



ASX : EMP

# Emperor Energy Limited

Presentation February 2019

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Information on the Reserves and Resources on the Company's operated assets in this release are based on an independent evaluations conducted by RISC and 3D-Geo Pty Ltd (3D-Geo) as referenced. RISC and 3D-Geo are independent geoscience consultancy enterprises.

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# Summary

- Emperor Energy holds 100% interest in three Australian petroleum concessions.
- Vic /P47, in the offshore Gippsland Basin, contains the Judith-1 gas discovery.
- Completion of petrophysical and well log evaluations, seismic interpretation of reprocessed 3D seismic data, static and dynamic reservoir modelling, and an independent resource assessment, confirm that the Judith structure has the potential for future commercialisation as a brownfields gas development via existing third party infrastructure.
- This presents EMP with new optionality in regard to its future directions, given that monetization will require substantial funding for drilling appraisal, feasibility and development scenarios.
- EMP's onshore Canning and Offshore Carnarvon assets provide attractive, but non-core potential.
- EMP has received expressions of interest from various parties seeking potential JV or sale-purchase opportunities for its Vic /P47 interests. This includes a written non-binding proposal which the Board currently considers it inadequate. Nevertheless, despite pursuing its own opportunities of funding Vic/P47, the Board remains realistic in its capacity to raise adequate funding to advance the opportunity on its own and is actively seeking third party involvement.
- Likewise, the Board has received an opportunity to participate in a new venture. No decisions have been made but again these will be considered on its merits. This includes a possible joint venture or purchase and refurbishment of a previously operational biodiesel refining facility, located at Moana in southern New South Wales.
- Any decisions by the Board involving transacting either current major assets or the acquisition or participation in new major assets will only follow appropriate due diligence, regulatory and shareholder approvals.

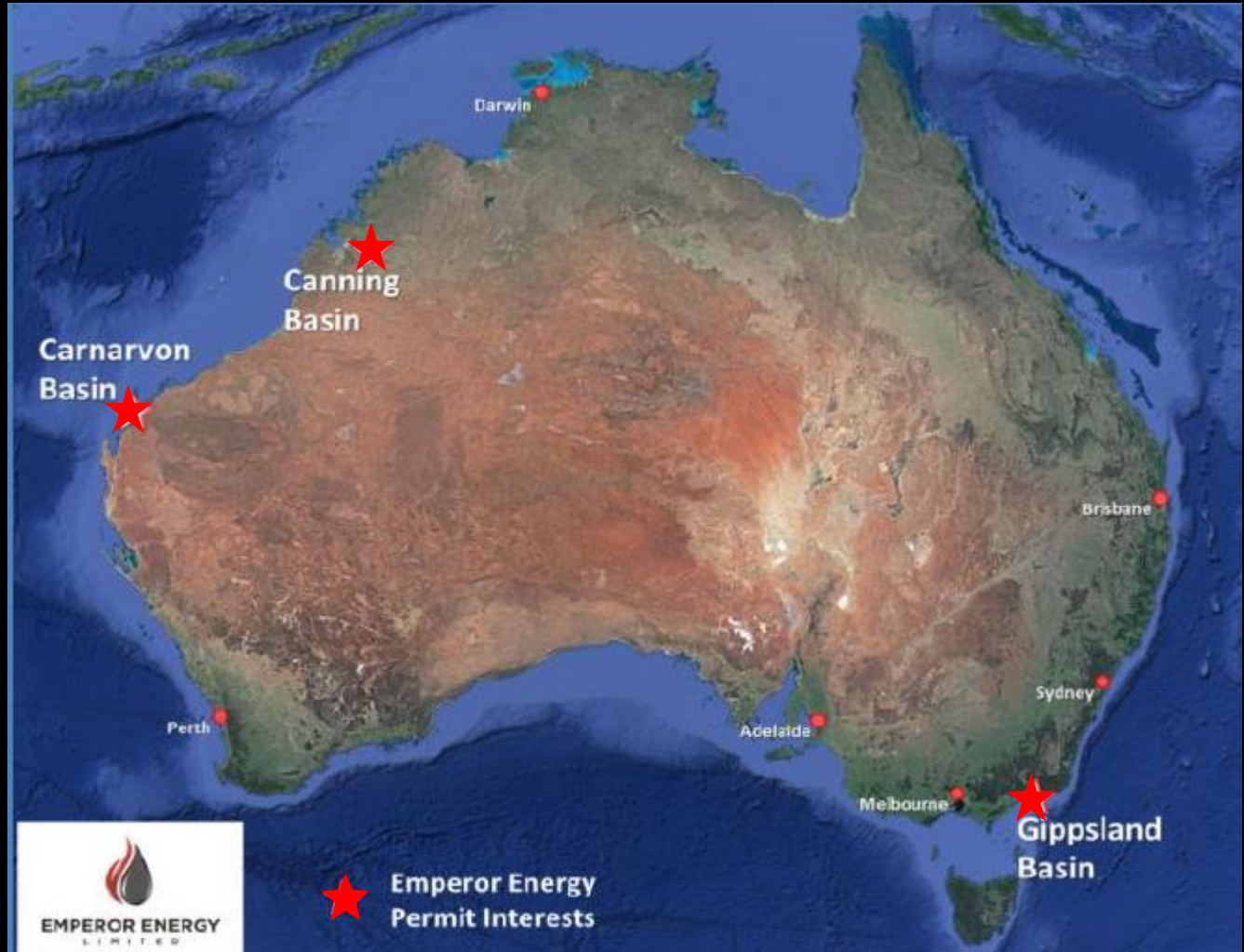


# EMP Portfolio

## Portfolio Assets

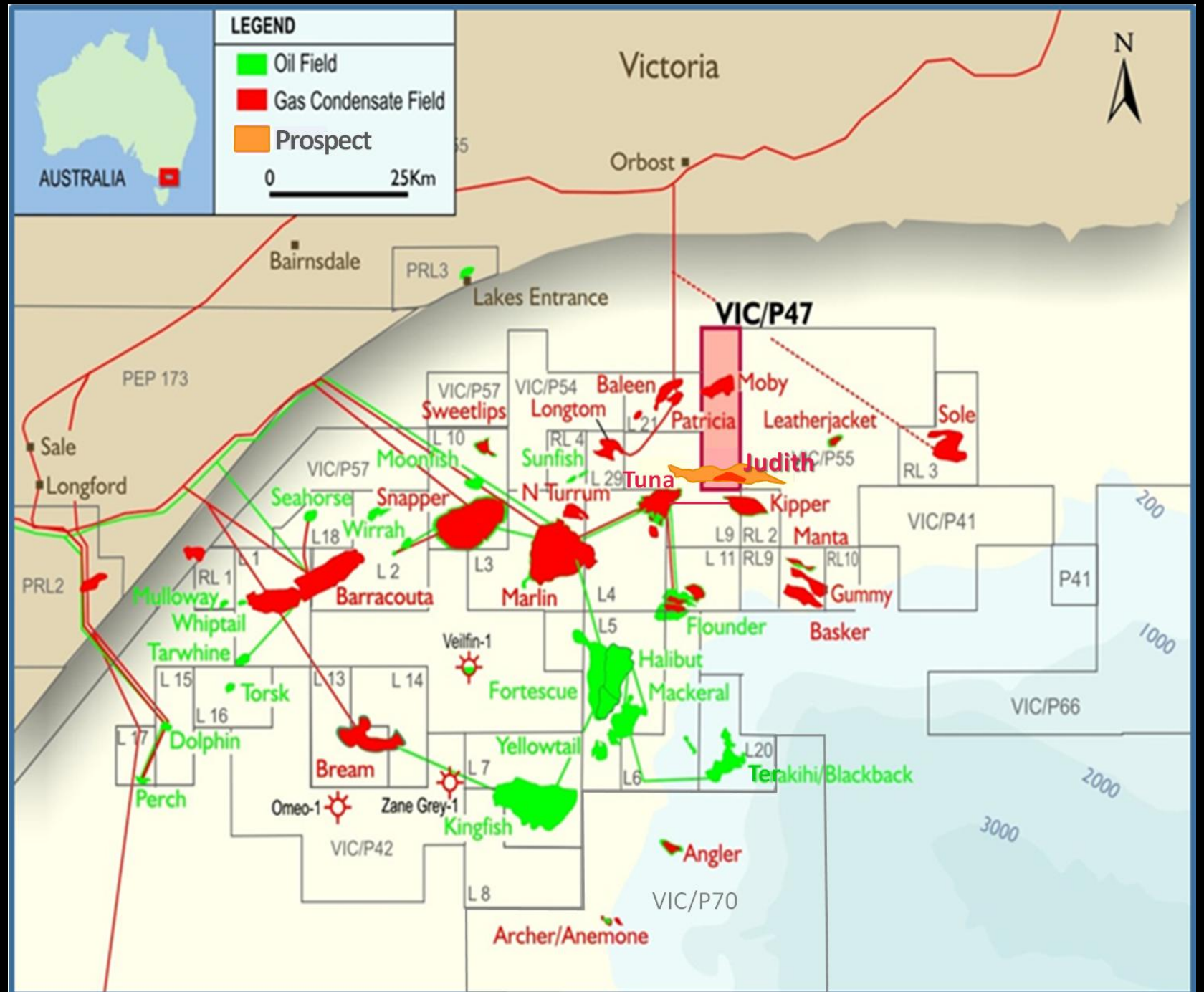
	Type	Location	Ownership
Vic / P47	Exploration Permit	Offshore Gippsland	100%
Backreef	Exploration Area	Onshore Canning	100%
R1/R3	Retention Lease	Offshore Carnarvon	100%

EMP holds 100% interest in each of its three Australian assets.



# Vic /P47 Gippsland Basin

Vic P/47 represents an up-stream entry opportunity into the lucrative Australian east coast gas market.





