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energy

# West Erregulla-2 Update & Capital Raising

May 2019

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# Warrego has...



A Board and Management team with **genuine E&P experience**



A portfolio of material projects at differing stages of development, each with the capacity to be “**company transforming**” in their own right in a success case



**>\$16m in funding** carries and arrangements in place to help meet substantially all of our drilling obligations in Australia and Spain



Drilling begins in May 2019 in what is **potentially the most significant onshore well in Australia this year** - an analogue to the play opening Waitsia gas field

# Capital Raising



- Warrego has raised \$6.1m through a share placement and has offered a share purchase plan to shareholders for a further \$1.0m
- Proceeds will be used primarily as working capital to progress the EP469 exploration programme which includes drilling contingency and testing of West Erregulla 2, planning and initial expenditure on next steps which may, depending on results, include seismic and reserve wells

Use of Funds	\$m
WGO's share WE-2 costs <sup>(1)</sup>	\$2.5
Drilling contingency	\$1.5
Post WE-2 programme	\$3.8
<i>Total EP 469 Expenditure</i>	\$7.8
Working Capital and other Costs	\$3.6
Less: Cash at 31 March 2019	-\$4.3
<b><i>Proceeds of Placement and SPP</i></b>	<b>\$7.1</b>

(1) Represents WGO's share of WE-2 costs, being 50%, over the initial \$11 million of expenditure by WGO's JV partner, Strike Energy Limited

# Board of Directors

Board have extensive drilling and direct experience in adjacent Waitisia analogue



## Greg Columbus, Chairman

Greg has more than 30 years experience delivering large complex oil & gas projects. He is currently Managing Director of Clarke Energy, which specialises in providing engineering, installation and maintenance of gas engine power stations and operates in over 28 countries.



## Owain Franks, Executive Director

Owain was previously Commercial Director of AIM listed Independent Resources and a senior advisor to Dana Petroleum and Canamens Energy. He was a senior partner of PwC in the UK for 21 years and on the UK Management Board.



## Dennis Donald, Managing Director

Dennis is a former 45 Commando and co-founder of Warrego. He left Shell in 1998 to form Leading Edge Advantage (LEA) a specialist global advanced drilling consultancy. LEA was acquired by Synergy Ltd in 2008.



## Mark Routh, Non-executive Director

Mark is a Petroleum Engineer with over 35 years experience in the oil & gas industry. He was previously CEO and latterly Chairman of AIM listed Independent Oil & Gas. Prior to this he was founder and Managing Director of CH4 Energy, which was acquired by Venture Production in 2006.



## Duncan MacNiven, Executive Director

Duncan is a co-founder of Warrego. He is a former corporate oil & gas lawyer and has previously worked as counsel for Pentex Energy and Sibir Energy. Duncan was a co-founder of Leading Edge Advantage.



## David Biggs, Non-executive Director

David has over 35 years experience in the oil & gas industry and significant knowledge of the Perth Basin. He was previously Managing Director of AWE Limited, until its acquisition by Mitsui in 2018 for \$602m. Prior to this he was CEO of Cue Energy.

# The RTO Transaction



- Warrego Energy Ltd (ASX:WGO) created from RTO of Petrel Energy Limited by Warrego Energy Ltd UK (WELUK) completed on 26 March 2019
- WELUK was founded by Dennis Donald and Duncan MacNiven in 2007
- RTO combined WELUK's EP469 Perth Basin block, including the West Erregulla-2 well, with Petrel Energy's Perth Basin, Spain and Uruguay acreage

- At RTO, Warrego shareholders owned 77% of the new entity with existing Petrel shareholders owning 23%
- A 1:20 consolidation of Petrel ordinary shares was undertaken prior to RTO completion
- \$5.18m raised via convertible note in March 2019 to fund the transaction and working capital requirements



