

DECEMBER 2021

# Onshore SA Otway Basin

## Nangwarry CO<sub>2</sub> – a very nice consolation prize



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## **Competent Persons Statement**

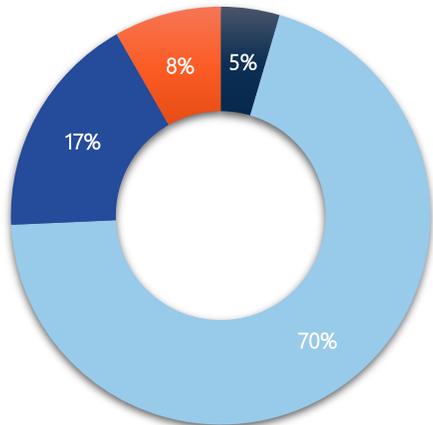
The resource estimates in this report have been compiled by Neil Gibbins, Managing Director, Vintage Energy Limited. Mr. Gibbins has over 35 years of experience in petroleum geology and is a member of the Society of Petroleum Engineers. Mr. Gibbins consents to the inclusion of the information in this report relating to hydrocarbon Contingent and Prospective Resources in the form and context in which it appears. The Contingent and Prospective Resource estimates contained in this report are in accordance with the standard definitions set out by the Society of Petroleum Engineers, Petroleum Resource Management System.

# Vintage Energy

Active operational period delivering success through the drill bit; 100% success from wells drilled

- Oil and gas exploration and appraisal success
  - Four Cooper Basin gas wells (two exploration)
  - One onshore Otway Basin CO<sub>2</sub> gas well
- Management and technical staff with proven onshore basin exploration success
- Numerous upcoming share price catalysts
- Supportive share register with increased retail component

## Share Register Breakdown

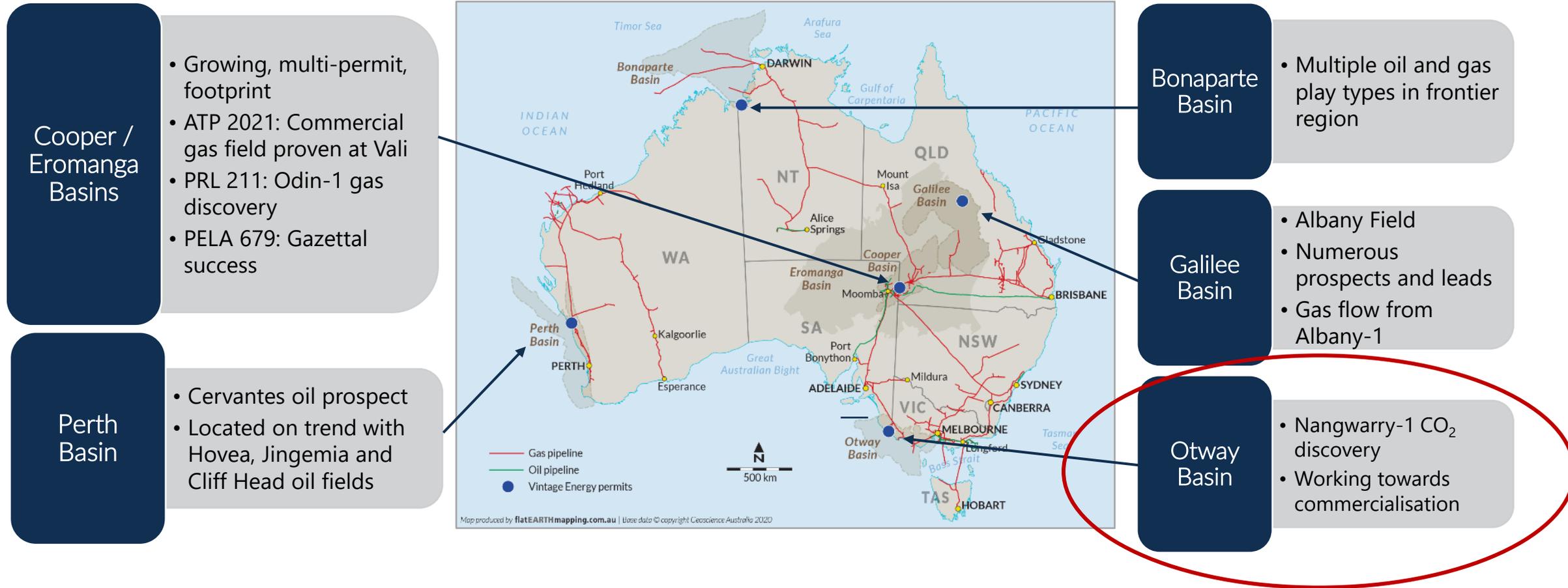


- Institutional – International
- Retail
- Institutional – Australia
- Board and management