# Vic /P47 Gippsland Basin

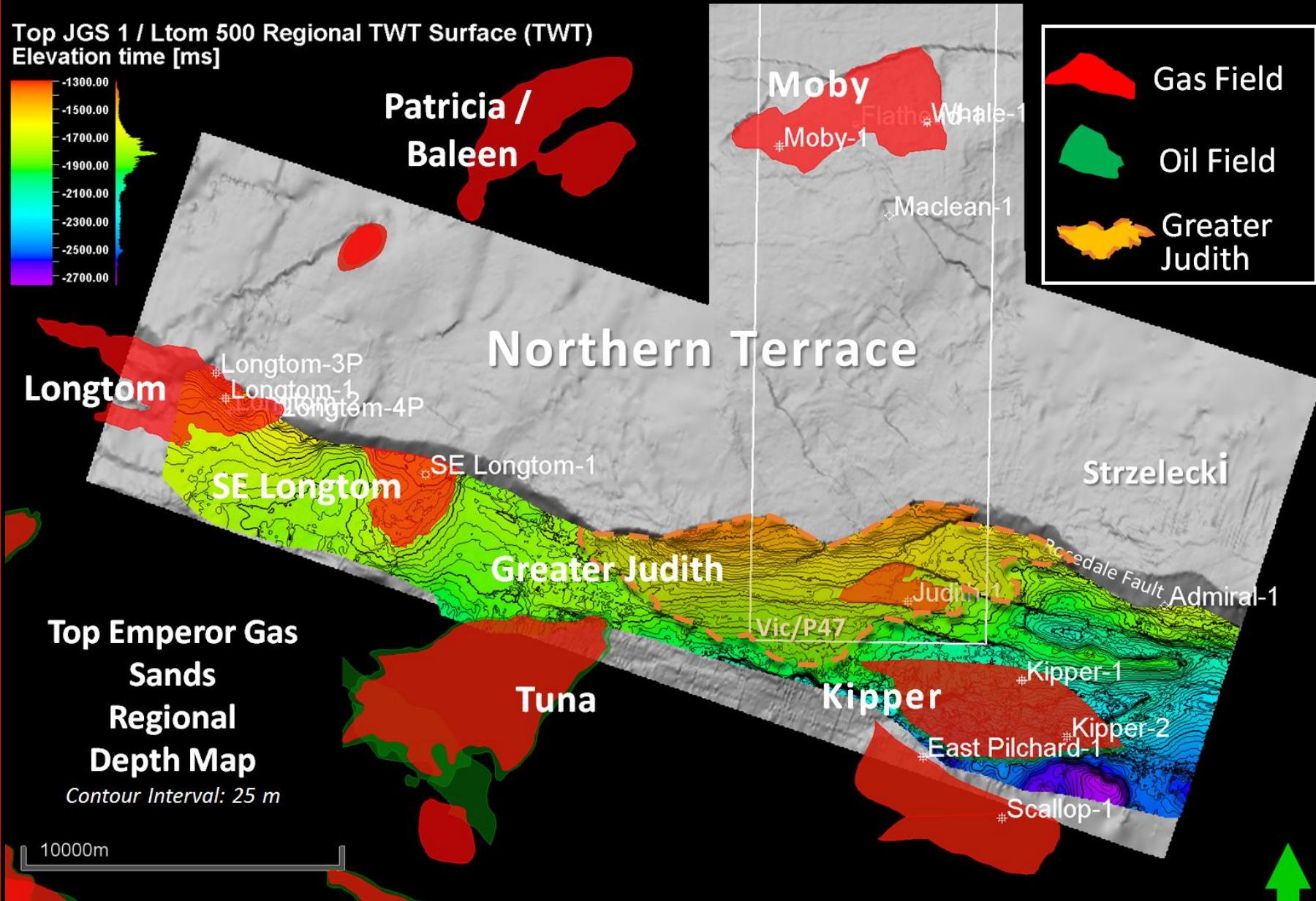
Vic P/47 represents an up-stream entry opportunity into the lucrative Australian east coast gas market.

- Vic /P47 covers 202 km<sup>2</sup> across the northern flank of Gippsland Basin.
- The Permit is located in shallow water, 20 - 85 m depth.
- Awarded 100% to EMP with 5 year renewal from February 2018.
- Extensive 2D/3D seismic coverage and two gas discovery wells: Judith-1 (1989) and Moby-1 (2006).
- Shell's Judith-1 confirmed 444 m of gross gas column and 222 m of net gas pay in fluvial sands in the Admiral Formation (Emperor Sub-Group).
- Although adjacent to a number of producing fields, these fluvial sands typically have relatively low permeabilities and were once regarded as incompatible with commercial gas development.
- However Longtom-3, drilled as a horizontal well 22 km to the east in 2006, provided a compelling basis for rethinking the Judith-1 results following production of > 77 MCF/D from sands in the Admiral Formation.
- Subsequent interpretation of reprocessed 3D seismic also confirmed that the gas accumulation penetrated in Judith-1 may be implicated substantially up-dip from Judith-1 across the "Greater Judith Structure".
- This structure comprises several fault bound compartments forming a structural nose, down-faulted against the regional Rosedale Fault.



# Vic /P47 Gippsland Basin

Vic /P47 encompasses a prospective portion of the Gippsland Basin's northern flank where it is surrounded by producing oil and gas fields.



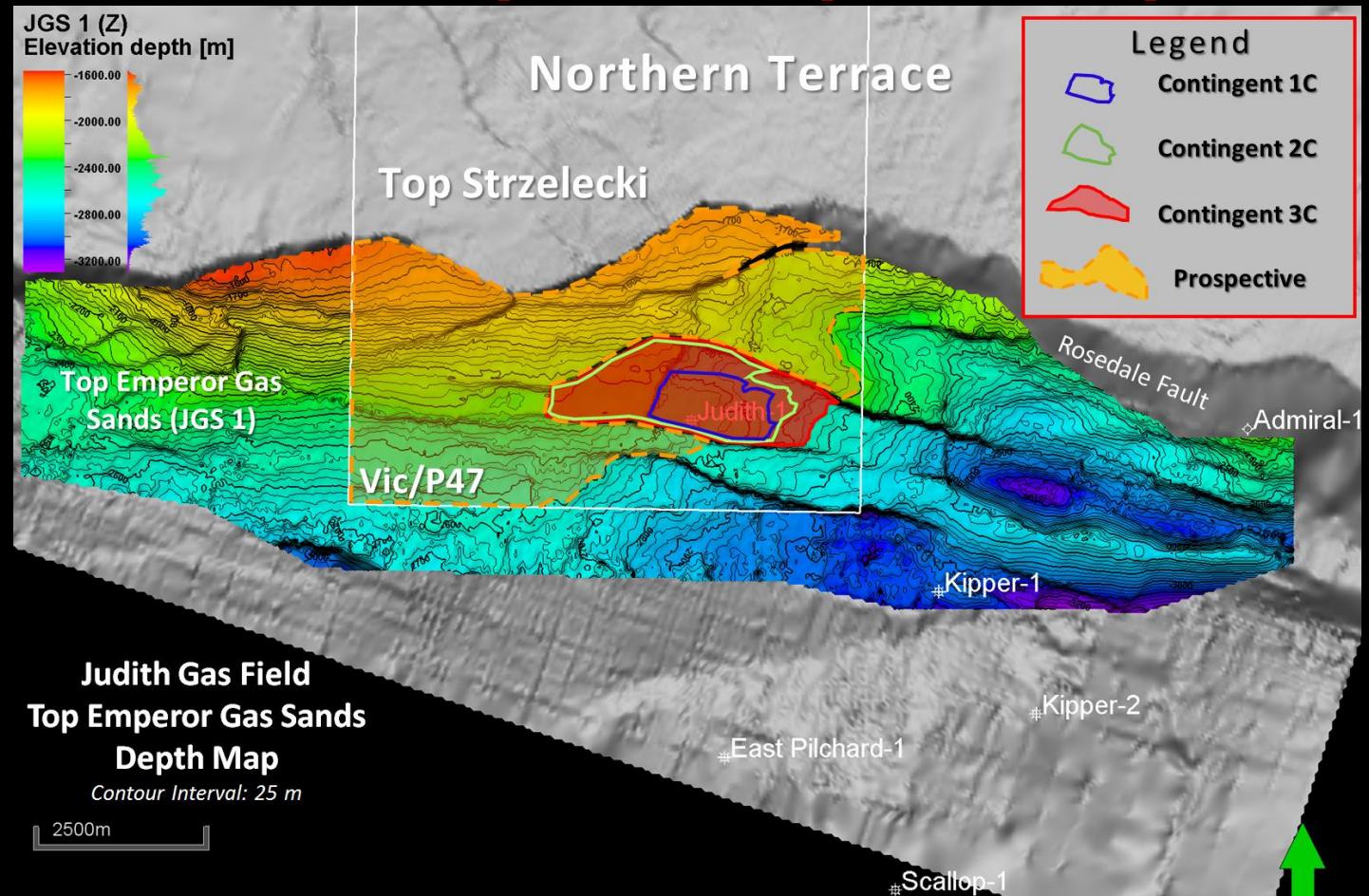
# Vic /P47 Gippsland Basin

Independent resource estimates of the Judith#1 gas discovery completed for EMP by RISC in November 2018.

