

Bedout Basin Update

11 June 2021



Highlights

- Exciting Bedout Basin prospectivity is being advanced with new seismic data
- ~1,600 km² Archer 3D has now been completed
- ~3,200 km² Keraudren Extension 3D has commenced

Carnarvon Petroleum Limited ("Carnarvon") (ASX:CVN) is pleased to update shareholders on its Bedout Basin acreage exploration activities.

1. Exploration Potential

Carnarvon has reviewed the exploration potential of its Bedout Basin acreage. Key outcomes:

- Uniquely favourable geological elements (reservoir, source, seals, trap) over a wide area;
- Only ~6% of area explored - Phoenix-Dorado Corridor (PDC). Six untested play fairways around PDC;
- High prospectivity - 12 main plays (only 2 tested); >90 prospects, 30+ leads; multi-billion boe potential.
- Developments: Low \$/boe costs apply in the basin due to shallow water setting.

2. 3D Seismic

The Archer 3D seismic acquisition was completed on 1 June 2021, with ~1,600 km² acquired (Figure 1). The survey was acquired over the Dorado field and surrounding near-field prospects, in conjunction with the WA-541-P joint venture immediately southwest of WA-437-P.

With the completion of the Archer 3D, the survey vessel has commenced the ~3,200 km² Keraudren Extension 3D survey, which will be acquired predominantly in WA-436-P, over a set of leads having direct access to the interpreted source 'kitchens', and which have thus far been defined only by 2D seismic.

3. Drilling

Plans are progressing for the drilling of two exploration wells in the Bedout Basin. The operator Santos has taken delivery of the Noble 'Tom Prosser' jack-up drilling rig, which is currently working on other operations prior to its mobilisation to the Bedout Basin.

Both wells target prospects with similar interpreted trap, source, seal and reservoir characteristics to Dorado. The Pavo-1 well is planned to be drilled in western WA-438-P, and targets mean recoverable volumes of 82 million barrels and 108Bcf in the Caley Fm. The probability of geological success (Pg) is 34%. Pavo-1 will be followed by Apus-1 in eastern WA-437-P. Apus-1 has two targets, with mean recoverable volumes of 235 million barrels and 408Bcf (combined - Caley and Milne Fm.'s) and a Pg of 23%.

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.

More information on the Bedout Basin development project and exploration is in the attached presentation.

Carnarvon Managing Director and CEO, Mr Adrian Cook, said:

"I am pleased to see that the Archer 3D seismic survey has been completed as planned, and the Keraudren Extension 3D has now commenced.

We look forward to an exciting year ahead for the Bedout Basin, with Dorado FEED entry, the Apus-1 and Pavo-1 exploration drilling campaign and the maturation of further prospects following processing and interpretation of the Archer and Keraudren Extension 3D's, which should add further breadth and optionality to the already substantial exploration portfolio".

Approved by



Adrian Cook
Managing Director
Carnarvon Petroleum

Investor inquiries:

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

Media inquiries:

Luke Derbyshire
Managing Director, Spoke Corporate
Phone: 0488 664 246
Email: luke@spokecorporate.com

Resources Statements

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. The resources are as at 15 October 2018 and 27 September 2020 – refer to announcements on those dates.

A combination of deterministic and probabilistic methods were used to prepare the estimates of these prospective resources.

Carnarvon is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates in this announcement continue to apply and have not materially changed.

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.

