

29 January 2009

Company Announcements Office Australian Stock Exchange Limited

Via ASX Online

Dear Sirs,

# **QUARTERLY REPORT FOR DECEMBER 2009**

Please find attached Carnarvon Petroleum Limited's Quarterly Activities Report for the quarter ended 31 December 2009.

Yours faithfully, Carnarvon Petroleum Limited

RA Anderson

**Company Secretary** 

### **HIGHLIGHTS**

### THAILAND L33/43, L44/43 and SW1A

- ✓ Production Important new production licence granted
  - A large production license was granted over the Bo Rang & L44-W areas in late December 2009
  - The licence enables the conversion of contingent resources into 2P reserves by Gaffney Cline and Associates. The 31 December 2009 audit report is due for release late in the first quarter of 2010
- ✓ Appraisal appraisal wells test strongly
  - o Bo Rang-2ST2 (Bo Rang "B") tested at 850 bopd
  - o Bo Rang-3D1 (Bo Rang "B") tested at 700 bopd
  - o Bo Rang-4D1 (Bo Rang "B") tested at 900 bopd
  - o L44-W4ST1 (L44-W) tested at 650 bopd
  - o NSE-G2 tested up to 1,000 bopd flowing at 130 bopd
- ✓ Exploration more work required to prove Si Thep sandstone play type
  - o Si Thep-2 exploration well tests oil in the deep sandstone target but not at commercial rates

### THAILAND L20/50

- ✓ Seismic interpretation work in progress is supporting 2010 drill prospects
  - o 550 km 2D seismic acquired in August 2009 has been processed
  - o Interpretation work is expected to lead to the drilling of one to four wells in the third and fourth quarters of 2010

### **AUSTRALIA**

- ✓ Acquisition of 1,100 km² of 3D and 410 km of 2D seismic data is expected to commence in the second quarter of 2010 on the Phoenix blocks in Western Australia
- ✓ Exploration high grading and commitment management
  - o Carnarvon divests interests in Exploration Permits EP110 and EP424

## **INDONESIA**

✓ Planning is underway for the acquisition of up to 500 km of 2D seismic data in late 2010 on the Rangkas block, onshore Indonesia

# **CORPORATE**

✓ The formal award of the L52 and L53 blocks in Thailand is expected in the first quarter of 2010

## REPORT FOR THE DECEMBER 2009 QUARTER

### **OIL PRODUCTION AND REVENUE**

Carnarvon's oil sales revenue for the December 2009 quarter was A\$15.2 million, with an average price of A\$73.68 per barrel.

Oil sales and revenues net to Carnarvon for the past two quarters are as follows:

	Dec 09 quarter	Sep 09 quarter	Qtrly % Change	Comments
Net sales volumes – (bbls)	206,672	223,722	- 8 %	Wells coming off flush production
Net sales revenue – (A\$ 000)	15,228	16,508	- 8 %	Reduction in production
Average sale price achieved – (A\$/bbl)	73.68	73.79	0 %	Oil price stable
Net average daily - (bopd)	2,246	2,432	- 8 %	Reduction in production

The exit 2009 sales rate of 8,600 bopd gross (3,460 bopd net) was encouraging due to late quarter successful testing, primarily at Bo Rang "B" sites. The average production for the December quarter however was 5,616 bopd gross (2,246 bopd net to Carnarvon). This rate was at the lower end of guidance given in the September Quarterly (2,200 to 2,700 bopd net to Carnarvon) due to modest rates at Si Thep and unsuccessful appraisal drilling at L44-W3 early in the quarter.

As at the end of January 2010, production is around 6,600 bopd gross (2,640 bopd net to Carnarvon). Production declines from exit 2009 rates to late January 2010 are mainly due to the NSE-G2 exploration well that came on at a flush production rate of over 1,000 bopd (gross) and is currently producing at 130 bopd (gross). Volume increases are anticipated in the short term from development of the NSE-F1 and Bo Rang "A" & "B fields and any exploration drilling success such as the NSE-G3 deep volcanic prospect currently drilling.

Production for the March Quarter 2010 is expected to be in the range of 6,000 to 8,000 bopd gross (2,400 to 3,200 bopd net to CVN). Achieving the higher end of the range will depend on early testing success at the NSE-G3 exploration well that is currently being drilled.