ASX:PRL



Now



ASX:WGO



# Company Overview



## Pre Placement & SPP

**Cash:** ~\$4.3m (March Qtrly) (excl. \$7.1m capital raising)

**Issued Cap:** 507m shares

**Conv. Note:** ~10m WGO equiv.

**Unissued Founder Shares:** 87m

**Market Cap:** \$57m<sup>1</sup>

**Debt:** \$0

1. Undiluted market cap at 12.5c share price on 28 May 2019



## Major Shareholders

**Greg Columbus** 4.4% Non-Exec Chairman

**Dennis Donald** 19.99% Co-Founder & MD

**Duncan MacNiven** 19.99% Co-Founder, Exec Dir

**Owain Franks** 3.1% Exec Dir

**Mark Routh** 2.3% Non-exec Dir

**David Casey** 1.3% CEO - Aust. & APAC





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# Diversified Portfolio

Material portfolio of company making projects



# A Global Portfolio



4 Projects,  
3 Continents,  
1 Company

## Europe

Tesorillo, Spain

## Southern America

Piedra Sola, Uruguay

## Australasia

EP469 Perth Basin, Australia

EPA-0127 Perth Basin, Australia



# Diversified Portfolio

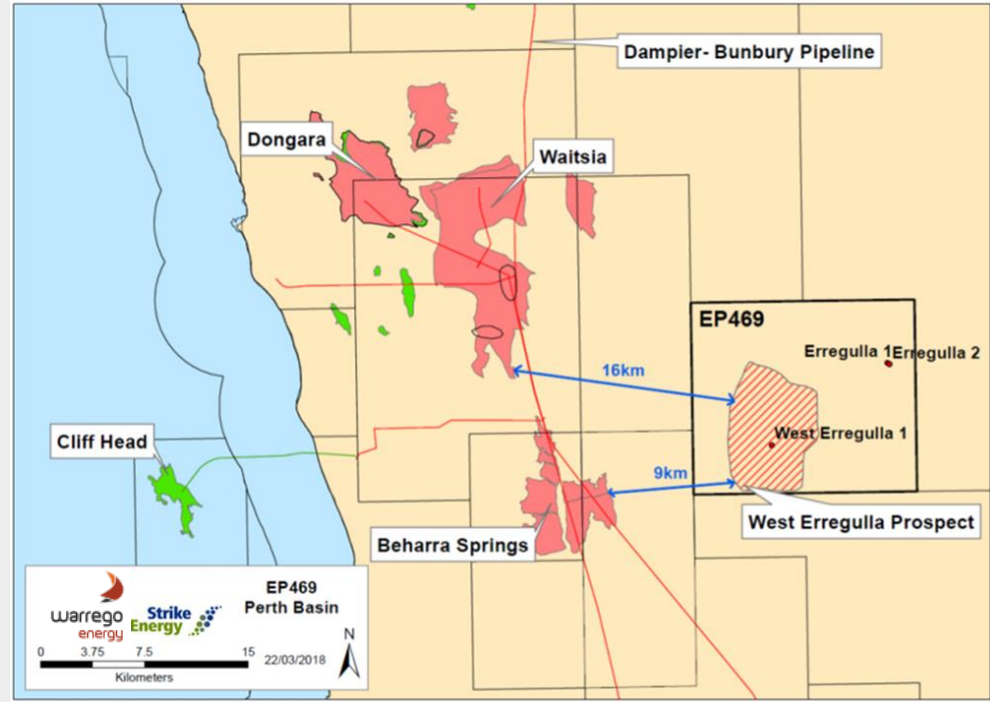
Material portfolio of company making projects



## The Perth Basin

Following the Waitsia discovery, the Perth Basin has emerged as one of the most exciting areas in Australia for gas exploration

- In the Perth Basin, Warrego holds a 50% non-operated interest in EP469 and a 100% interest in EPA-0127
- The West Erregulla prospect, in EP469, is located adjacent to Waitsia and is one of the largest undrilled conventional targets in Australia
- Ground works have been completed and the well is due to spud in late May

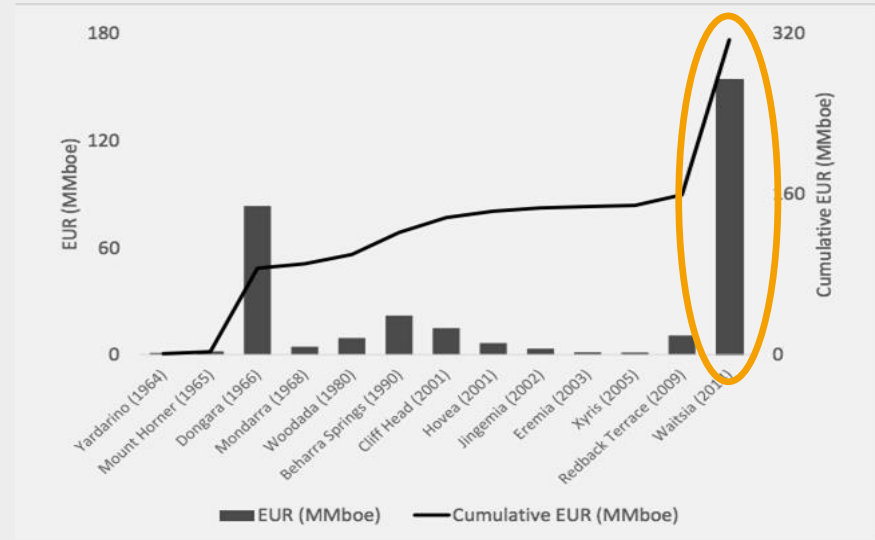


# The Waitsia Discovery



- The Waitsia field was discovered by the Senecio-3 appraisal well drilled by AWE in 2014
- Senecio-3 initially targeted the Dongara-Wagina sands, but further gas shows were observed below
- The well was drilled a further 600m to 3,300m TVD and encountered good quality gas pay in the Kingia & High Cliff (KHC) sandstones
- The Waitsia 1-4 appraisal wells demonstrated the lateral continuity of these reservoirs and proved a large gas accumulation
- The play opening Waitsia field is now established as one of the largest conventional discoveries in last 30 years, with one of the most productive reservoirs ever onshore