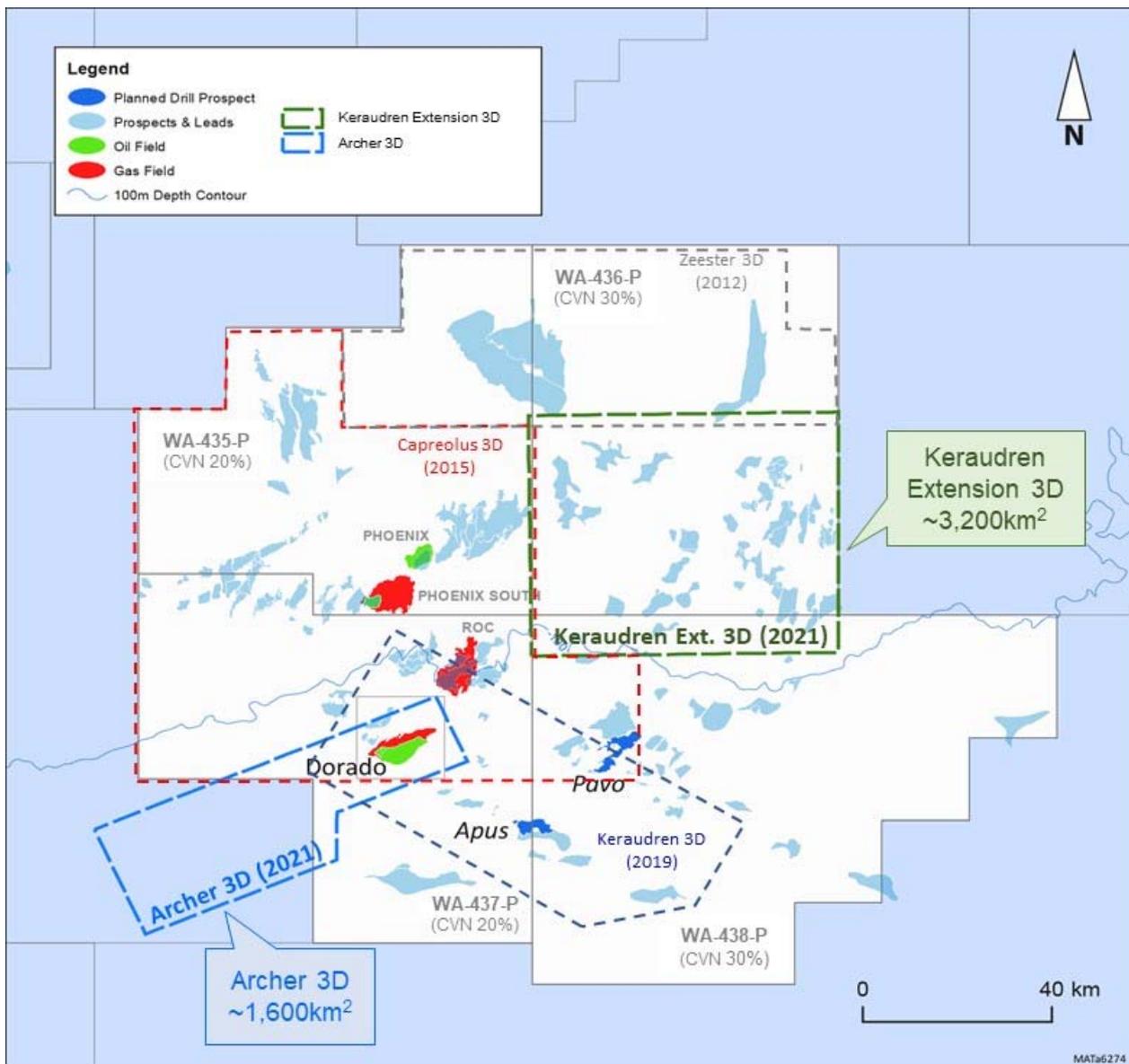


Figure 1: Locations of the Pavo and Apus prospects, and the Archer and Keraudren Extension 3D Surveys

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Disclaimer

The resource estimates outlined in this Presentation are based on and fairly represent information and supporting documentation prepared 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.

All contingent and prospective resources presented in this report are prepared as at 28 August 2017, 23 April 2018, 20 August 2018, 15 October 2018, 15 July 2019 and 17 September 2020 pursuant to the Company's ASX announcements released to ASX on 28 August 2017, 23 April 2018, 20 August 2018, 15 October 2018, 15 July 2019 and 17 September 2020. The estimates of contingent and prospective resources included in this Presentation have been prepared in accordance with the definitions and guidelines set forth in the SPE-PRMS. Carnarvon is not aware of any new information or data that materially affects the information included in this Presentation and that all material assumptions and technical parameters underpinning the estimates in this Presentation continue to apply and have not materially changed. Carnarvon used deterministic and probabilistic methods to prepare the estimates of these contingent resources. These contingent resources have been aggregated by arithmetic summation and hence the aggregate 1C may be a very conservative estimate and the 3C may be a very optimistic estimate due to the portfolio effects of arithmetic summation.

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 are subjective processes of estimating subsurface accumulations of oil and gas that cannot be measured in an exact way. 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.

