

Rig shortage prompts change in Petrobras strategy

By W Rasheed, Contributing Editor

DURING THE LAST decade, Petrobras has pursued an aggressive E&P agenda that is resulting in the country's reaching sustainable self-sufficiency in oil production. Over the past decade, Brazil's exploratory frontiers have opened, deep-water assets modularized and new platforms built. All told, Brazil's dependence on oil imports for national demand fell from 80% to 10% within 2 decades, and Brazil is now on the verge of sustainable self-sufficiency in oil production.

With a total of 64 drilling rigs running in Brazil (22 onshore and 42 offshore), this represents a sizeable increase on 2004 figures when Petrobras ran a total of 50 drilling rigs (19 onshore and 42 offshore). This ramp-up in drilling activity has been necessary for the country to reach self-sufficiency which is set to occur once the P-50 production facility is permanently anchored in the Albacora Leste field, in the Campos Basin. This event is operationally scheduled to occur by this month.

To sustain production, Petrobras will be investing considerably in key strategic areas of its business, including international E&P plays. A total budget of US\$ 56.4 billion has been set by Petrobras for the 2006-10.

TIGHT MARKET DELAYS PLANS

In lockstep with the price of oil, utilization, dayrates and profits for rig contractors have marched upward with demands on rig fleets creating scarcity. Scarcity has led to a global scramble for rigs, especially high-end ultra-deepwater semis and drillships capable of drilling in 7,500 ft (2,500m) or more water depth.

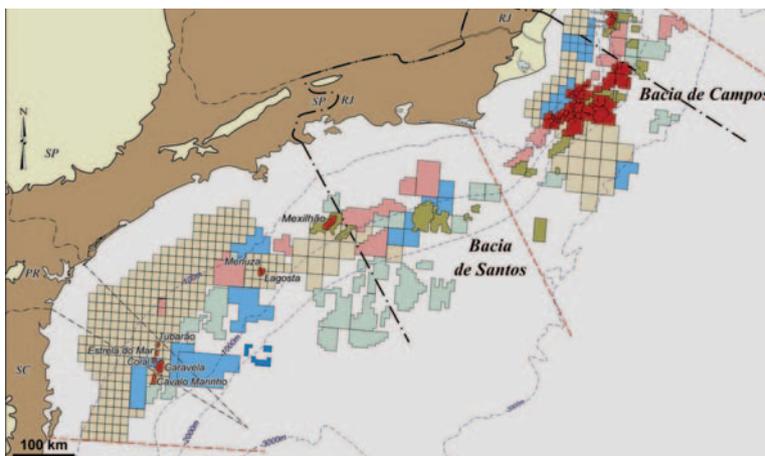
As Brazil draws closer to self-sufficiency, Petrobras has somewhat rescheduled its ultra-deepwater push to 2007-08 while accelerating development of shelf and certain onshore areas where rig constraints are not as acute.

Petrobras is giving priority to somewhat shallower waters-ranging from approxi-

mately 6,000 ft (2,000m) to 4,500 ft (1,500m).

LONG-TERM CONTRACTING

Some may say that Petrobras rates are well below peak market rates. Petrobras has always had a long-term contractual negotiation philosophy-partly due to its nature as an NOC and partly due to the risk associated with Brazil. Long-term contracts were ways of reducing risk for rig contracts and provided a stable framework for rig utilization. Recently, the country has had successful economic growth and relatively low currency risk which led some to think that a conventional bidding process for rigs would work. They were wrong. After 3 bids bore little fruit, direct



14 companies, including Petrobras, are active in the Santos Basin. Petrobras' concession spans more than 40,000 sq km and includes 10 exclusive exploratory blocks and 19 blocks held in partnership. Of that 19, 13 are operated by Petrobras. The remaining 13 companies hold 20 exploratory blocks spanning some 13,000 sq km.

negotiations were started last year and these were applied to all contracts.

