

Douala city slickers

Victoria's plan to develop a gas field under Cameroon's economic capital is moving into a critical stage. The supply would begin to turn around the city's lack of power generation, assuming no political hurdles derail the project

By Ed Reed

- Douala businessmen face serious disruption as a result of the lack of power
- The Logbaba project was discovered in the 1950s and could start producing this year
- Victoria is working on two wells initially, but more can be added
- Operating in a city brings challenges and opportunities

Flying over West Africa at night one is struck by the lack of lights, a visible demonstration of the region's lack of power capacity. Cameroon is no exception, with widespread energy shortages crippling local businesses and sparking riots in 2008 in protest at the shortcomings. UK-listed independent Victoria Oil and Gas is one of the few companies working onshore in Cameroon and believes it may have the answer to some of Douala's problems – albeit at a price.

The company intends to produce gas from a field under Douala and supply it to local industry, potentially even generating power at its well site. There are positive initial signs from exploration and, as long as Victoria can navigate the complicated shoals of local politics, the company looks set to gain, with production expected to start later this year.

The Logbaba gas field was discovered by Elf in the 1950s but was not exploited

at the time because of a lack of demand.

Victoria bought into the licence covering Douala in late 2008, bringing a rig into the country in February 2009 and spudding a well, La-105, in August. The company based its plans on results from drilling in the 1950s but has subsequently acquired additional seismic on the area.

Working in the middle of a city poses certain problems, complicating the movement of equipment and the installation of pipelines, while the acquisition of conventional seismic – using explosives or thumper trucks – is unfeasible. However, the flipside of this inconvenience is the proximity to market, with a number of local companies within a 5 km range, making delivery substantially easier.

Power demand

The sense of frustration at the power shortages is notable when talking to local businessmen in Douala. Visiting a textile factory owned by CICAM, the manager

expressed dissatisfaction at the shortcomings of the local grid, drawing attention to machinery installed but lying idle because of power shortages.

In order to maintain production, industry is reliant on expensive fuel oil-powered generators.

The CICAM factory would see costs cut substantially by switching to gas and has signed up to the Logbaba project. The on-site generators can be converted to consume gas in a relatively cheap and straightforward procedure.

Cameroon is reliant on hydropower, so supply is dictated by the weather. Water is stockpiled during the rainy season and rationed out during the dry season, although it seems there is never enough to meet demand, leading to blackouts for days at a time. Other potential customers for Victoria's gas include food-processing plants – such as Nestle and USICAM – chemical plants, breweries and metallurgical plants. ►►

COMMENTARY

According to information provided by Victoria, local power demand is around 425,000 cubic metres per day and the company has signed offtake agreements for 226,000 cubic metres per day, under an agreement that will run for five years.

Victoria's five-year deal has also locked in gas prices of US\$16.4 per million British thermal units (US\$453 per 1,000 cubic metres). Compared to international prices this is extremely high, but when contrasted with other local power sources the gas is cheap. Giving a range of fuel products, Victoria put diesel prices at US\$29.57 per million Btu (equivalent to a gas price of US\$818 per 1,000 cubic metres) and kerosene at US\$19.32 per million Btu (equivalent to US\$534 per 1,000 cubic metres). In addition to sending gas to local businesses, Victoria could also generate power at its well site.

The company has looked at various options on this, including the installation of two GE turbines, capable of producing 78 MW. The state would own these generators and Victoria would supply the gas.

Alternatively, a local developer could take charge of the power generation project. The company has held talks with a local partner, Copi Development, on such a plan. A Copi representative, Ralph Pout, said a 10-MW turbine could be installed at the site very quickly.

"As soon as the gas is ready, we're ready" to start work, he said, explaining the plant would take around four months to install. This plan would require around 57,000 cubic metres per day of gas.

Production hopes

The La-105 well was successful, with logs showing 20 metres of good quality sandstone pay with potential for another 80 metres. Testing of this well is to be carried out while drilling begins on the next well, La-106. The second well is being drilled from a spot only 8 metres from the first well. The rig site is located in the middle of a residential area and Victoria's land is relatively small – covering two former soccer pitches – which make moving equipment to, and

around, the site complicated.

Drilling La-105 encountered some problems, partly because of the speed at which work had to be started – in order to meet the licence requirements – and partly because work ran into the rainy season. In addition, the pressure problems also forced Victoria to go slow, as damage could have been inflicted on the higher formations in the well.

As a result of delays – and some errors made in drilling – costs for the well went over budget, although the lessons learned will be implemented on the next well, which was spudded on February 6.

La-105 is to be tested from the bottom up and the company intends to produce 226,000 cubic metres per day to meet contracted demand. This quantity should be achievable, as the La-103 well was tested at around 340,000 cubic metres per day. Three of Elf's four wells were tested

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in the 1950s, with output of around 280,000-566,000 cubic metres per well.

The rationale behind the drilling of the second well is to secure spare capacity

The background

Elf SEREPCA discovered the Logbaba field in the 1950s, drilling four wells and encountering substantial gas reservoirs. The first Elf well, La-101, blew out, producing around 25.5 million cubic metres of gas in 38 days before being brought back under control. At the time, though, demand was not sufficient to exploit the find and it was abandoned. Elf relinquished the licence in 1999.