## Perth Basin Discoveries over time



*“Waitsia appraisal result is a game changer for the Perth Basin”*

Beach Energy Sept 18 Investor Presentation

# Perth Basin : Australia's Next Gas Province



## Waitsia-4 recorded highest gas production rate onshore Australia

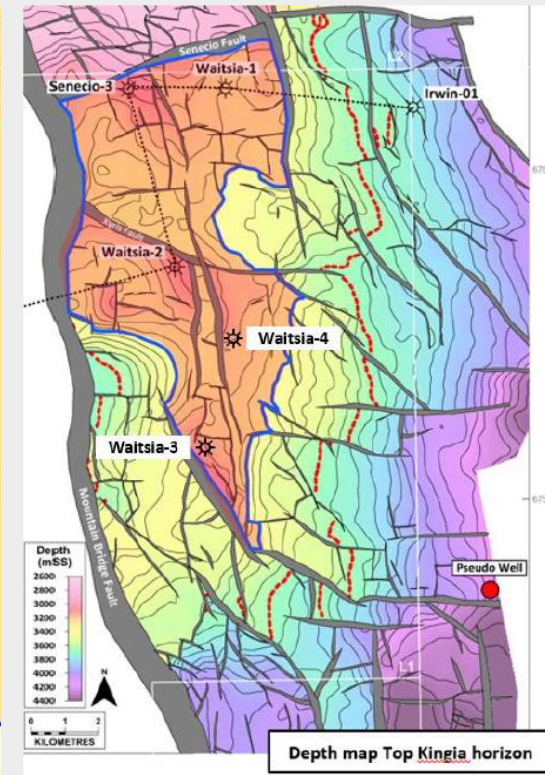
- The Waitsia-1 and Waitsia-2 wells were drilled in 2015 and the Waitsia-3 and Waitsia-4 wells were drilled in 2017
- Testing of all four wells have confirmed the highly productive KHC reservoir
- The Waitsia-4 well tested at an average rate of 89.6Mmscf/d from a 50m interval
- Following the Waitsia-3 and Waitsia-4 results, gross 2P Reserves were increased by 80% to 820PJ<sup>1</sup> in December 2017

Source:

1. AWE ASX announcement, *AWE upgrades Waitsia reserves and resources*, released on 19<sup>th</sup> December 2018.



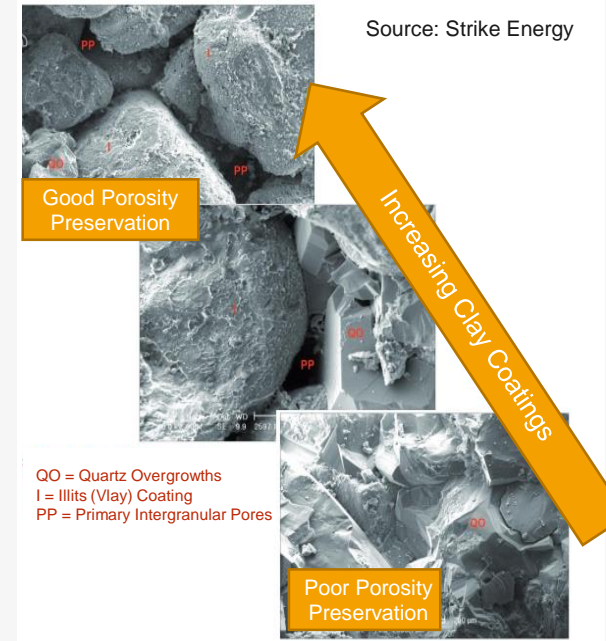
Source: AWE Energy



# Why is Waitsia Different?



- The deeper zones tested (i.e. KHC sands) in the Waitsia discovery well (Senecio-3) were previously generally discounted by the industry in the mistaken belief that reservoir quality would be universally poor >3000m
- **However**, KHC sands in Waitsia wells exhibited porosity of >11%<sup>1</sup> and permeability of 10-100+mD<sup>1</sup>. The Waitsia-4 well flowed at an extremely high 90Mmscf/d<sup>1</sup>
- **Why?** - Presence of clay coatings here is key:
  - i. Productive sands require clays to be deposited at time of burial to preserve porosity
  - ii. Chlorite clay coating protects quartz grains from diagenesis and maintains porosity during burial
  - iii. Clay coating prevents quartz overgrowths from filling and reducing intergranular porosity during diagenesis