The Joint Venture has set a production target in Thailand of 9,000 barrels of oil per day average gross for the 2010 calendar year (3,600 bopd net), which is approximately 20% above 2009 average production levels of 7,500 bopd gross (3,000 bopd net).

The current estimate for the 2010 calendar year operating budget for Carnarvon for the six production licenses in Thailand is in the order of AUD\$ 9.1 million (net) excluding trucking charges, and includes general operating expenses, well workovers and minor capital improvements associated with water disposal.

### DRILLING AND EXPLORATION

# L33/43, L44/43 and SW1A Onshore Thailand (Carnarvon 40% and non-operator)

In December 2009 the Operator, Pan Orient, received formal approval for granting of the Bo Rang North Production License ("BRN PL") over Bo Rang, L44-W and NSE-F1 extension to Na Sanun East.

The BRN PL is approximately 39 square kilometres in total area and encompasses the L44-W, Bo Rang "A", Bo Rang "B" and NSE-F1 oil discoveries announced in 2009. The production period is for 20 years.

The Joint Venture has also received environmental approval from the Government of Thailand for 18 surface drilling locations at which multi-purpose pads will be built with up to three deviated wells to be drilled from each (for a maximum of 54 wells) covering the L44-W, Bo Rang "A", Bo Rang "B" and the NSE-F1 field areas. Construction is nearing completion on some of these sites with drilling expected to commence early February 2010.

The approval of this latest production licence brings to six the total number of production licences that the Joint venture has under management in onshore Thailand, arising from the two distinct exploration concessions, namely SW1 and L44/43.

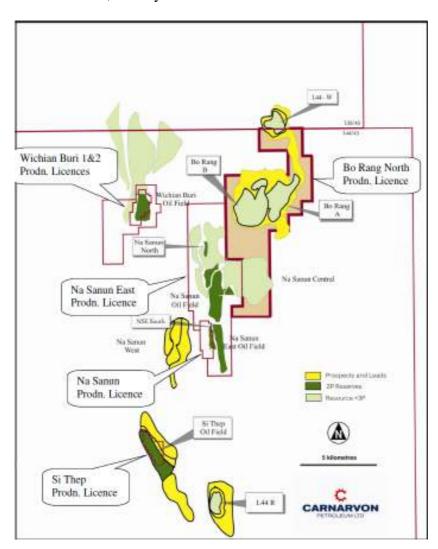


Figure 1: Carnarvon Production Licenses (CVN 40%) in Phetchabun Basin

### Wells drilled and/or completed during quarter or subsequent to quarter:

Well	Permit	Status
Bo Rang-3D1	L44/43	Tested at 700 bopd
L44-W4ST1	L44/43	Tested at 650 bopd
L44-W3ST1	L44/43	Oil shows but unsuccessful well test
Bo Rang-4D1	L44/43	Tested at 900 bopd
Bo Rang-2ST2	L44/43	Tested at 86 bopd
Si Thep-2	L44/43	Tested deep sandstone at 14 bopd
NSE-G2	L44/43	Tested up to 1,000 bopd – flowing at 130 bopd

- The **BR-3D1** has confirmed commercial rates from the first horizontal appraisal well of the Bo Rang "B" oil field with the testing of oil at a rate of 700 bopd from a volcanic target at a depth of 446 metres.
- The **L44-W4ST1** well tested at a stabilised rate of 650 barrels of 28 API gravity oil, with approximately 0.5MMcfg/d of gas (decreasing) and a water cut of less than 1%.
- The **L44-W3ST1** horizontal appraisal well was drilled to test the down dip extent of the L44-W oil accumulation. Despite oil observed at surface while drilling through a highly fractured volcanic reservoir, the well was unsuccessful, flowing only formation water at the end of the test.
- The **BR-4D1** horizontal well was tested at a rate of 900 barrels of 22 degree API oil per day and a water cut of 0.05%.
- The **BR-2ST2** horizontal appraisal well drilled approximately 350 meters of horizontal section within the main volcanic Bo Rang "B" reservoir objective. The well tested at a rate of 866 bopd with a water cut of 0.05%.
- The **Si Thep-2** (Si Thep Deep) exploration well was drilled to a total deviated measured depth of 1,515 metres (1,038 metres TVD(true vertical depth)) penetrating only 25 metres of the main volcanic objective before crossing the north south fault bounding the structure to the west. Testing of this truncated volcanic section indicated the volcanic objective to be tight with very low permeability. The ST-2 exploration well was subsequently perforated over a deep sandstone reservoir resulting in flow rates of approximately 14 barrels of 27 degree API oil and 6 barrels of formation water per day.
- The **NSE-G2** exploration well is located near the northern boundary of the NSE Central fault compartment targeting a 100 meter thick volcanic that sits approximately 400 meters below the main producing volcanic reservoir at NSE. While drilling through the upper portion of the main NSE volcanic the drill string became stuck. The decision was made to complete the well as an NSE Central producer and skid the rig over to the adjacent cellar and drill another exploration well, namely the NSE-G3 exploration well. The NSE-G2 well is currently on production at a stabilised rate of 130 bopd with a water cut of 80%.

