CARNARVON PETROLEUM LTD

Company Insight
the intelligent market update

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Title: "Company Insight – MD Update on Reserve Report"

Highlights of Interview

- **Reserve Report update.**
- **Consolidated results of 2012 drilling program.**
- **Steady approach to field development.**
- **Future development status.**

Record of interview:

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Carnarvon provided an update on its oil reserves in Thailand earlier today. Can you summarise the current status of the Company's reserves and provide some context as to the purpose of the reserve report?

Managing Director, Adrian Cook
In Thailand an operator is required to report reserves annually to the Thai authorities.

Carnarvon's reserves reside within three exploration concessions in Thailand and are in two distinct reservoir types that are in various stages of development. Today's announcement sets out the findings of the independent reserves consultant in a manner that shows the relationship between production and developed reserves and the work that is ahead of us to develop the remaining reserves.

The assessed reserves at 31 December 2012 are, on an overall basis, in line with the previous year's assessment. This is not withstanding the 570,000 barrels produced in the 2012 calendar year. However, the two assessments were by different experts and there are some differences in the detail, particularly with the current report reflecting a higher proportion of proved sandstone reserves following the joint venture's focus on this type of reservoir in 2012 and 2013.

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Why was there a change to the independent reserves consultant this year from Gaffney Cline, & Associates (GCA) to Chapman Petroleum Engineering Ltd (Chapman)?

Managing Director, Adrian Cook
The key reason is that in mid-2012 there was a change in the operator of this asset and the new operator was seeking an alternative assessment to GCA, who had been advising on these reserves for some years.

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Can you provide more detail on the results of the 2012 reserve evaluation?

Managing Director, Adrian Cook
Looking only at Carnarvon's share of the reserves, the developed reserves of one and a half million barrels net to Carnarvon are based on production from wells already drilled. That is, there is an expectation that this oil will be recovered without additional drilling.

The undeveloped proved reserves are an additional approximately two and half million barrels net to Carnarvon that are expected to be recovered with the drilling of a further 33 wells. Note that the definition of proved is simply "with a high degree of certainty". This drilling is within known accumulations with average productivity per well based on historical data.

An additional 8.3 million barrels net to Carnarvon of undeveloped reserves are defined as probable, which means there is an equal likely outcome of achieving higher or lower than this. An additional 83 wells are estimated to be required to extract this oil.

Less certain are the 21.3 million barrels net to Carnarvon of possible reserves, requiring an estimated additional 139 wells.

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In light of results from 2012 drilling, why have the reserves remained the same?

Managing Director, Adrian Cook
That is good question and to answer this I think it is worth considering each of the wells that were drilled in the 2012 calendar year. During that year 22 wells were drilled and completed and in working through those it's apparent that there were good results in the sandstone target wells but mixed results in the igneous target wells. So in considering the wells in more detail:

- Two wells were drilled to appraisal the 2008 L44-R igneous reservoir discovery, namely L44-R2 side tracks 1&2. These wells were not drilled into the reserves area and were not part of the Chapman evaluation;
- The L44K-D well, targeting both sandstone and igneous reservoirs, was exploratory and therefore was also not part of the Chapman evaluation;
- Eight wells were drilled into the WBEXT-1B fault, primarily targeting sandstone reservoirs, and the results from these wells supported the WBEXT-1B water flood project that is being implemented. The results from these wells support the increase in sandstone proved reserves as estimated in the Chapman report;

- The NSE-F9ST1 well was drilled into the Na Sanun East F1 reservoir and was unsuccessful, leading to downgrade of proved igneous reserves in general in the Na Sanun East area;
- Three wells were successful exploration and appraisals of the NS-4A sands, namely the NS-4A, NS-9A and NS-8B wells, which led to new sandstone reserves in the Na Sanun East area;
- The L44-G3 well, targeting igneous reservoir, did not encounter fracturing and flowed at very low rates;
- The L44-VD1ST2 well was shut in during early testing at the direction of the Agricultural Land Reform Office, and awaits their approval to recommence production;;
- The POE-3A well was drilled into the original Wichian Buri field and results show oil in place but at low rates (20 bopd) because of pressure depletion. Following on from the water flood project in the WBEXT-1B fault block, it is anticipated that the water flood program would be extended to this field, with the expectation that production will be enhanced;
- The WBEXT7B-ST1 well was an unsuccessful exploration well of the WBV3 igneous. There are no reserves for this reservoir in the Chapman report;
- Two wells, namely the WBEXT-4AST2 and WBEXT-7B wells, were unsuccessful appraisals of the WBV2 in the WBEXT area, resulting in a downgrade of proved reserves for the WBEXT igneous; and
- The NSE-B2ST1 well had not completed testing as at the end of 2012 and hence the results from this well were not used in Chapman's 2012 reserves evaluation.

Comparing 2011 reserves to 2012 reserves, the overall proved reserves are similar but the mix of igneous and sandstone has changed as a result of the drilling results in 2012.

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Can you be more specific about the mix between sandstone and igneous reserves and what that might mean?

Managing Director, Adrian Cook
Last year we said we were aiming to improve the stability of oil production by increasing the proportion from sandstone reservoirs. Appreciating that while the sandstone reservoirs should enhance production predictability, it is the igneous reservoirs that have the potential to flow at much higher initial rates. So we feel the ideal position is to achieve a balance between the two.

This year the proved (1P) reserves were assessed at 8.5 mmbbls gross (3.4 mmbbls net to Carnarvon). There is an approximate 30/70 split between sandstone and igneous reservoirs in this number. The increase in proved oil reserves within sandstone reservoirs is a reflection of 2012 drilling in the WBEXT and NSE areas that resulted in new sandstone discoveries.

The proved plus probable reserves (2P) were assessed at 30.5 mmbbls gross (12.2 mmbbls net to Carnarvon). Approximately one third of this volume resides in sandstone reservoirs.

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There are significant oil reserves in Carnarvon's Thailand oil assets, so why isn't the Company's production higher?

Managing Director, Adrian Cook
Production currently comes from around 3.8 mmbbls gross (1.5 mmbbls net) of reserves that have been developed to date. Based on current production rates there is some 7-8 years of production remaining, which is a reasonable recovery rate from the developed areas of the reservoirs.

For the undeveloped areas, while there is an understanding of the number of wells required to extract the additional oil, the exact location of those wells for future development is still being determined.

This future development, while taking longer than Carnarvon had initially anticipated, will be a more steady approach than it has been in the past in order to increase the chance of drilling successful wells.

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What confidence is there that the operator will extract the proved plus probable oil reserves?

Managing Director, Adrian Cook
Carnarvon's technical team is working closely with the operator's technical team to ensure that a rigorous development plan is devised to extract the oil from the undeveloped areas of the fields for the highest economic return.

This additional technical work resulted in the joint venture electing to defer the timing of drilling new wells in 2013. I feel this was a wise decision that will generate greater rewards in the future, albeit it has been at the cost of lower reported activity and production levels in 2013.

It is also worth noting that the timing of new development activity is also dependent on environmental, joint venture and government approvals, and the availability of equipment such as drilling rigs. So any change in development plans, such as has occurred with the new operator, will experience delays for these reasons also.

Nonetheless we are encouraged by the results of our most recent efforts, with the WBEXT-2C well on production test from the first of three possible test zones and we are looking forward to the drilling program at the end on the year that will be on our new 3D seismic data.

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Thank you Adrian.