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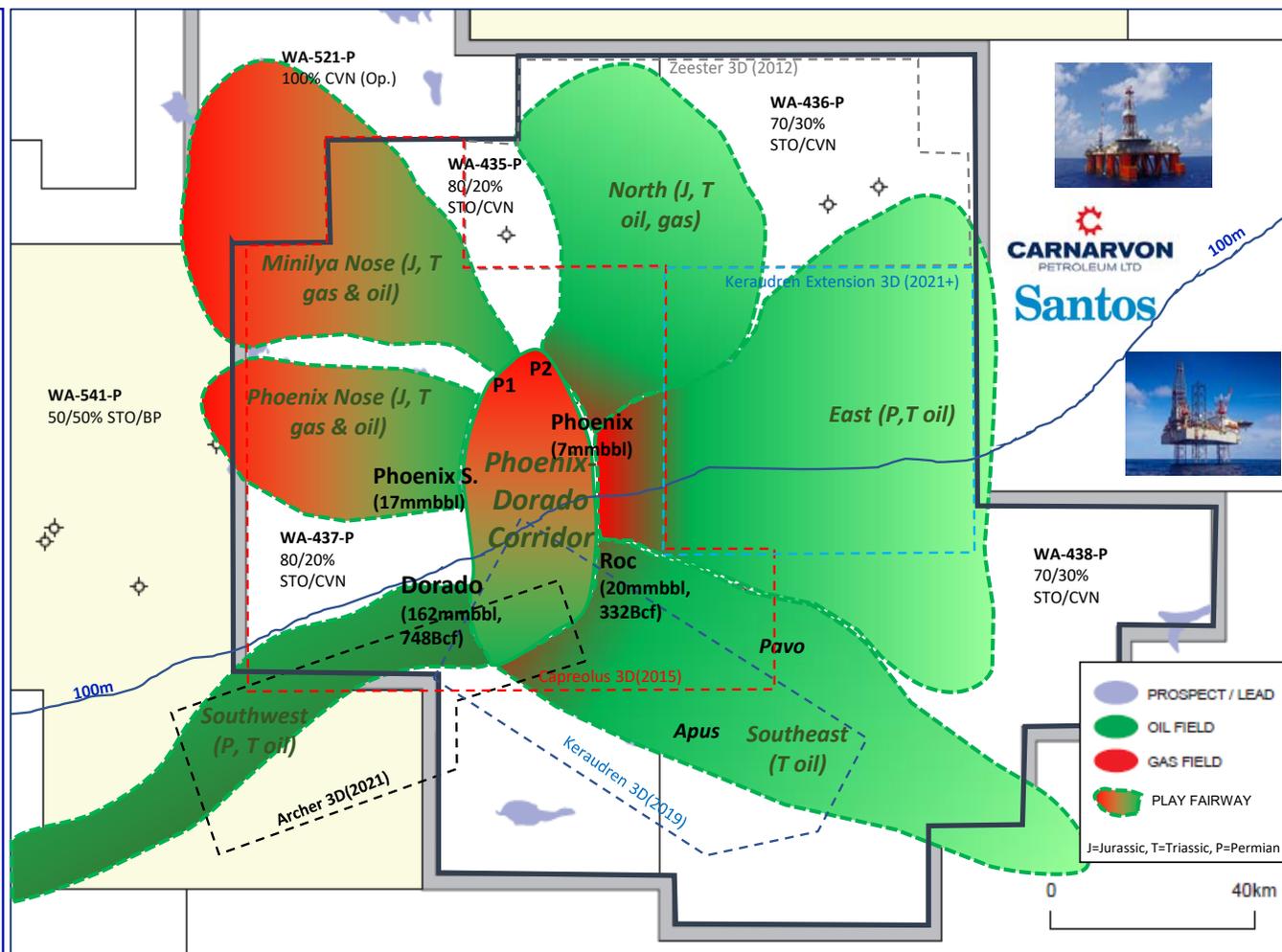
Bedout Basin – Prospectivity Overview

Bedout Basin

- Same area as inner NW Shelf⁺, but exploration is immature;
 - 9 exploration wells in Bedout versus 200+ in inner NW Shelf
 - <1Bboe discovered Bedout versus >10Bboe in inner NW Shelf
- Bedout Basin discoveries* – shallow water
 - Emerging liquids-rich/gas province
 - Excellent success rate to date - 4 out of 9 exploration wells have been discoveries, including 4 of the last 5.
 - Dorado (162mmbbl, 748Bcf)
 - largest NWS oil discovery in the past 30 years
 - FEED late Q2/2021; FID 1H/2022; first oil by late 2025
 - Roc (20mmbbl, 332Bcf)