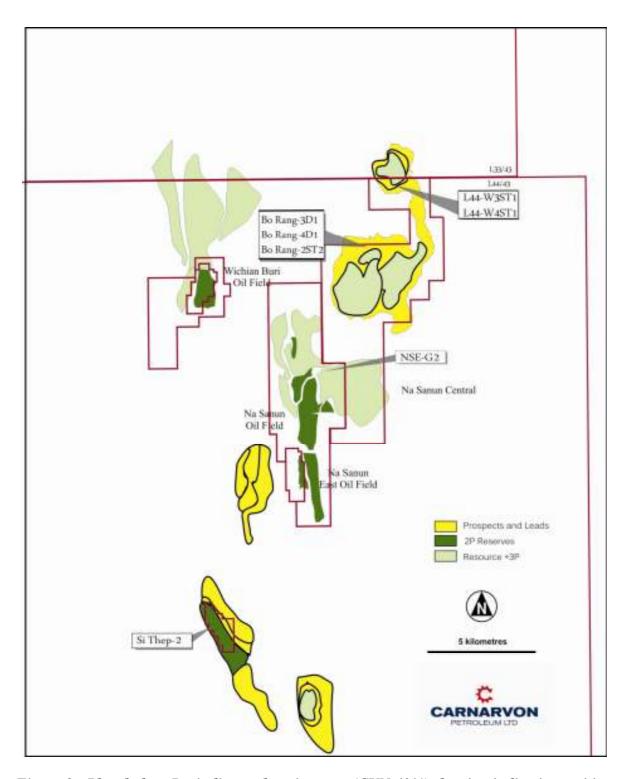


Figure 2: Phetchabun Basin license location map (CVN 40%) showing indicative position of wells drilled.

# Status of near term exploration / appraisal / development programme (Q1-Q2 2010)\*

Well	Permit	Well Type	Status
NSE-G3	L44/43	Exploration / Appraisal	Drilling commenced
Bo Rang Area	L44/43	Appraisal / Development in BRN PL	Site construction ongoing
L44-W	L44/43	Appraisal / Development in BRN PL	Site construction ongoing
L44-W	L33/43	Appraisal of oil field in L33 concession	EIA in progress
NSE – F1 Area	L44/43	Appraisal / Development in BRN PL	Construction in progress
Na Sanun West	L44/43	Exploration - NFW	Site construction complete
L44-R	L44/43	Appraisal of tight 2008 discovery	Site construction complete

<sup>\*</sup> Final well numbers, locations and order of drilling are subject to ongoing Joint Venture discussion and Thai Department of Mineral Fuels Approvals.

For the March 2010 quarter the Joint Venture is aiming to drill and complete six wells, mainly targetting BRN PL development wells.

In 2009 the Joint Venture employed two drilling rigs for its Thailand operations but experienced significant downtime with these rigs and three to five day rig moves over the course of the year. In late December 2009, the Operator Pan Orient signed a contract for a single, newer rig with superior equipment and performance that had been operating succesfully and reliably in Thailand with another operator for a number of years. It is anticipated that the new rig will be capable of drilling approximately three wells per month, matching last year's performance using two rigs and with estimated cost savings of approximately 25%. A significant portion of the savings is due to anticipated shorter rig moves. The new rig is currently drilling the NSE-G3 well.

