

Phoenix South-2 Volume Upgrade

28 March 2017



Highlights

- **Phoenix South-2 well confirmed gas and condensate in the Caley member**
- **Phoenix South Caley gas and condensate volume estimates increased 32% to 489 billion standard cubic feet (“bscf”) of gas and 57 million barrels of condensate (gross, Pmean)**
- **Increase due to effects of increased pressure and greater level of liquids within the gas discovered in Phoenix South-2 well**

Carnarvon Petroleum Limited (“Carnarvon”) (ASX:CVN) is pleased to provide an update on the Phoenix South resource estimates following further technical work on the Phoenix South-2 well results (CVN 20% interest).

Hydrocarbons were discovered in the Caley Member (“Caley”) in the Phoenix South-2 well (refer CVN ASX announcement on 19 December 2016). Further technical work has determined that due to the pressures encountered, and the nature of the gas observed, the resource estimates in the Phoenix South Caley have been increased from pre-drill estimates. The gross mean estimate is currently 489 bscf recoverable gas and 57 million barrels of associated condensate (being 143 million barrels of oil equivalent (“boe”), gross, Pmean) in a conventional anticline trapping structure.

Certain data from the Phoenix South-2 well suggests there could be a stratigraphic component to the Caley structure which could materially increase the resource size presented in this report. Further details on this are outlined in the Technical Appendix to this announcement, with further drilling required to properly determine whether this case exists.

The changes to the resource estimates as a result of the Phoenix South-2 well are summarised as follows:

Resource Interval	Pmean – previous (million boe)	Pmean – revised (million boe)	Change
Phoenix South Prospective Resource – Caley	108	143	32%

*Refer ASX announcement of 14 November 2016 for detailed information on previous volume estimates
Refer page 4 of this announcement for detailed information on the revised volume estimates*

In addition to the discovery in the Caley, a gross 25 metre oil sand was encountered within the Hove Shale in the Phoenix South-2 well. Resource estimates for this discovery are still under review (refer figure 2 in the appendices).

Carnarvon's Managing Director and CEO, Adrian Cook said:

"Our strategy to test a number of prospects in our Phoenix project has produced the very real possibility of us having over one trillion cubic feet of gas and over 100 million barrels of oil and condensate within an area capable of being aggregated into a central development, only 150 kilometres offshore from important gas infrastructure near Port Hedland.

The potential size of the Phoenix South Caley resource adds to the excitement of the recent Roc Caley discovery and its historic well test. Incorporating the large Dorado Caley prospect, that is expected to be targeted later this year, and this significant outcome is looking very possible.

There is a great deal of work still to be undertaken, but our progress and success to date clearly makes this one of the most exciting projects in the Australian oil and gas sector at the current time."

Yours faithfully



Adrian Cook
Managing Director
Carnarvon Petroleum

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Appendices

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Technical Appendix

Phoenix South-2 Caley Discovery

While drilling through the lower section of the Hove Shale (which overlies the Caley Member), increasing mud gas was observed, indicating an effective seal had been encountered. The thickness of the seal and the pressure differential observed both indicate the existence of a competent top seal which is capable of containing a significant hydrocarbon column below it.

The top of the Caley Member in the Phoenix South-2 well was encountered at 5,176 metres measured depth (“MD”) as determined from cuttings samples. The presence of reservoir sand was observed while drilling through the top 30 metres of Caley, along with an overall increase in total gas and heavier components of hydrocarbons (condensate). This was determined to be a heterolithic (laminated) section from the Logging While Drilling (“LWD”) tools although of insufficient quality to be determined as reservoir.

While drilling through 5,206 metres MD, a strong increase in heavier gas components and considerable increase in total gas to 42% indicated the well had encountered a more permeable section of the Caley Sandstone. An influx of gas at 5,216 metres MD also highlighted that the reservoir had changed from the previous heterolithic to a more permeable reservoir which is better suited to production of gas and condensate.

At 5,216 metres MD drilling had to be suspended. The distance of sensors in the drill string meant that no LWD data was recorded over the section below 5,205 metres MD, covering the interpreted reservoir section, thereby limiting the quantity of meaningful data logged.

