

## UPSTREAM DEVELOPMENTS

# THE UNTAPPED WESTERN FRONTIER

Further exploration success in Western Province coupled with government acceptance of floating LNG development could lead to a third, yet unnamed, LNG project in Papua New Guinea. *PNG Report* talks to key players in the region.

The gas flare at Stanley-2. Picture courtesy of Horizon



**T**HE PACE OF upstream milestones in the foreland basin, also known as the Gulf region, of PNG's Western

Province has been somewhat unnoticed amid the attention on the PNG LNG project and on the InterOil-led Gulf LNG project.

But most of the upstream activity this year has been centred in PNG's Western Province and the gas development opportunities have even taken one vast player in the country by surprise.

In early December, Xstrata Copper unexpectedly delayed its feasibility study for the major Frieda River project by 11 months.

Project scoping studies for Frieda River started up more than three years ago but Xstrata decided to consider a possible gas-fired power plant which will tap into the Stanley field discovery held by Horizon Oil and Talisman Energy in Western Province.

There are further plans to make Stanley gas available to help power the giant Ok Tedi mine, but this gas project alone is merely a taste of the opportunities opening up in Western Province.

#### **HORIZON OIL**

AN OIL producer in New Zealand, and considered an aggressive explorer in PNG's petroleum scene, Horizon Oil started up in the region by increasing its small, existing interest in the plugged and unexploited Stanley-1 discovery well by acquiring the interest of Gulf province-focused InterOil and others.

The well flowed better than expected when it was retested in 2008, and this was followed up by Horizon's successful Stanley-2 and Stanley-4 wells within the last 12 months.

Horizon was also operating the Elevala-2 appraisal/development well in petroleum retention licence 21 roughly 60km southwest of the Stanley field, with drilling underway at the time of publication.

This drilling will be immediately followed up by the nearby Ketu-2 appraisal/development well to the north.

On the advantages of the forelands area of Western Province compared to the fields targeted by the PNG LNG project, Horizon chief executive officer Brent Emmett said the surface conditions were much easier than those in ►



Kiunga port on the Fly River. Picture courtesy of Horizon Oil

the helicopter-dependent thrust belt of the Highlands. “We have existing road access to the site,” he told *PNG Report*. “That can’t be said of any of the fields that are developed or yet to be developed in the Highlands.”

Horizon is yet to decide which direction to take after the Elevala-2 and Ketu-2 wells are complete.

“We will either go immediately from Ketu-2 to the Stanley-3 and 5 wells or we will consider releasing the rig and drilling the Stanley-3 and 5 wells in 2013 while the development is going on,” Emmett said.

Horizon and Talisman are targeting quick and highly profitable cashflow through a joint condensate recovery project in the Stanley field. On the financing front, Emmett said Horizon was in good shape with a cash balance of \$51 million at the end of the September quarter and solid revenue from its Mari field in New Zealand.

Outside of existing cashflow, Emmett said it would also fund its share of development costs through debt.

**It’s always the cheapest gas that finds its way into projects first.”**

**BRENT EMMETT**  
CHIEF EXECUTIVE OFFICER  
HORIZON OIL

“We are rather advanced in negotiating a reserves-based lending facility.”

He acknowledged that Horizon has generally been under the radar in PNG because of the PNG LNG project and the publicity around the Gulf LNG project.

“I think there are very few people who know that the Stanley field is likely to be the next producing field in Papua New Guinea,” he said.

The Department of Petroleum and Energy was part of this select group. Emmett said it knew the good progress made at Stanley “very well”.

Emmett believes the PNG LNG project’s success will hinge to a large degree on building additional trains to the two planned so far.

“Therefore they have been hunting for gas and I think there is plenty of gas discovered and to be found in the foreland area and in Western Province.

“It will be developed cheaper than gas in the Highlands – and it’s always the cheapest gas that finds its way into projects first.”

While Exxon and its key PNG LNG partner Oil Search have not been in discussions with Horizon, Emmett said he would be surprised if they weren’t in talks with Talisman which holds a major position in the foreland area.

One of the talking points this year

was InterOil’s plans for a floating LNG facility as part of its Gulf LNG project – which could still be the first FLNG development in the world.

But at least some of the controversy is due to the fact that both InterOil and its government-owned partner Petromin have completely different JVs in mind for building a FLNG plant for the same project. How that situation will play out is unknown but it does demonstrate that the government approves of FLNG development.

Emmett said FLNG made eminently good sense for a country like PNG where there were access and logistical difficulties.

“Where there are big construction and logistics and basically supply chain type challenges, the best thing you can do is construct something outside of the country and float it in. And in fact that’s how we intend to develop the Stanley field.

“We intend to build all the production modules, probably in North America and float them in by barge and install them, bolt them all together in the field.”

## TALISMAN ENERGY

IN 2009 THIS giant Canadian petroleum company acquired Rift Oil, a London-listed explorer which had revived interest in Western Province through its significant Douglas and Puk Puk discoveries over the previous three years.