Carnarvon's 2010 capital budget for Thailand has been set at AUD\$ 25.7 million and includes the drilling of around 30 wells (gross) on Concessions L44, L33 and L20 and also some additional 3D seismic in the L44 Concession. Further detail on these drilling activities are outlined below:

- First quarter 2010 drilling will focus on development wells
- Locations are nearing completion for development wells on the **NSE-F1** and **Bo Rang** "B" fields in Concession L44. Drilling in these fields with the new rig is anticipated to commence in February 2010.
- The NSE-G3 exploration well is located near the northern boundary of the NSE Central fault compartment, targeting a 100 meter thick volcanic that sits approximately 400 meters below the main producing volcanic reservoir at NSE. This target zone had been penetrated by the NSE-G1 exploration well and encountered oil shows throughout the entire 100 meter section but produced only formation water from a highly fractured zone at the very base of the volcanic. NSE-G2 was targeting this same 100 meter thick volcanic in a position approximately 200 meters structurally higher than in the NSE-G1 well however while drilling through the upper portion of the main NSE volcanic the drill string became stuck. The decision was made to complete the NSE-G2 well as an NSE Central producer and subsequently target the NSE-G1 volcanic with the current well NSE-G3.

- Environmental Impact Assessment ("EIA's") have commenced for drilling sites to appraise the **L44-W** discovery from within the **L33** concession. Depending on government approvals, it is anticipated these sites could be ready for drilling mid year.
- Na Sanun West is a new field wildcat targeting a similar structure to, and to the west of, the Na Sanun Oil Field.
- Further appraisal of the **L44-R** discovery is anticipated in 2010 and may include fracture stimulation or extended horizontal drilling to improve test rates achieved in 2008 of 30 bopd.

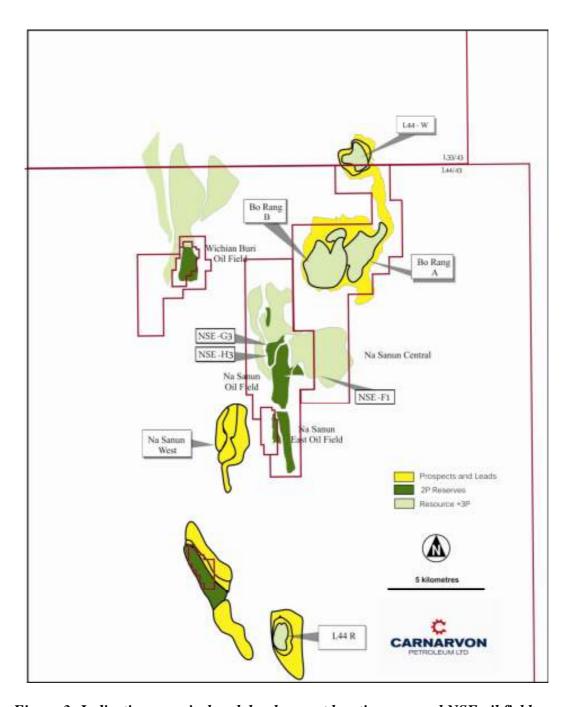


Figure 3: Indicative appraisal and development locations around NSE oil field.

### **EXPLORATION BLOCKS - THAILAND**

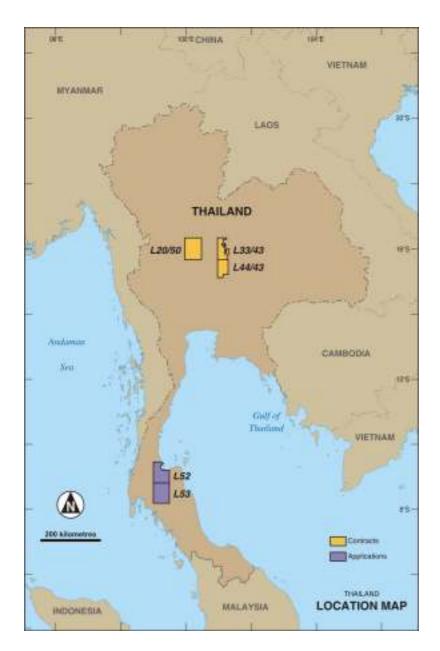


Figure 4: Thailand concessions – location map

(a) L20/50 Concession – Thailand (Carnarvon Petroleum 50% and Operator, Sun Resources 50%)

The L20/50 concession is situated approximately 60 km to the west of Carnarvon's 40% owned Phetchabun Basin producing assets and approximately 30 kilometres to the southeast and on trend with the largest onshore oil field in Thailand at Sirikit (see Fig. 4). Previous drilling demonstrates that oil has been generated within the L20/50 concession.