## Judith Gas Discovery

## Contingent Resources<sup>1</sup>

	Low 1C	Best 2C	High 3C
GIIP (Bcf)	85	229	302
Sales Gas(Bcf)	34	122	202
Central (MMbbl)	0.6	1.3	3.8



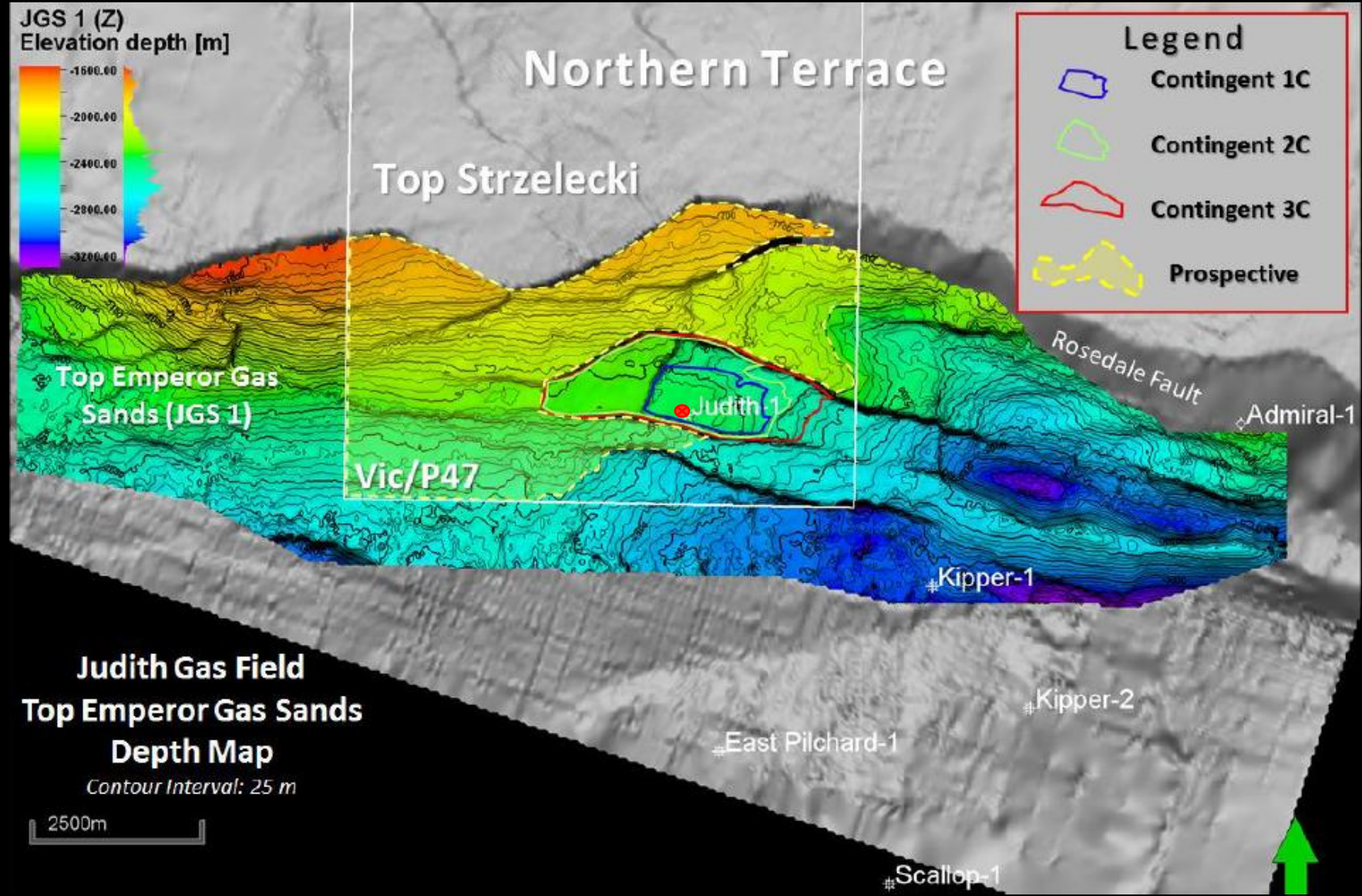
<sup>1</sup> ASX Announcement Nov 12, 2018





# Vic /P47

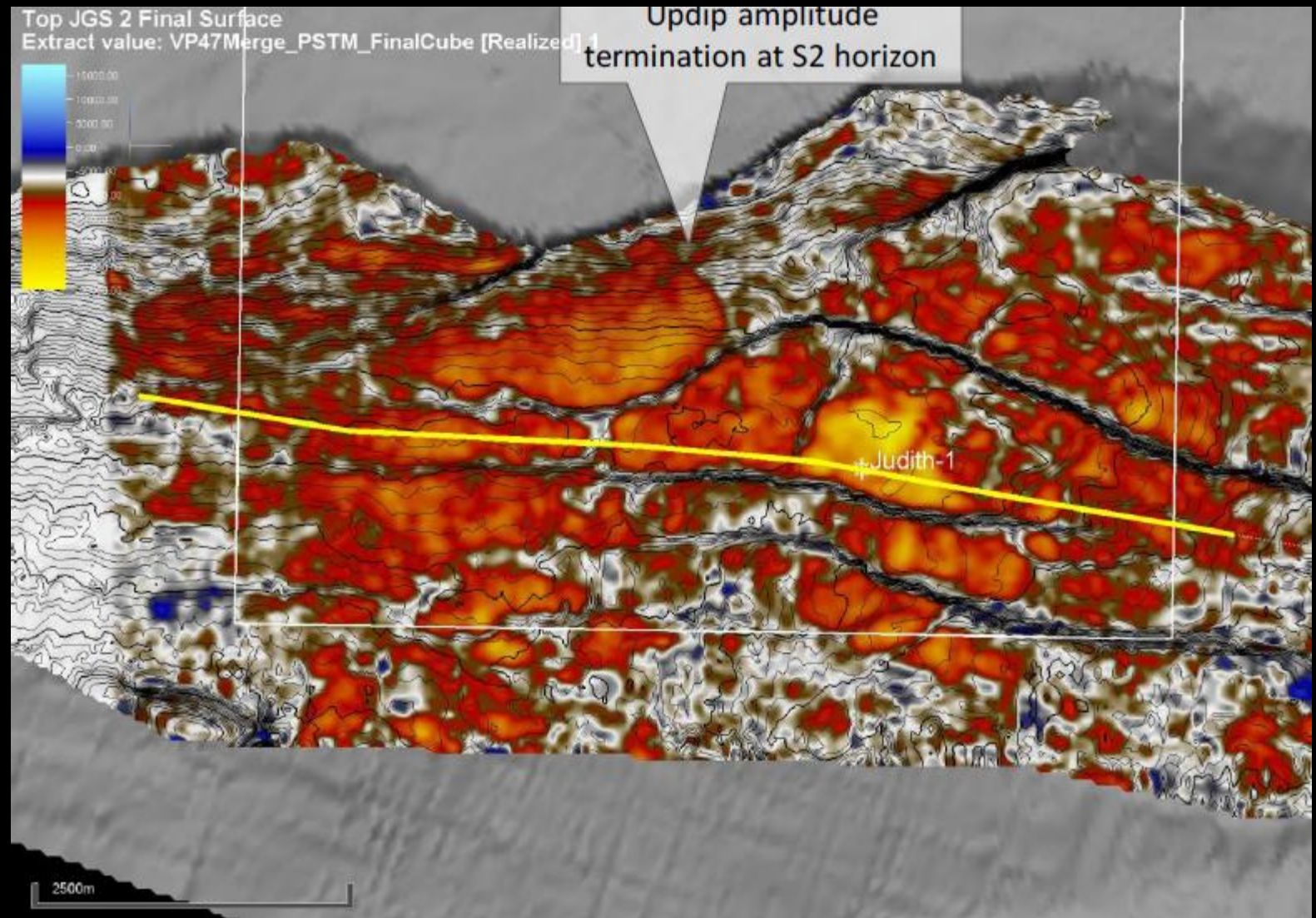
Interpretation of reprocessed, 3D, seismic data confirmed that Judith#1 was located ~750 m down-dip from optimal crestal location and close to the gas-water contact.





# Vic /P47 Gippsland Basin

Amplitude extraction analysis is consistent with gas bearing sands, encountered at Judith#1, extending beyond the local structuring and implicating surrounding fault bound compartments of the greater Judith structure.



# Vic /P47 Gippsland Basin

Scope for further  
reservoir studies.

- A review of the current VIC P47 static model suggests the possibility for an unsegmented , uncompartimentalised (internally connected) Judith structure.
- The presence of compartmentalisation impacts upon the volume of produceable (movable) gas that can be accessed by a given production well, and so impacts the overall well development program design.
- Thus, an absence of compartmentalisation, if proved, both would imply :
  - an ability to upgrade the Judith gas inventory, perhaps to +900BCF of contingent resources;
  - imply gas recovery by a smaller, and cheaper, number of development wells.
- EMP is currently considering undertaking a fault seal analysis to determine the degree of compartmentalisation by examining the nature of fluid flow behaviour across the interpreted faults.
- This is an inexpensive exercise and one which, upon completion, will better enable the true potential of the VIC P47 to be determined.