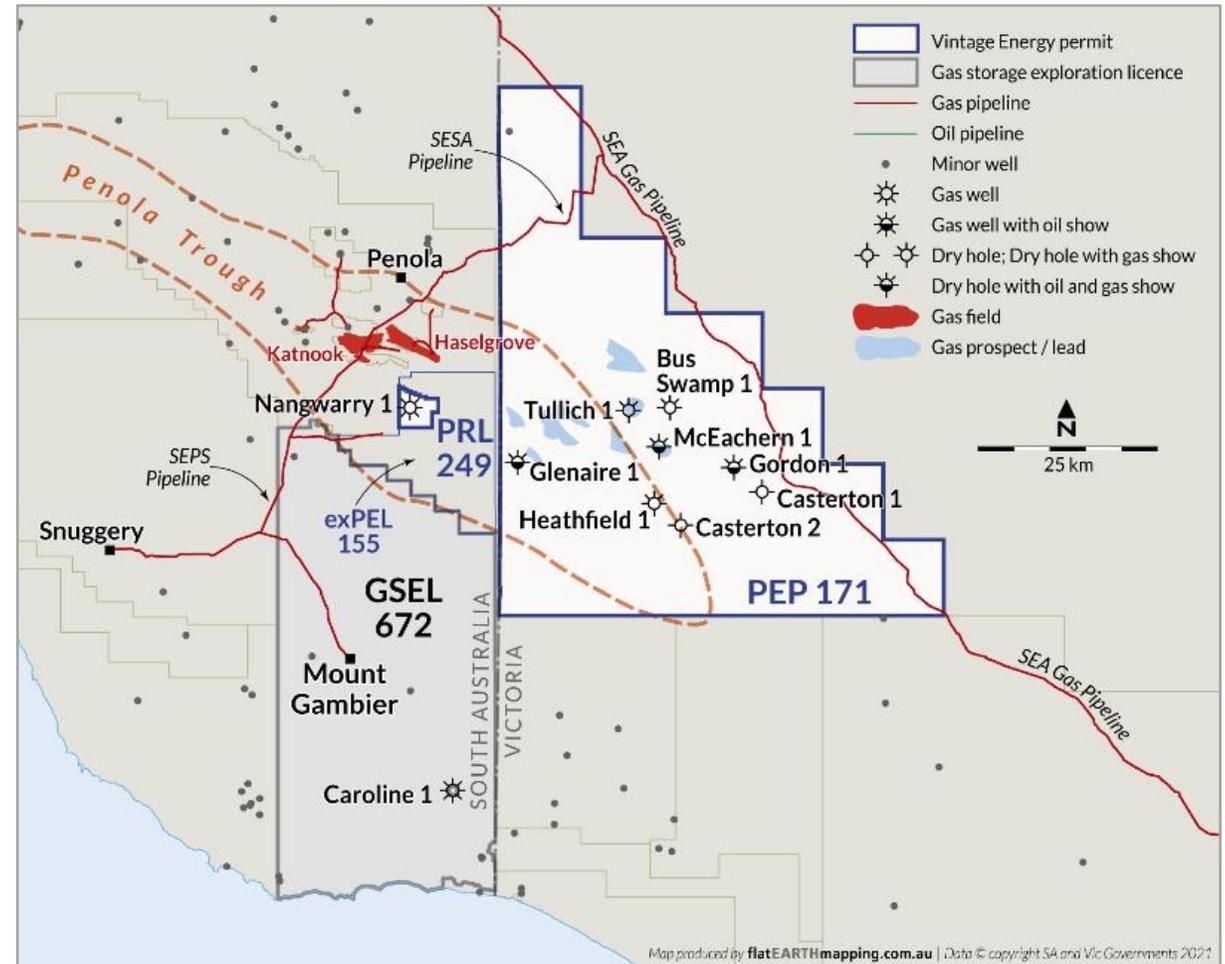
# Quality portfolio of permits

Geographically diverse and gas focused portfolio; cash flow anticipated in H1 2021

