



THE OIL & GAS YEAR

The Who's Who of the global energy industry



AUSTRALIA 2009

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A complete package

TOGY talks to

John HEUGH
Managing Director
CENTRAL PETROLEUM

In more than a decade, Central Petroleum has accumulated Australia's biggest exploration package – over 250,000 square kilometres of acreage. As it certifies a rich mixture of traditional and unconventional hydrocarbons reserves, this young exploration and production player is considering a plethora of commercialisation options. ■

THE OIL & GAS YEAR: *What was the genesis of Central Petroleum?*

JOHN HEUGH: When we formed Central Petroleum in 1998 many people in the industry said we were mad to start an exploration and production company when oil was trading at \$12 per barrel. However, because of that strategy there was no competition and Central Petroleum were able to put together Australia's biggest exploration package – we operate over 250,000 square kilometres.

We tried to float the company with a dual listing on the Australian Stock Exchange (ASX) and the Alternative Investment Market in 2004 but we were unsuccessful. We eventually succeeded in 2006 with a listing on the ASX and have since spent approximately A\$40 million (\$32 million) on exploration. We have attracted three farm-in partners, principle among which is BG Group. We are building on the base of previous exploration in the area as well as new results from our own drilling and seismic programmes. There were approximately 40 wells drilled in this whole area of 250,000 square kilometres before Central Petroleum came along.

TOGY: *You own the largest package of prospective acreage in all of Australia. Please describe this terrain and the investment you are putting into it.*

JH: The ground is remarkably under-explored. There is on average one well every 5,000 square kilometres and approximately 4 million barrels of oil equivalent have been discovered per exploration well drilled. We have three farm-in partners: BG Group, Trident Energy (an unlisted group) and an unlisted Australian group called HE Nuclear that is entirely focused on helium.

Our farm-in partners cover 40-60 percent of our initial exploration costs although we maintain a 65-80 percent ownership and a controlling participation interest in the acreage. BG Group is

farming in across the whole acreage and may contribute up to A\$160 million (\$119.68 million) of the A\$400 million (\$320 million) gross value of the expenditure planned for the initial exploration by the farm-in partners. We are looking for another major farm-in partner. The deal is for BG Group to fund 40 percent of the first three wells and the first A\$3 million (\$2.24 million) of seismic in each of the 28 permit areas. In the last four or five years nine of the 28 permits have been granted and the remaining 19 are in the application phase.

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in this area initially simply by trucking it to port facilities at Darwin (in the Northern Territory). That will cost us about A\$15 (\$11.22) per barrel. If the discovery is large enough we can truck it to the rail junction at Alice Springs and then send it by train to Darwin. If the discovery is bigger still we can pipe it across to the rail junction or even to the gas and oil hub at Moomba.

There is sufficient infrastructure to monetise oil in central Australia quite quickly. If we make an oil discovery we can create a cash flow in 12 months. Gas is a slightly different equation. There is a 14-inch (35.6-centimetre) gas pipeline connecting Mareenie Palm Valley to Darwin, which has been used for about 20 years. If we



Finding the infrastructure to monetise oil and gas in Australia takes ingenuity and investment

can find sufficient gas in central Australia to sustain a fairly large LNG operation, we have the option of building a bigger pipeline up to Darwin and getting into LNG production.

TOGY: *You are considering building a gas-to-liquids (GTL) plant. Is the consumer market for gas greater outside of Australia?*

JH: Yes. However, Australia will need to consume 1.1 trillion cubic feet (31.15 billion cubic metres) of gas a year to produce enough diesel to supply the projected shortfall in 2015. So the production from a reasonable GTL plant, say 20,000-50,000 barrels per day, can be comfortably absorbed by the Australian market.

We looked at the Shell Pearl and the Sasol-Chevron Oryx plants in Qatar and the Escravos GTL plant in Nigeria to try to come up with some

concrete figures for the engineering costs. We think that it will cost \$70,000 of capital expenditure per barrel-per-day of installed capacity. If we fuel a 20,000-barrel per day plant with coal seam gas from the Pedirka Basin it will cost us \$2 per gigajoule to get into that plant. The breakeven point would be a crude price of \$50-55 per barrel. Therefore we have concluded that there is more profit to be made in GTL given our belief that from here on in, crude oil will trade in the long term at closer to \$100 per barrel.