Bedout 'Core': WA-435/6/7/8-P (22,000 km²) – very significant exploration upside

- This acreage covers the best part of the Bedout Basin
 - Early-formed basin, stable structuring; no disruptive uplift
 - Flat target geology; >90 prospects in 12 plays
 - Clean quartzose reservoirs; excellent preservation at depth
 - Multiple source rocks, some with liquids predominance
 - Low development costs (shallow water, few drilling hazards)
- Only ~6% of area explored - Phoenix-Dorado Corridor (PDC)
- At least six untested play fairways exist around the PDC



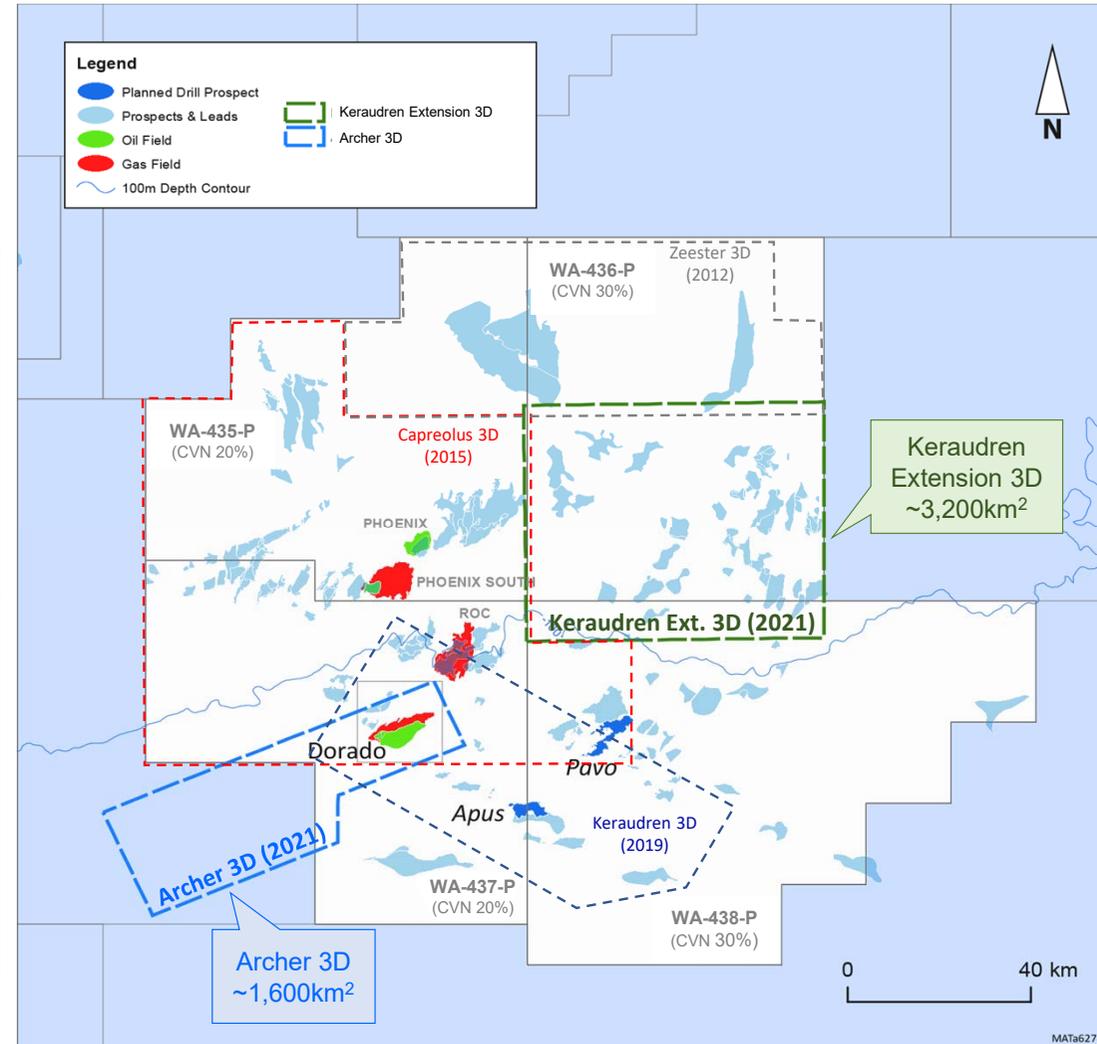
⁺Eastern NW Shelf <200m water depth – ie Alpha Arch, Rankin Platform, Barrow, Dampier sub-basins, shelves)