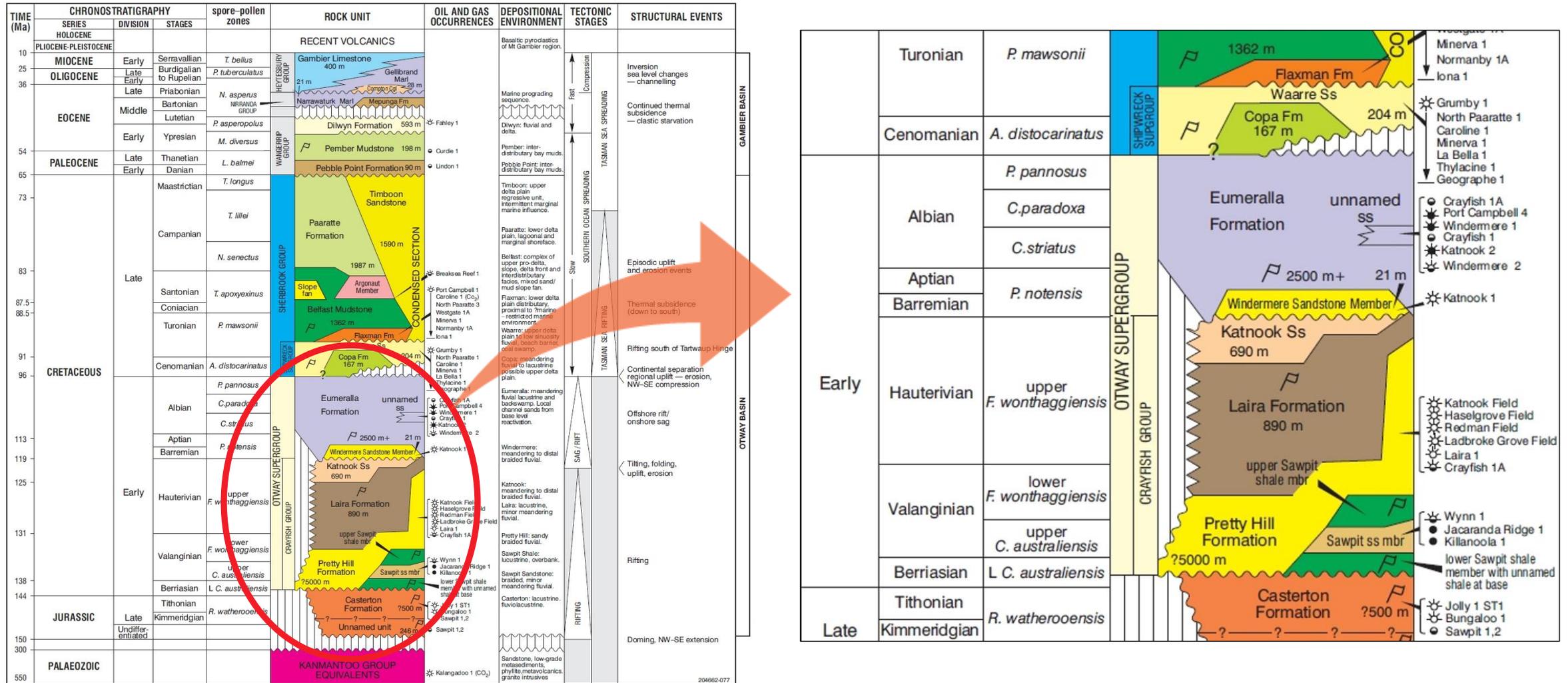


# PEL 155/PRL 249 Overview

- PEL 155 was a 226 km<sup>2</sup> South Australian Petroleum Exploration License (PEL), originally granted 30 June 2003 and expired on 4 May 2021
- Before the license expired the Joint Venture (JV) partners drilled the Nangwarry-1 exploration well, making a CO<sub>2</sub> gas discovery, and applied for and were granted a Petroleum Retention Licence (PRL 249) over the Nangwarry CO<sub>2</sub> discovery
- The PEL was and the PRL is held by a JV of Otway Energy (subsidiary of Rawson Resources/Lakes Blue Energy) 50% and operator, and Vintage Energy 50%
- There is a 10% wellhead State royalty on oil, gas and CO<sub>2</sub>
- All license commitments have been satisfied and the PRL is in good standing
- To July 2021 the JV has spent \$19.2 million in PEL 155/PRL 249, which includes a \$4.95 million SA Govt. PACE Gas Grant which facilitated the drilling of the well

