

# BUILDING ON DORADO SUCCESS

ASX:CVN



## Managing Director's Comments

### QUARTER HIGHLIGHTS

- **Dorado-2 appraisal well completed and confirms major resource.**
- **Roc South-1 exploration well in Caley and Baxter finds no producible hydrocarbons.**
- **Keraudren 3D seismic survey over Dorado and nearby exploration prospects also commenced.**

I am pleased to provide shareholders with an update on what has been another exceptional quarter for the Company.

The completion of the Dorado-2 well during the quarter has confirmed a major resource and continued Carnarvon's progression toward being a significant producer in the future.

Following the landmark Dorado discovery in 2018, the successful appraisal result has given Carnarvon and its Joint Venture partner, Santos, confidence to progress plans for the field development.

Oil and condensate rich gas was appraised across multiple reservoirs in the Dorado-2 well with high quality and productive reservoirs in each target. The results from Dorado-2 will assist in accelerating the Joint Venture's plans for an oil and condensate focused development followed by a more substantial full field development on a staged basis.

The Roc South-1 well commenced drilling following the completion of the Dorado-2 well. Roc South is located approximately 13km from the crest of the Dorado structure. At the time of this report the well had intersected the Caley and Baxter intervals.

A 3D Seismic survey also began over Dorado, Roc and nearby prospects. The survey will assist with development and drilling exploration targets in the future.

Carnarvon continued its regional exploration along the North West Shelf of Australia throughout the quarter. Carnarvon currently has a suite of assets with which to continue the exploration successes which have been achieved to date.

Plans for the Buffalo oil field redevelopment were also progressed. A Production Sharing Contract ("PSC") with the Government of Timor-Leste has been agreed to by Carnarvon. We are also close to having a defined timeline for the ratification of the maritime boundary change which gives the Company assurance to continue its progression towards the redevelopment of the Buffalo oil field.

At the end of the quarter, Carnarvon held a strong cash balance of A\$73.8 million. The exploration expenditure during the quarter of A\$18.9 million primarily included drilling costs for the Dorado-2 and Roc South-1 wells and preparatory work on the Buffalo oil field redevelopment project.

## Phoenix Project

(Carnarvon 20<sup>th</sup>-30<sup>th</sup>; Santos is the Operator)

The Dorado-2 appraisal well was completed during the quarter, confirming our expectations of a major oil and gas / condensate resource at Dorado. The appraisal now gives Carnarvon and its Joint Venture partner, Santos, the confidence to progress plans for a development project.

In the Caley reservoir, being the primary target, the Dorado-2 well intersected an oil-water contact as planned, which will enable refinement of the range of recoverable resources. High quality oil was extracted from the reservoir and excellent reservoir properties were encountered which are comparable to those discovered in the Dorado-1 well.

In the Baxter reservoir, a secondary target, condensate rich gas was extracted from the well as expected. The wireline logging also confirmed that a hydrocarbon column was encountered with no gas-water contact identified. Pressure data indicates the column likely extends for several hundred metres.

Samples from the Milne reservoir were recorded as oil bearing on the rig. The very light nature of this oil may result in this hydrocarbon being re-classified as a highly condensate rich gas. No water contact was encountered in the Milne section in the Dorado-2 well.

The Dorado-2 well encountered high quality and productive reservoirs in each target and the results from the well provides important information towards developing the field.

The Roc South-1 exploration well commenced drilling towards the end of the quarter following the completion of the Dorado-2 well.

At the time of this report, the Roc South-1 well had penetrated the Caley and Baxter intervals. Reservoir was present and provides confidence around our understanding of the reservoirs in the area. However, the reservoirs were found



Noble Tom Prosser Drilling Rig

to contain no producible hydrocarbons. The well plans to drill ahead to the deeper Crespin and Milne intervals.

During the quarter, a new 3D seismic survey was commenced. The Keraudren 3D has been designed to improve the data quality over the Dorado and Roc discoveries and a number of nearby prospects.