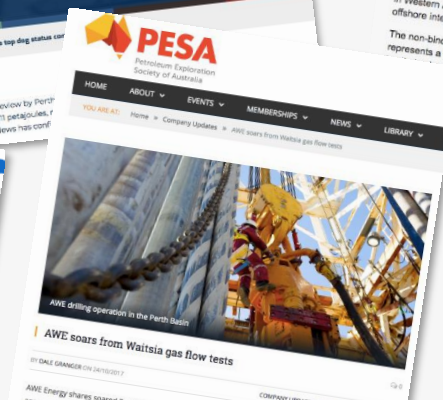
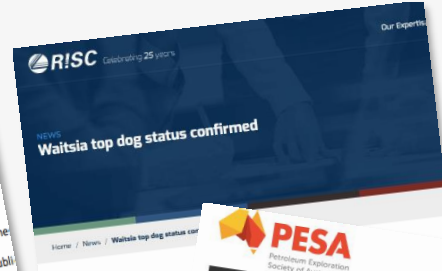
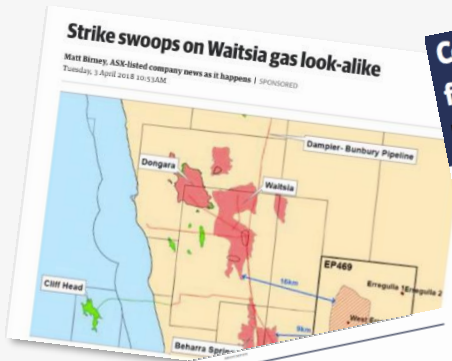
Source: <sup>1</sup> AWE Energy



# The Waitsia Frenzy



- The first of 3 bids for AWE came within days of the Waitsia 2 & 4 flow tests
- AWE was ultimately acquired by Mitsui for over A\$600m in cash
- 83% of AWE's 2P Reserve base consisted of Waitsia gas reserves

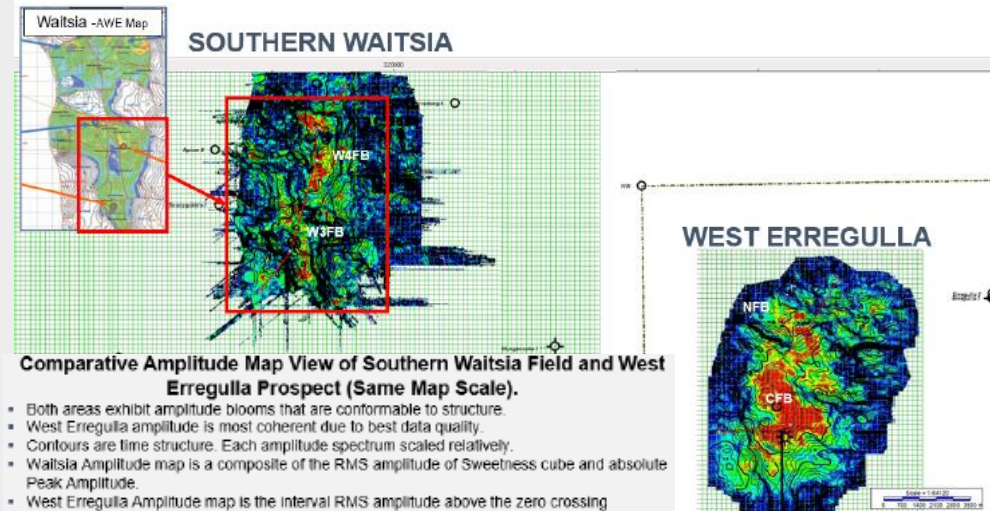


# West Erregulla - A Tier 1 Asset in the Making



- To date Warrego has invested \$10m in 3D seismic covering approximately 35% of EP469, as well as regulatory approvals, G&G and engineering studies
- Seismic interpretation has identified a large prospect in the KHC sands analogous to the Waitsia field and 16km from the Waitsia-4 well
- Geological modelling suggests similar geological/depositional environment to nearby Waitsia discovery

Figure below: shows comparative amplitude maps over the southern portion of Waitsia and West Erregulla.



W3FB = Waitsia 3 Fault Block. W4FB = Waitsia 4 Fault Block. NFB = Northern Fault Block. CFB= Central Fault Block.

Source: Strike Energy Limited announcement, Waitsia & West Erregulla Geophysical Similarities, released on the 6<sup>th</sup> May 2019.

