

# Reserves Update

31 March 2014



## Summary:

- **Independently assessed Thailand oil field reserves are in line with prior year:**
  - **Proved reserves of 3.2 million barrels net to Carnarvon**
  - **Proved and probable reserves of 11.8 million barrels net to Carnarvon**
- **Production maintaining 3,000 barrels of oil per day gross (40% CVN interest)**
- **Carnarvon is in the process of divesting half of its 40% interest in its Thailand assets**

Carnarvon Petroleum Limited (“Carnarvon”) (ASX:CVN) is pleased to provide the following update on its reserves position following an independent reserves assessment undertaken by Chapman Petroleum Engineering Ltd (“Chapman”) as at 31 December 2013.

Eco Orient (“Eco”), the Operator of the Phetchabun Basin producing assets since mid-2012, commissioned Chapman to undertake a third party independent appraisal in line with annual concession requirements, on behalf of the joint venture. Oil reserves have been assigned to three on-shore concessions in Thailand, being Concession SW1, Concession L44/43, and Concession L33/43 (“the Concessions”), of which Carnarvon currently has a 40% interest.

Managing Director and Chief Executive Officer, Mr Adrian Cook said, “*We are pleased to see that the most recent independent reserves review from Chapman Engineering is in line with the previous year’s assessment. Recent fieldwork on the Thailand Concessions has successfully choked back production to reduce flow rates and stabilize production at around 3,000 bopd, in-line with expectations. This aims to sustain production for longer periods than occurred in previous years.*”

## Field Production Update

In the most recent operations update on 13 March 2014 it was advised that the joint venture planned to constrain well flow rates to sustain production levels. These initiatives have been successfully completed with production maintaining to date a stable flow at or above 3,000 bopd gross.

## Reserves Assessment

A summary of the assessed reserves, as at 31 December 2013, are contained in the following tables:

- Table 1 - Gross reserves for the field (100% interest);
- Table 2 - Reserves net to Carnarvon’s current 40% working interest.
  - Note Carnarvon entered into a sales agreement with Loyz Energy (as announced 3 March 2014) to divest half of its 40% equity interest; and
- Table 3 – Summary of changes in gross reserves from the prior year.

**Table 1: Thailand Asset Reserves as at December 31<sup>st</sup> 2013**

Date	Reserves Gross (100%) Field Volumes		
	1P Proved Reserves MM bbls	2P Proved and Probable Reserves MM bbls	3P Proved and Probable and Possible Reserves MM bbls
L33	0.29	0.81	7.62
L44	6.30	25.05	67.51
SW1	1.36	3.75	7.37
Total	7.95	29.60	82.49

**Table 2: Thailand Asset Reserves as at December 31<sup>st</sup> 2013 – Carnarvon Petroleum’s Share**

Date	Reserves Net (40%) Field Volumes		
	1P Proved Reserves MM bbls	2P Proved and Probable Reserves MM bbls	3P Proved and Probable and Possible Reserves MM bbls
L33	0.12	0.32	3.05
L44	2.52	10.02	27.00
SW1	0.54	1.50	2.95
Total	3.18	11.84	33.00

**Table 3: Change in Thailand Asset Reserves – December 31<sup>st</sup> 2012 – December 31<sup>st</sup> 2013**

Date	Reserves Gross (100%) Field Volumes		
	1P Proved Reserves MM bbls	2P Proved and Probable Reserves MM bbls	3P Proved and Probable and Possible Reserves MM bbls
31-Dec-12	8.56	30.56	83.74
Production	- 0.48	- 0.48	- 0.48
Technical Revision	- 0.14	- 0.48	- 0.77
31-Dec-13	7.95	29.60	82.49

## **Technical Discussion**

Production from the Concessions is from a number of producing fields, all of which are faulted structural traps defined by 3D seismic and geological controls. These fields range in extent from 200 to 2,000 acres. Reservoirs are found at a depth ranging between 500 meters to 1.1 kilometers. The net pay thickness ranges from less than 3 meters to greater than 200 meters.

Total developed producing reserves of 2.6 million barrels (mmbbl) are based on production decline analysis for each currently producing well in the Concessions. By analysing the optimum drainage area for existing wells and corresponding petroleum initially in place, a recovery factor can be determined. This forms the basis for the assignment of undeveloped reserves and potential well locations.

Total proved undeveloped reserves of 6.2 million barrels has been estimated for 34 identified infill locations. Total probable undeveloped reserves of 21.6 million barrels have been estimated for 79 step out locations. Possible underdeveloped reserves of 52.9 million barrels have been estimated for over 200 locations in these fields in lesser developed portions of the fields.

## **Reserves Assessment**

Information on the Reserves in this release is based on an independent appraisal of the oil reserves conducted by Chapman covering the Concessions as of end 31st December 2013 and fairly represents the information and supporting documentation reviewed. The appraisal was carried out in accordance with the SPE Reserves Auditing Standards and the SPE-PRMS guidelines under the Supervision of Mr C Chapman, President of Chapman, a leading petroleum advisory firm. Mr Chapman has a Bachelor of Science degree, is a member of the Australasian Institute of Mining and Metallurgy and has more than 25 years relevant experience. Mr Chapman meets the requirements of a qualified petroleum reserve and resource evaluator as defined in Chapter 19 of the ASX Listing Rules and consents to the inclusion of this information in this report.

The Reserve estimates outlined in this announcement have been compiled by the Company's Chief Operating Officer, Mr Philip Huizenga, who is a full-time employee of the Company. Mr Huizenga is qualified in accordance with ASX Listing Rule 5.11 and has consented to the form and context in which this statement appears.

There are numerous uncertainties inherent in estimating reserves and resources, and in projecting future production, development expenditures, operating expenses and cash flows. Oil and gas reserve engineering and resource assessment must be recognised as a subjective process of estimating subsurface accumulations of oil and gas that cannot be measured in an exact way, and this is particularly so for the volcanic reservoirs encountered in this area.

**For all enquiries please contact:**

**Shareholder Enquiries**

**Mr Thomson Naude**  
Company Secretary  
Phone: (08) 9321 2665  
Email: investor.relations@cvn.com.au

**Media Enquires**

**Mr Tony Dawe**  
Professional Public Relations  
(08) 9388 0944 / 0405 989 743  
tony.dawe@ppr.com.au

Yours faithfully



**Adrian Cook**  
Managing Director  
Carnarvon Petroleum

*This news release contains forward-looking information. Forward-looking information is generally identifiable by the terminology used, such as "expect", "believe", "estimate", "should", "anticipate" and "potential" or other similar wording. Forward-looking information in this news release includes, but is not limited to, references to: well drilling programs and drilling plans, estimates of reserves and potentially recoverable resources, and information on future production and project start-ups. By their very nature, the forward-looking statements contained in this news release require Carnarvon and its management to make assumptions that may not materialize or that may not be accurate. The forward-looking information contained in this news release is subject to known and unknown risks and uncertainties and other factors, which could cause actual results, expectations, achievements or performance to differ materially, including without limitation: imprecision of reserve estimates and estimates of recoverable quantities of oil, changes in project schedules, operating and reservoir performance, the effects of weather and climate change, the results of exploration and development drilling and related activities, demand for oil and gas, commercial negotiations, other technical and economic factors or revisions and other factors, many of which are beyond the control of Carnarvon. Although Carnarvon believes that the expectations reflected in its forward-looking statements are reasonable, it can give no assurances that the expectations of any forward-looking statements will prove to be correct.*