard visit.

Ocean Bounty Mobile Offshore Drilling Unit (MODU)

Cellar Deck Modifications

The port side cellar deck was lowered approximately 2m. This involved re-configuration of the primary support steel of the cellar deck and relocation of numerous rig piping systems and services.

Detailed forward planning and comprehensive installation procedures ensured the work could be carried out safely on-tow with no access to onshore fabrication services. ICON provided a dedicated engineering and construction team to integrate with the rigcrew to coordinate and execute the work.

Installation of 12m long x 1.2m deep girder while on tow

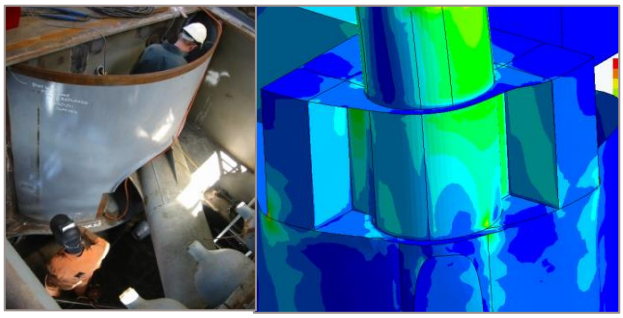
Subsea Tree Skidding System

A hydraulic subsea tree skidding system was designed and manufactured by ICON to suit the revised cellar deck configuration and the latest SST configurations. The system consisted of a hydraulically skidded base, controlled remotely and powered by a custom built HPU. The system was modularised to allow transfer to other rigs on a project by project basis.

Deck Crane Upgrade

The upgrade involved removal of an existing Linkbelt crane, relocation of an existing Seatrax 6024 crane and installation of a new Seatrax 6032 crane, both on new pedestals. The pedestal and crane installations were carefully engineered and staged as no harbourside craneage was available.

The relocations required the installation of a temporary stiff leg derrick crane to assist. Significant hull strengthening was required to accommodate the new larger cranes. The design was verified using FE analysis.



Pedestal Foundation Installation, FE Analysis output

The upgrade was completed on schedule and on budget. This project resulted in a significant overall cost saving compared to undertaking the work in a ship yard, it also minimised rig-downtime allowing the unit to return to normal drilling operations in the shortest possible time.

The project demonstrated that with careful project planning significant upgrades to drilling rigs can be undertaken outside a shipyard while rigs are on tow between drilling locations or in remote locations away from suitable shipyards.

Seatrax 6032 Crane Pedestal Installation and Load testing

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