



# CORPORATE PRESENTATION

**On The Right Path in Australia's  
Cooper Basin Oil Fairway**

DECEMBER 2022

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DENR OTC



[DISCOVERYENERGY.COM](http://DISCOVERYENERGY.COM)

## **About** Discovery Energy

Discovery Energy is an emerging oil and gas explorer focused on South Australian Cooper Basin oil projects. The Company's exploration program is underpinned and complemented by targeted corporate activity to take advantage of opportunities and build a portfolio of exploration prospects. Discovery's board and management have extensive technical and commercial experience in the oil and gas sector.



Discover  
Appraise  
Develop



World-class reservoirs with high recovery rates of ultra-light, sweet crude that pays a premium to Brent oil prices.

This is one of the **many reasons why** we are investing in drilling low risk, highly profitable shallow oil wells in the Cooper Basin.

# About The Opportunity



## Large Acreage Position

The PEL 512 Licence covers over 584,000 acres in the Western Flank of Australia's Cooper Basin, one of the world's most profitable oil plays.

## Right Address

Low geopolitical risk, favourable royalty/tax regime and committed government support of resource development with access to source seismic and well data.

## Strong Economic Returns

Low-cost shallow vertical wells with high flow rates of sweet, light oil that delivers rapid payback, compelling IRR's and significant value creation.

## World-Class Reservoirs

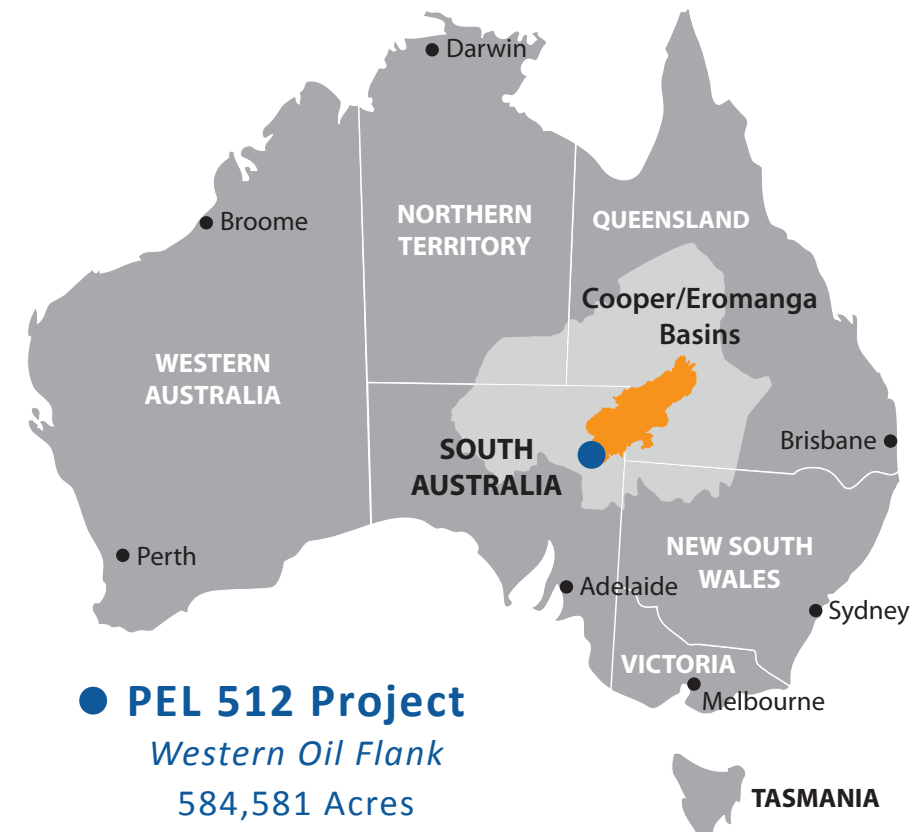
Regionally productive oil reservoirs with strong recovery driven by the Great Artesian Aquifer that covers 23% of the Australian continent.