The concession covers around 4,000 km2 and is lightly explored. Prior to the recording of new seismic data, the only data available over the concession comprised approximately 1,000 km of 1980's vintage 2D seismic data in paper format (now digitised) and six wells, also in paper format (three shallow at around 500m and three deeper).

Processing of 550 km of new 2D seismic data, acquired in 2009, was completed early in the December quarter.

Interpretation of all seismic data, combined with a geological assessment of the exploration concession, is nearing completion. Significant sedimentary section and structuring are evident in the new data, and reservoirs are likely to include Sirikit style fans, Wichian Buri style sandstones and Na Sanun style volcanics.

It is anticipated that a joint venture decision on the number and location of wells to drill, from a newly generated seriatim of leads and prospects, will occur during the March 2010 quarter. Following the EIA process, the drilling of up to four wells could occur in the third quarter of 2010.

# (b) L52/50 & L53/50 Concession Applications - Thailand (Carnaryon Petroleum 50%, Pearl Energy 50% and Operator)

Carnarvon has been notified that official award of these blocks should occur in the first quarter of 2010.

These blocks are situated in the Tertiary Surat-Khiensa Basin in southern Thailand (Fig.4). The basin is of particular interest as it is on trend with the similar sized Chumphon Basin in the Gulf of Thailand to the immediate north. The Chumphon Basin has a proven oil kitchen and 4.3 million bbls of oil was recovered from the Nang Nuan B well from 1994-1997 at rates up to 10,000 bopd. Numerous wells in the Chumphon Basin encountered oil shows.

Leads have been identified on the 2D seismic data that is currently available, but significant geologic work is in progress addressing source presence, migration and seal characteristics within the block. It is expected additional seismic data will be acquired in these blocks to support the current geo-technical work.

Three wells have been drilled in Block L52 by previous operators: Khian Sa-1 (1988), MK-1 (2003) and PK-1 (2004), in addition to two very shallow coalbed methane wells. One well has been drilled in Block L53: Phun Phin-1 (1989). PK-1 is reported to have encountered gas.

L52 covers an area of 3085km2 and L53 an area of 3872km2.

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# EXPLORATION BLOCKS - AUSTRALIA

Figure 5: North West Shelf permits – location map

# (a) WA-399-P – Australia Offshore NW Shelf (Carnarvon Petroleum 50% and Operator, Rialto Energy 50%)

Planning is underway for the acquisition of 315 kilometres of 2D seismic data in 2010 in accordance with the minimum commitment terms for the permit. The seismic acquisition is intended to provide additional geological information and to help further define the prospectivity beyond that achieved by the seismic reprocessing work previously undertaken by Carnarvon.

WA-399-P was awarded on 7 May 2007 covering an area of 50 km² between the Pyrenees and Macedon oil and gas fields, the Leatherback oil accumulation. Carnarvon completed the reprocessing of all available seismic over the permit (550 km²) in 2008.

# (b) EP 424 / EP 110 – Australia Offshore NW Shelf (Carnaryon Petroleum 35%, Strike Energy 40% and operator, Pancontinental 25%)

In light of Carnarvon's current exploration portfolio and commitment levels, it has elected to withdraw from exploration permits EP 424 and EP 110. Whilst they provide attractive exploration prospects, the magnitude of any expected reward is no longer considered material to Carnarvon's operations.

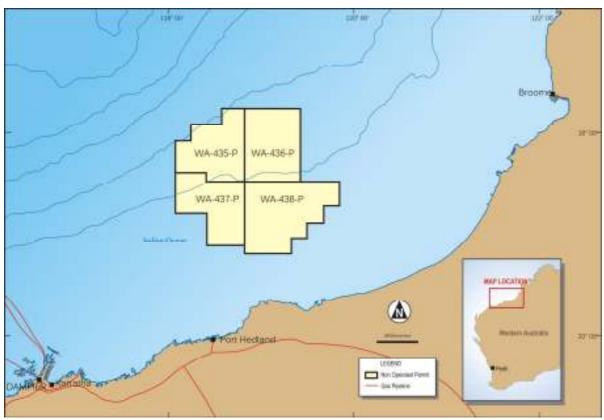


Figure 6: Relative location of Carnarvon's offshore NW Shelf Roebuck sub-basin blocks

(c) WA-435-P, WA-436-P, WA-437-P and WA-438-P – Australia Offshore NW Shelf (Carnaryon Petroleum 50%, Finder Exploration 50% and operator)

During the December 2009 quarter the Australian Government formally approved the award and transfer of the interests in WA-435-P, WA-436-P, WA-437-P and WA-438-P ("the Permits"). Following the award and permit interest transfers, Carnarvon holds a 50% interest in each Permit with the balance being held by Finder Exploration ("Finder").