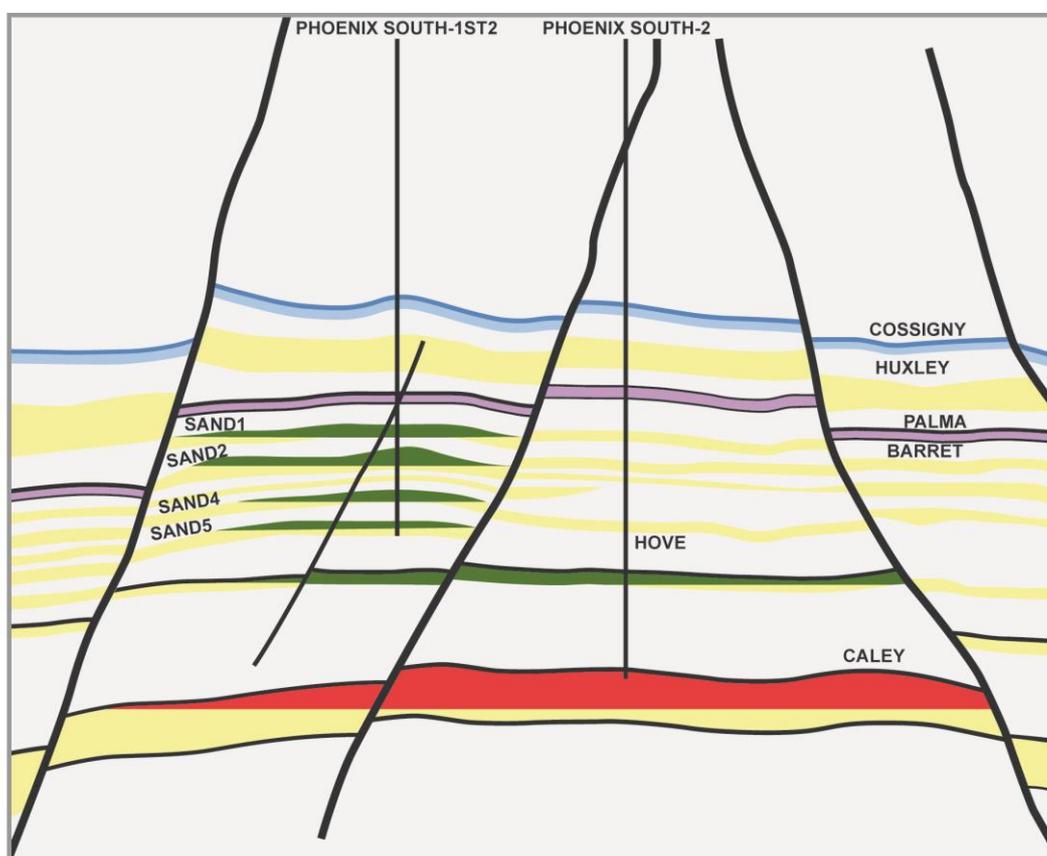


Figure 1: Phoenix South structures

Data observed while drilling indicated pressure in the Caley reservoir within the hydrocarbon discovered zone was estimated to be significantly higher than that observed at the Roc wells at the same Caley level. The higher pressures encountered indicate a higher gas expansion factor which provides a higher estimate for the gas resource within the current structurally defined hydrocarbon trap. This could also indicate the existence of a stratigraphic structure that could easily contain gas and condensate volumes that materially exceed the current estimated resource size which is based on a structurally controlled hydrocarbon trap.

The higher than expected heavier hydrocarbon components (condensate) observed also indicates that any gas discovered would likely have a higher liquid content than previously estimated.

Interpretation of the seismic data signifies that the Caley reservoir is potentially several hundred metres thick.

Limiting the resource estimate to the structural container scenario (as opposed to a stratigraphic scenario), an increased estimate of potential gas and condensate recoverable has been determined as per the tables 1 and 2 below.