The package deal included 5-year contracts and has a total of nearly US\$ 2 billion. It is believed to be the largest deal of this kind for the offshore sector and it has certainly been financially beneficial for Brazil's national oil company. While some rigs are going for as high as US\$ 405,000 per day, the highest rate Petrobras paid was US\$ 254,000 per day. Indeed, only two of the rigs chartered by Petrobras — Noble's deepwater semis Paul Wolf and Dave Beard — surpassed US\$ 200,000 per day, well below going dayrates elsewhere.

Of the 24 rigs secured by Petrobras, 17 are semis and 7 are drillships, with their

water depth drilling capacity ranging from 600 m to 3,000 m, although only 6 have capacity beyond 2,000 m. Many contracts were simply rolled over, but there were new contracts too. The companies involved in the deal were recognizable international names such as Transocean, Pride, Noble and Diamond, as well as national companies such as Queiroz Galvão and Schahin Oil & Gas.

SANTOS BASIN DEVELOPMENT

Literally coming out of the shadow of the Campos Basin, the Santos Basin is set to grow over the next 10 years as approximately US\$ 18 billion is invested in E&P. Water depths range from 0-3,000m. Major Santos oil and gas fields are the Merluza, Lagosta, Mexilhão, Coral, Estrela do Mar, Cavalo Marinho, Caravela, Tubarão, Uruguá e Tambaú.

Petrobras is counting on the potential of the Santos Basin and its cluster of fields to maintain self-sufficiency over the coming decade.

14 companies, including Petrobras, are active in the Santos Basin. Petrobras' concession spans more than 40,000 sq km and includes 10 exclusive exploratory blocks and 19 blocks held in partnership. Of that 19, 13 are operated by Petrobras. The remaining 13 companies hold 20 exploratory blocks spanning some 13,000 sq km.

The Santos Basin is expected to increase Brazil's gas production by 12 million m³/per day by the second half of 2008. Development is likely to take place using a combination of FPSO/FPU (Floating Production Storage and Off-loading and Floating Production Units) drilling a combination and horizontal wells.

MERLUZA

The Merluza field complex is located offshore São Paulo, some 200 km from the city of Santos; which will also house Petrobras new operating business unit.

Plans are to increase current production from 1.2 million m³/per day of gas and

1,600 bopd from the Merluza-1 platform.

Petrobras is currently performing decision gate analysis regarding the installation of the Merluza-2 platform, which will boost production to 8 million m³/per day of gas and 25,000 bopd of oil.

MEXILHÃO

Mexilhão represents the largest undeveloped gas field in the Santos Basin and in offshore Brazil. It is located in water depths that range from 320 m to 500 m with reserve estimates of 90 billion m³ of gas and 6 million m³ of oil range. The reservoir is a sandstone and the original pressure is 9,774 psi (67.4 MPa) at 4,656 m of vertical depth.

The field development plan is based on the construction of 7 subsea wells (6 horizontals and 1 vertical) connected to a subsea manifold that will be responsible for exporting the production to a fixed



Petrobras photo

Petrobras currently has 7 drillships and 17 semis under contract. The tight rig market has prompted the Brazilian oil company to delay its ultra-deepwater push to 2007-08 in favor of shelf and certain onshore assets.

platform located in 170 m of water depth, about 20 km from the field. The planned start of the production is scheduled for 2008, reaching the production peak of 10 million cu m of gas/day in 2009.

Also within this area is the Cedar field, which is also currently undergoing plan-

ning in order to reach a target production of 8-9 million cu m of gas/day by the second half of 2008.

Further delineation drilling will be required to define adjacent producing areas and deeper reservoirs.

Other fields within Santos include the BS-500 field and the Southern complex, for which production systems are being evaluated. It is slated to produce 20 Million cu m of gas/day and between 150,000 and 200,000 bbl/d. The Southern Complex has already achieved production via the Coral complex and is producing 9,000 bopd.

REFERENCES

IADC/SPE 99164, "Blowout Contingency and Risk-Reduction Measures for High-Rate Subsea Gas Wells in Mexilhão"; Lage et al.

Wajid Rasheed is founder of EPRasheed and Brazil Oil and Gas Magazine. ■