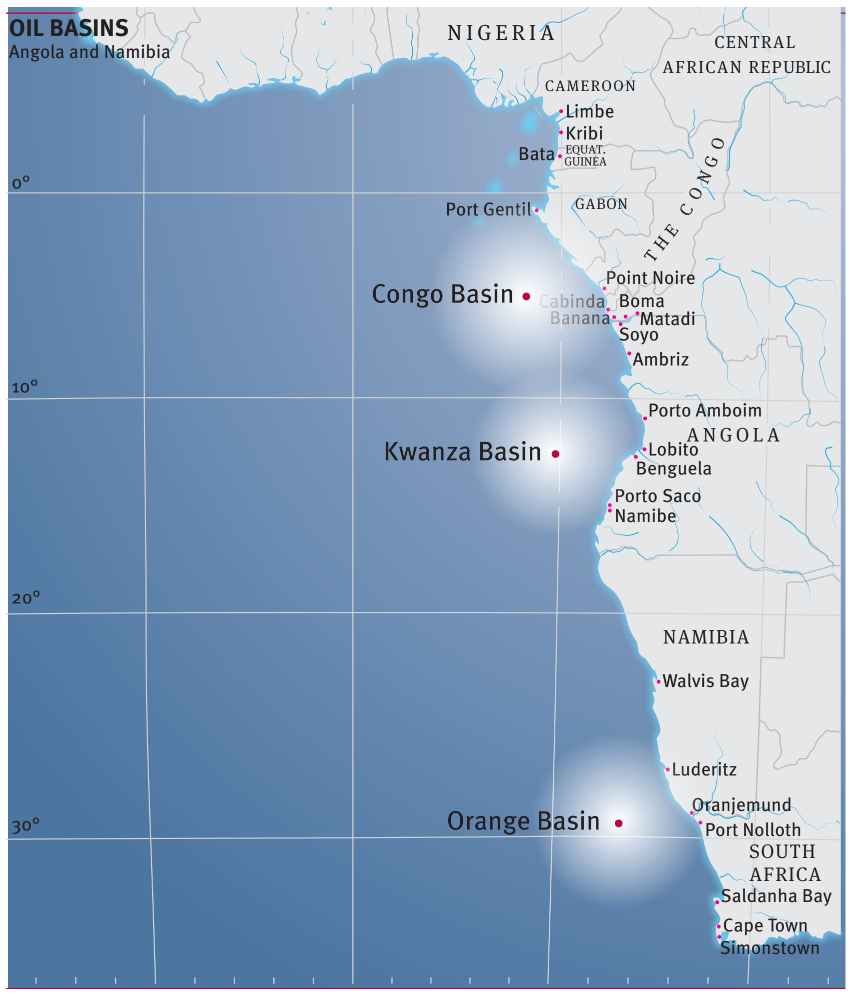
# Angola's pre-salt formations may yield Brazil-scale riches

## Geological charts suggests that features similar to the super-giant Brazilian discoveries also exist in West Africa

Barry Parker — New York




DRILLING into pre-salt formations has now yielded an oil discovery in West Africa.

A find worthy of further exploration, at Block 23 in the Kwanza Basin offshore Angola was announced early this month by Maersk Oil, the field operator.

Maersk Oil has a 50% working interest, along with partners Svenska Petroleum, with 30%, and concessionaire Sonangol, with 20%.

Maersk Oil's discovery, the first pre-salt find in the region at a final depth of 5,334 m, was made by the Diamond Offshore-owned semi-submersible Ocean Valiant, in a water depth of 923 m.

Diamond's fleet status report shows the rig now on a short charter to Hess, at $320,000 per day in Equatorial Guinea.

The Angola pre-salt region, further south along the country's coast than the well-known Congo Basin, the site of post-salt developments Girassol, Pazflor and others, is seeing a flurry of activity.

Cobalt International suspended drilling in 1,525 m of water at a top hole at Bicur in Block 21, using another Diamond Offshore semi, Ocean Confidence, on for several months at $360,000 per day, after being pushed out of the US Gulf of Mexico in 2010.

The Houston-based explorer is now evaluating data from Cameia, a second well in Block 21, where initial results were positive. The rig will then shift back to Bicur, where it will drill into the deeper pre-salt layers after the unsuccessful earlier efforts.