	Natural Gas				Condensate				Barrels of Oil Equivalent				Probability Geological Success	Risked MMBOE Pmean
	BSCF P90	BSCF P50	BSCF Pmean	BSCF P10	MMBBL P90	MMBBL P50	MMBBL Pmean	MMBBL P10	MMBOE P90	MMBOE P50	MMBOE Pmean	MMBOE P10		
Phoenix South Caley	128.0	401.0	489.0	963.0	10.5	39.4	56.8	122.0	33.0	109.8	142.6	290.9	71%	101.2

Table 1: Gross Resource Estimate – Caley Sandstone

	Natural Gas				Condensate				Barrels of Oil Equivalent				Probability Geological Success	Risked MMBOE Pmean
	BSCF P90	BSCF P50	BSCF Pmean	BSCF P10	MMBBL P90	MMBBL P50	MMBBL Pmean	MMBBL P10	MMBOE P90	MMBOE P50	MMBOE Pmean	MMBOE P10		
Phoenix South Caley	25.6	80.2	97.8	192.6	2.1	7.9	11.4	24.4	6.6	22.0	28.5	58.2	71%	20.2

Table 2: Net Resource Estimate to Carnarvon's 20% equity in the permit – Caley Sandstone

The Phoenix South-2 well did not encounter oil in the Barret Sandstone resulting in a reduction in the pre-drill estimate from 24 million barrels to 17 million barrels.

	Light Oil			Natural Gas			Condensate			Barrels of Oil Equivalent		
	MMBBL 1C	MMBBL 2C	MMBBL 3C	BSCF 1C	BSCF 2C	BSCF 3C	MMBBL 1C	MMBBL 2C	MMBBL 3C	MMBOE 1C	MMBOE 2C	MMBOE 3C
Phoenix South	6.8	16.7	29.6	-	-	-	-	-	-	6.8	16.7	29.6

Table 3: Gross Resource Estimate – Barret Sandstone

	Light Oil			Natural Gas			Condensate			Barrels of Oil Equivalent		
	MMBBL 1C	MMBBL 2C	MMBBL 3C	BSCF 1C	BSCF 2C	BSCF 3C	MMBBL 1C	MMBBL 2C	MMBBL 3C	MMBOE 1C	MMBOE 2C	MMBOE 3C
Phoenix South	1.4	3.3	5.9	-	-	-	-	-	-	1.4	3.3	5.9

Table 4: Net Resource Estimate to Carnarvon's 20% equity in the permit – Barret Sandstone

Refer to the Cautionary Statement and Competent Person Statement Information on page 6 and 7 of this announcement.