# West Erregulla Farm-out



Warrego farmed out a stake in EP469 to Strike Energy (ASX:STX) in Mar 2018 on favourable terms...

Acquisition	JV	Cash	Carry	Remaining Warrego Obligation
50% equity in entire permit & operatorship by STX	Unincorporated Joint Venture	\$350k up front + \$250k prior to commencement of operations	STX to sole fund well costs and related G&G study costs up to max \$11m within 24 months of commencement	Once \$11m is spent by STX, WGO will fund its 50% share of future expenditure

*“Strike’s prospect evaluation has yielded an extremely attractive, top tier, conventional structure...subject to confirmation...the Kingia High Cliff sands are believed to be present with thickness and porosity development interpreted to be similar in quality to that in the adjacent Waitsia gas discovery”*

Strike Energy ASX Release 28 Mar 2018

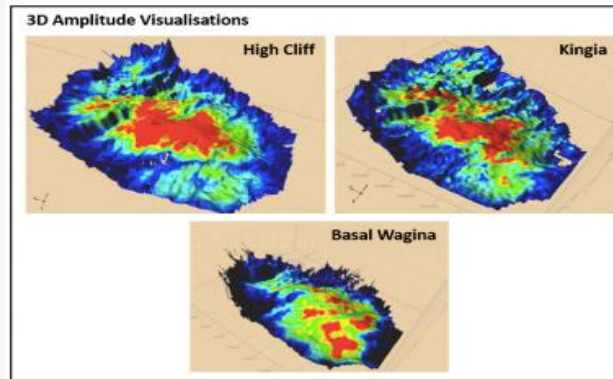
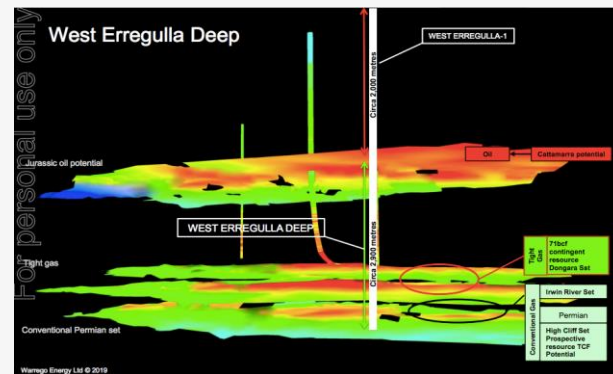
# West Erregulla-2 Targets



- Testing three independent conventional oil & gas sequences
- On the way down: 'Shallow' 2000m Jurassic oil target with P50 STOIP of 7.2 mmbbl<sup>1</sup>. These sands were previously intersected in West Erregulla-1 and yielded oil shows
- The basal Wagina gas target of P50 GIIP 247 BCF<sup>1</sup> at 4100m TVD
- The 'Main Game': the Waitsia analogue Kingia – High Cliff sand sequence at 4700m TVD with a P50 GIIP of 916 BCF<sup>1</sup> gross

Source:

1. Strike Energy ASX announcement, *West Erregulla – Additional Target and Final Pre-drill Prospective Estimates*, released on the 5<sup>th</sup> March 2019.



# Waitsia / West Erregulla Geology



50 % 50



50 % 50



	WAITSIA GAS FIELD	WEST ERREGULLA PROSPECT
Trap	<ul style="list-style-type: none"> <li>North part of field low-side downthrown fault block</li> <li>South part of field antiformal fault with 3 way dip closure</li> </ul>	<ul style="list-style-type: none"> <li>Antiformal fault with 3 way dip closure</li> <li>High-side upthrown fault block to south</li> </ul>
Seal	<ul style="list-style-type: none"> <li>Vertical seal – intraformational seals or continuous charge up to Dongara-Wagina sandstones</li> <li>Lateral seals – downthrown fault block seals across Mountain Bridge Fault against Holmwood shale/Nangetty Formation</li> </ul>	<ul style="list-style-type: none"> <li>Vertical seal – intraformational seals or continuous charge up to Dongara-Wagina sandstones</li> <li>Lateral seals – upthrown fault block to South seals against basal Irwin Coal Measures</li> </ul>
Reservoir	<ul style="list-style-type: none"> <li>Primary reservoir development in Kingia member of higher cliff sandstones</li> </ul>	<ul style="list-style-type: none"> <li>Same reservoir to Watsia but with thickened Bit-basher shale separating Kingia and High Cliff. High Cliff porosity strongly developed (as seen in Waitsia-1)</li> </ul>
Charge	<ul style="list-style-type: none"> <li>Charge from overlying IRCM and underlying Holmwood shale</li> <li>Dongara-Wagina sandstones overlying prospect are gas-bearing (led to discovery)</li> </ul>	<ul style="list-style-type: none"> <li>Charge from overlying ICRM and underlying Holmwood shale</li> <li>Dongara-Wagina sandstones overlying prospect are gas-bearing (confirmed in WE-1 1990)</li> </ul>
Volume	910 PJ 2P + 2C reserves and resources <sup>1</sup>	P50 GIIP of 916 BCF Prospective Resources <sup>2</sup> (KHC only)