Since then, Talisman has brought a great deal of credibility to the region and has partnered up with smaller players Horizon, New Guinea Energy, Eaglewood Energy and Kina Petroleum.

Talisman Australasia vice president and general manager Paul Atkinson said there could be as much as 15-20 trillion cubic feet of unrisks, undiscovered potential prospective resources in the company’s PNG petroleum tenement acreage, which is mainly centred in the gulf area.

“Prospect sizes are smaller than in the Highlands and hence Talisman is pursuing a strategy to aggregate a target of 2-4 Tcf, for monetisation via LNG as part of a future potential consortium,” he told *PNG Report*.

These gas estimates compare to the more than 9Tcf the PNG LNG project aims to produce over its proposed operational life of 30 years – with first cargoes in 2014.

Talisman expects to make a good return from its gas aggregation strategy in PNG. “Profitability is assured through access to LNG

prices which add considerable value compared to domestic gas sales in the region," Atkinson said.

"The PNG licences are located in a proven gas province with excellent prospectivity at relatively low risk compared with other large exploration opportunities. The key to adding value is therefore efficient low-cost exploration to secure a low finding and development cost, which is a key Talisman skill set."

Both the Elevala-2 and Ketu-2 wells could assist development planning efforts to cash in on the lucrative condensates in the area.

"Elevala and Ketu contain wet gas and it is possible that the first phase of development can include liquids recovery. We will also drill an appraisal well at Puk Puk in petroleum prospecting licence 235," Atkinson said.

Two more wells are on the cards in Western Province, Atkinson said. The Weimang and Aiema prospects are mature and ready to drill in PPL 235.

"The principal reservoirs targeted are the Elevala, Toro and deeper Jurassic sands, depending on the specific location."

Front-end engineering and design for the Stanley condensate recovery project in PRL 4 (half owned by Talisman and Horizon) is complete while potential development issues have been identified.

"FEED engineering has delivered a robust conceptual design and cost estimate, which will form the basis of a final investment decision," Atkinson said.

"Remaining challenges include contracting with suitable experienced construction contractors, efficient implementation of the project and preparing the project for the operations phase. Horizon as operator is making good progress in all of these areas."

Atkinson said it was too early to say when the FID milestone could be reached as it would depend on the speed of exploration and the progress of concept development studies.

"Talisman, overall, is encouraged by the exploration potential and prospective resources on the one hand, and the progress being made by third parties within PNG towards the development of competing facility concepts.

"It is clear that there will be significant optionality available to Talisman at the time of concept selection, and opportunities to deliver efficient LNG operations to the mutual benefit of Talisman and its

partners and the people of PNG."

On whether Talisman might consider opportunities to link up gas from Western Province to the PNG LNG project, Atkinson only revealed that several possible methods of exporting gas from Western Province were being studied.

"Talisman plans to complete conceptual engineering studies to form the basis of an investment decision when the discovered resource target is achieved. At the same time Talisman is aware that other companies have discovered resources and that it may be possible to form a consortium or join an existing consortium of gas exporters."

## EAGLEWOOD ENERGY

TORONTO-listed explorer Eaglewood Energy made PNG's newest discovery in Western Province in February, with the Ubuntu-1 well in PPL 259 intersecting 10m of net gas-bearing Elevala sandstone.

Eaglewood and its joint venture partners have already been offered a PRL (28) over the two blocks containing the Ubuntu discovery, along with five-year licence renewals on three of their four PPL licences in recent months. The swift action on the approvals front is testament to the abilities of Eaglewood's experienced team in Port Moresby. The PNG team are core to the business, both in terms of their technical insight and vast regulatory experience.

"We have a fantastic group of people, all PNG nationals, working and managing our in-country office and affairs," Eaglewood subsurface manager Gavin Douglas told *PNG Report*.

"The value of their understanding of processes and legislation cannot be understated. If any companies are to work effectively in PNG then the presence of PNG nationals within the organisation, empowered and in key positions, is essential."

Eaglewood's PNG team is headed up by Bruce Apana, PNG country manager. A lawyer by background, he gained much of his hands-on oil and gas experience working with OilSearch in Port Moresby.

An appraisal well for PRL 28, which contains the Ubuntu discovery, and a welltest on Ubuntu-1 are contingent on the interpretation of recently completed seismic as well as results from seismic and drilling activity currently underway by other operators close to the licence.

Douglas said there were a number of structurally similar prospects to the

Ubuntu discovery in PPL 259.

"The high strike rate in the region provides encouragement that more resources are there to be discovered," he said. "Further seismic is planned in PPL 259 in the first half of 2012, with Eaglewood's next exploration well expected to spud in the second half of that year."

Douglas noted the benefits of the increased levels of activity in the region over the past two years. "The presence of a number of large and experienced operators in the area, such as Horizon Oil, Sasol and Talisman, have led to the development of infrastructure and cost-saving initiatives which provide encouragement that future operations in the region can be run more cost effectively," he said. "The spirit of collaboration is strong amongst the companies in the Western Province".