TOGY: *What is the overall resource potential of your extensive acreage?*

JH: Building upon the results of other groups we have a short estimate of potential results. There is a demonstrable potential for both conventional and unconventional fuels. The Northern Territory government released a paper three years ago that estimated there was up to 35 trillion cubic feet (991.09 billion cubic metres) of undiscovered gas in the Amadeus Basin. We have another independent report that quantified what they call a viable exploration target of over 1 trillion tonnes of coal above 1 kilometre in the Pedirka Basin, giving rise to prospective recoverable resources of coal seam gas of 35 trillion-70 trillion cubic feet (991.09 billion-1.98 billion cubic metres). The importance of that is not that we want to mine coal – this is sub-bituminous coal or steaming coal. It will probably never be used for anything other than the production of coal seam gas or perhaps the new process of underground coal gasification (UCG), which is generating great interest in Australia and in the US as well.

An independent report released on the potential for UCG syngas (synthetic gas) in our Pedirka Basin acreage stated that 11,000-14,000 trillion cubic feet (311.49 trillion- 396.46 trillion cubic metres) of syngas may be available in a prospective recoverable resource. This is a huge number but it is based on the reporting to the market of trial production parameters by other UCG players in Australia.

Authority offshore is shared by the Commonwealth and the state



In the Amadeus Basin there is an extensive rich organic source rock called Horn Valley siltstone, which has been drilled some 20 times before and has proven evidence of oil and gas saturation. It is essentially shale and we believe it is analogous to Baxter or Bakken shale found in the US, which are quite prolific producers for gas, particularly Baxter shale. Nobody has ever sunk a horizontal well into this and fractured it to see what it will produce. We want to be the first to do that. In this area there is the potential for up to 100 trillion cubic feet of gas originally in place in the fractured shale and quite literally billions of barrels of oil potential.

We have 15,000 square kilometres of ground in the Southern Georgina Basin that covers the Southern Arthur Creek shale formation, which is up to 500 metres thick. The source quality of that is as good as or better than Bakken or Baxter shale. We have drilled evidence of oil and gas saturation in a similar sense to the Horn Valley siltstone. This play may have up to 650 million barrels of oil and up to 650 trillion cubic feet (18.4 trillion cubic metres) of oil and gas in place that may be recoverable to a large extent.

Nobody has explored for oil or gas shale using horizontal drilling and fracturing in Australia yet. The only horizontal drilling and fracturing done so far has been for oil reservoirs in conventional sand stones or for enhanced production from coal seam gas. So that is another unconventional play and we have over 200 conventional prospects and leads. We have billions of barrels of oil and more than 100 trillion cubic feet (2.83 billion cubic metres) of gas and hundreds of billions of cubic feet of helium potential in this area.

Now if 10 percent of what the independents think is there is in fact there, Central Petroleum's shares should be trading at \$10-\$20 and not \$0.10-0.20, but the company lacks credibility in the market. This area has been neglected, and it has only been explored for oil back when it was

first studied – nobody was interested in the gas and nobody tested gas flows.

TOGY: *What is the timeline for bringing some of this acreage into production?*

JH: We have a programme before our joint partners for an initial five fully cored coal seam gas wells for exploration purposes in the Pedirka and three to four conventional wells for oil, gas condensate and helium in the Amadeus Basin. This programme includes approximately 1,200 linear kilometres of seismic and will cost A\$45 million-50 million (\$33.66 million-37.44 million) at gross level. This programme will take us at least 12 months to complete.

Within 12 months of an oil discovery we should be in production and we hope to be drilling some oil prospects within the next 12 months. We think we will be seeing cash flow in one to two years. We are underscoring this as a frontier basin area. There has not been any 3D seismic shot in the whole of this area.

TOGY: *Weighing the potential for significant yields on your acreage against the risk of investing in unproven assets, what message would you like to send to the worldwide oil and gas industry and particularly potential investors?*

JH: Decent-sized oil and gas companies should consider farming into this acreage and we would welcome any enquiry. It is the biggest exploration package in Australia and it is demonstrably prospective. We offer a very wide range of play types across the breadth of four whole sedimentary basins so although the risk profile on an individual well drilling base is quite high the risk is very low across the whole area. We are not confined to one play type in one permit in one part of one basin. We have upwards of a dozen geological play types and we are dealing with four basins, so the spread of risk is better in our company than most others. ■

International majors and small local companies alike are investing in deepwater offshore, which is the principle location for petroleum exploration