(*Volumes quoted are Carnarvon Petroleum's 2C volumes)

Bedout Basin: Exploration 3D Seismic

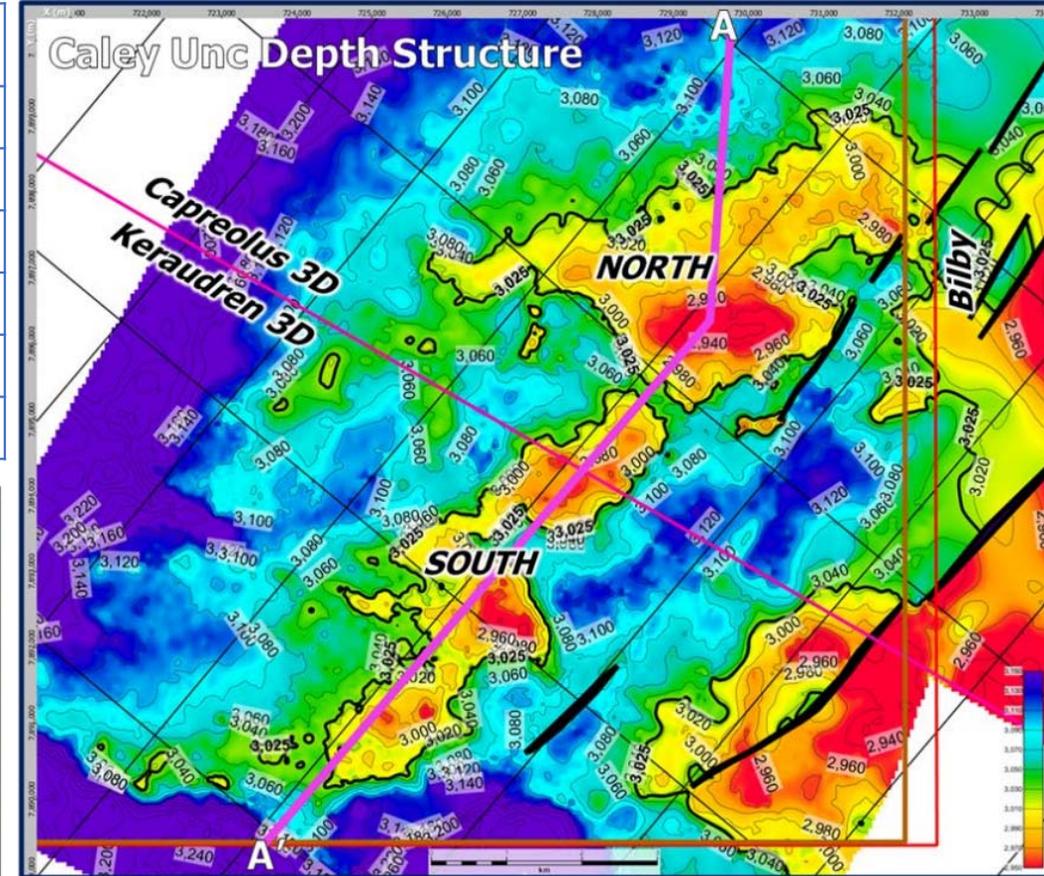
Two 3D seismic surveys (~4,800km² total) to mature Dorado near-field prospects and eastern lead complex

| | |
|--------------------------------------|---|
| <p>Archer 3D</p> | <ul style="list-style-type: none"> 1,600km² Target - Dorado near-field prospects Allows multi-azimuth processing over Dorado field Shared acquisition between WA-437-P and WA-541-P Acquisition completed 1 June 2021 Processed fast-track products available late Q4 2021 |
| <p>Keraudren Extension 3D</p> | <ul style="list-style-type: none"> 3,200km² Target - large group of relatively shallow structural and stratigraphic leads in one of the few remaining areas not yet covered by 3D seismic Focussed in southern WA-436-P (Carnarvon 30%) Acquisition commenced 6 June; duration ~55 days Processed fast-track products available Q1 2022 |