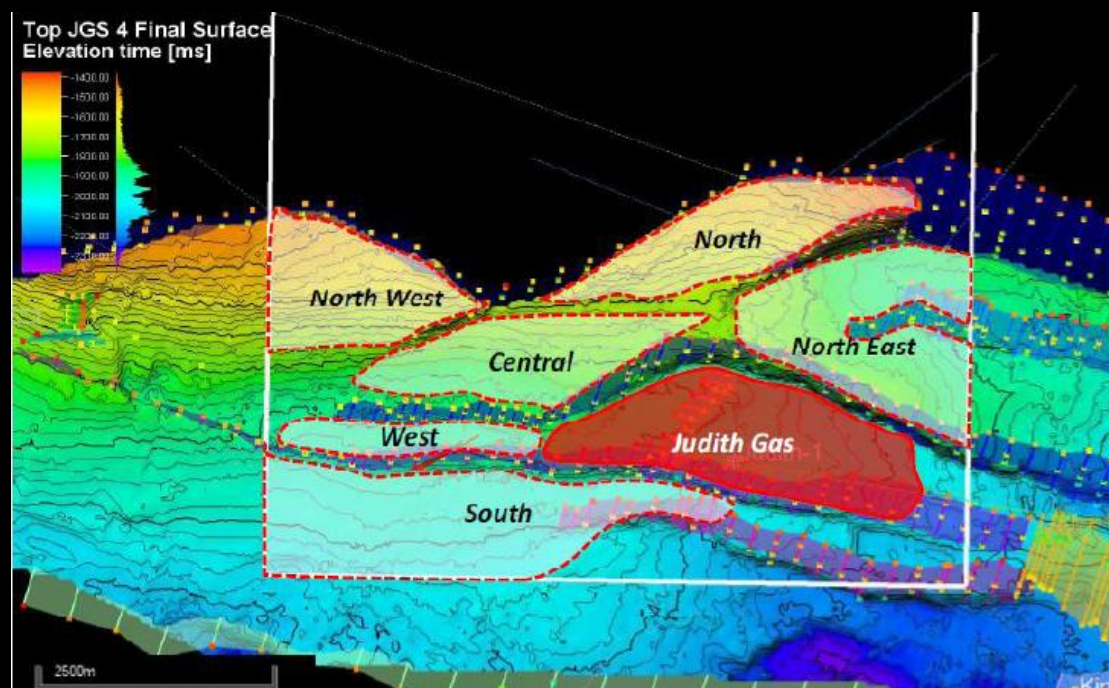
# Vic /P47 Gippsland Basin

- In addition to deeper Turonian sands, seismically correlatable with those at Longtom#3, six additional prospects are recognised across the greater Judith structure.
- Unrisked prospective resources of these prospects estimated by RISC<sup>1</sup> indicate the greater Judith structure represents a substantial gas target.

## Greater Judith Area Prospects

## Unrisked Prospective Resources (Sales Gas BCF)<sup>1</sup>

	P90	P50	P10
<b>Judith Deep</b>	46	63	82
<b>West</b>	54	65	77
<b>Central</b>	120	183	268
<b>North</b>	98	137	180
<b>North East</b>	169	239	321
<b>North West</b>	63	89	120
<b>South</b>	30	68	181
<b>TOTAL</b>	<b>580</b>	<b>844</b>	<b>1229</b>



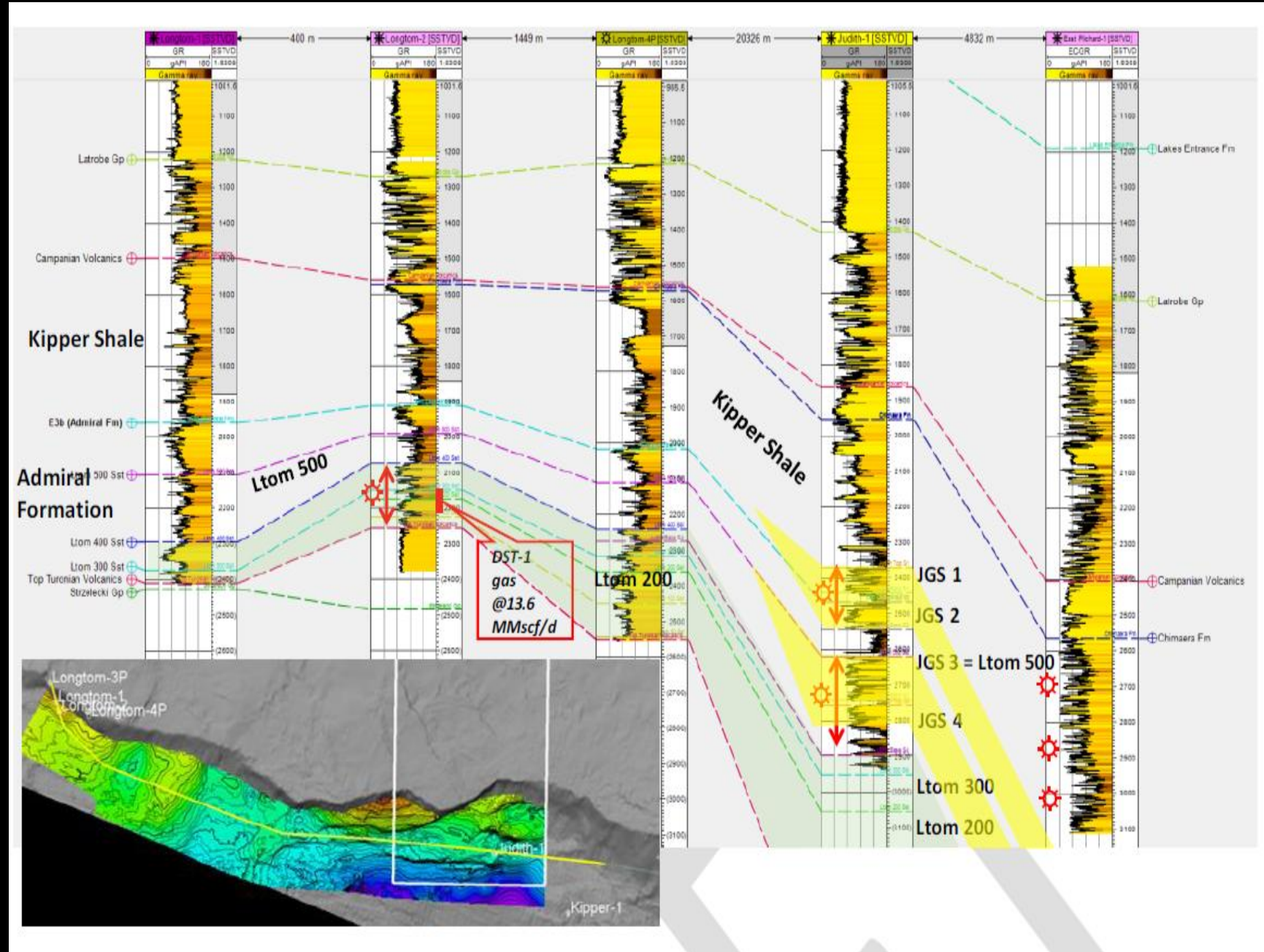
<sup>1</sup> ASX Announcement Nov 12, 2018



# Vic /P47

## Log & Petrophysical Studies

- Studies undertaken for EMP have confirmed Longtom gas field provides a commercial analogy for the development of similar aged, Turonian Emperor Sub Group, reservoir development across the greater Judith structure.
- Judith#1 encountered better sand development within the Longtom 500 interval.
- Seismic correlations indicate that reservoirs of the producing Longtom 200 and 300 intervals represent deeper, as yet untested, reservoir development potential across the greater Judith structure.



## Vic /P47

### Log & Petrophysical Studies

Petrophysical studies of Judith-1 and surrounding prospects undertaken by 3D-Geo on behalf of EMP confirmed:

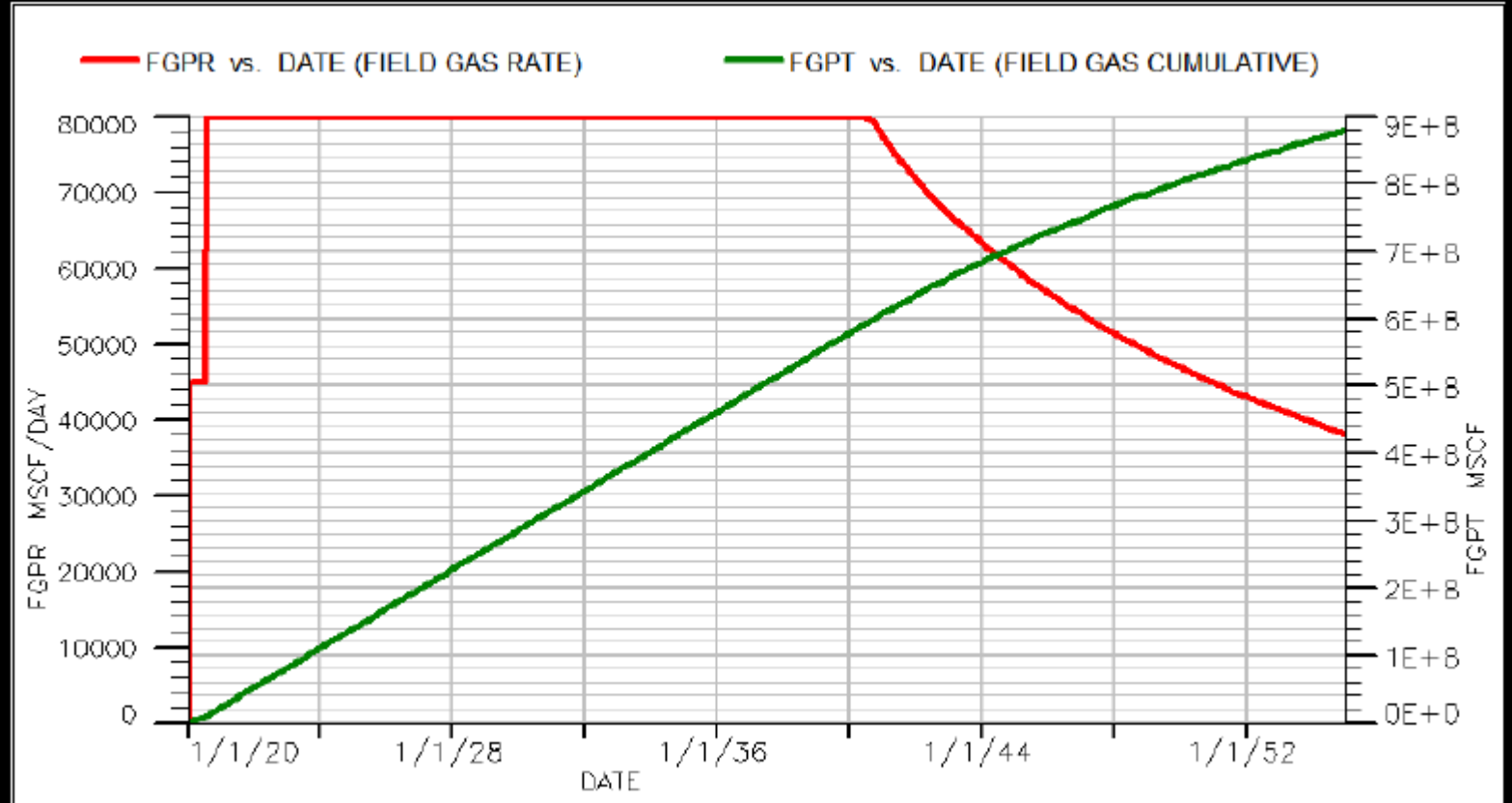
- Four objective reservoirs with a total net reservoir thickness of 234 m.
- Net gas pay interpreted of 162 m.
- Average porosity of gas pay reservoirs 13.0 – 14.9%.
- Average permeabilities in gas pay reservoirs 0.7 – 1.9 md.
- Average gas saturations in gas pay reservoirs 39.9 – 45.4%
- Lowest known gas contacts picked in all four reservoirs.
- Longtom development, located to the west, provides commercial analogue for horizontal well development of Emperor Sub-Group coeval aged reservoirs across the Greater Judith Structure .
- Seismic interpretation, tied to well data across the Longtom Field, support the likelihood that the producing Longtom 200 and 300 sand intervals extend eastwards from Longtom across the greater Judith structure where they also appear to be gas-charged.
- At Judith-1 these intervals occur below that well's total depth and remain untested.



