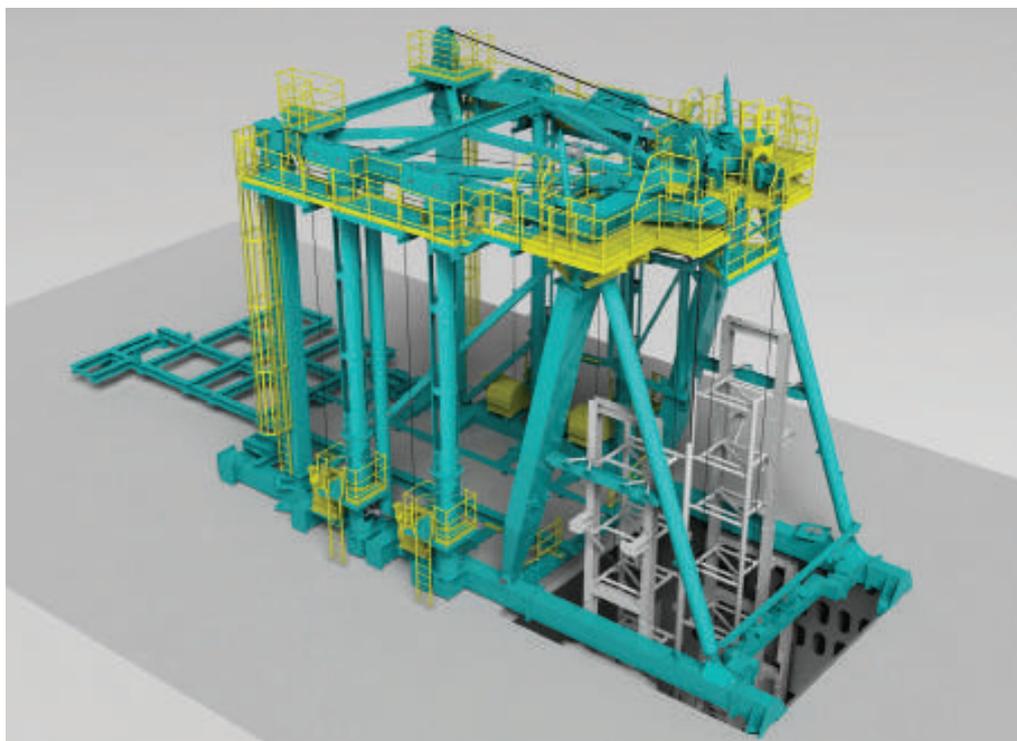




SapuraKencana
P E T R O L E U M

Well Services



Vessel Deployment System (VDS)

Deployment of subsea intervention and abandonment equipment

The Vessel Deployment System (VDS) is specifically designed to allow subsea intervention and abandonment operations to be carried out from a vessel of opportunity. The VDS creates a working platform with guide wires and deployment sheave allowing the deployment of subsea equipment, guide lines and pod lines. The VDS can be configured to operate through the moonpool or over the stern of a work vessel. An integral lifting frame and skidding system allows safe movement of high loads on deck, to and from the moonpool/stern for deployment and recovery. While an active heave compensated winch allows for packages to be lowered safely to subsea assets. Four constant tension guide lines on API centres are incorporated in the frame and can be set up as pod lines. This allows deployment and recovery operations to be undertaken without the use of a deck crane.

The VDS has several features which set it apart from conventional A-frames including:

- ↔ Active heave compensated winch for heavy lifts.
- ↔ Passive heave compensated system for small loads.
- ↔ Can be configured for moonpool or over stern deployment.
- ↔ Lifted load containment by use of cursor frames.
- ↔ Collapsible for in-gauge road transportation.



CERTIFICATION AND DESIGN CODES

- VDS frame : DNV CN 2.7.1, DNV Rule for Certification - Lifting Appliances
- VDS hydraulic winch : Designed in accordance with DNV rules for certification of lifting appliance
- GW winches : DNV type approved (DNV2.22), with a DNV witness test

DIMENSIONS AND CAPACITY

- Main lift winch : 35 Te active heave compensated
- Guide/pod line winches : 4 x 5 Te active heave compensated
- Equipment handling tuggers : 2 x 10 Te
- Total system weight : 80 Te (approx.)



- Dimensions
- Length : 17.5 m (58 ft)
- Width : 8.0 m (27 ft)
- Height : 11.5 m (38 ft)

FEATURES

- Skidding system
- Cursor system
- Active heave compensated lifting winch
- Moonpool
- Adaptable to most vessels over 65 m LOA
- Collapsible for in-gauge road transport



BENEFITS

- No lifting on deck
- Lifted load constrained
- Heave compensation of guide and pod lines
- Moonpool style operations on a typical OSV
- Easy personnel access for maintenance and repair
- Rapid assembly and removal from vessel deck
- Provides cost effective rigless well intervention

EQUIPMENT HISTORY

2010 CNOOC Lufeng, South China Sea

Two wells permanently abandoned to COOSO requirements in the Lufeng field

2009 TSM Woodside WCLH, NWS Australia

30 days offshore in the NWS Western Australia

2008 ConocoPhillips EKKN, JCPA Timor Sea

Full field abandonment, including five wells, in 100 m water depth

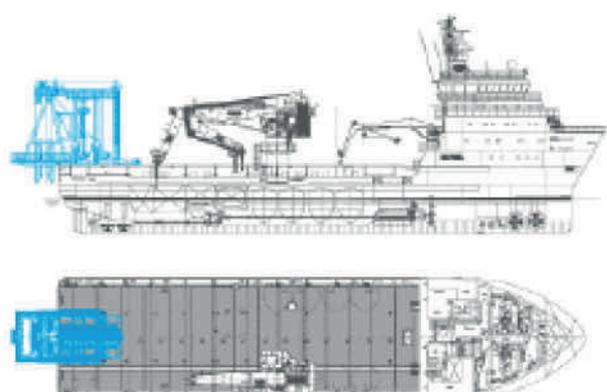
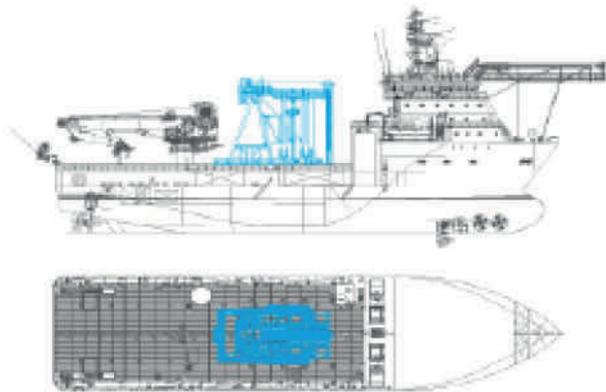
2008 TSM Woodside Laminaria

60 days offshore in the Timor Sea

2007 BHP Billiton Griffin Field

Five days offshore in the NWS Western Australia





SapuraKencana Well Services
is operated by subsidiaries of SapuraKencana Petroleum



www.skws.com

e | info@skws.com
t | 61 8 9480 1222

Level 14, 58 Mounts Bay Road
Perth Western Australia 6000