While Eaglewood also has exciting licences outside of Western Province in the frontier areas of the country, the main focus of 2012 will be on PPL 259 and PRL 28, with activity being undertaken by other players in this region helping to de-risk the PPL 259 and PRL 28 prospects at minimal cost to Eaglewood.

Douglas told *PNG Report* that Eaglewood is also well placed to be involved in the Stanley field condensate recovery project in some shape or form next year and that during the first half of 2012 it expected to complete the negotiation of an unitisation agreement with the PRL 4 joint venture, which will lead to involvement in the Stanley development.

"The Stanley development is the project closest to resource monetisation in the Western Province," he said.

## NEW GUINEA ENERGY

ANOTHER active player in Western Province, like Eaglewood, NGE's acreage in the region could be de-risked by the wells underway or planned next year by the other players such as Horizon.

Of immediate interest to NGE is the P'nyang-3 appraisal well in PRL 3 in Western Province, with drilling expected to kick off in the December quarter by Oil Search on behalf of Exxon. There are hopes of finding 2Tcf with this well.

The licence is northeast of NGE's encompassing PPL 269, which straddles the border with West Papua.

In an interview with *PNGIndustryNews.net* in November, NGE chief executive officer Grant ►



The Stanley-2 well at dusk. Picture courtesy of Talisman

Worner speculated on what success at the P'nyang-3 well could mean to NGE.

"What that does is open up the PNG LNG play way through to the Western Province," he said.

"Because if Oil Search are talking about connecting P'nyang through to PNG LNG – which suddenly opens up any discovery for us – it potentially allows us to connect into train 3 of PNG LNG."

### KINA PETROLEUM

A NEW player to Western Province is Kina Petroleum, a PNG registered company that recently listed on the ASX.

Kina has a 15% stake of PRL 21 (Horizon 45%, Talisman 40%), where the Elevala-2 and Ketu-2 wells are situated.

Kina managing director Richard Schroder rated the Talisman-led gas aggregation plans in the Western Province as potentially the third major gas project in PNG, after PNG LNG and Gulf LNG.

"I don't think I have ever seen anything quite so exciting," he told *PNG Report*. "It's like the beginnings of the North West Shelf in Australia in the 70s and 80s and I think gas is going to have an absolutely huge impact on PNG."

Schroder offered some other good insights into the benefits of drilling in Western Province.

"I found the people very supportive. When I was working out

there on seismic, also now drilling wells, we see a sense of cooperation that really belies a lot of what you hear in the press about landowner problems elsewhere in the country.

"People tend to want to see development. They are encouraging us to come in and work and obviously with success we need to reciprocate and see what infrastructure and facilities we can bring to help them.

"We have seen good relationships develop between operators and local people in Western Province, which is a real plus."

While Kina Petroleum has three licences in the southern Papuan Basin, along with another PPL in the North New Guinea Basin, Schroder said Western Province boasted very wet gas and it was fortunate to have its exposure to the Elevala and Ketu fields in PRL 21.

"Elevala-1 is the second richest gas intersection in PNG, with about almost 60 barrels of condensate per million cubic feet of gas, so you can produce the condensate and just recycle and reinject the gas."

"Western Province is a really good place to explore. It's a bit remote but you have got the Fly River draining from it which provides export infrastructure utilising barge transport.

"You have plenty of flat land so road and airstrip construction is cheaper than the Highlands. Horizon bases its operations out at Kiunga on the Fly River.

"Existing roads from the Fly River can be upgraded to the Elevala and Ketu discoveries."

Schroder said if FLNG technology worked it would have a big impact as the region did not have any deep water ports for export.

"FLNG will certainly open up a lot of the stranded gas that is currently sitting in Western Province."

He expects good interest from investors once the company is floated, especially due to the appraisal drilling in PRL 21.

"I think people have quoted success rates in Western Province as something like 30 per cent – that's for exploration drilling – for appraisal it should be of the order of 50 per cent.

"So the likelihood of seeing some early production at Elevala and Ketu is a lot greater than if you are backing companies that are just drilling wild cat wells."

### IMPROVING LIVES

WHILE the commercialisation of the liquids in Western Province is a key priority, the production of associated gas from the Stanley field could provide wider benefits other than potentially creating attractive electricity options for the Frieda River project and the Ok Tedi mine.

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**RICHARD SCHRODER**  
MANAGING DIRECTOR  
KINA PETROLEUM

Emmett said there was the potential to also supply gas-fired electricity to a grid which can support about 10,000 families that live in communities which have either no power or rely on expensive diesel-fired power.

"It's not a big part of our business," Emmett said. "The main part of it would obviously be the condensate recovery – but as an added benefit that is going to have a pretty good impact and it's something we would like to do."

• Disclaimer: Aspermont, the publisher of *PNG Report*, owns shares in New Guinea Energy.