# Vic /P47

## Reservoir Modelling

- Simulated Judith gas production development by 3D-GEO<sup>1</sup> envisages a 5 producing well scenario each estimated to deliver 20-30 MMcf/d.



- Dynamic modelling by 3D-GEO<sup>1</sup> simulated gas production of 29 Bcf/yr totalling 580 Bcf of raw gas over a 20-year plateau.
- Additional 300 Bcf of gas production forecast over the 15 year decline period.

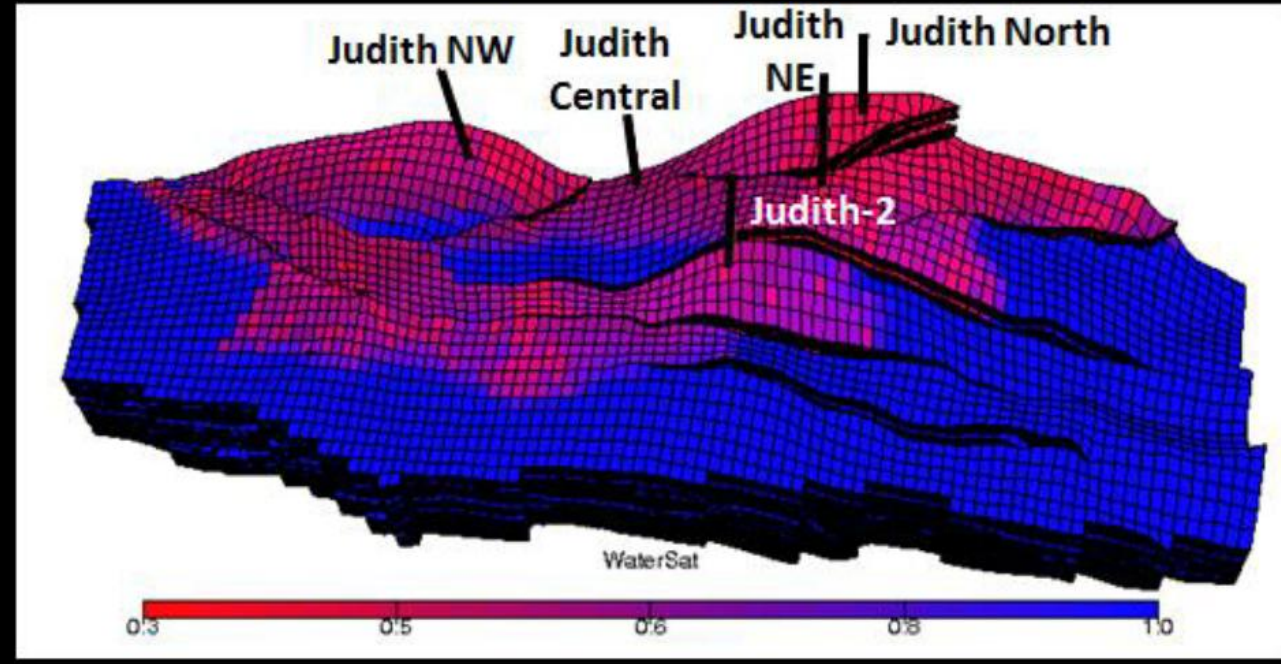
<sup>1</sup> ASX Announcement Nov 21, 2018



# Vic /P47

## Reservoir Modelling

- Greater Judith structure has potential to deliver 29 Bcf/year for 20 years assuming a simple 5 producing well scenario.
- Modelling<sup>1</sup> assumes hydrocarbon flow from 7 separate reservoirs (4 Judith gas sands and 3 underlying Longtom gas sand correlatives)



- Dynamic modelling by 3D-GEO<sup>1</sup> simulated gas production of 29 Bcf/yr totalling 580 Bcf of raw gas over a 20-year plateau.
- Additional 300 Bcf of gas production forecast over the 15 year decline period.

<sup>1</sup> ASX Announcement Nov 21, 2018

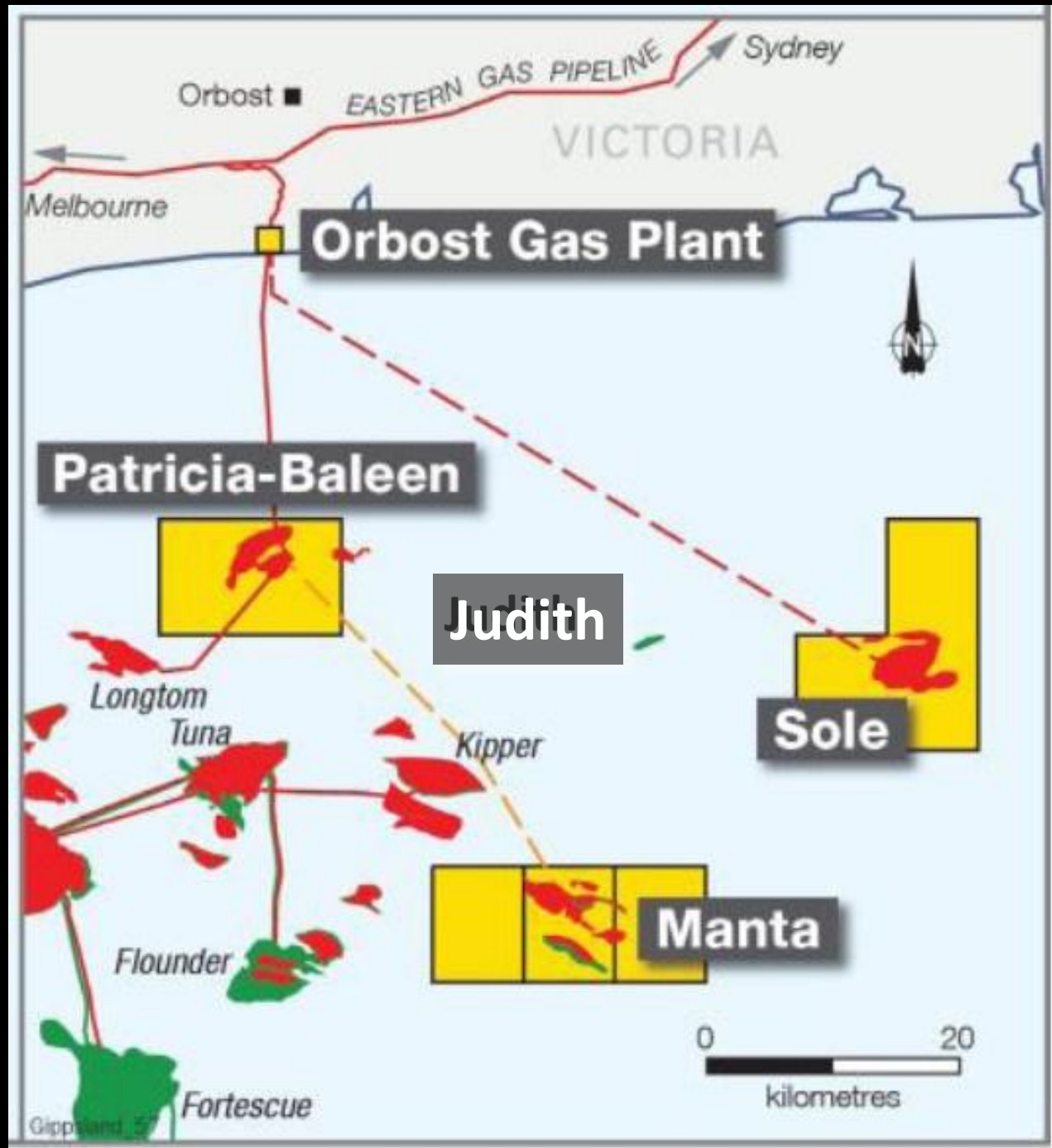




# Vic /P47 Gippsland Basin

Judith potentially represents an up-stream Australian east coast gas market brownfields entry opportunity, leveraging off existing 3<sup>rd</sup> party infrastructure.