Source:

1. AWE ASX announcement, 19 December 2017
2. Strike Energy ASX announcement, 5<sup>th</sup> March 2019

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**Immediate impact and near term upside from drilling of West Erregulla-2**

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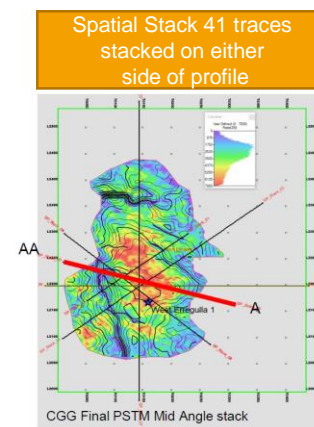
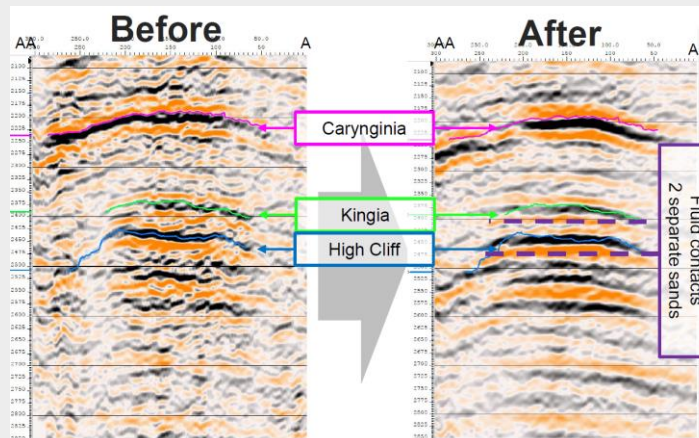


# West Erregulla - Advanced Reprocessing



## Azimuthal velocity remodeling of WE 3d data set has increased confidence in mapping of critical West Erregulla Attributes

- Potential gas and water contacts more easily visible; higher confidence of direct hydrocarbon indicators
- Improves Quantitative Interpretation on commercial porosity preservation
- Wedge and fluid substitution models are supportive of two gas-charged sands – a porous Kingia and a porous upper High Cliff separated by a thick Bit Basher shale (similar to Waitsia-1 well)



Source: Strike Energy

**Advanced reprocessing provides greater confidence in target definition**

# Drilling Imminent



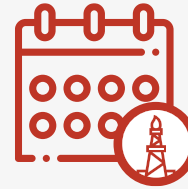
## Civil Works

Civil works commenced in early March for site access and drill pad



## Rig Mobilised

Rig is currently mobilizing from Queensland



## Spud Date

Well expected to spud in late May



## Result

Depending on results, the well is scheduled to take up to 8 to 10 weeks to complete, but will intercept oil and other gas targets on way to TD



# The Easternwell Rig 106



- The Easternwell's Rig 106 has been contracted to drill the West Erregulla-2 well
- Previously drilled deep wells in the Cooper and Surat Basins
- Rig 106 is one of the most powerful in the Australian market, perfectly suited to deep wells
- Expected to follow West Erregulla-2 with the nearby drilling of a similar deep Perth Basin well for Beach Energy and potentially another Perth Basin operator



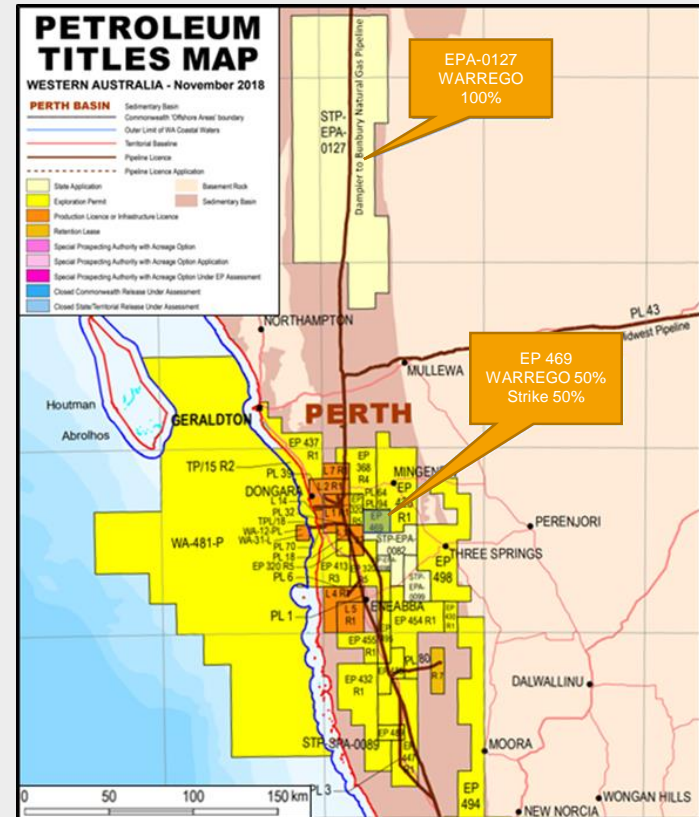
*“The technology of the rig sets it apart from other drilling rigs with enhanced mobility, unparalleled control, drilling hydraulics, enhanced safety and environmental features.”*

