

Carnarvon Petroleum Ltd

(CVN \$0.26) Speculative Buy

EUROZ

Analyst	Date	Price Target
Jon Bishop	18 th July 2018	\$0.50/sh

Oil Discovery at Dorado-1

Investment case

Dorado appears a material oil discovery with clear standalone potential. Moreover, the Oil Water Contact ("OWC") has not been encountered and the well continues to drill through oil shows. What we like is that oil discoveries in shallow water and benign jurisdictions have relatively low barriers to commercialisation. Recovering oil prices are stimulating permitting and M&A activity in the E&P industry: this result will clearly shine a corporate spotlight on CVN. The WPL transaction with Finder Exploration is a good example and we believe similar moves are afoot particularly focused on the Dampier Sub-Basin and emerging Triassic play that CVN and Quadrant have identified at the Phoenix Hub. We retain our Speculative Buy recommendation believing that CVN has identified a new commercial discovery in the NWS and can also take the Buffalo oil project through to commercialisation. In either instance, CVN will realise a much higher share price. We retain our Speculative Buy recommendation with an inc. \$0.50/sh Price Target.

Key points

- Wireline has confirm an oil discovery within the Primary Caley Sandstone reservoir at the Dorado-1 location:
 - A primary sequence over a 96.1m interval;
 - Net oil pay of 79.6m;
 - Highly porous (20% av.) and permeable (100-1,000mD) reservoir;
 - Oil saturation of 82.5%;
- Pre-drill P50 gross mean vol. est. of 125mmbboe (CVN - 20%), comprising 30mbbls condensate and 545Bcf gas;
- However, wireline appears to indicate that the hydrocarbon mix is dominantly light (49.6° API) oil;
- Volumetric estimates will take circa 4 weeks to compile after the completion of the well (we est. a further 2wks to TD);
- The well also encountered oil in the lower Baxter Sandstone Formation;
- The well will drill ahead from 3,990m currently to 4,575m to evaluate deeper Baxter, Milne and Crespin Sandstone secondary targets which have a P10-P90 Prospective Resource range of 54mmbboe (1C) to 1,020mmbbie (3C) gross (refer 23/04/2018 release);
- Looking at peer comps and incorporating pre-drill volume est. for Dorado, we upgrade Valuation to \$0.44/sh (prev. \$0.25/sh);
- We set a higher Price Target of \$0.50/sh (prev. \$0.25/sh) as we are bullish on the opportunity CVN presents in the short to medium term:
 - Further results from the secondary targets and volumetrics from Dorado-1;
 - Imminent results from the high impact appraisal well at Phoenix South-3;
 - A material oil development opportunity at Buffalo emerging;
 - Multiple farm-down/corporate opportunities;

Carnarvon Petroleum Ltd	Year End 30 June	
Share Price	0.26	A\$/sh
Price Target	0.50	A\$/sh
Valuation	0.44	A\$/sh

Shares on issue*	1184	m, diluted
Market Capitalisation*	310	A\$m
Enterprise Value*	260	A\$m
Debt	0	A\$m
Cash est.*	50	A\$m
Largest Shareholder		Mgmt -6%

Directors

Chair	P Leonhardt
MD	A Cook
NE Dir	W Foster
NE Dir	P Moore

Shareholders

Mgmt	-6%
------	-----

Company details

76 Kings Park rd
West Perth, 6005
Western Australia
Telephone: +61 8 9321 2665
Facsimile: +61 8 9321 8867
www.carnarvon.com.au

Share Price Chart



Disclaimer

Euroz Securities declares that it has acted as underwriter to and/or arranged an equity issue in and/or provided corporate advice to Carnarvon Petroleum Ltd during the last year. Euroz Securities has received a fee for these services.

Euroz Securities Limited

All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Carnarvon Petroleum Ltd

(CVN \$0.26) Speculative Buy

Analysis

Dorado appears a material oil discovery with clear standalone potential.

Moreover, the OWC has not yet been encountered and noting that the well continues to drill through oil shows in underlying potential reservoir, it suggests to us that there is a clear upward bias to pre-drill volumetric estimates.

What we like is that oil discoveries in shallow water and benign jurisdictions, such as the established oil and gas “Super-basins” of the North West Shelf, have relatively low barriers to commercialisation.