RSM Production, which is affiliated with Grynberg Petroleum, signed up to work on the Logbaba field in 2001. Grynberg Petroleum is managed by Jack Grynberg, a US oil man who has been involved in various developments around the world, most notably the Kashagan and Karachaganak projects in Kazakhstan. He also has a number of projects throughout Africa and is known for high-profile litigation cases.

Progress was slow at Logbaba and RSM sold a 60% stake to Rodeo Development in late 2005. Bramlin acquired Rodeo in 2007, via a reverse takeover. Bramlin, though short of cash, opened negotiations with various potential customers and then, in late 2008, agreed to a takeover by Victoria.

should some problem occur on the first well. Victoria's initial assumption was that a high number of wells would need to be drilled to boost production, as the reservoirs were not thought to be contiguous.

However, recent results from a passive seismic shoot suggest there is a larger reservoir around 2 km from the current drill site. If confirmed, this would reduce the number of wells the company has to drill.

Depending on the geology, Victoria may be able to drill fewer wells from a "limited number of locations rather than multiple wells scattered all over the block," the company's executive director, George Donne, said, which would reduce costs.

Additionally, as a result of the new data from the seismic, the La-106 well is to be drilled targeting an area around 400 metres northwest of the La-101 well.

Donne said it was unlikely that the company would be able to reach the newly discovered large target from the current location. ►►

COMMENTARY

Supply

According to the company, around 85% of the industrial market is within 10 km of the two-well site, with the first wave of customers around 5 km away.

Victoria plans to deliver gas to its customers via a pipeline, probably with a diameter of 8 inches (203 mm).

Clearly, installing a pipeline in a city is complicated by the area's built-up nature and, for safety reasons, the decision has been taken to build it underground.

Despite this, Victoria appears confident that the 5-km link would only take around two months to build.

This plan would involve the construction of a processing plant on site – at a cost of around US\$10-15 million – while the pipeline would cost around US\$12 million. The plant would be relatively crude and could be updated at a later date, but the pipeline would need to be sufficiently large to meet future production increases.

An alternative plan to the pipeline has also been considered, that of producing compressed natural gas (CNG). A plant could be installed at the well site, using relatively inexpensive equipment, and the gas could be moved to customers by truck, both in Douala and possibly further afield, to Edea and even Yaounde.

A CNG plan would require other investments – upgrading the local roads, for instance – but would probably be cheaper and could be used in the short term to begin cashing in on the field. This would also give the company time to secure the needed permits to install the pipeline.

Victoria hopes to begin supplying gas to customers by mid-2010. It is likely this will be pushed back, though, and the end of the year appears more feasible, once one considers the planning and development hurdles that must be surpassed.

Political concerns

Victoria appears to have strong ties to Cameroon's state-owned Societe Nationale des Hydrocarbures (SNH) and has secured local political backing, both from local powers and the ministries. SNH's local representative, Peter Enga, noted the energy shortfall and the way in which Logbaba would have an "important impact" on industrial costs.

SNH's relationship with Victoria, Enga said, is based on shared interests and has reached a critical stage as the project nears production.

SNH has the option of acquiring a stake in the Logbaba licence and would consider this at a later stage, when the

project has moved into production. Additionally, the SNH official said, the state-owned company is helping Victoria in its talks with the Cameroonian Ministry of Environment and Nature Protection.

Victoria's chief operating officer, Radwan Hadi, described the company's relationship with SNH as good. We are "friends," he said, "but [we] need to deliver. [Cameroon] needs the gas and [it] wants the results."

Victoria requires a number of permits to move from its exploration phase into development and production. It will have to evict around 500 local people – clearing 250,000 square metres – as well as securing authorisation for the construction of the pipeline.

There is an amount of local concern over the safety of the project, so Victoria cannot afford to make any mistakes, particularly as the local people are so close to the site and along the pipeline route.

The project can be achieved safely but Victoria must make this clear to all concerned.

The pipeline plan has been described as one of the first municipal gas systems in sub-Saharan Africa, let alone Cameroon, so the way forward is uncharted. The company does have strong local links and the political rationale of expanding power access is clear, but Cameroon's complicated bureaucracy could yet provide resistance. ■

Reserve numbers

Working in Douala poses problems in acquiring conventional seismic, so Victoria opted to carry out a passive seismic study on the licence.

The company released a statement on February 4, saying more results from the seismic work had indicated a "major hydrocarbon accumulation" around 2 km from the rig site. The new find lies entirely within Victoria's licence and was described as being "substantially larger than the existing discovery."

The last seismic was carried out in the area in 1954.

Passive seismic is not wholly accepted in the industry – there have been talk of a problem with false positives – but Victoria seems pleased with the results, having used the technique on its gas field in Russia. In addition, the assistant project manager, Sam Metcalfe, said, conventional seismic may not pick up the thin sands Victoria has been targeting. This type of seismic works best when combined with good well control.

RPS Energy carried out a reserve study on part of the Logbaba area in mid-2008. Based on an area of around 6 square km – only a small part of the 64-square km licence – RPS gave a proven and probable figure of 1.8 billion cubic metres of gas, with 2.4 million barrels of liquids.

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