Easternwell GM Kyle Koziol

# Additional Potential in the Perth Basin



- Warrego holds EPA-0127 through 100% owned subsidiary Palatine Energy
- EPA-0127 extends to 2.2m acres (8,700km<sup>2</sup>) across much of the Coolcalalaya sub-basin providing both potential Permian and Devonian targets. Further possible analogues to Waitsia are feasible
- Traversed by the Dampier to Bunbury Gas Pipeline and immediately north of the Midwest Pipeline
- Native Title negotiations are close to conclusion



# Diversified Portfolio

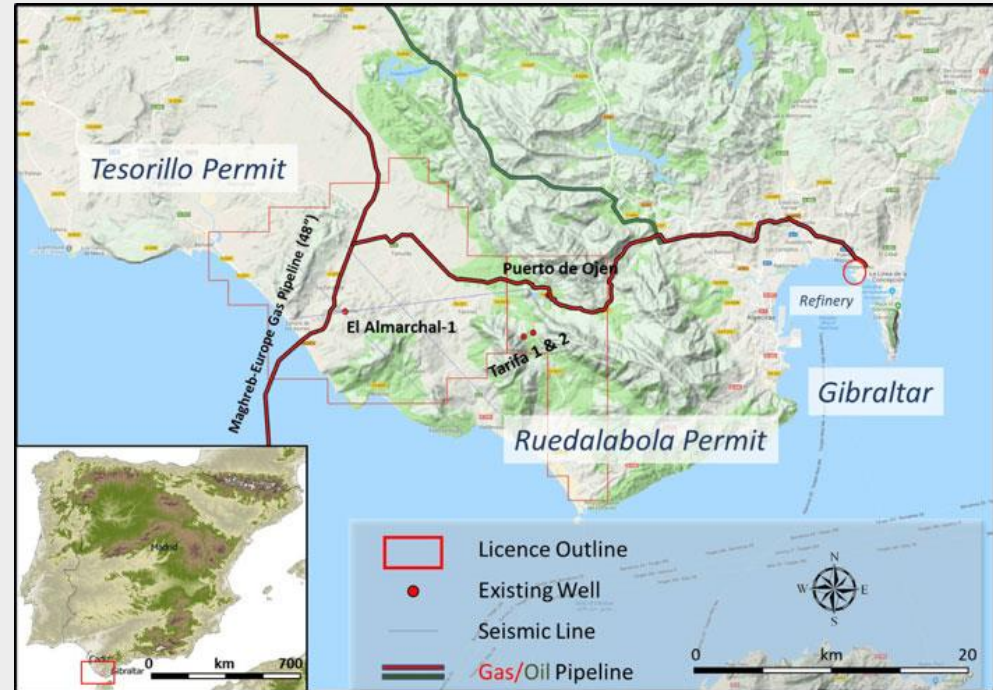
Material portfolio of company making projects



## Tesorillo Project, Spain

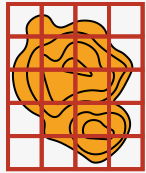
Targeting conventional sandstone gas reservoirs in Southern Spain

- Warrego currently holds an 85% interest in Tarba Energia S.R.L. which owns the Tesorillo Project in Cadiz Province in southern Spain
- Prospec Oil and Gas plc holds the other 15% and has an option to acquire a further 34.9% at an exercise price of €1.725m
- MT survey/geophysical work in hand and well planning underway for a 2020 spud date



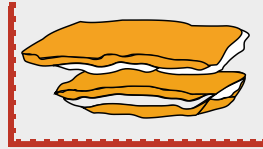


# Tesorillo Project, Spain



## Potential

- Almarchal-1 well drilled in 1956 tested gas to surface
- DST test and log analysis confirmed 48m of gas pay with a further 492m of potential pay interpreted from logs but not tested