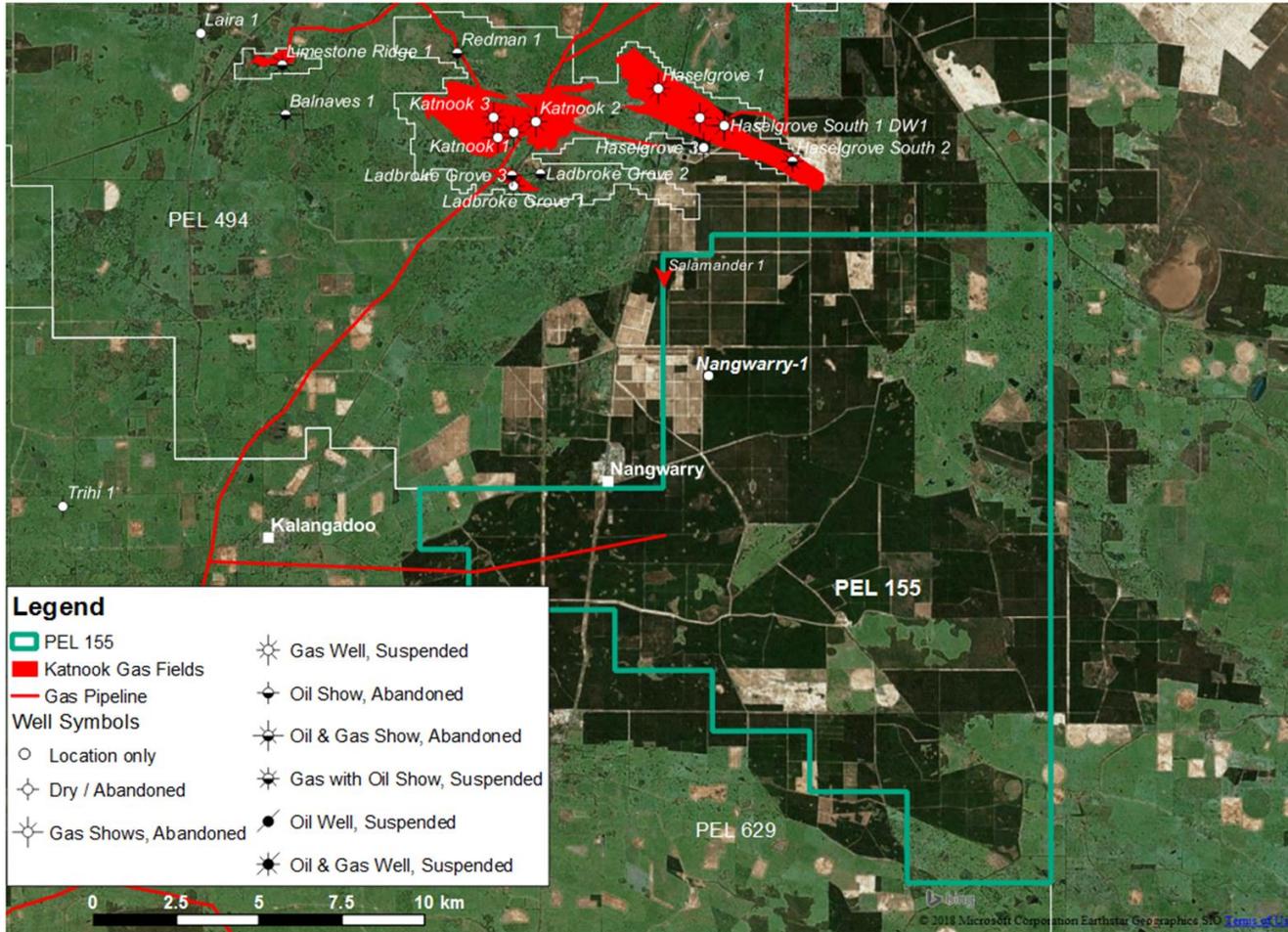


# Otway Stratigraphic Column with Oil and Gas Results

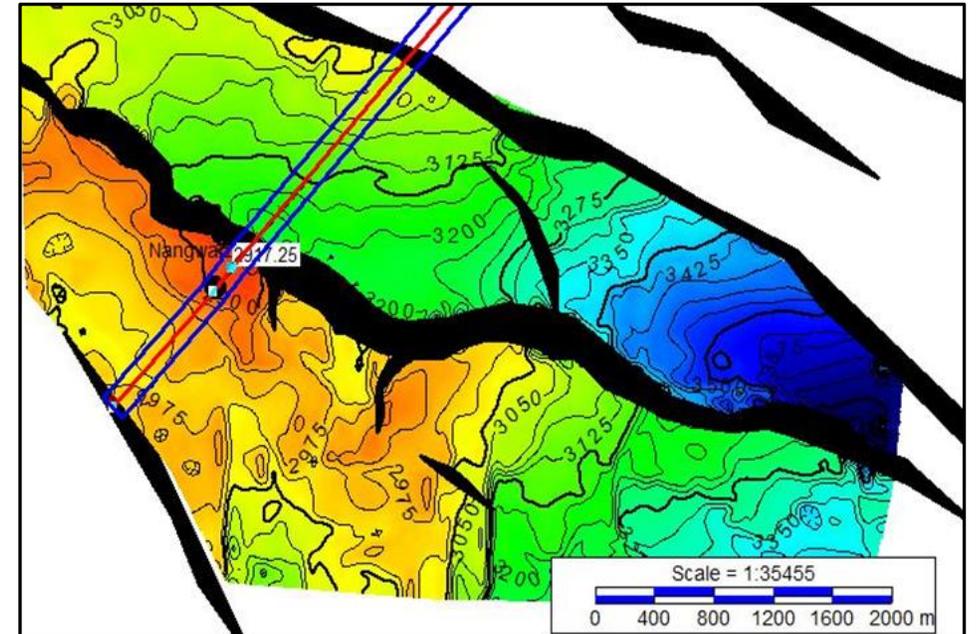


Stratigraphic section of