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YOHO OIL FIELD, NIGERIA

The Yoho field lies in Oil Mining Lease (OML) 104, offshore Nigeria. The completed project will cost approximately \$1.2 billion and recover an estimated 0.4 billion barrels of oil from the Yoho and Awawa reservoirs. These reservoirs lie in a water depth of between 200ft and 300ft.

Yoho will serve as a hub for future development of other OML 104 petroleum resources.

ExxonMobil's subsidiary, MPN, holds a 40% interest in the joint venture. The Federal Government of Nigeria holds the remaining 60% interest through the Nigerian National Petroleum Corporation (NNPC).

ExxonMobil are employing a temporary Floating, Production, Storage and Offloading (FPSO) vessel as the basis for the initial stages of the development. This is being used as an Early Production System (EPS), ensuring that the first oil from Yoho will come onstream almost two years ahead of full-field start-up.

Production through the FPSO is currently reaching over 90,000 barrels of oil a day. This marks the first deployment using such an EPS system in West Africa. The FPSO itself is being operated by Esso Deepwater Ltd., a subsidiary of Exxon Mobil.

The full-field development will involve additional wellhead platforms, a central production platform and a living quarters platform as well as a Floating, Storage and Offloading (FSO) vessel, which will replace the EPS. Full-field start-up is scheduled for late 2004.

Once the full system comes on stream, its target peak production is 150,000 barrels of oil per day. The produced gas will be re-injected to eliminate routine flaring and maximise oil recover.

FPSO FALCON

The FPSO Falcon, formerly the Amazon Falcon VLCC, was installed over the Yoho field offshore Nigeria in a water depth of 64m.

The system was converted from the existing tanker into the FPSO in Singapore and Dubai. The FPSO Falcon registers 315,000dwt and has a storage capacity of 2,200,000bbls.

It is equipped with an external turret mooring system and production facilities capable of producing 100,000bpd of oil and 100MMscfd of gas.

The swivel stack can accommodate six 10in risers as well as three umbilicals. On Yoho, the swivel stack can contain two 12in low pressure production streams, two 12in high pressure production streams, a 10in water injection swivel (spare) and a 6in pigging swivel. It also has a low pressure utility swivel, an electric swivel and a 6in gas injection swivel.

The turret can accommodate a maximum throughput of 90,000bbls oil per day.

The system specification includes a 95MMSCFD gas injection capacity, a 20MMSCFD gas lift and export capacity while the water injection system can inject up to 90,000BWPd. These facilities have been provided by Single Buoy Moorings

CLASSIFICATION AND CERTIFICATION

ABS was contracted by Single Buoy Mooring (SBM) to provide classification and certification services, including condition assessment of tankers, technical design review, surveys during refurbishment, conversion and hook-up and commissioning of this and two other FPSOs offshore West Africa.

Using the ABS classification society, it was assigned a new class notation +A1 Floating Offshore Installation and issued an IMO MODU Safety Certificate on behalf of the Bahamas Flag administration.

YOHO PLATFORM INSTALLATION

The Saipem and Bouygues Offshore subsidiary, Saibos, won a contract from for production facilities to develop Yoho. The contractual scope of work includes: project management, engineering, procurement, construction, transportation and installation, hook up and commissioning of one production platform, pipeline laying and the other facility installation.

The vessel Castoro Otto will install the platform and lay the pipelines between late 2003 and early 2004, while the vessel Saipem 7000 will install the deck during the second half of 2004.

ExxonMobil is particularly active in Nigeria, with a portfolio including six deepwater blocks covering 3.2 million acres. These discoveries include Bonga and Bonga Southwest in OML 118 (20% equity), Chota in OPL 220 (47.5% equity) and Usan in OPL 222 (30% equity).

The company also has a 56.25% share in Erha located in OPL 209 and a 20% stake in Bolia in OPL 219.



ExxonMobil are employing a temporary FPSO vessel as the basis for the initial stages of the development.



The FPSO Falcon and turret.

Underside of the FPSO turret.



View of the FPSO Falcon undergoing conversion.



Artist's impression of the completed FPSO Falcon.



Close-up of the FPSO stack.



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