## Resource

- 2013, Netherland Sewell certify up to 2.3Tcf of prospective resources



## Partner

- Prospec Oil & Gas Plc has an option to acquire a further 34.9% in Tarba Energia



## Drilling

- MT survey and reprocessing historical 2D seismic lines underway
- Planning and preparation for 2020 well underway

# Diversified Portfolio

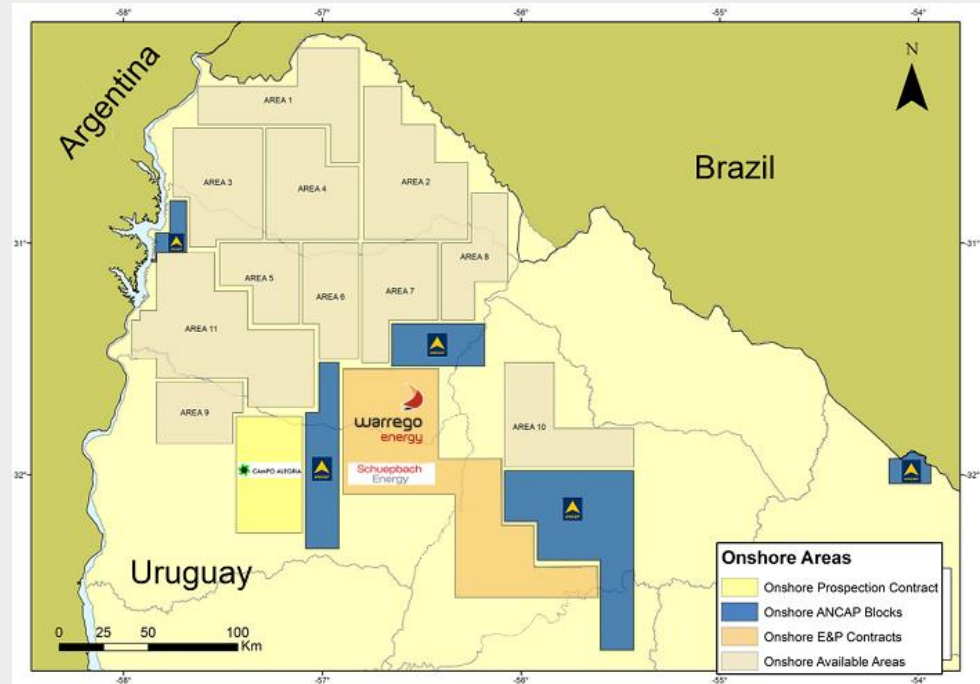
Material portfolio of company making projects



## Piedra Sola, Uruguay

An excellent first-mover opportunity

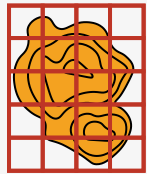
- Targeting several play types in the Norte Basin. The Piedra Sola concession in Uruguay is held via a 41% interest in Schuepbach Energy International LLC
- The Piedra Sola concession has recently been renewed for a further two-year period, subject to final signatures
- Politically stable and supportive operating environment, with strong market demand



# Uruguayan Assets

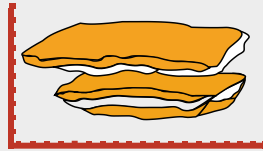


- Warrego can bring the world class drilling expertise and networks to follow up on “the first oil discovery in Uruguay”
- Extensive review of the opportunity and best way forward underway



## Potential

- 2013 - successful MT Survey and corehole programme. Results confirm the existence of an active petroleum system with free oil identified in coreholes more than 100km apart



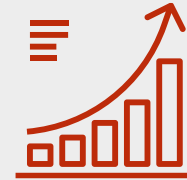
## Resource

- 2015 - acquired 600km of 2D seismic. Netherland Sewell independently certified prospective resources of up to 910mmbbls & 3.1Tcf of gas



## Discovery

- 2017 - Cerro Padilla-1 discovers first oil in Uruguay. Cerro de Chaga-1 well intersects fault at base of a basalt and JV suspends operations. Interest reduced to 41% in return for partner funding and to increase stake in Tarba Energia to 97.5%



## Next Steps

- 2019 - detailed technical analysis of drilling and geotechnical data underway to inform strategy and decisions on next steps and potential routes to value

# Exposure to Two High Impact Wells



Warrego is in the enviable position of being substantially carried for West Erregulla-2



- JV Partner Strike Energy funding first \$11m of West Erregulla-2



- Additional funding from capital raise will ensure Warrego is funded for drilling contingencies and post well activities



- Partner in Spain has option to acquire up to 49.9% of JV company with the proceeds to be used towards drilling Tesorillo well



- Warrego undertaking a technical and commercial review of the Uruguayan opportunities with our partner

**Warrego is substantially carried through the drilling of 2 wells**



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