the Otway Basin – courtesy of DEM website

# Nangwarry-1 Location and Depth Maps

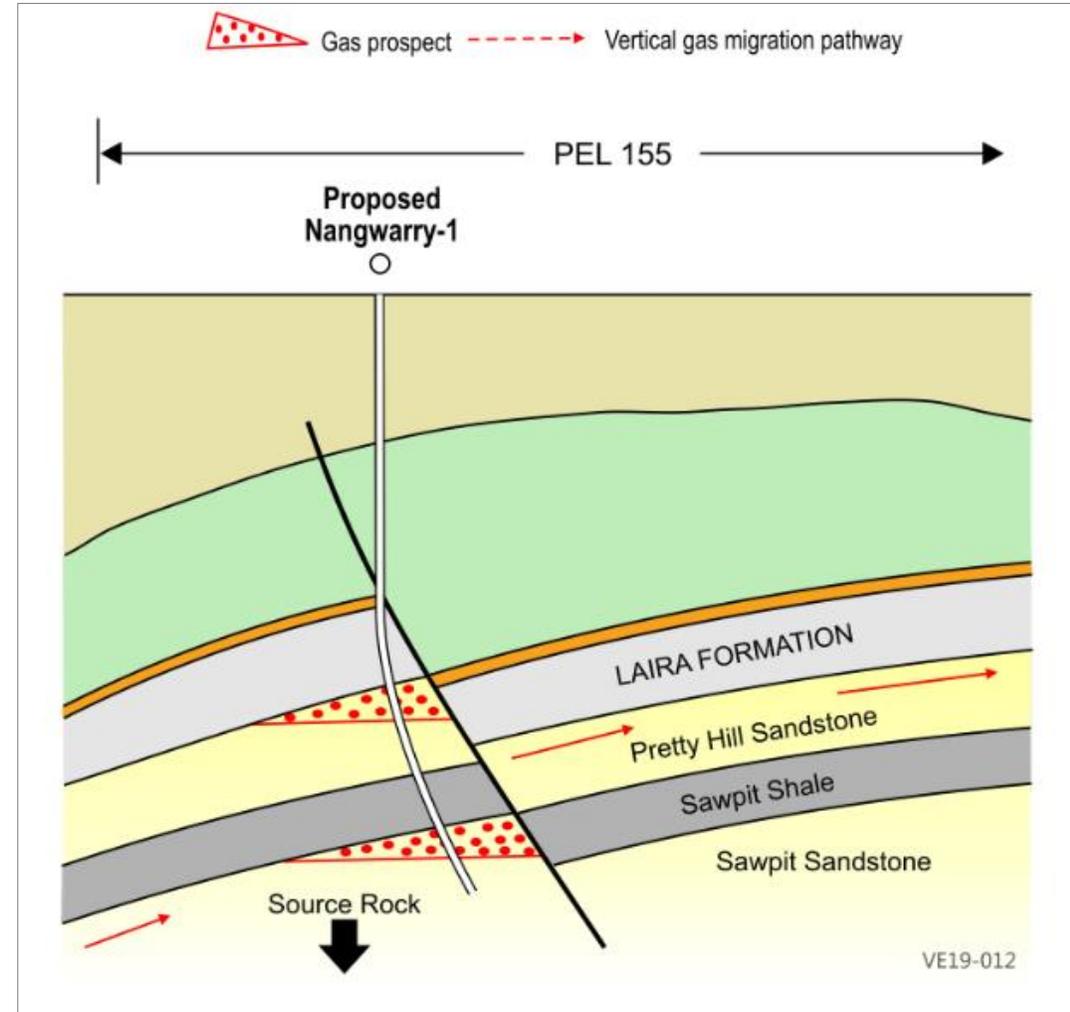
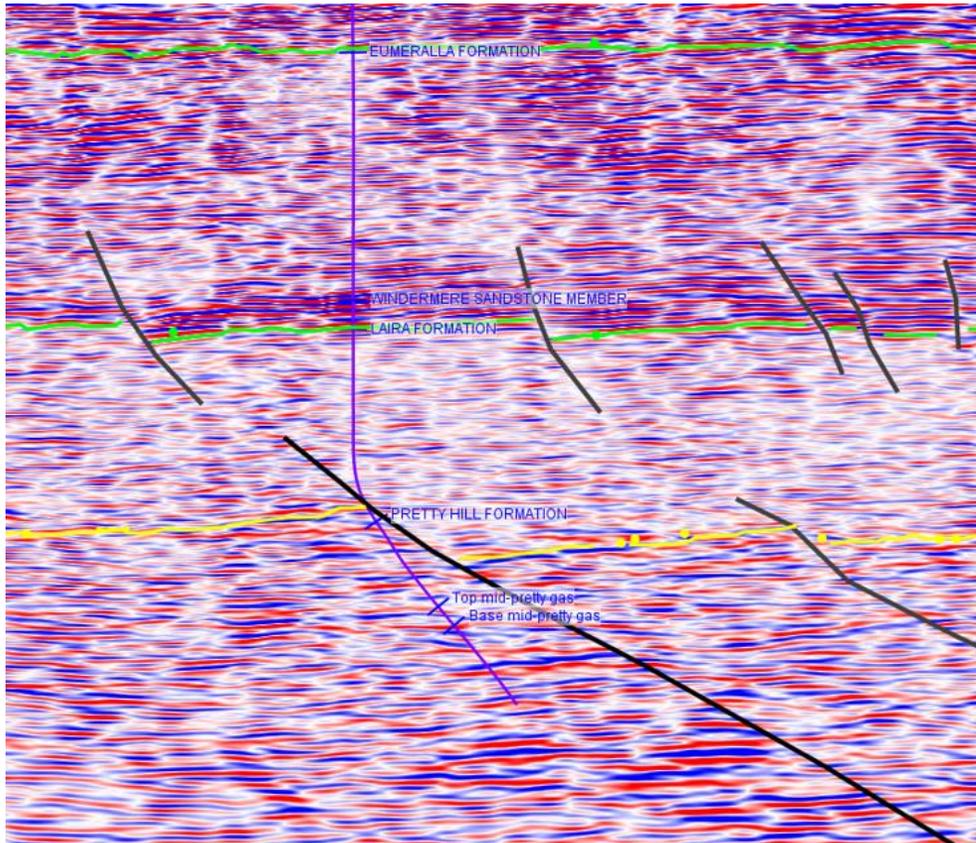