We look to recent adjacent fields in Wanaea-Cossack, Mutineer-Exeter and Legendre as yardsticks.

Wanaea-Cossack (<https://www.onepetro.org/conference-paper/SPE-22986-MS>):

- Discovery in Jan 1990;
- FID taken on 60mmbbls 2P gross;
- Commissioned in 1995 @ 50,000bbls/d;

Mutineer-Exeter (<https://www.ogj.com/articles/2005/02/mutineer-exeter-reserves-revised-production-sped.html>):

- Mutineer discovered in 1997, Exeter in 2003;
- FID taken on 61mmbbls 2P gross;
- Commissioned in 2005 @ 100,000bbls/d;

Legendre (<https://www.santos.com/media-centre/announcements/approval-for-legendre-development/>; <https://www.ogj.com/articles/2010/10/legendre-oil-field.html>):

- Discovered in 1968;
- Appraised and extended in 1997;
- FID taken on 40mmbbls 2P gross;
- Commissioned in 2001 @ 45,000bbls/d;

Notably, all took less than 5yrs from appraisal to first oil.

IMPACT TO VALUATION & PRICE TARGET

- Our Valuation inc to \$0.44/sh (prev. \$0.25/sh);

ASSET VALUATION		
	A\$m	A\$/sh
Phoenix-Roc (net -20mmbboe 2C)	100	0.10
Dorado (25mmbbls net est.)	250	0.25
Buffalo (risked to 10%)	33	0.03
Exploration - other	20	0.02
Corporate	(14)	(0.01)
Unpaid Capital	0	0.00
Debt	-	-
Cash est.	50	0.05
Total	439	0.44

We set a higher Price Target of \$0.50/sh (prev. \$0.25/sh) as we are bullish on the opportunity CVN presents in the short to medium term:

- Further results from the secondary targets and volumetrics from Dorado-1;
- Imminent results from the high impact appraisal well at Phoenix South-3;
- A material oil development opportunity at Buffalo emerging;
- Multiple farm-down/corporate opportunities;

Euroz Securities Limited

All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Carnarvon Petroleum Ltd

(CVN \$0.26) Speculative Buy

Our Valuation takes into consideration the nearest peer in FAR as a relevant comparison, noting that the market ascribes ~A\$7.80/bbl for its net (post Govt carry) 2C discovered 70mmbbls contingent resource.

We apply a higher A\$10/bbl to the pre-drill volumetric est. for the Caley Formation at Dorado (25mmbboe net to CVN = \$250m or 25cps) given:

- The jurisdiction of CVN's assets;
- Shallow water development;
- The simplicity of the Joint Venture;
- The commercial motivations of the JVP in Quadrant;
- The relative geological simplicity of the Primary Reservoir; and
- The likely shorter lead time to commercialisation as a consequence.

We apply a more conservative A\$5/boe to CVN's current 2C resources discovered at Roc and Phoenix (net ~20mmbboe = A\$100m or 10cps).

These numbers are notably pre any discovery at Phoenix South-3 and the deeper zones at Dorado (260mmbboe P50 best estimate):

Prospective Within 25km	Gas Resource (Bscf)				Condensate / Oil Resource (mm bbls)				Geological Success
	Mean	P90	P50	P10	Mean	P90	P50	P10	
Phoenix South-2 & 3 wells - Caley	489	128	401	963	57	11	39	122	71%
Dorado-1 well - Caley	545	59	338	1260	32	3	17	75	36%
Total	1034	187	739	2223	88	13	56	197	

We contest that in a discovery case at Phoenix South-3, assuming the pre-drill potential for 29mmbboe net or 150mmbboe P50 est) should reprice the existing Contingent Resources as the effective doubling of recoverable volumes would go a long way to justifying standalone development.