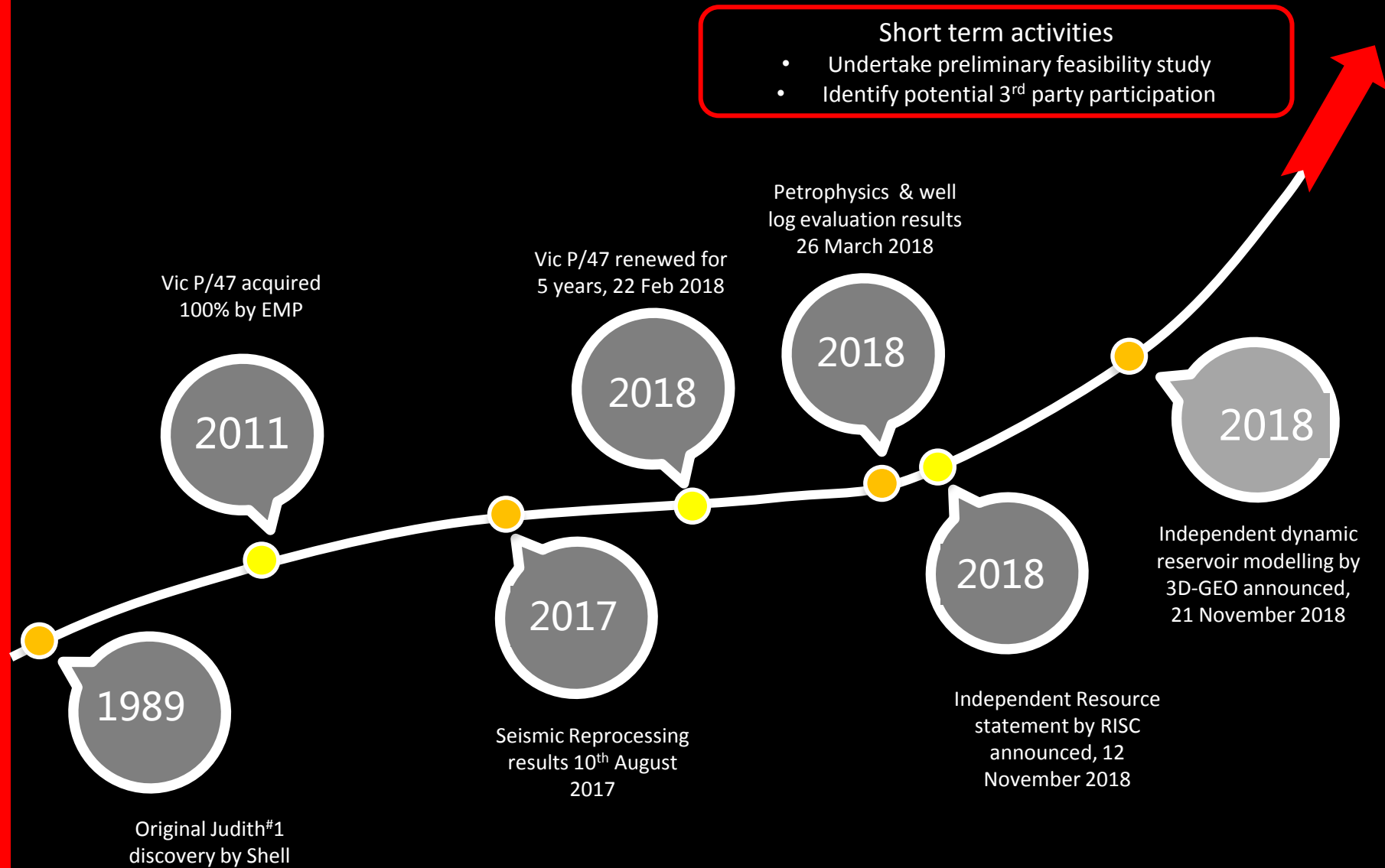
- Potential access to existing infrastructure including APA's \$250 mil refurbishment of the Orbost Gas Plant following COE's go-ahead of Sole Manta development.
- Alternatively, via Kipper Tuna Turrum infrastructure and Exxon-Mobil Gippsland Basin JV's Longford gas processing facilities.



# Vic /P47 Gippsland Basin

Since 2017 EMP has been rapidly advancing the upstream potential of Vic /P47, and specifically the Judith gas discovery, through various independent technical studies.

Collectively these point to the greater Judith structure having the capacity to potentially host a regionally significant gas accumulation and offer a brownfields entry opportunity into the eastern Australian gas market.

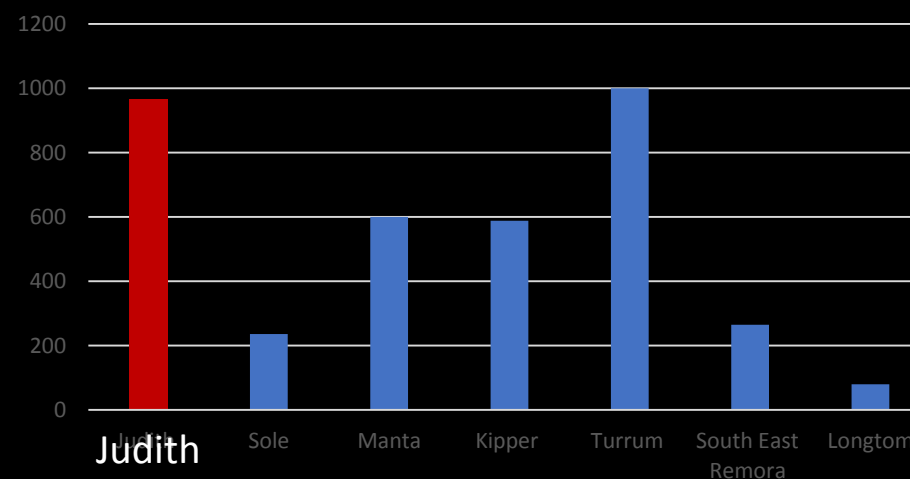


## Vic /P47 Judith Gas Field Gippsland Basin

With a 2C Contingent Resource of 112 Bcf recoverable gas together with an additional Prospective Resource of 844 Bcf (P50 - unrisks), this Tabulation<sup>1</sup> shows that the Greater Judith Structure has the capacity to host a regionally significant gas accumulation, on par or exceeding surrounding Gippsland Basin gas fields.

Field	Tenement	Operator	Reserve/Resource Category	Estimated Initial Resource (Bcf)
Judith	Vic P/47	Emperor	2C Contingent	112
Judith	Vic P/48	Emperor	P50 Prospective	844
<b>Judith Total</b>	<b>Vic P/49</b>	<b>Emperor</b>	<b>Total</b>	<b>966</b>
<b>Sole</b>	<b>Vic/L32</b>	<b>Cooper</b>	<b>2C Contingent</b>	<b>236</b>
Manta	Vic /RL13	Cooper	2C Contingent	101
Manta	Vic /RL14	Cooper	P50 Prospective	499
<b>Manta Total</b>	<b>Vic /RL15</b>	<b>Cooper</b>	<b>Total</b>	<b>600</b>
<b>Kipper</b>	<b>Vic/L09 &amp; Vic L/25</b>	<b>Esso</b>	<b>Uncategorized</b>	<b>588</b>
<b>Turrum</b>	<b>Vic/ L03 &amp; Vic/L04</b>	<b>Esso</b>	<b>Uncategorized</b>	<b>1000</b>
<b>South East Remora</b>	<b>Vic /RL4</b>	<b>Esso</b>	<b>Uncategorized</b>	<b>265</b>
Longtom Wells 3 & 4	Vic /L29	SGH Energy	Uncategorized	20
Longtom Well 5 (proposed)	Vic /L29	SGH Energy	Uncategorized	60
<b>Longtom Total</b>	<b>Vic /L29</b>	<b>SGH Energy</b>	<b>Total</b>	<b>80</b>

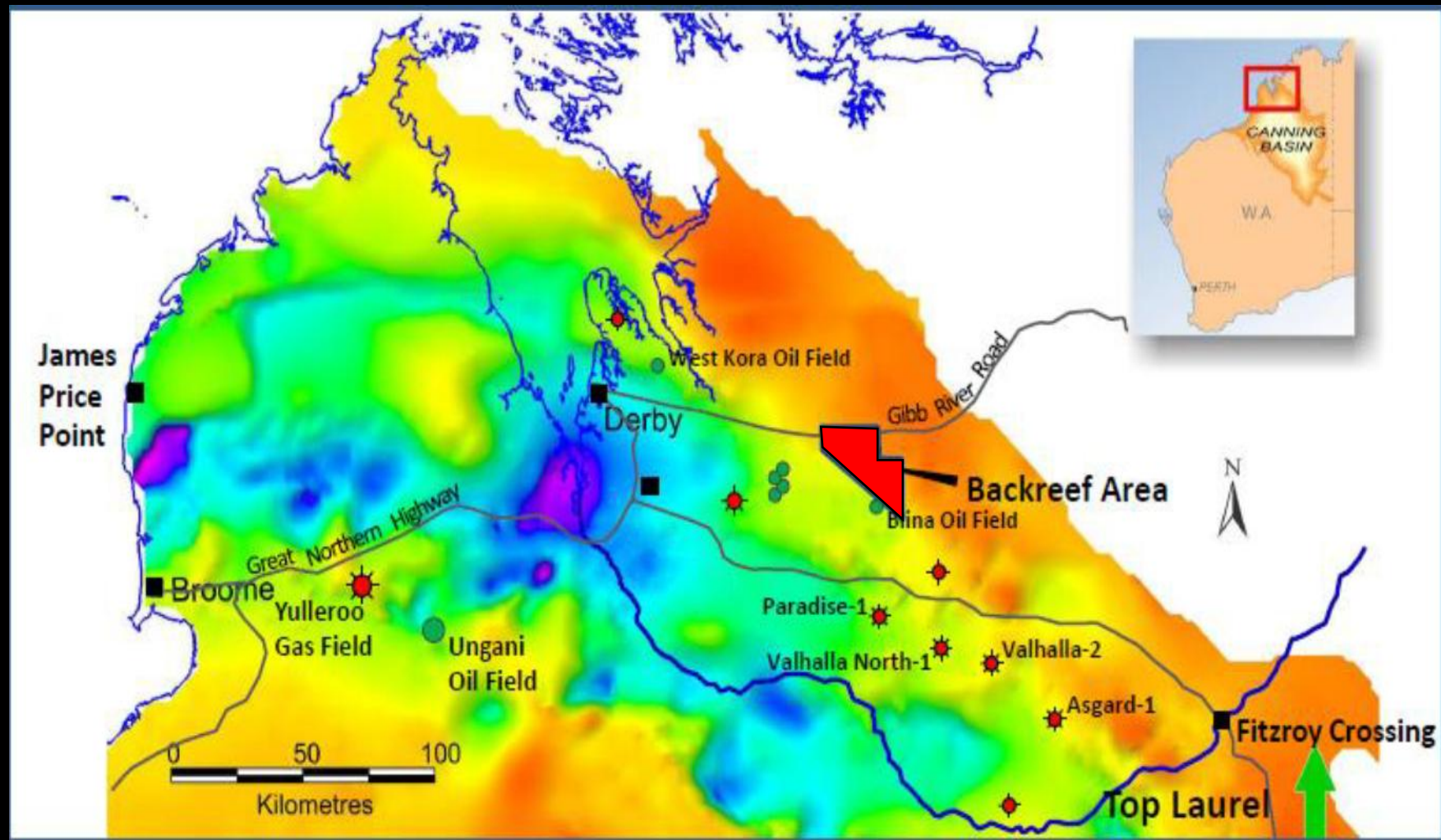
Estimated Initial Resource (Bcf)<sup>1</sup>



