

MURPHY SARAWAK OIL CO. LTD
WEST PATRICIA FIELD DEVELOPMENT

WP-PA Wellhead Platform Jacket Installation, Sarawak, Malaysia

ICON Engineering was commissioned by Murphy Sarawak Oil Co. to install the West Patricia WP-PA jacket. The field is located approximately 40km north of Bintulu off the coast of Sarawak. The water depth is 40 metres. Installation of the jacket took place in October 2002.

Murphy developed a cost-effective jackup rig installed platform which utilises its four structural piles as well conductors. Each of the 914mm OD (36") conductors houses a compact triple well system. By using two additional conductors the jacket is able to support up to 18 wells.

The jacket was fabricated at Lumut on the West coast of peninsular Malaysia.

The 300 tonne jacket was lifted horizontally using the jackup rig Ron Tappmeyer. It was then upended and lowered to the seabed. The jacket was secured to the rig to ensure it landed vertically and to support it during piling. Piles were mechanically connected and driven using an hydraulic hammer.

The production wells were then pre-drilled and completed before the topsides installation.

ICON was engaged at the conceptual design stage to work with the local designers and assist in jacket concept selection. Feasible installation methods were also developed at that stage such that the design incorporated all the necessary features to allow both upending in air and a floating upend. The final upending method was then chosen on the basis of lowest risk and cost.



Upending Jacket

ICON's involvement included responsibility for installation engineering and site execution of the installation work.

The topsides weighed 600 tonnes and installation by floatover was undertaken in March/April 2003.



Jacket on Barge

By using the rig install method, the jacket installation and drilling could be executed significantly in advance of the topsides procurement and fabrication.

Conventional installation by crane barge would have required two mobilisations of the heavy lift barge to achieve the same schedule.

Platform Data

Water Depth	40 m
Jacket Lift Weight	300 t
Topsides Weight	600 t
Well Slots	6 (allowing 3 wells per slot)
Legs	4 vertical
Piles	4 x 914mm diam. Vertical