# The Cooper Basin



## A Well Established Oil Exploration and Development Play

- ▶ Located in Queensland/South Australia.
- ▶ Australia's most prolific onshore oil and gas province.
- ▶ Cooper & Eromanga basins offer multiple play types and stacked pay opportunities.
- ▶ The Western Flank Oil Fairway is a core production contributor for the Basin.



# The Play Highlights

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## Light & Sweet

Oil produced in the Cooper basin consists of sweet, ultra light, high btu crude oil (40 - 55 degree API) which receives premium pricing.

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## Established Play

Over 630 producing gas wells and 340 producing oil wells with cumulative production of 85 Million plus barrels offsetting PEL 512.

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## Infrastructure

5,600 km of pipelines connecting central processing and storage facilities in the heart of the basin (Moomba) to major south coast refining and export terminals.



## Local Processing

Moomba oil handling and gas processing facility approximately 65 kilometres away with access via road or existing pipeline capacity with interconnection nearby.

# Cooper Basin History Of Success



## Discoveries

More than 176 gas and 131 oil fields since first commercial discovery in 1963 and 1970 respectively.

Recently, ~45% of exploration wells successful using 3D seismic data.



## Wells Drilled

More than 3,400 oil and gas wells drilled during the past 50+ years.

Average vertical drilling depth of just 1,676 metres (5,500 feet) with simple perforate and flow completions, no chemical frac stimulations.



## Basin Production

Produced in excess of 234 Mmbbl of oil, 88 Mmboe of condensate, 90.5 Mmboe of LPG and 5.65 Tcf of gas.

Producing 9.3 Mmbbl of oil, 0.6 Mmboe of condensate, 1.2 Mmboe of LPG and 67 Bcf of gas annually. (2020-2021)



# Why Operate In The Cooper Basin



Australia's largest and most mature conventional onshore hydrocarbon basin with over 50 years of production history.

**Low risk exploration & development potential, compelling economics, extensive oil & gas infrastructure.**

**High quality reservoirs, some with multiple pay zones, mean high flow rate wells with extended production lives.**

**Development and operating costs are low due to ease of land access, benign drilling conditions, simple environmentally friendly completions and minimal processing.**

# In Good Company



Surrounded by World-Class Explorers who are focused on the Western Oil Flank.

**Santos**

We have the energy.