<sup>1</sup> ASX Announcement Nov 21, 2018



# Backreef Onshore Canning Basin WA





# Backreef Onshore Canning Basin WA

- EMP owns 100% of Backreef<sup>1</sup>, onshore Canning Basin.
- Backreef-1 drilled in 2010 to ~1800 m in 2010 and East Blina-1 in 2012.
- Backreef-1 currently cased and suspended at 1155 m after intersecting sub-commercial oil in dolomites of the Laurel Formation.
- Combined the well results demonstrated proof of play concept and similarity of oil to that of the Virgin Hills encountered at Blina and Meda.
- Source rocks in the Gogo Formation are thermally mature and present opportunity for regional unconventional shale gas and shale oil potential.
- 3D-Geo assessed the Virgin Hills Formation to have unconventional oil potential (unrisked mean prospective Recoverable Resource) of 510 MMBBL.
- Following lodgement of environmental plan rehabilitation site work on Backreef-1 has now been completed.

<sup>1</sup> Comprises portions of Production Licence L6 and EP 129.



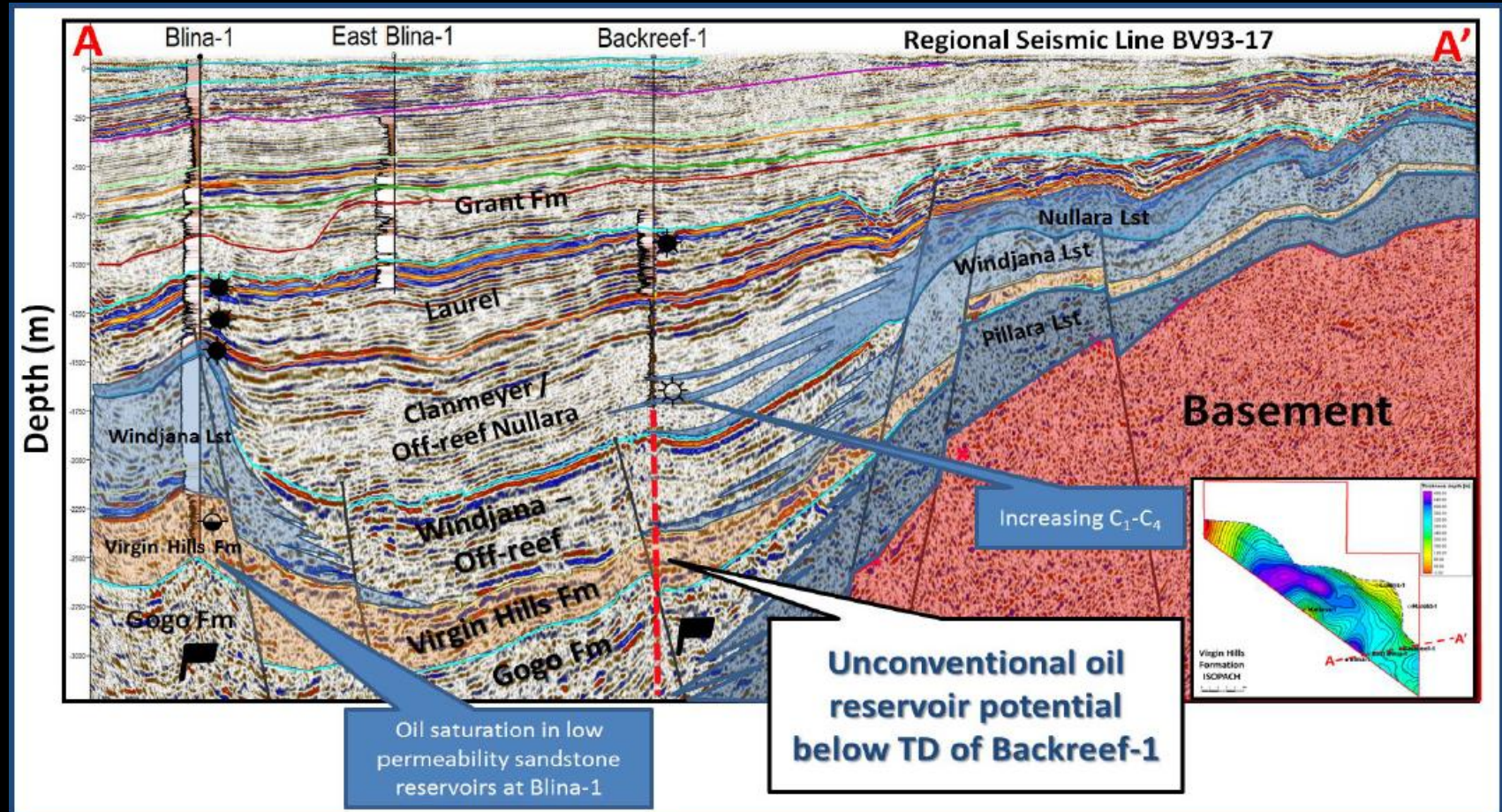
# Backreef Onshore Canning Basin WA

## Backreef Area, Deep Oil

## PRMS Prospective Resources<sup>1</sup>

	P90	P50	P10	Mean
Oil-in-Place MMBBL	3,063	6,645	12,333	7,302
Recoverable Oil MMBBL	139	391	1,008	501
Recoverable Solution Gas (BCF)	119	370	1,073	517

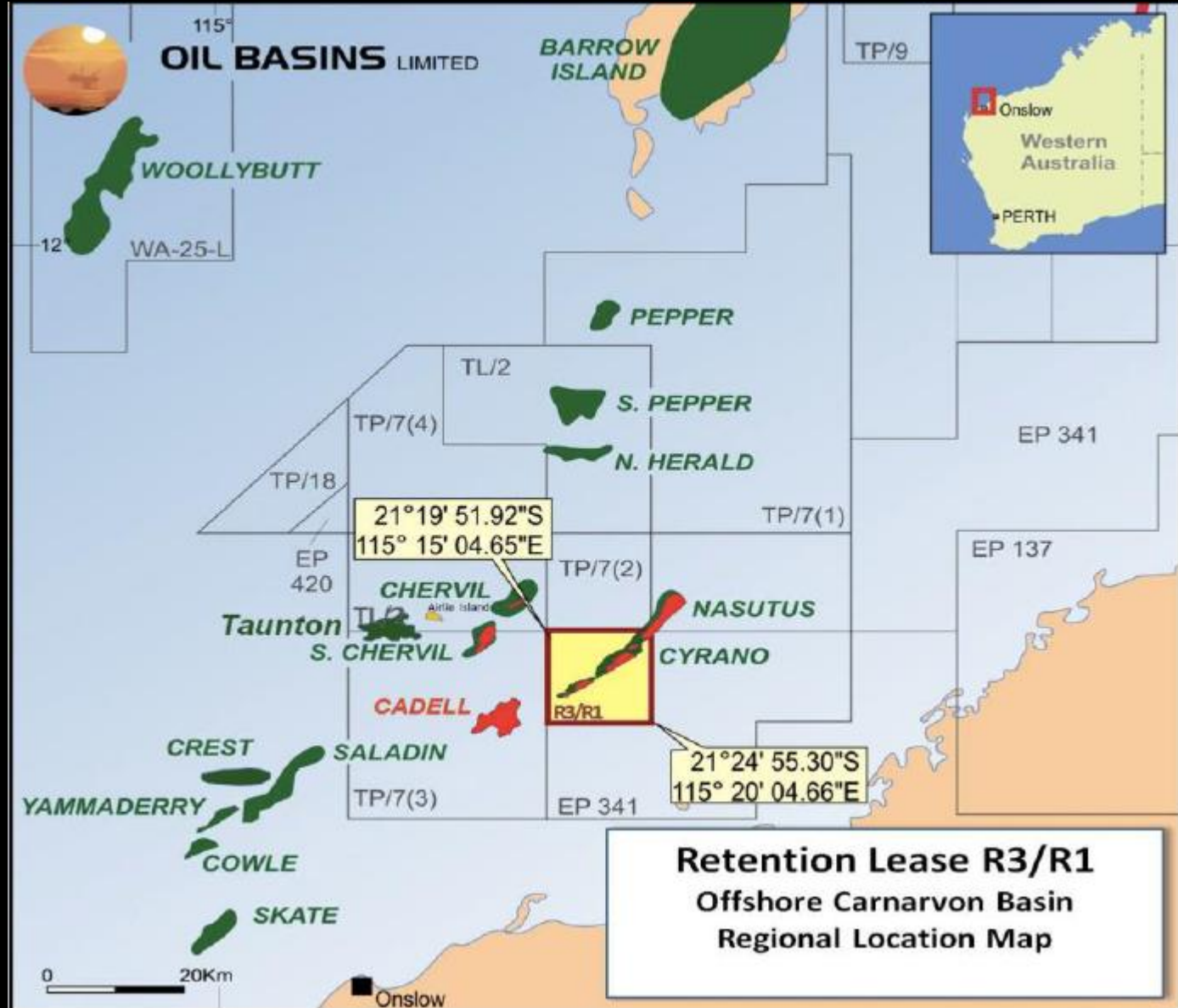
3D-GEO Resource estimations<sup>1</sup> for unconventional reservoir oil and gas potential.