The Permits are situated in the north-western part of the Bedout Sub-basin within the greater Roebuck Basin, offshore Western Australia and lie in an under-explored area between the prolific Carnarvon Basin hydrocarbon province to the southwest and the Browse Basin to the northeast. The town of Port Hedland lies approximately 170 km to the south from the centre of the Permits and Broome lies 360 km to the northeast. Water depths range from 35 to 265 metres and the Permits cover a very large area of ~21,720 km² (268 graticular blocks).

The Permits have a proven working petroleum system, with mid Triassic gas discovery in Phoenix 1 and 2.

The operator of these Permits, Finder, has proposed an accelerated work program in order to meet the minimum work obligations stipulated in the Permit Conditions, ensure that the Phoenix gas discoveries and associated prospects and leads are identified by 3D seismic; and an assessment of the prospectivity of the remainder of the Permits is adequately evaluated.

It is proposed that in Permit Year One significantly more work will be undertaken than required to meet the Permit Year One commitments, in effect satisfying all commitments within the

Primary Term and accelerating some of the Permit Year Four commitments into Permit Year One.

The Permit Year One Work Program for the Permits will comprise:

- a. Acquisition and processing of ~1,100 km2 of multiclient 3D seismic data (Permits WA-435-P and WA-437-P) and ~410 km of multiclient 2D seismic data (all Permits) with the results expected by year end 2010;
- b. the acquisition and processing of ~15,100 km2 of aeromagnetic data (focusing on Permits WA-436-P and WA-438-P) also with the results expected by end 2010;
- c. the licensing of ~5,253 km of multiclient Pre-Stack reprocessed data (all Permits); and
- d. geological & geophysical studies based on the existing and newly acquired datasets.

# EXPLORATION BLOCKS - INDONESIA

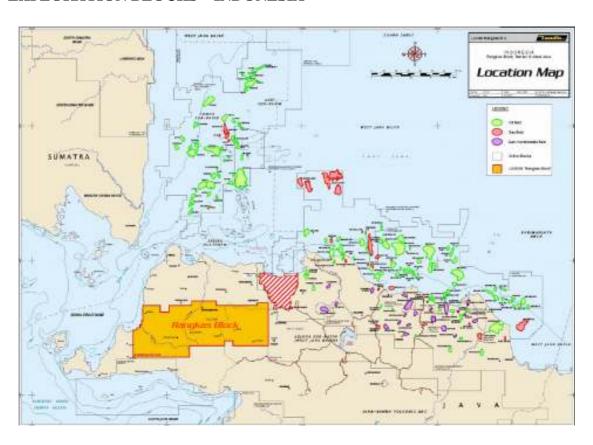


Figure 7: Rangkas block location – onshore West Java

# (a) Rangkas PSC – Onshore Indonesia (Carnarvon Petroleum 25%, Lundin Petroleum 51% and Operator, Tap Oil 24%)

The Rangkas block is located onshore West Java, southwest of Jakarta, and covers an area of 3,977 km2. Previous drilling in the block and surface oil seeps confirm an active petroleum system. Several prospects and leads are identified in the block based on reprocessed 2D seismic data.

A seismic survey of up to 500 km is in planning for acquisition in the third quarter of 2010. Based on the results of this seismic survey the joint venture may commit to additional seismic and drilling in 2011-2012.

### **NEW VENTURE ACTIVITIES**

Carnarvon continues to high-grade New Venture opportunities as appropriate to fit within the current range of production and exploration assets.

Carnarvon gives priority to prospective, lower-cost, oil prone assets nearby and on-trend with existing oil and gas fields and to entering into business dealings with competent partners.