## Buffalo Project - WA-523-P

(Carnarvon 100<sup>th</sup> and operator)

During the quarter the Company received notice that NOPSEMA has accepted the Company's environmental plan to drill three wells as part of the Buffalo oil field redevelopment project.

The Government of Timor-Leste has also officially agreed to endorse the environmental plan accepted by the Australian regulator upon ratification of the Maritime Boundary change. This achievement reflects an important milestone in the Buffalo project.

Carnarvon has now agreed to the fiscal terms and the terms of the Production Sharing Contract ("PSC") with the Government of Timor-Leste. All parties are narrowing in on a clear timeline for signing the PSC and the ratification of the Maritime Boundary change. Once the process is

finalised, the Company will be clear to progress drilling and field development plans.

With the largest portion of the exploration permit remaining in Australian waters, following the Maritime boundary change, Carnarvon has also advanced its technical work to identify exploration potential within the permit. The early technical work has been very promising with mapping of the existing seismic identifying numerous prospects and leads. These include mid-Jurassic prospects within the same interval as the Buffalo field.

Carnarvon has also identified a number of significant prospects in the Triassic interval which is relatively untested in this area. With industry focus shifting to the Triassic interval following Carnarvon's Dorado discovery, the exploration prospectively within the area provides significant opportunities.

## Labyrinth Project - WA-521-P

(Carnarvon 100<sup>th</sup> and operator)

The Labyrinth project is located in the Bedout Sub-basin in close proximity to Carnarvon's Dorado, Roc and Phoenix South discoveries.

The standout target is the Ivory prospect which targets dual reservoirs and can be tested with one well. The first target is the Mid-Jurassic Lower Depuch Formation which is proven to be an excellent quality reservoir. The secondary target is in the early Jurassic Upper Bedout Formation which also has the potential to have excellent reservoir quality as encountered in the sands in the Roc-2 well at this depth.

The Ivory prospect is estimated to contain 420 million barrels of mean recoverable oil (refer to ASX announcement on 7 February 2018). Including Ivory, Carnarvon's geological analysis has identified 1.5 billion barrels of recoverable prospective resource in the permit (refer to ASX announcement on 7 February 2018).

There is now a higher level of confidence for hydrocarbon charge for reservoirs above the Cossigny Limestone, due to the Phoenix South-3 well intersecting hydrocarbons at this level.

Carnarvon is currently seeking expressions of interest from potential partners into the Labyrinth project (WA-521-P) for seismic acquisition and the drilling of the Ivory prospect.



### Eagle Project – AC/P63 (Carnarvon 100% and operator)

Carnarvon continued its technical work on the Eagle project during the quarter. The work so far has identified a number of attractive oil prospects and leads.

The standout target is the Toucan prospect in the Jurassic Plover formation. The Jurassic reservoir is well tested along the North West Shelf of Australia and typically features very good porosities and permeabilities within the Vulcan Sub-basin where the Eagle project is located.

The Toucan structure is analogous to or bigger than existing oil fields along the same trend and in close proximity which provides an exciting exploration opportunity, de-risked by existing discoveries.

The Eagle project covers an area of 587 km<sup>2</sup> in the oil prone Vulcan Sub-basin and contains the same structural configuration as the Jabiru and Challis oil fields. The technical work to date has included detailed mapping of the high-quality Cygnus 3D seismic data which was recently acquired by Polarcus.

With the permit awarded to Carnarvon in 2018 with minimal commitments, the Company will continue its technical work in the coming months before seeking expressions of interest from potential partners to further the project.

### Condor Project – AC/P62 (Carnarvon 100% and operator)

During the quarter, Carnarvon continued the geological and geophysical studies within the Condor project. The aim of this work is to firm up and de-risk the identified prospects and leads.

The Condor project lies within the Vulcan Sub-basin which is a world class and proven oil and gas basin featuring the Montara, Jabiru, Skua and Challis oil fields. The basin is currently experiencing a renaissance which is being driven by new 3D seismic data. Carnarvon is utilising the high-quality Cygnus 3D survey to pursue the potential of the 1,512 km<sup>2</sup> area within the Condor project permit.