Later this year, the rig is slated to return to the Gulf of Mexico, where it will resume a contract with Murphy Oil, at a dayrate of $511,635, which was interrupted by the Obama administration's 2010 drilling embargo.

Cobalt plans to drill in the adjacent Block 20, starting next year, following 3D seismic studies. The company signed a production sharing agreement in late December which formalised earlier expectations that Cobalt would be a field operator.

Pointing to the similarities between Angola and the better-known formations in Brazil's Campos and Santos basins, Cobalt said: "Our analysis of both the Brazil and West African continents strongly suggests that features similar to the super-giant Brazilian discoveries also exist in West Africa."

Its geological charts show Angola's Kwanza Basin to be analogous to the Jubarte region in Brazil's Campos Basin. Such similarities yield business synergies.

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***Cobalt***

In response to a question from Lloyd's List, Maersk Oil head of exploration Lars Nydahl Jorgensen said: "Our Angola and Brazil teams enjoy a very close co-operation, and there is a definite element of synergy."

In late December, Angola signed additional production sharing agreements with BP, Eni, Statoil and Total, presaging additional drilling activity in the Kwanza Basin, commencing this year.

In Angola's PSAs, operators are typically allowed five years for their exploration activities.

Maersk Oil's recent success in the Kwanza Basin illustrates one hallmark of its business over the past five decades. The driller entered Angola in 2005 at Block 16 in the Congo Basin.

"Modern 3D seismic was acquired in 2008 by Western-Geco. The data were processed by CGG," a spokesperson told Lloyds List.

Maersk Oil added: "All the data will be reprocessed. This has already started. New acquisition of data has not been planned for the immediate future. Data from adjacent licences is also being included in our evaluation."

The various Maersk companies involved in offshore oil work independently.

"Maersk Drilling and Maersk Supply Services would compete with other contractors for any Maersk Oil work [and would] choose the contractor based on technical requirements, availability, price, etc, just like any other oil company," the spokesperson said.

Nevertheless, Maersk Supply Services does maintain an office in Luanda. Bourbon's Sonasurf arm, a joint venture with Sonangol, the state oil company, also has a major presence.

Bourbon's Norwegian arm is also active in Angola. In November 2011 its 16,800 bhp anchor handling tug supply vessel *Bourbon Crown* was placed on a short charter to Exxon Angola.

Tidewater, through Sonatide, has bases in Cabinda, Soyo and Luanda. ■

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# Angolan activity rattles oil services supply chain

A BURST of activity in Angola has sent ripples across the oil services supply chain that goes well beyond rigs and offshore support vessels, *writes Barry Parker*.

Oceaneering International, a service provider supporting offshore exploration and production, has secured a contract with BP from next month to provide project management, engineering and vessel support at Blocks 18 and 31 in the Congo Basin, where BP already operates fields.

BP has Odfjell Drilling's sixth-generation semi-submersible Deepsea Stavanger under a two-year contract to August 2013, plus further options, at Block 18.

Chevron, an active participant in Angola, has announced a three-year charter of Saipem-owned jack-up rig Perro Negro 6, a 2009-built Gusto MSC design, from the second quarter of 2012, coming off employment with Sonangol.

The oil company, which operates in the shallow waters of Block O in the Congo Basin, has also reportedly agreed a three-year charter at a $149,000 dayrate for Transocean's newbuilding jack-up Transocean Honor, starting in the first quarter of 2012.

At Block 18, *Greater Plutonio FPSO*, a floating production, storage and offloading vessel managed by BP, is tied into 43 wells, 20 of which are oil producing, through an elaborate subsea piping and riser system that has produced oil since 2007. Cargo typically loads into suezmax vessels.


*Bourbon Oceanteam 101* will work for BP at Blocks 18 and 31 in the Congo Basin in Angola.


Chevron has announced a three-year charter of Saipem-owned jack-up rig Perro Negro 6 from the second quarter of 2012, for employment in the shallow waters of Block o in the Congo Basin.

Block 31 is home to the PSVM project (Plutão, Saturno, Vênus and Marte development in Block 31). Here, Modec-owned PSVM FPSO, converted at Jurong from the very large crude carrier *Bourgogne*, will be linked to a constellation of underwater wells at multiple fields, with first oil expected in 2012.