Nangwarry-1 Location Map



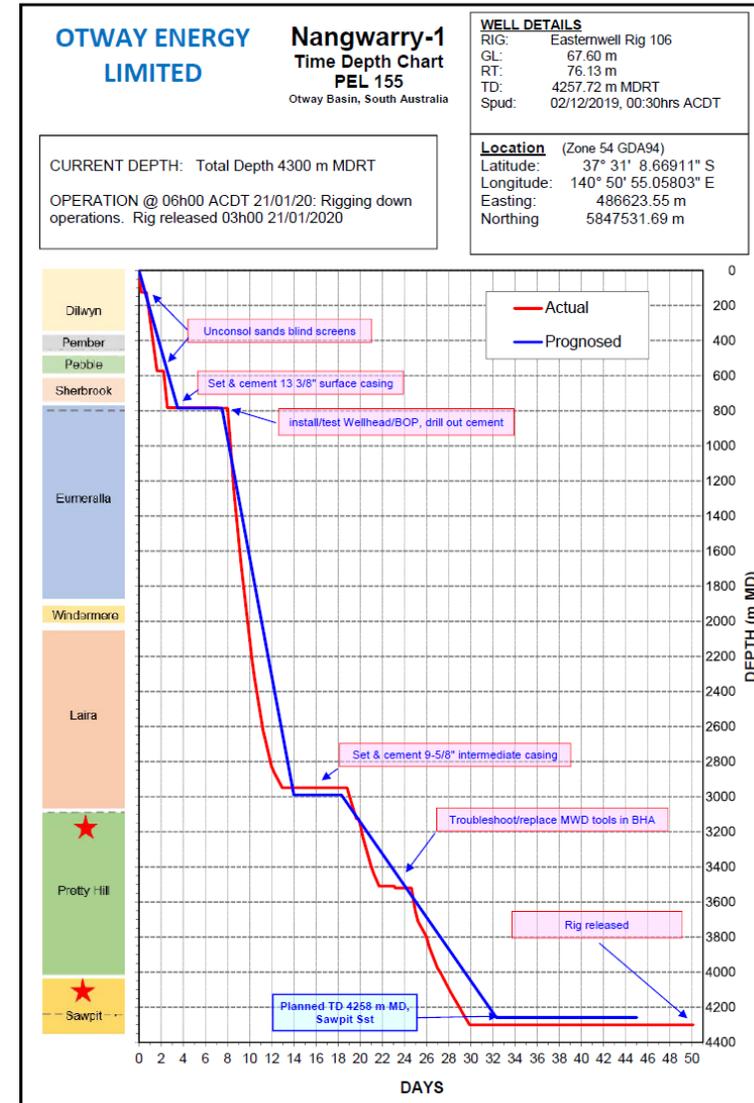
Near Top Pretty Hill Sst, Depth Map

# Nangwarry Prospect Seismic Section – fortune favours the bold



# Nangwarry-1 Time Depth Chart

- Well operated by Otway Energy, managed by Schlumberger-IDS and drilled with Easternwell Rig 106 – a successful well in a difficult basin
- 17 1/2" hole drilled to 782m MDRT, then 13 3/8" surface casing set
- 12 1/4" hole drilled to 2949m MDRT, ran intermediate logs and then 9 5/8" intermediate casing set
- 8 1/2" hole drilled to 4300m MDRT, ran production logs and MDTs then 7" liner set
- Well drilled, evaluated and cased in 50 days, at a cost of ~\$16.14 million



# 2021 Extended Production Test

- In late March 2021 the JV conducted a very successful Extended Production Test (EPT) of the Nangwarry-1 CO<sub>2</sub> reservoir sands
- Choked back flow rates of approximately 11 million standard cubic feet per day (“MMscfd”) were observed during an extended flow period at a relatively stable wellhead pressure of 1,415 psi
- The well also delivered rates as high as 22 MMscfd (from choke calculations) over shorter periods.
- The EPT indicated a CO<sub>2</sub> column of at least 120m at the Top Pretty Hill Sandstone



Superior Energy rig at the Nangwarry-1 site

# Gas analysis of Nangwarry-1 combined flow 2-4-21

- Petrolab gas analysis from sample taken from steady flow of 10.6 MMscf/d on 2<sup>nd</sup> April 2021
- No H<sub>2</sub>S was detected in any of the samples
- This gas is excellent feedstock for a CO<sub>2</sub> plant