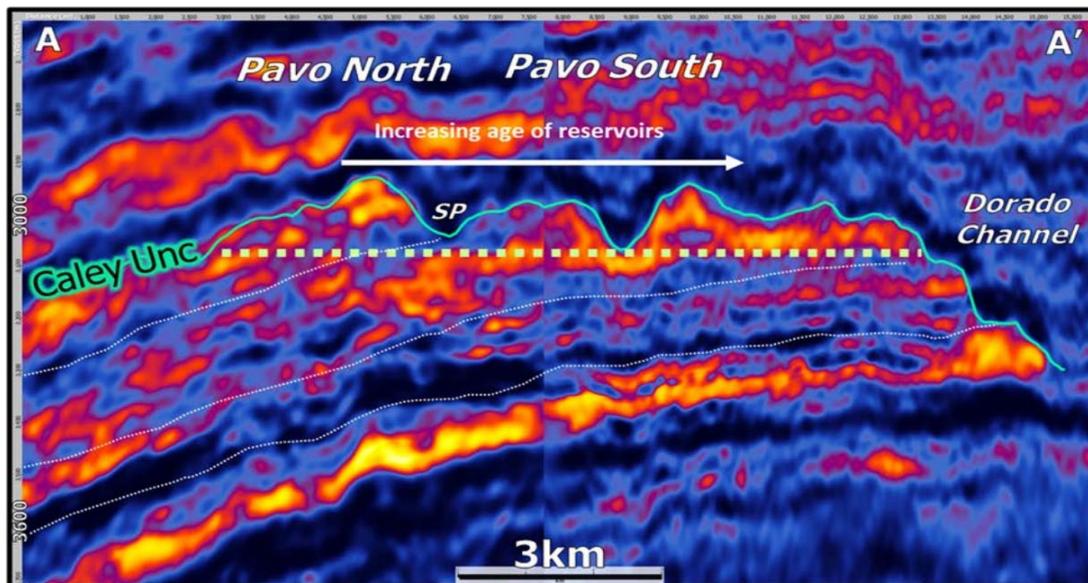
Bedout Basin Drilling - Pavo-1

| | |
|-------------------------|--|
| Location, WD | <ul style="list-style-type: none"> WA-438-P (Santos 70%, Carnarvon 30%) 42km east of Dorado, 88m water depth |
| Rig, Total Depth | <ul style="list-style-type: none"> Noble 'Tom Prosser' jack-up; 4,300m |
| Trap | <ul style="list-style-type: none"> Archer Fm. closure & channel truncation plays |
| Target | <ul style="list-style-type: none"> Caley Member sands under Hove Fm. seal |
| Volumes, Pg* | <ul style="list-style-type: none"> Liquids: 82mmbbl; Gas: 108Bcf (Gross, mean); 34% |
| Key Risks | <ul style="list-style-type: none"> Charge and top-seal |
| Dev't Concept | <ul style="list-style-type: none"> 35-45km subsea tieback to Dorado facility |



