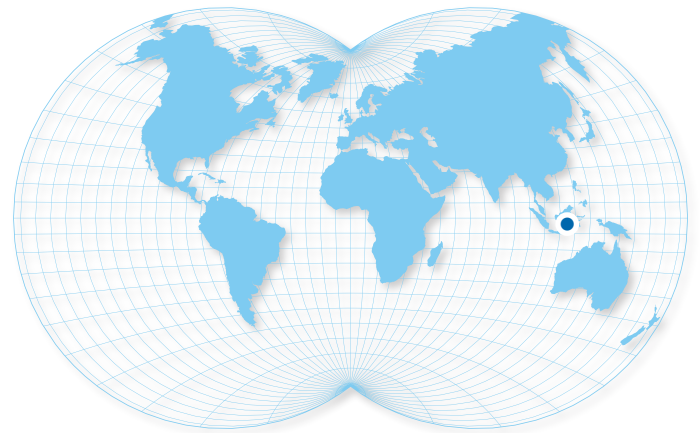


# OFFSHORE SABAH, MALAYSIA: Tembungo SALM<sup>®</sup>



## Scope of Work

The Tembungo terminal was the flagship of SOFEC SALMs. Installed in 1974, the terminal operated continuously through the late 1980's. Located offshore Sabah, the Tembungo SALM is a riser type deep-water soft mooring unit. It is SOFEC's first deep-water storage terminal and has achieved operational efficiency rates as high as 99.4% on an annual basis, with 95% average.

A major factor in the high utilization of the terminal has been the very low level of maintenance required on the SOFEC SALM components. When initially installed, Tembungo was the world's deepest SPM of any type in the world.

SOFEC performed all structural and mechanical design including the articulated column, tension leg buoy and a floating, controlled ballast gravity base which is anchored to the seafloor with 2,000-tons of crushed grade granite. Other major mechanical items include a 40-ton hydraulic latched universal joint (one of three in the system), a 900-ton capacity chain swivel and a piggable 10-in. fluid swivel.

## General Description

Client Name:	Petronas Carigali / Esso Production Malaysia Inc. (EPMI)
Contract Award:	1972
Installation Date:	1974
Application:	Crude Oil Storage

## Project Specifications

Water Depth:	90m (295ft)
Tanker Size:	94,000 dwt
Dimension:	6.7mØ x 11m
Floating Hose:	1 x 10-in.
Hawser System:	15-in. Single hawser
Anchor Leg System:	6-in. Ø Single leg chain with 8ft-6-in. Ø Riser shaft
Anchor System:	Controlled ballast gravity base