RESULTS   ANALYSIS OF NATURAL GAS BY GAS CHROMATOGRAPHY (GC) - (ASTM D1945, LAB-PRO-019)			
Cylinder # :		EE 3947	
		SID 106172	
Component		Mol %	GPM Content
Hydrogen Sulphide	H <sub>2</sub> S	0.00	
Carbon Dioxide	CO <sub>2</sub>	93.34	
Nitrogen	N <sub>2</sub>	0.80	
Methane	C <sub>1</sub>	5.76	
Ethane	C <sub>2</sub>	0.07	0.019
Propane	C <sub>3</sub>	0.03	0.008
Iso-Butane	iC <sub>4</sub>	0.00	0.000
N-Butane	nC <sub>4</sub>	0.00	0.000
Iso-Pentane	iC <sub>5</sub>	0.00	0.000
N-Pentane	nC <sub>5</sub>	0.00	0.000
Hexanes	C <sub>6</sub>	0.00	0.000
Heptanes	C <sub>7</sub>	0.00	0.000
Octanes	C <sub>8</sub>	0.00	0.000
Nonanes	C <sub>9</sub>	0.00	0.000
Decanes	C <sub>10</sub>	0.00	0.000
Undecanes	C <sub>11</sub>	0.00	0.000
Dodecanes Plus	C <sub>12+</sub>	<u>0.00</u>	<u>0.000</u>
		Σ 100.00	Σ 0.027

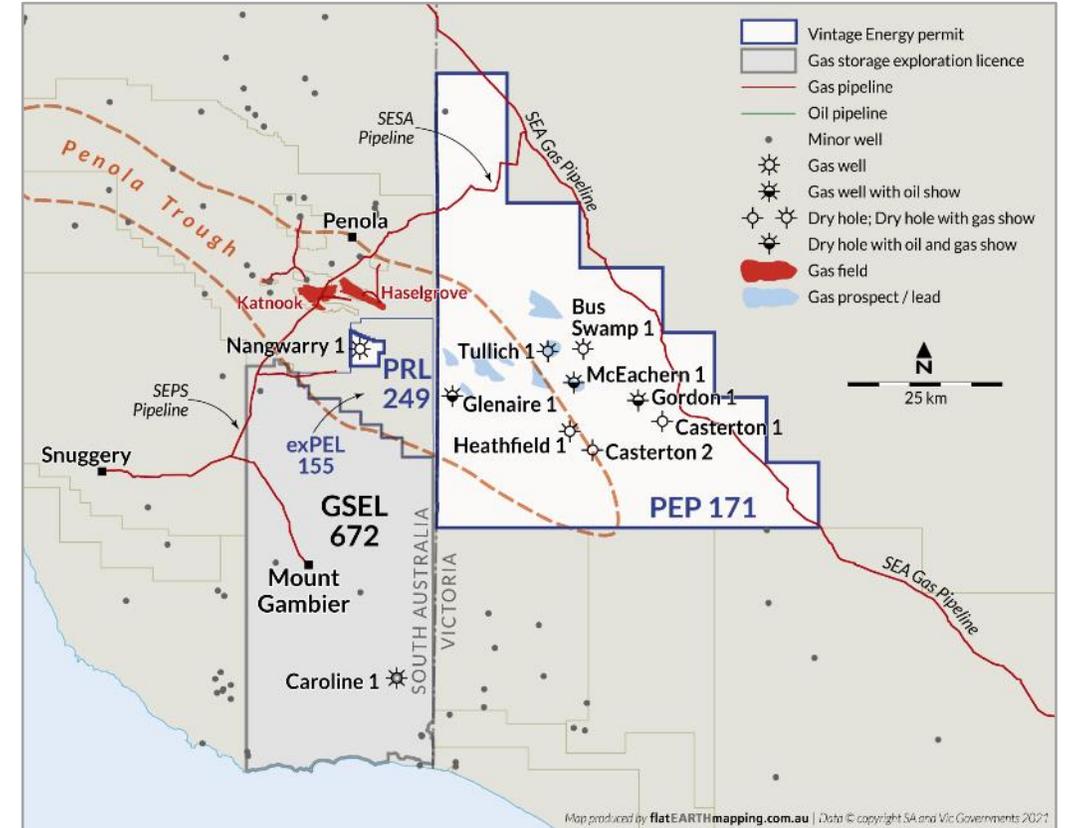
# Nangwarry Certified Recoverable CO<sub>2</sub> and Contingent Resources

