



Nong Yao Field

Block G11/48 – Gulf of Thailand



Mubadala Petroleum holds a 67.5 percent interest in the G11/48 concession and is the operator. KrisEnergy holds 22.5 percent and Palang Sophon Limited the remaining 10 percent interest.

The Nong Yao field started production in June 2015. The field is situated approximately 165 kilometers offshore north east of the city of Songkhla in the southern Gulf of Thailand. Nong Yao was discovered in 2009 (Nong Yao-1) and further appraised by five wells (Nong Yao-2, -2ST, -3, -4 & -4ST) in 2010.

The development concept was selected in 2012 and subsequently sanctioned in August 2013. The facilities include a wellhead platform and a wellhead

processing platform both equipped with water injection facilities. The oil is stored in a floating storage and offloading (FSO) vessel and exported via shuttle tanker. 2016 average year to date production is around 9,500 bopd.

The development project was completed with an excellent safety record of 3,3 million man hours without a lost-time incident (LTI) and since start of production the operation has achieved over 1 million man hours without LTI.

Proved and probable reserves contained in Nong Yao's primary reservoirs and recoverable by water injection are estimated to be in the order of 12.4 million barrels (100%).

Field life is projected at around seven years. The production area (PA) of 23.18 square kilometers and the environmental impact assessment (EIA) were officially granted by the government in November 2012 and January 2013 respectively.

▼
**Petroleum
 geology**

Basins	Between southeast margin of the Pattani basin and the northwestern margin of the North Malay basin
Source	Oligocene lacustrine algal shales
Reservoirs	Early/Middle Miocene fluvial sandstones
Trap	Broad fault and subtle dip closed structures
Seal	Intra-formational Miocene shales

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Project details

Name & location of project	Nong Yao Field, Block G11/48, Gulf of Thailand	
Operator/developer	MP G11 (Thailand) Limited	
Project description & components	Greenfield offshore oil development in 75 meters of water, producing from multiple sandstone reservoirs between 600 – 1300 meters. Associated gas is utilized for power generation on the facilities and produced water re-injected into the reservoirs with no water overboarded. A minimum facilities wellhead platform and a wellhead processing platform feed stabilized crude oil to a floating storage and offloading (FSO) vessel via 6 inch diameter submarine pipeline for export.	
Upstream facilities	<p>Nong Yao wellhead processing platform A (NYWPP-A):</p> <ul style="list-style-type: none"> • Jacket weight of 720 MT • Topsides weight of 1,860 MT • 24 well slots. • Production facility capacity of 30,000 blpd • Water injection system capacity of 30,000 bwpd 	<p>Nong Yao wellhead platform B (NYWHP-B):</p> <ul style="list-style-type: none"> • Jacket weight of 555 MT • Topsides weight of 648 MT • 16 well slots. • Production facility capacity of 20,000 blpd • Water injection system capacity of 15,000 bwpd
Export pipeline & receiving facilities	4 km x 8” production line from WHP to WPP and 2 km x 6” diameter oil export pipeline to FSO. Production pipelines are in a ‘pipe in pipe’ configuration for flow assurance. 6” water return/injection lines are provided between the FSO and WPP/WHP for water injection. Crude oil is exported via shuttle tanker from Nong Yao FSO.	
Dates of commercial operations	First production June 2015	
Offshore personnel	Normal complement of 19 persons for operations of NYWPP and NYWHP, plus an additional 15 for workover and offloading crews. The FSO has a total of 80 beds – 55 for field production and 25 for FSO crew.	