### **CORPORATE ACTIVITIES**

### Cash Balance

Carnarvon's consolidated cash balance at quarter end was A\$30.6 million, compared to A\$29.2 million at the end of the previous quarter (including cash held as security).

Cash balances are affected by fluctuations in working capital, the impact of changes in foreign exchange rates and the timing of tax payments.

# Top 20 Shareholders

A top 20 shareholders list as at 25 January 2010 is attached below:



Composition: EMS, ORD

### **CARNARVON PETROLEUM LTD**

# ORDINARY SHARES (GROUPED) As of 25 Jan 2010

### **Top Holders Snapshot - Ungrouped**

Rank	Name	Address	Units	% of Units
1.	J P MORGAN NOMINEES AUSTRALIA LIMITED	LOCKED BAG 7, ROYAL EXCHANGE NSW, 1225	61,385,450	8.94
2.	HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED	GPO BOX 5302, SYDNEY NSW, 2001	43,736,825	6.37
3.	NATIONAL NOMINEES LIMITED	GPO BOX 1406, MELBOURNE VIC, 3001	38,241,089	5.57
4.	ANZ NOMINEES LIMITED <cash a="" c="" income=""></cash>	GPO BOX 2842AA, MELBOURNE VIC, 3001	18,440,418	2.69
5.	MR EDWARD PATRICK JACOBSON	PO BOX 172, WOODSIDE SA, 5244	12,917,903	1.88
6.	PENDOMER INVESTMENTS PTY LTD <law SETTLEMENTS FUND A/C&gt;</law 	PO BOX 424, WEST PERTH WA, 6872	8,400,000	1.22
7.	JACOBSON GEOPHYSICAL SERVICES PTY LTD	APARTMENT 9, 12 ALTONA ST, WEST PERTH WA, 6005	8,000,000	1.16
8.	MR PETER JAMES LEONHARDT	24 AGETT ROAD, CLAREMONT WA, 6010	7,700,000	1.12
9.	CITICORP NOMINEES PTY LIMITED	GPO BOX 764G, MELBOURNE VIC, 3001	6,821,343	0.99
10.	ARNE INVESTMENTS PTY LTD	LEVEL 2, 88 COLLINS STREET, MELBOURNE VIC, 3000	6,710,493	0.98
11.	RBC DEXIA INVESTOR SERVICES AUSTRALIA NOMINEES PTY LIMITED <piic a="" c=""></piic>	GPO BOX 5430, SYDNEY NSW, 2000	6,547,857	0.95
12.	COGENT NOMINEES PTY LIMITED <smp ACCOUNTS&gt;</smp 	PO BOX R209, ROYAL EXCHANGE NSW, 1225	6,315,823	0.92
13.	GEOLYN PTY LTD	24 AGETT ROAD, CLAREMONT WA, 6010	6,000,000	0.87
14.	MR EDWARD PATRICK JACOBSON	9/12 ALTONA ST, WEST PERTH WA, 6005	6,000,000	0.87
15.	MR GREGORY JOHN MUNYARD + MRS MARIA ANN MUNYARD + MISS CARMEN HELENE MUNYARD <riviera a="" c="" fund="" super=""></riviera>	9 GIBNEY VISTA, WEST LEEDERVILLE WA, 6007	5,900,000	0.86

Rank	Name	Address	Units	% of Units
16.	RBC DEXIA INVESTOR SERVICES AUSTRALIA NOMINEES PTY LIMITED <pipooled a="" c=""></pipooled>	GPO BOX 5430, SYDNEY NSW, 2000	4,717,380	0.69
17.	QUEENSLAND INVESTMENT CORPORATION	C/- NATIONAL NOMINEES LIMITED, GPO BOX 2242, BRISBANE QLD, 4001	4,486,061	0.65
18.	ATHOL STEEL PTY LTD	42 OXFORD ROAD, STRATHFIELD NSW, 2135	4,400,000	0.64
19.	ARNE INVESTMENTS PTY LTD	LEVEL 2, 88 COLLINS STREET, MELBOURNE VIC, 3000	3,991,906	0.58
20.	LOG CREEK PTY LTD	LEVEL 2, 88 COLLINS STREET, MELBOURNE VIC, 3000	3,400,000	0.50
Totals: Top 20 holders of ORDINARY SHARES (GROUPED)			264,112,548	38.46
Total Remaining Holders Balance			422,647,086	61.54