Located in close proximity to the Eagle project, the Condor project

provides an excellent exploration opportunity for further oil prospects following potential successes in the Eagle project.

## Corporate / Financial

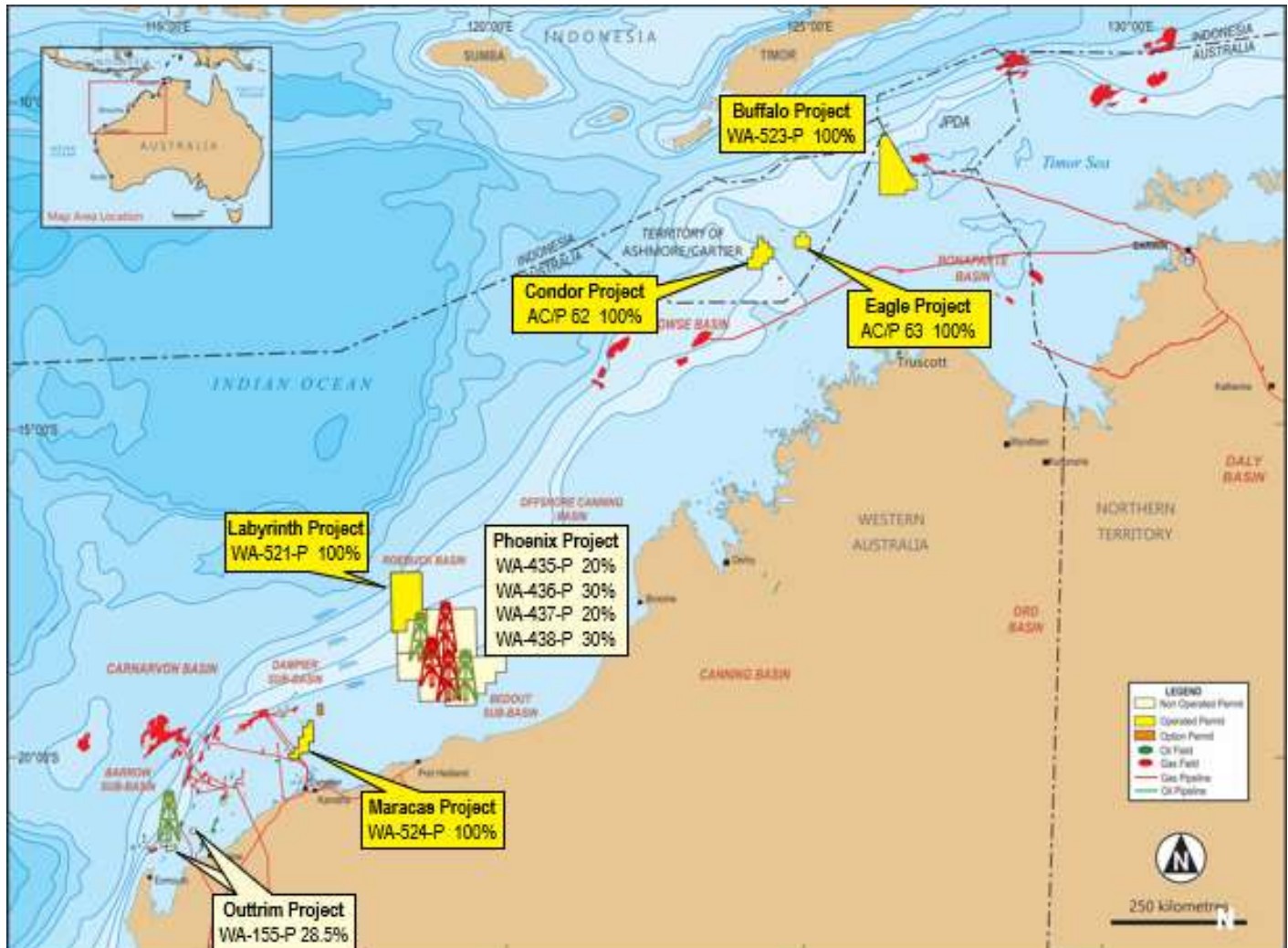
The Company's cash holdings at the end of the quarter were \$73.8 million, compared to \$93.3 million at the end of the previous quarter.