<sup>1</sup> Oil Basins Limited, ASX announcement March 2013



# Retention Lease R3/R1





## RL R3/R1 (Cyrano)

- EMP owns 100% of the Cyrano Retention Lease (Retention Lease R3/R1).
- Permit covers 81 km<sup>2</sup>
- The Cyrano Oil Field was discovered in 2003 following 2D and 3D seismic acquisition and drilling of four wells.
- Cyrano Oil Field is located in shallow water (17 m) and contains shallow reservoir objectives (+600m ).
- Cyrano Oil Field is on trend with Apache's 1999 Nasutus Oil Field discovery.
- Cyrano has a Contingent Resource (2C) of 3.01 MMBBL of oil with additional Prospective Resources (P50) of ~0.93 MMBBL.
- Permit renewed for 5 years in 2017.
- EMP seeking third party participation.



## EMP Corporate Vitals

Shares on Issue	976,859,728
Options (EMPOC @.005c 31 March 20)	518,051,398
Market Cap (@\$0.003)	\$ 2.93 Mil
Cash on Hand (as at 31 December 2018)	~\$47k
Loans	Nil
Capacity Under LR 7.1	145,178,959
Capacity Under LR 7.1A	96,785,973
Capacity @.003cps utilising 7.1/7.1A	\$435,537
Capacity @.003cps utilising 7.1/7.1A	\$290,358
Top 20 shareholders	~62.47%
Directors' Ordinary Share Holdings	~20.4%



## Top Twenty Shareholders

As at 25 February 2019	Shares	%
CITICORP NOMINEES PTY LIMITED	105,043,534	10.85%
RAXIGI PTY LTD	79,296,287	8.19%
SCINTILLA STRATEGIC	65,000,000	6.72%
SAMA ZARAAH PTY LTD	48,855,000	5.05%
DANIEL J PETERS	45,962,954	4.75%
BOND STREET CUSTODIANS LIMITED	43,747,101	4.52%
CARL FRANCIS DUMBRELL	22,000,000	2.27%
HARNESS PTY LTD	20,125,000	2.08%
LITTLEJOHN EMBREY ENGINEERING	19,564,589	2.02%
MARK STEPHEN O'LEARY	18,000,000	1.86%
NISHANT KUMAR MISRA	17,166,666	1.77%
ACEC SUPERANNUATION FUND PTY	15,100,000	1.56%
ARLAM PTY LTD	15,000,000	1.55%
FIRST INVESTMENT PARTNERS	15,000,000	1.55%
PHILIP MCNAMARA	15,000,000	1.55%
SUPER MSJ PTY LTD	14,000,000	1.45%
MR COLIN ROBERT SEARL &	12,410,000	1.28%
BUDUCI FOND PTY LTD	12,400,950	1.28%
LILYFIELD HOLDINGS PTY LTD	11,750,000	1.21%
TOMLIN SALES PTY LTD	11,750,000	1.21%





## Future Focus

- EMP's Board, in seeking to maximise shareholder value, is cognizant of the need to balance its portfolio interests with its capacity to fund and development each of its opportunities.
- Accordingly, EMP remains open to third party participation in any of its portfolio interests or, as circumstances dictate, to their rationalisation.
- EMP has received expressions of interest from various parties seeking potential JV or sale-purchase opportunities for its Vic /P47 interests. This includes a written non-binding proposal which the Board currently considers inadequate.
- Likewise, the Board has received an opportunity to participate in a new venture involving a possible joint venture or purchase and refurbishment of a previously operational biodiesel refining facility, located at Moama, NSW.
- No decision has been made but again this, like any other new opportunity, will be considered on its merits.
- Any decisions by the Board involving transacting on any current major asset, or the acquisition or participation in new major assets, will only follow appropriate due diligence, regulatory and shareholder approvals.



## Vic /P47 opportunity

- Vic /P47 Opportunity
- The Board has had approaches from several industry players in respect to dealing at a corporate or JV level with its Vic /P47 asset. It has executed NDAs with some and provided access to its data for evaluation.
- This includes a written non-binding proposal which the Board currently considers inadequate. The Board has suggested to that party that acceptable terms should be based on a structure involving an up-front cash payment, free carry through to gas production, and a cash-payment upon commercial initial gas production testing.
- Any discussions or considerations are only preliminary and non-binding at this stage and in any event any final agreement is subject to shareholder and/or regulatory approvals where necessary.



## Moama Refinery opportunity

### Refinery JV or Acquisition Opportunity

- The Board has had discussions and received a draft agreement in respect to a possible JV or acquisition of a diesel/biodiesel refinery, located at Moama in southern New South Wales, which may involve the Company actioning one of two alternatives:
  - (i) Spending an agreed amount on refurbishment of the previously operational diesel/biodiesel refining facility, as its contribution to earning a 50% interest in the operation of the refinery, or
  - (ii) Acquiring the refinery via a share issue with a view to refurbishing and operating the refinery.
- The Board has not yet formally considered the opportunity and NO decision has been reached, nor any Due Diligence carried out.
- Any decisions by the Board involving this transaction will only follow appropriate due diligence, regulatory and shareholder approvals.





### **Vazrick Hovanessian**

Non-Executive Chairman &  
Company Secretary  
(appointed Director 12 August  
2016)

Qualifications: B.Bus., M.App.Fin, CPA,  
FCSA, FGIA

Experience and expertise: Mr Hovanessian has graduate and postgraduate degrees in Accounting and Finance with over 25 years' experience with junior oil & gas and mining companies and has held directorship, secretarial and finance roles in several of them. He has served on the Boards or had Company Secretarial/CFO roles in ASX listed Beach Petroleum, Stirling Resources, Capital Energy, Zephyr Minerals, and Silver Mines and currently is an executive director on Mandalong Resources Ltd and Broad Investments Ltd. Vaz has extensive corporate advisory, finance and property and tourism experience and in the ASX listed junior resources area, and has been instrumental in or assisted with the ASX listing by IPO or back-door listing of such companies.

### **Justyn Peters**

Non-Executive Director  
(appointed Director 12 August  
2016)

(Qualifications: BLaw, BA  
(politics/jurisprudence) GDLP.

Experience and expertise: Mr Peters – has graduate law and politics degrees and is Executive Chairman of ASX listed Leigh Creek Energy Limited which is advancing the development of the Leigh Creek Energy Project in South Australia. Previously he was Executive General Manager for Linc Energy and held a wide range of senior executive appointments for over 6 years. Previously Justyn was employed at the Queensland EPA as Head of Investigations and Compliance and then as acting Director of Central and Northern Regions. He earlier managed the integration of the environmental regulation of Queensland mining into the EPA.

### **Carl Dumbrell**

Non-Executive Director  
(appointed Director 3 July 2015)

Qualifications: BCom MTAX CA FCA  
(England & Wales) CTA MAICD JP.  
Experience and expertise : Mr Dumbrell has a Bachelor of Commerce and Masters of Taxation Law, he is a Chartered Accountant in Australia and England & Wales, as well as being a Chartered Tax Advisor, Member of the Australian Institute of Company Directors, Justice of Peace, Registered Company Auditor in Australia  
Experience and expertise: Mr. Dumbrell is CEO of London Listed Herencia Resources Plc. He has been a partner of accounting firms for over 20 years in Australia and England. Mr Dumbrell has extensive experience with Mining, and Oil & Gas companies. He is actively involved in capital market transactions in Australia, Asia and London..

### **Dr Natt Arian**

Non-Executive Director  
(appointed Director 20 December  
2018

(Qualifications: B. Eng (Hon), Ph.D,  
MA (Bus Management),  
Experience and expertise: a petroleum engineer recognised internationally for his modelling expertise with a broad range of skills in the diverse fields of petroleum and energy, including engineering, science and technology, management and infrastructure. He is a member of several professional organisations, including Australian, European, US and international Engineering and scientific bodies. He is currently engaged by the Victorian Government as a senior geoscientist advisor to the department of Economic Development, Jobs, Transport and Resource to produce Victoria's final resource estimate under the Victorian Gas Program, which aims to improve understanding of Victoria's potential conventional gas prospectivity.

### **Dr Raymond Shaw**

Non-Executive Director  
(appointed Director 20 December 2018 )

Qualifications: B.Sc (Hon), Ph.D, Dip Law,  
GDLP. MAusIMM.

Experience and expertise: A geologist and geophysicist with a legal background and with over 35 years' experience in the energy and resources sector who has, for the last 15 years, been involved in senior corporate roles in ASX listed companies, including foundation managing director of Great Artesian Oil & Gas Ltd and Bandanna Energy Ltd. He has worked extensively throughout Australia, Asia and South America, including for public and private entities as well as World Bank, Asian Development Bank and 7 years as part-time consultant to NSW Dept of Mineral Resources on its petroleum promotional strategies. He has broad experience in resource financing, recapitalisation and listing small resources companies up to funding major infrastructure projects, including, as Board member, during the initial construction phase of the \$2.5 billion Wiggins Island Coal Export Terminal at Gladstone.