The upside for Dorado is eye-watering in a success case: The deeper Baxter (Milne A), Crespin (Milne B), Milne (Milne C) and "Milne Deep" (Milne D) Sandstone secondary targets which have a P10-P90 Prospective Resource range of 54mmbboe (1C) to 1,020mmbbbl (3C) gross:

Prospective Within 25km	Gas Resource (Bscf)				Condensate / Oil Resource (mm bbls)				Geological Success
	Mean	P90	P50	P10	Mean	P90	P50	P10	
Dorado-1 well - Milne A	429	46	266	1016	25	2	13	60	23%
Dorado-1 well - Milne B	438	37	295	1025	25	2	14	61	23%
Dorado-1 well - Milne C	565	82	416	1248	33	4	20	75	23%
Dorado-1 well - Milne D	555	52	409	1251	32	2	19	76	23%
Total	1987	216	1386	4540	115	9	67	271	

We est. cash at \$50m (5cps) and broader exploration portfolio very conservatively at \$20m (2cps).

And in all this, the potential development of 30mmbbls of oil at Buffalo should not be overlooked:

Resource (2C mmbbls)	31
Field Life (Yrs)	5
Capex (US\$m)	150
Opex (US\$m/yr)	90
Abandonment (US\$m est.)	40
Operating Margin @ Spot (US\$/bbl)	52
Revenue Gross (US\$m @ spot)	2,263
EBITDA Gross (US\$m @ spot)	1,643
Contractor Take (est. 40%)	657
NPV10 (US\$m pre-tax)	245
NPV10 (A\$m pre-tax)	326
IRR (%)	82

Euroz Securities Limited

All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Carnarvon Petroleum Ltd

(CVN \$0.26) Speculative Buy

EUROZ

We include 10% of our back of the envelope economic assessment of a Buffalo Development (for \$33m or 3cps) in our total Valuation.

All this taken into account, we still view our Valuation as largely cosmetic:
Should the current drilling campaign continue to be successful, discovered volumes will increase substantially but moreover, the Phoenix Hub will become a viable economic standalone development.

This alone should drive a substantial re-rating of the Company's share price.

Beyond which, commercial progress at Buffalo and/or success at Dorado are Company makers in their own right.

Outside of which, given the open register and material interests in both Phoenix Hub plus Buffalo, there appears little to dissuade corporate approaches in a sector buoyed by rising commodity periods and a 4yr hiatus in terms of field development and exploration.

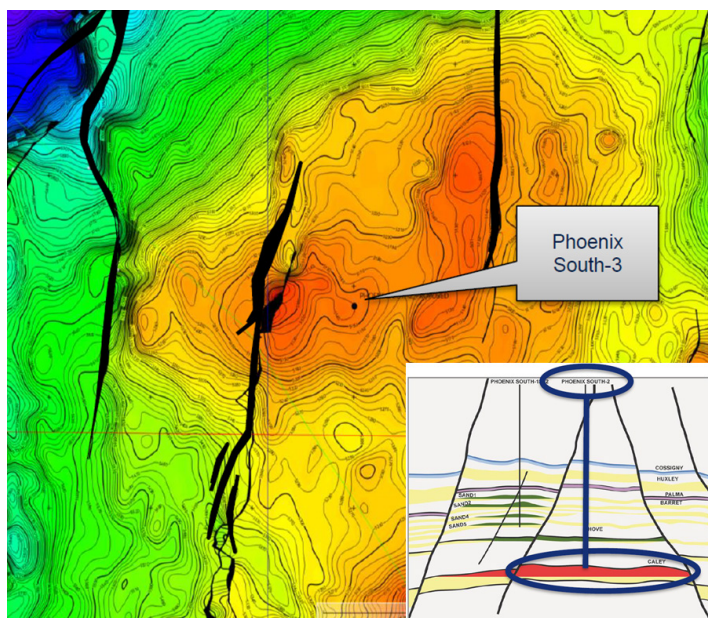
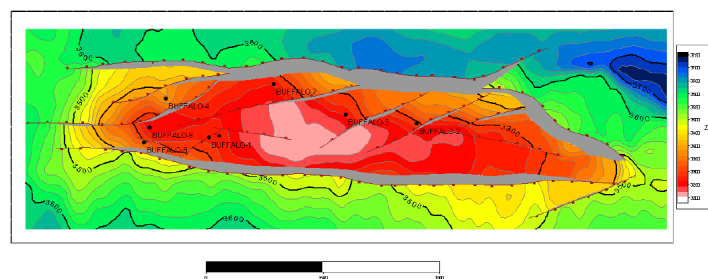
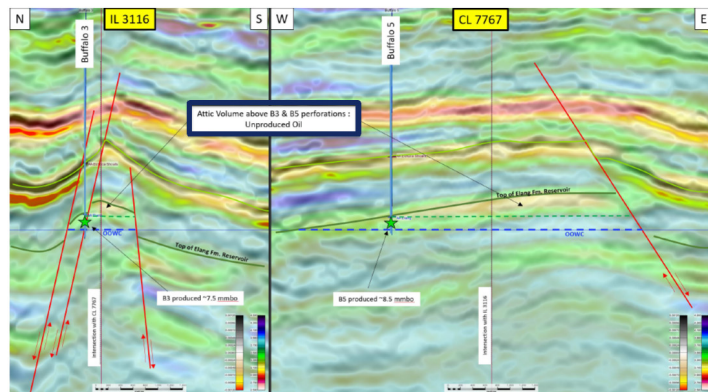
We note that with the rising oil price, the E&P industry – dormant for the past 3 years – is seeking to re-invigorate its new ventures' portfolios (<http://www.finderexp.com/wp-content/uploads/2017/09/Media-Release-WA-520-P-Finder-Woodside-Farmin-1-Sept-2017-Final.pdf>).

