

is expanding rapidly



● Dr Mirza, presents His Royal Highness Prime Minister Prince Khalifa bin Salman Al Khalifa with the plaque of the new Tatweer venture

Occidental Petroleum was awarded blocks 1, 3, and 4, and PTT Exploration and Production Public Company, (a wholly owned subsidiary of the Petroleum Authority of Thailand (PTT)), was awarded block 2.

Investment in the offshore exploration and production programme is expected to be of the order of \$170 million.

Seismic survey activity began in all blocks, earlier this year.

Whereas the Bahrain oil field zones are at a depth of less than 4,000 feet, and the Khuff gas is located at a depth of about 10,000 feet, gaseous hydrocarbons also exist beneath Bahrain at a depth greater than 13,000 feet in the pre-Khuff geological zones.

This gas is referred to as deep gas.

The objective of this project is to commercially develop, previously untapped, gas reserves.

In the first quarter of the year, a data room was prepared for interested international oil companies, with the intention to bid for an exploration and production sharing contract, to view available information.

Many reputable international companies including, BP, Shell, Hess Petroleum, ExxonMobil, reviewed the data and, in the third quarter of the year, a shortlist of bids was developed for internal analysis.

Technical and legal reviews are currently underway with an intention of awarding the project to one of the shortlisted companies in the near future.

The award will initiate further seismic and drilling activity in the field to record depths in Bahrain.

The production of an adequate supply of natural gas ensures electricity, air conditioning, and clean water for all inhabitants of Bahrain.

During the year Bapco successfully completed the drilling of three gas wells as part of a

major \$100m programme to boost natural gas production by an additional 500m cubic feet per day.

The programme, which involves drilling a total of eight new deep gas wells in the Khuff gas reservoir, aims to meet Bahrain's growing demand for natural gas for power generation and fuel gas for local industries.

In addition to the eight new wells, the programme also includes the work over of five previously-drilled wells at the same reservoir.

The design of these new wells was enhanced over those drilled previously in that some were directionally drilled, maximising contact by exposing added reservoir over the same thickness which, in turn, increases production from the same wellbore.

Bapco receives crude oil from Saudi Arabia via the AB (Arabia to Bahrain) pipeline. The current AB pipeline has a capacity of 230,000 barrels per day.

The front end engineering design (FEED) for a new crude oil pipeline between Saudi Arabia and Bahrain is currently being conducted, with a view for installation within the next five years.

The pipeline will enable increased crude oil capacity at the Bahrain Refinery with consequential increased revenue. The new pipeline will be designed for a capacity of 350,000 barrels per day.

The Lube Base Oil Project will diversify the product range and produce higher value products at Bapco.

This is an opportunity offered by the newly commissioned hydrocracker at the LSDP complex, whereby the ultra low sulphur unconverted oil from the hydrocracker provides an excellent feedstock for the manufacture of high value lubricant base oils.

The new plant will manufacture Group III Very High Viscosity Index lubricating base oils.

Subsequent to their manufacture, lube base oils are blended with additives to create finished lubricating oil suitable for vehicle and industrial engines.

Throughout 2009 the detailed design of the plant has been taking place in Seoul, Korea by the EPC contractor, Samsung. Civil and foundation works are in progress at the refinery and main items of equipment have been ordered.

Bapco's vision is to become the most competitive refinery in the region, leading environment and energy standards, manufacturing a full suite of added-value products, and with profitability immune to industry swings.

Plans are being developed to reduce the fuel oil yield at the refinery and convert low value fuel oil in to high quality diesel and jet fuel, which are products in great demand.

The project will involve the construction of several new process units at the refinery and cost of the order of \$1.5bn, providing opportunity for employment, interested equity investors, and engineering contracting companies.

As development of the Bahrain oil field takes place, the gas associated with the production of crude oil will increase.

The Banagas Expansion Company will be investing in equipment to process the addition-

al associated gas, so that the valuable LPG components can be separated and marketed to generate revenue for the nation.

Throughout the world, tightening environmental legislation is moving lubricant marketers to demand higher performance from base oils.

The Bahrain Lube Base Oil Company will manufacture lube base oils which meet the highest quality and environmental standards worldwide.

The company will remove wax from the base oils with the Isodewaxing technology provided by Chevron Lummus Global. Feedstock for the plant will be sourced from the Bapco hydrocracker.

Currently primary and secondary recovery techniques are used in the production of crude oil from the Bahrain field.

The development of the field by the joint venture Tatweer Petroleum will employ the latest tertiary enhanced oil recovery techniques. These sophisticated techniques alter the original properties of the oil to improve oil displacement or fluid flow in the reservoir, before bringing the oil to the surface.

The enhanced oil techniques are used to produce the crude oil that would not be available for production by other means.

Since the Bahrain field is one of the longest-life fields in the world, Bahrain will be at the leading edge of technology in recovering additional oil.

Warmest Greetings to



His Majesty King Hamad bin Isa Al Khalifa

His Royal Highness Prince Khalifa bin Salman Al Khalifa

The Prime Minister

His Royal Highness The Crown Prince Salman bin Hamad Al Khalifa

Deputy Supreme Commander

and The People of the Kingdom of Bahrain

on the occasion of the

National Day