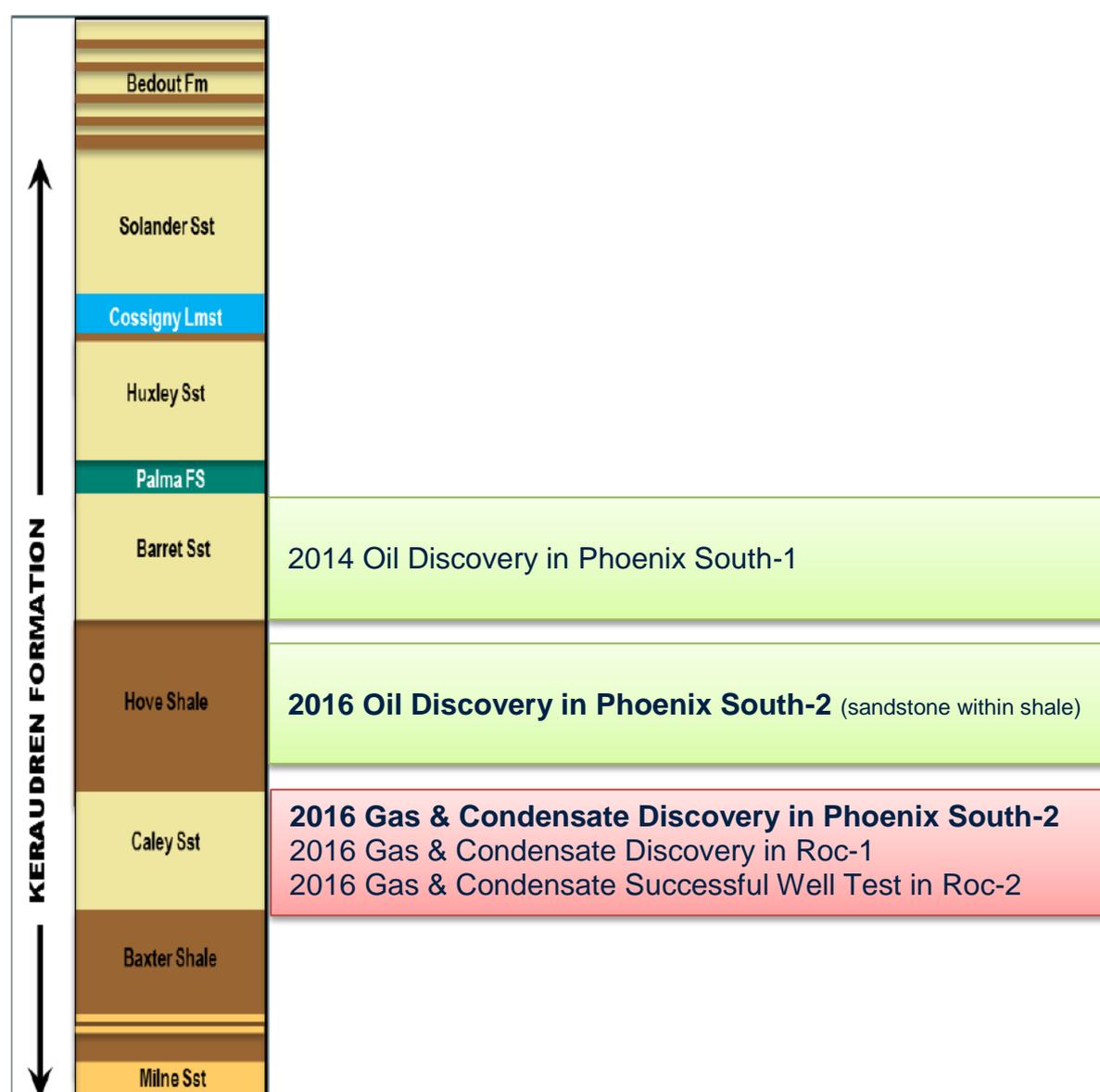
Carnarvon uses probabilistic methods for estimation of petroleum resources at the field and project levels. Unless otherwise stated, all petroleum estimates reported at the company level are aggregated by arithmetic summation by category.

Taking into account the stratigraphic interpretation as determined by the pressure differential from regional wells, the quality of the seal as established from drilling, and the high pressures encountered, there is significantly higher potential in the Caley Sandstone than indicated in the tables above.

Phoenix South-2 Hove

While drilling through the Hove Member, a number of hydrocarbon shows were observed in several sand packages. In particular, a 25m gross sand section from 4,733 to 4,758 metres MD had hydrocarbon pay calculated from the logging tools supported by positive gas shows and fluorescence from the mud log and cuttings. Resource estimates are not able to be calculated for this package until further data is available.

Figure 2: Stratigraphic column showing major formations in the region.



Additional Resources Information and Cautionary Statement

Cautionary Statement

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 estimates have both 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.

Prospective and Contingent Resources

Prospective resources describe hydrocarbon volumes that may be produced in the event that they are discovered by an exploration well.

Refer to the ASX announcement of 14 November 2016 for detailed information on Roc contingent resources and Dorado prospective resources.

Unless otherwise stated, all petroleum resource estimates are quoted at standard oilfield conditions of 14.696 psi (101.325 kPa) and 60 degrees Fahrenheit (15.56 deg Celsius).

Carnarvon uses probabilistic methods for estimation of petroleum resources at the field and project levels. Unless otherwise stated, all petroleum estimates reported at the company level are aggregated by arithmetic summation by category.

MMBOE means millions of barrels of oil equivalent. Dry gas volumes, defined as 'C4 minus' hydrocarbon components and non-hydrocarbon volumes that are present in sales product, are converted to oil equivalent volumes via a constant conversion factor, which for Carnarvon is 5.7 Bcf of dry gas per 1 MMboe. Volumes of oil and condensate, defined as 'C5 plus' petroleum components, are converted from MMbbls (million stock tank barrels) to MMboe on a 1:1 ratio.

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.

The estimates of prospective resources included in this report have been prepared in accordance with the definitions and guidelines set forth in the SPE-PRMS.

Competent Person Statement Information

The resource estimates outlined in this report were reviewed 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 and a Masters Degree in Petroleum Engineering. 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.