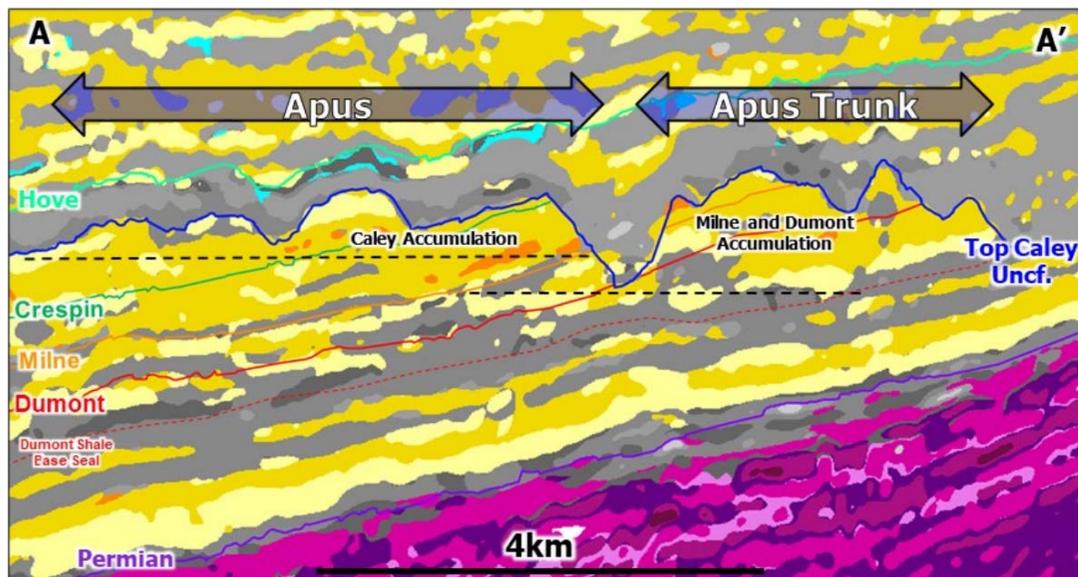
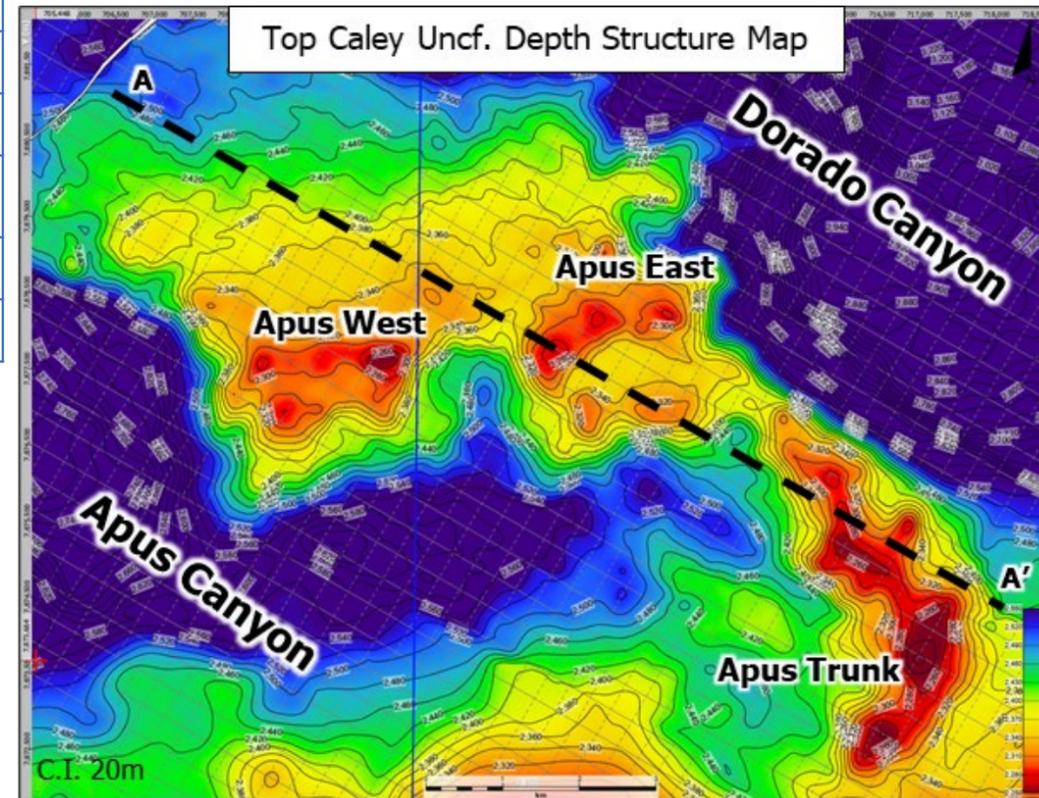
(*Pg = Probability of geological success)

The resources on this slide refer to prospective resources, which are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project and 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.



Bedout Basin Drilling - Apus-1

| | |
|-------------------------|---|
| Location, WD | <ul style="list-style-type: none"> WA-437-P (Santos 80%, Carnarvon 20%) 31km southeast of Dorado, 84m water depth |
| Rig, Total Depth | <ul style="list-style-type: none"> Noble 'Tom Prosser' jack-up; 3,150m |
| Trap | <ul style="list-style-type: none"> Stacked Archer Fm. closure/channel truncation plays |
| Targets | <ul style="list-style-type: none"> Caley & Milne Member sands, Hove Fm. seal |
| Volumes, Pg | <ul style="list-style-type: none"> Liquids: 235mmbbl; Gas: 408Bcf (Gross, mean); 23% <i>(not including Apus Trunk)</i> |
| Key Risks | <ul style="list-style-type: none"> Charge and top-seal |
| Dev't Concept | <ul style="list-style-type: none"> 25-35km subsea tieback to Dorado facility |