During the quarter, A\$18.9 million was spent on exploration activities in the North-West Shelf which primarily included Dorado-2 and Roc South-1 drilling costs. The expenditure also included technical work performed on the Buffalo project and Carnarvon's other exploration activities. The Company spent A\$1.8 million on business development and corporate costs and received A\$0.6 million in interest during the quarter.

The Company's United States Dollar ("USD") holdings at the end of the quarter were US\$22.8 million and its Australian Dollar ("AUD") holdings were A\$41.3 million. Carnarvon holds a balance between USD and AUD as a natural hedge to expected future expenditures denominated in both USD and AUD. The retention of US dollars influences Carnarvon's reported cash holdings due to AUD / USD exchange rates at each reporting period end.

A weakening of the average Australian Dollar relative to the US dollar during the quarter resulted in a foreign exchange translation adjustment that increased the Company's reportable cash holdings by A\$0.6 million.

## Project Map



## Project Table

Project	Permit (s)	Operator	Interest held	Interest acquired Q/Q
Phoenix	WA-435-P	Santos	20%	-
Phoenix	WA-436-P	Santos	30%	-
Phoenix	WA-437-P	Santos	20%	-
Phoenix	WA-438-P	Santos	30%	-
Labyrinth	WA-521-P	Carnarvon Petroleum	100%	-
Buffalo	WA-523-P	Carnarvon Petroleum	100%	-
Maracas	WA-524-P	Carnarvon Petroleum	100%	-
Condor	AC/P62	Carnarvon Petroleum	100%	-
Eagle	AC/P63	Carnarvon Petroleum	100%	-
Outtrim	WA-155-P	Santos	28.5%	-

Acronym	Definition
Bopd	Barrels of oil per day
Bbls	Barrels of oil
OWC	Oil water contact
CVN	Carnarvon Petroleum Limited
JV	Joint Venture
Km	Kilometres
Km <sup>2</sup>	Square kilometres
m	Millions
Qtr	Quarter
Q/Q	Quarter on Quarter
Tcf	Trillion cubic feet (gas)
2D	Two dimension seismic data
MC2D	Multi-client 2D - seismic data acquired for multiple parties that require licensing
3D	Three dimensional seismic data
MC3D	Multi-client 3D - seismic data acquired for multiple parties that require licensing
USD	United States of America dollar

## Cautionary Statement

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. Prospective Resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project and may relate to undiscovered accumulations. These prospective resource estimates have an associated risk of discovery and risk of development. Further exploration and appraisal is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

## Resources

All contingent and prospective resources presented in this report are prepared as at 21 July 2017, 28 August 2017, 7 February 2018, 23 April 2018 and 20 August 2018 (Reference: CVN ASX releases of at 21 July 2017, 28 August 2017, 7 February 2018, 23 April 2018, 20 August 2018 and 15 October 2018). The estimates of contingent and prospective resources included in this announcement have been prepared in accordance with the definitions and guidelines set forth in the SPE-PRMS and have been prepared using probabilistic methods. Carnarvon is not aware of any new information or data that materially affects the information included in this report and that all material assumptions and technical parameters underpinning the estimates in this presentation continue to apply and have not materially changed.

## Competent Person Statement Information

The Resource estimates outlined in this report were compiled by the Company's Chief Operating Officer, Mr Philip Huizenga, who is a full-time employee of the Company. Mr Huizenga has over 25 years' experience in petroleum exploration and engineering. Mr Huizenga holds a Bachelor Degree in Engineering, a Masters Degree in Petroleum Engineering and is a member of the Society of Petroleum Engineers. Mr Huizenga is qualified in accordance with ASX Listing Rules and has consented to the form and context in which this statement appears.

## Forward Looking Statements

This document may contain 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 document 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.