## PRL 249 (ex-PEL 155)

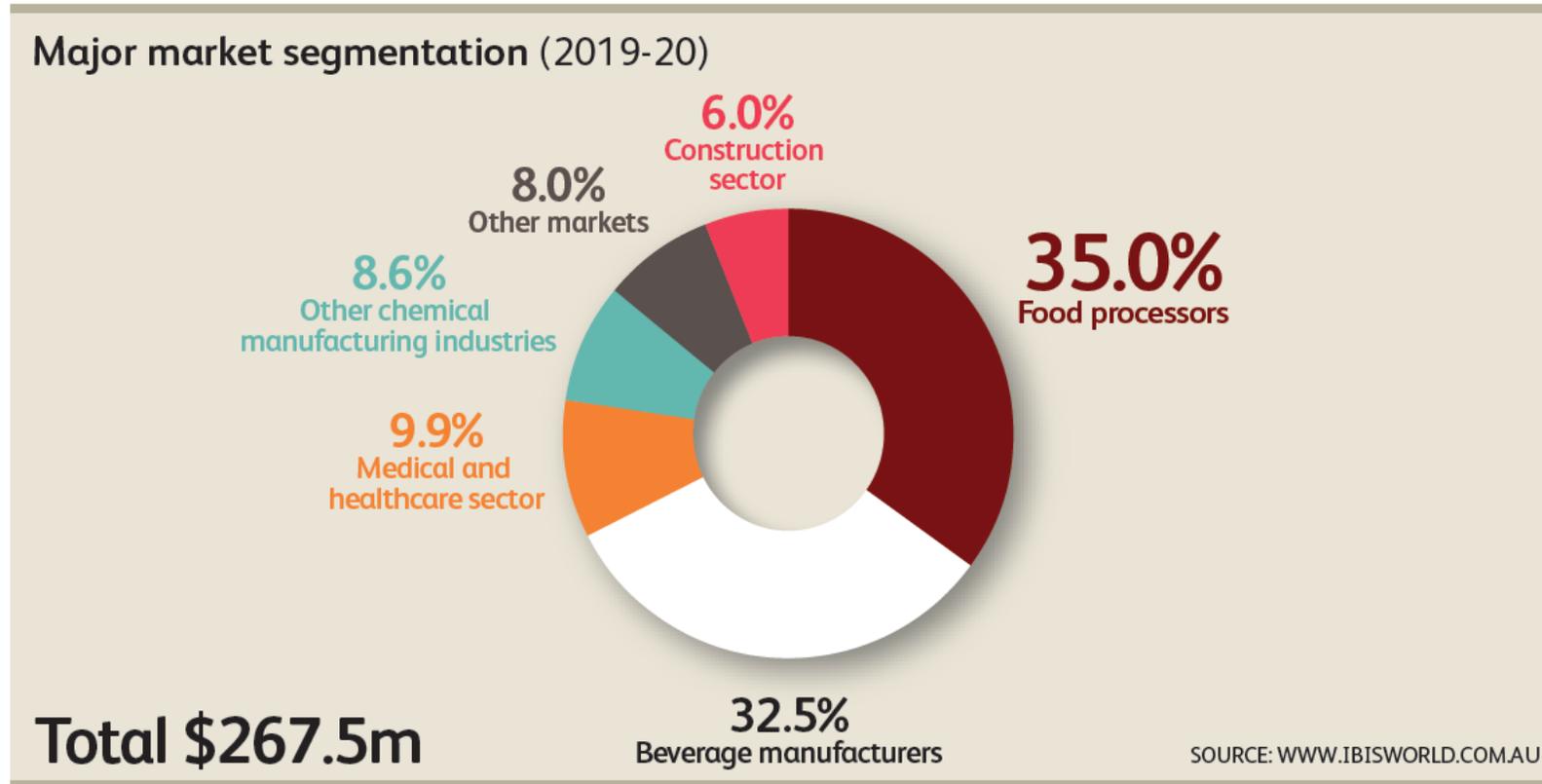
- Nangwarry CO<sub>2</sub> discovery potentially capable of commercial production for 30+ years
- The recoverable CO<sub>2</sub> Sales Gas volumes calculated and independently certified are shown below
- It is likely that the Contingent Resources will be consumed in operations, as fuel for the proposed CO<sub>2</sub> plant

Nangwarry Field <sup>1</sup>						
	Gross On-block Recoverable CO <sub>2</sub> Sales Gas (Bcf)			Gross Gas Contingent Resources (Bcf)		
	Low	Best	High	1C	2C	3C
Pretty Hill Sandstone	9.0	25.9	64.4	0.5	1.6	4.1
Net On-block Recoverable CO <sub>2</sub> Sales Gas (Bcf) <sup>2</sup>				Net Gas Contingent Resources (Bcf)		
Pretty Hill Sandstone	4.5	12.9	32.2	0.3	0.8	2.0

1 Refer to Vintage ASX release dated 12 July 2021  
 2 Vintage net (Vintage and Lakes 50% interest each)



# CO<sub>2</sub> industry segmentation



2019-20 estimates are that between 340,000-540,000 tonnes of CO<sub>2</sub> per year are consumed in Australia.

# Nangwarry Field commercialisation

Production to replace recently decommissioned Caroline-1 well

- Ongoing negotiations regarding food grade CO<sub>2</sub> processing and offtake
- No further wells required to develop Nangwarry Field, just the processing facility
- Nangwarry Field would replace the recently shut-down (2017) Caroline-1 well, which was on production for ~50 years
- Many industrial uses for food grade CO<sub>2</sub> including:
  - Carbonation of soft drinks, fruit juices and beer
  - Winemaking
  - Medical devices
  - Cold storage / refrigeration
  - Accelerating growth of farm produce as an atmosphere additive
  - Building products



Photograph courtesy of GLP, depicting a CO<sub>2</sub> plant