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Oil & gas volume summary (contingent resources)

Gross Resources (100% basis)

| | Oil & Condensate | | | Natural Gas | | | Barrels of Oil Equivalent ¹ | | |
|---------------------------------|------------------|------------|------------|-------------|--------------|--------------|--|------------|------------|
| | MMbbl | | | BCF | | | MMboe | | |
| | 1C | 2C | 3C | 1C | 2C | 3C | 1C | 2C | 3C |
| Dorado | 86 | 162 | 285 | 367 | 748 | 1,358 | 176 | 344 | 614 |
| Roc | 12 | 20 | 35 | 205 | 332 | 580 | 48 | 78 | 137 |
| Bedout Project Sub-Total | 98 | 182 | 320 | 572 | 1,080 | 1,938 | 224 | 422 | 751 |

Net Resources (CVN's share)

| | Oil & Condensate | | | Natural Gas | | | Barrels of Oil Equivalent ¹ | | |
|---------------------------------|------------------|-----------|-----------|-------------|------------|------------|--|-----------|------------|
| | MMbbl | | | BCF | | | MMboe | | |
| | 1C | 2C | 3C | 1C | 2C | 3C | 1C | 2C | 3C |
| Dorado | 17 | 32 | 57 | 73 | 150 | 272 | 35 | 69 | 123 |
| Roc | 2 | 4 | 7 | 41 | 66 | 116 | 10 | 16 | 27 |
| Bedout Project Sub-Total | 20 | 36 | 64 | 114 | 216 | 388 | 45 | 85 | 150 |

Oil & gas volume summary (selected prospective resources)

Gross Resources (100% basis)

| | Light Oil | | | | Natural Gas | | | | Barrels of Oil Equivalent | | | | Pg |
|-----------------------------|-----------|------------|------------|------------|-------------|------------|------------|--------------|---------------------------|------------|------------|--------------|-----|
| | MMbbl | | | | BCF | | | | MMboe | | | | % |
| | P90 | P50 | Mean | P10 | P90 | P50 | Mean | P10 | P90 | P50 | Mean | P10 | % |
| Pavo | 11 | 63 | 82 | 179 | 3 | 31 | 108 | 249 | 11 | 68 | 101 | 223 | 34% |
| Apus | 26 | 160 | 235 | 537 | 30 | 211 | 408 | 963 | 31 | 197 | 307 | 706 | 23% |
| Petrus | 12 | 36 | 46 | 90 | 15 | 53 | 79 | 170 | 15 | 46 | 59 | 120 | 29% |
| Kepler | 3 | 8 | 12 | 26 | 3 | 12 | 21 | 47 | 3 | 10 | 16 | 34 | 30% |
| Bedout Project Total | 52 | 267 | 375 | 832 | 51 | 307 | 616 | 1,429 | 60 | 321 | 483 | 1,083 | |

Net Resources (CVN's share)

| | Light Oil | | | | Natural Gas | | | | Barrels of Oil Equivalent | | | | Pg |
|-----------------------------|-----------|-----------|-----------|------------|-------------|-----------|------------|------------|---------------------------|-----------|------------|------------|-----|
| | MMbbl | | | | BCF | | | | MMboe | | | | % |
| | P90 | P50 | Mean | P10 | P90 | P50 | Mean | P10 | P90 | P50 | Mean | P10 | % |
| Pavo | 3 | 19 | 25 | 54 | 1 | 9 | 32 | 75 | 3 | 20 | 30 | 67 | 34% |
| Apus | 7 | 40 | 59 | 134 | 7 | 53 | 102 | 241 | 8 | 49 | 77 | 177 | 23% |
| Petrus | 2 | 7 | 9 | 18 | 3 | 11 | 16 | 34 | 3 | 9 | 12 | 24 | 29% |
| Kepler | 1 | 2 | 2 | 5 | 1 | 2 | 4 | 9 | 1 | 2 | 3 | 6 | 30% |
| Bedout Project Total | 13 | 68 | 95 | 211 | 12 | 75 | 154 | 359 | 15 | 80 | 122 | 274 | |

(i) Note Apus prospect lies across WA-437-P and WA-438-P in which Carnarvon has 20% and 30% equity respectively

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