Under the Oceaneering contract, two chartered construction support vessels, *Ocean Intervention III*, owned by Island Offshore, and *Bourbon Oceanteam 101*, owned by Bourbon and Oceanteam, will work for BP.

Each vessel will be outfitted with two Oceaneering work-class remote operation vehicles, with capabilities to operate in water depths to 3,000 m. The deal provides for an optional third vessel.

According to Oceaneering, the contract encompasses "light subsea construction, inspection, maintenance, and repair services on existing and future subsea infrastructure".

At the recent Dahlman Rose Ultimate Oil Services & Drilling event in November, Oceaneering president and chief executive Kevin McEvoy said: "The new emphasis on risk reduction in deepwater reinforces our value sell." BP's contracting confirms Mr McEvoy's statement to investors.

The growing intricacies of underwater operations were noted in an early January presentation by Morgan Stanley, providing the firm's perspective on potential performance of equities in the sector.

French company Schlumberger was singled out in a Morgan Stanley discussion of a "Best in Class" stock pick. Analyst Ole Slorer said: "New basins, like pre-salt Angola, mean that Schlumberger's sales mix should swing in favour of offshore exploration." ■

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# Namibia plans to scrap licensing and switch to bid rounds

NAMIBIA, south of Angola and another emerging frontier in oil exploration, has announced an intention to institute a system of bid rounds, ending a licensing system in effect since the late 1990s, *writes Barry Parker*.

Recent estimates, unsubstantiated by seismic surveys or exploratory drilling, put Namibia's offshore reserves at 11bn barrels, a number that rivals estimates of 13bn barrels in offshore Angola.

Enigma Oil & Gas, part of Chariot Oil & Gas, which is listed in London, working alongside Petrobras, has identified nearly a dozen prospective oil-producing fields, the largest of which, Nimrod, in the Orange Basin bordering South African waters, could potentially hold 4bn barrels of oil.

Last August, Chariot transacted a "farm out" deal with BP, in which the oil major will fund Chariot's costs at Nimrod — to be operated by Petrobras — in return for a half of Chariot's stake, 25% of the overall field.

In a separate deal at a block further north, Enigma did a similar deal with PGS, which will perform 3D seismic work in return for a stake in the field.

Market rumours had Chariot seeking, unsuccessfully, to secure a drilling rig for exploratory work. Rumours were fuelled by reports on investor chat boards of a drilling rig in Capetown shortly after the turn of the year.

AIS reports show MetroStar/Odfjell Drilling's *Deepsea Metro II* moored at Capetown.

The drillship, newly delivered from Hyundai, has been chartered to Petrobras, the partner of Chariot, albeit for work described as being in pre-salt Brazil, on a three-year contract, at a dayrate working back to just under $500,000.

*Enigma Oil & Gas has identified nearly a dozen prospective oil-producing fields, the largest of which, Nimrod, in the Orange Basin bordering South African waters, could potentially hold 4bn barrels of oil*

Other players eyeing Namibia are the Brazilian driller HRT, 5% owned by top US money manager BlackRock after an investment several weeks ago, and London-listed Tullow Oil.

HRT, better known for its role as a conduit for TNK-BP's onshore investment in the Solimoes Basin deep inside the Brazilian rainforest, had been touting Namibia to investors in its 2010 stock offering.

HRT, whose chief executive had a long career as a geologist at Petrobras, holds interests in seven blocks there, with reserves estimated at 810m barrels oil equivalent.

Tullow, holding a 70% stake in the Kudu gasfield, had failed several years ago to find gas in a block at the field, in the Orange Basin.

In 2011, an effort to raise money for continued exploration, through farming out an interest in the field to Gazprom, faltered.

News reports had Namibian officials in conversations with Iranian diplomats about a possible Iranian investment role in the Kudu project and in the uranium industry where Namibia is a leading producer.

Exporting the gas to shore is of strategic importance to Namibia. Plans have been in the works to connect Kudu to a not-yet-built onshore gas-fuelled powerplant, at Oranjemund, via an undersea 20 in (50.8 cm) diameter pipeline, stretching 170 km along the seabed. ■

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