Euroz Securities Limited

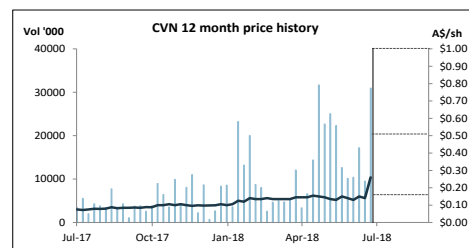
All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Key Variables

Euro Forecast	FY'18	FY'19	FY'20	FY'21	FY'22	FY'23
Brent US\$/bbl	\$64	\$78	\$85	\$85	\$85	\$85
WTI US\$/bbl	\$59	\$68	\$75	\$80	\$80	\$80
AUDUSD	\$0.78	\$0.76	\$0.76	\$0.78	\$0.78	\$0.78



Our Share Price Sensitivity



Our Market Sensitivity

Valuation - \$0.44/sh

Price Target - \$0.50/sh

Bull Scenario - \$1.00/sh

Success at Phoenix South-3 and/or Dorado confirms a standalone economically viable project. Oil prices continue to rise beyond our long term US\$80/bbl WTI forecast from 2022. High oil price attracts greater opportunistic interest for JV farm-in and debt funding, enabling project development of Buffalo and Labrynth prospects.

Base Scenario - \$0.50/sh

Oil prices trend gradually towards our long term oil price assumption of US\$80/bbl from 2022. CVN have leveraged themselves by exploring undeveloped oil prospects and readying them for M&A opportunities.

Bear Scenario - \$0.15/sh

Oil prices fall to below US\$50/bbl over the medium to long term. Funding for prospect development diminishes. Projects remain idle.

Company Summary

Carnarvon Petroleum Ltd (CVN) is an oil and gas exploration and development company. CVN has secured multiple assets and acreage on the North West Shelf, developing with the aim to attract farm-in or acquisitions.

Drilling campaigns of Phoenix Sth-3 and Dorado-1 represent near-term catalysts for CVN to trade upwards.

Disclaimer

The projections and information above is based on the set assumptions outlined. Due care and attention has been used in the preparation of this information. However actual results may vary from forecasts and any variation may be materially positive or negative. Forecasts by their very nature, are subject to uncertainty and contingencies, many of which are outside the control of Euroz.

Euroz Securities Limited

Euroz Securities Limited
All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.

Disclaimer

Copyright & Distribution

The material contained in this communication (and all attachments) is prepared for the exclusive use of clients of Euroz Securities Ltd (ACN 089 314 983) ("Euroz") only. Euroz is the holder of an Australian Financial Services Licence (AFSL 243302) issued by the Australian Securities and Investments Commission ("ASIC") and is a participant of the Australian Securities Exchange Group ("ASX Group").

The information contained herein is confidential and may be legally privileged. If you are not the intended recipient no confidentiality is lost nor privilege waived by your receipt of it. Please delete and destroy all copies, and contact Euroz on (+618) 9488 1400. You should not use, copy, disclose or distribute this information without the express written authority of Euroz.

Disclaimer & Disclosure

Euroz and its associates declare that they deal in securities as part of their securities business and consequently may have a relevant interest in the securities recommended herein (if any). This may include providing equity capital market services to their issuing company, hold a position in the securities, acting as principal or agent, or make a market therein and as such may effect transactions not consistent with the recommendation (if any) in this report.

Euroz declares that it may have acted as an underwriter, arranger, co-arranger or advisor in equity capital raisings, and will have received a fee for its services, for any company mentioned within this report during the last 12 months.

You should not act on any recommendation issued by Euroz without first consulting your investment advisor in order to ascertain whether the recommendation (if any) is appropriate, having regard to your investment objectives, financial situation and particular needs. Nothing in this report shall be construed as a solicitation to buy or sell a security, or to engage in or refrain from engaging in any transaction.

Euroz believes that the information and advice contained herein is correct at the time of compilation, however we make no representation or warranty that it is accurate, complete, reliable or up to date, nor do we accept any obligation to correct or update the opinions in it. The opinions expressed are subject to change without notice. No member of Euroz accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this material.

We cannot guarantee that the integrity of this communication has been maintained, is free from errors, virus interception or interference.

Analyst Certification

We hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities.

No part of our compensation was, is or will be directly or indirectly, related to the specific recommendations or views expressed by the authoring analyst in this research.

Contact Details

Euroz Securities Limited **+61 8 9488 1400**

International Toll Free

(If calling to Euroz from the following Countries)

Germany	0800 1800 554
Switzerland	0800 835 385
Hong Kong	800 900 936
Malaysia	1800 805 002
Singapore	800 6161 759
New Zealand	0800 441 271
USA	18 772 804 390
United Kingdom	08 000 929 851

Research Analysts

Jon Bishop - Head of Research	+61 8 9488 1481
Andrew Clayton - Resources Analyst	+61 8 9488 1427
Michael Emery - Resources Analyst	+61 8 9488 1430
Ben Laird - Industrials Director	+61 8 9488 1429
Gavin Allen - Industrials Analyst	+61 8 9488 1413
Jerome Paz - Associate Research Analyst	+61 8 9488 1414

Institutional Sales

Andrew McKenzie - Executive Chairman	+61 8 9488 1407
Rob Black - Managing Director	+61 8 9488 1423
Jay Hughes - Executive Director	+61 8 9488 1406
Russell Kane - Executive Director	+61 8 9488 1426
Simon Yeo - Executive Director	+61 8 9488 1404
Timothy Bunney - Executive Director	+61 8 9488 1461
Peter Schwarzbach - Executive Director	+61 8 9488 1492
Stacy Kitsantas - Institutional Adviser	+61 8 9488 1486

Private Client Advisers

Chris Webster - Head of Private Clients	+61 8 9488 1412
Ben Statham - Executive Director	+61 8 9488 1417
Brian Bates - Executive Director	+61 8 9346 0314
Cameron Murray - Executive Director	+61 8 9488 1440
James Mackie - Executive Director	+61 8 9488 1416
Lucas Robinson - Executive Director	+61 8 9488 1424
Ryan Stewart - Executive Director	+61 8 9488 1441
Tim Lyons - Executive Director	+61 8 9346 0324
Brett Stapleton - Associate Director	+61 8 9488 1435
Giles McCaw - Associate Director	+61 8 9488 1462
Michael Bowden - Associate Director	+61 8 9346 0307
Richard Gardner - Associate Director	+61 8 9488 1444
Paul Berson - Associate Director	+61 8 9346 0314
Paul Cooper - Associate Director	+61 8 9346 0316
Phil Grant - Associate Director	+61 8 9346 0306
Lauren Walker - Investment Adviser	+61 8 9488 1495
Michael Bartley - Investment Adviser	+61 8 9346 0352
Steve Wood - Investment Adviser	+61 8 9346 0305
Tom Kenny - Associate Adviser	+61 8 9488 1431

Euroz Securities Limited

All information and advice is confidential and for the private information of the person to whom it is provided and is provided without any responsibility or liability on any account whatsoever on the part of Euroz Securities Limited or any member or employee thereof. Refer to full disclaimer at the end of this document.