**\$25.4B**

Market Cap/\$AUD

**DISCOVERY**  
ENERGY

**\$15M**

Market Cap/\$USD

SYMBOL: DENR



**beach**

**\$3.6B**

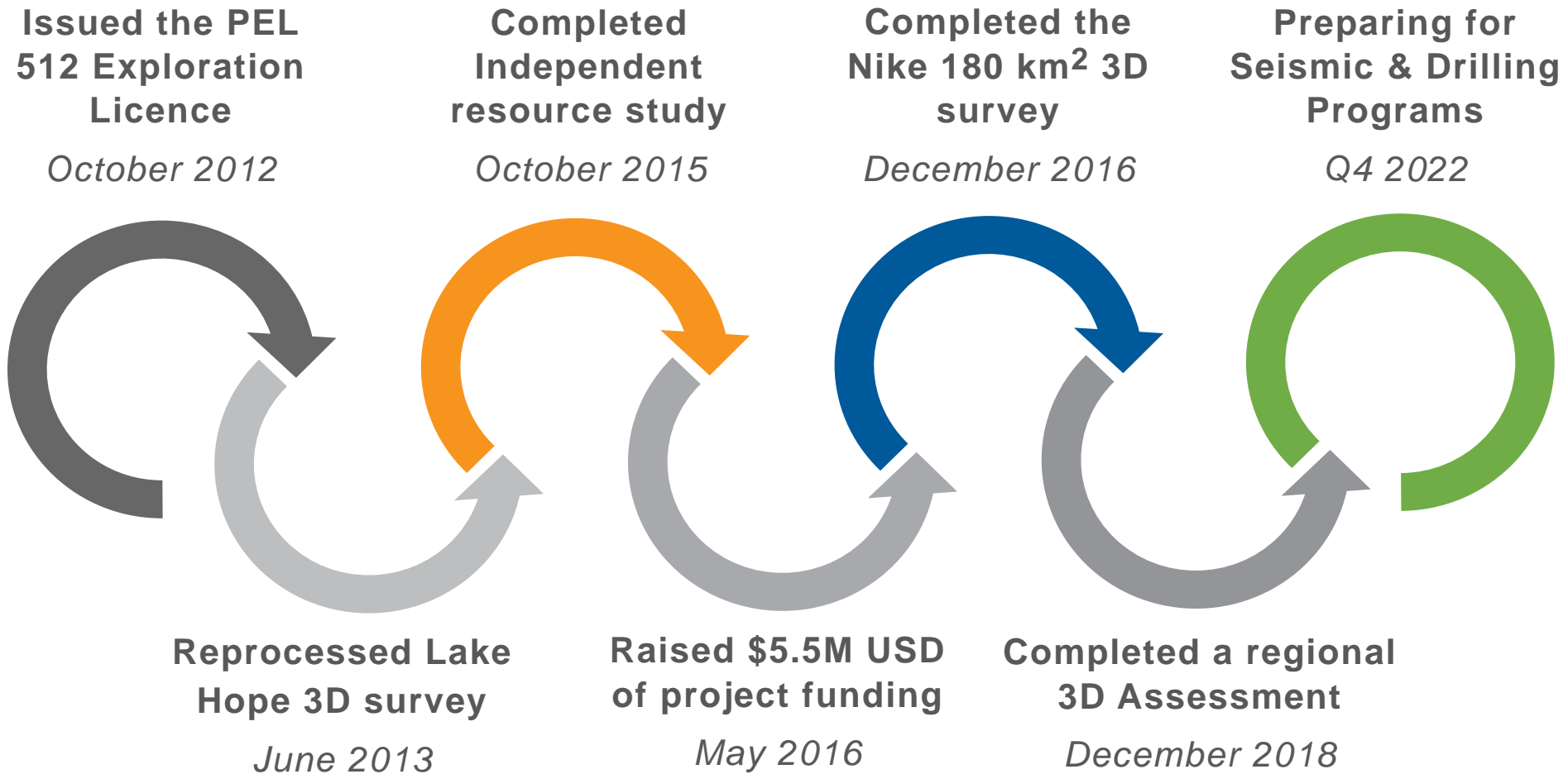
Market Cap/\$AUD

***Santos and Beach Energy have significant capital commitments in the Cooper Basin for fiscal 2022***

# Key Milestones



Our legacy of technical work has established a platform for disciplined drilling.



# Our Team

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Industry relevant experience, demonstrated track records, ready for growth.

## **KEITH SPICKELMIER**

*Chairman*

Founder with proven track record in start-up ventures and corporate finance for energy companies.

## **KEITH MCKENZIE**

*CEO, Director*

Over 35 years of experience in start-up of energy, mining and industrial companies.

## **WILLIAM BEGLEY**

*CFO, COO, Pres & Director*

35 plus years of energy industry & finance experience.

## **WOODY LEEL**

*Exploration Manager*

Certified petroleum geologist with 40 plus years of domestic and international experience.

## **SEAN AUSTIN**

*Corp. Secretary, Treasurer*

40 years of domestic and international experience in energy finance, accounting and administration.

## **ANDREW ADAMS**

*Managing Director, Australia*

More than 40 years of petroleum exploration experience in Australia.

# The Gears Are Turning



## Historic Work

The licence included 5,153 km of 2D and 140 km<sup>2</sup> of 3D seismic which was reprocessed in 2013.

## Seismic Control

The 180 km<sup>2</sup> Nike 3D program was completed in late 2016, data analysis resulted in 38 leads and drilling prospects.



## The Science

140 leads & prospects have been identified using advanced 3D seismic AVO interpretation methods.

## Drill Ready

The bit is ready to turn, the drilling locations work area clearance is completed and planning is underway for drilling in 2023.

***Creating value in everything we do***

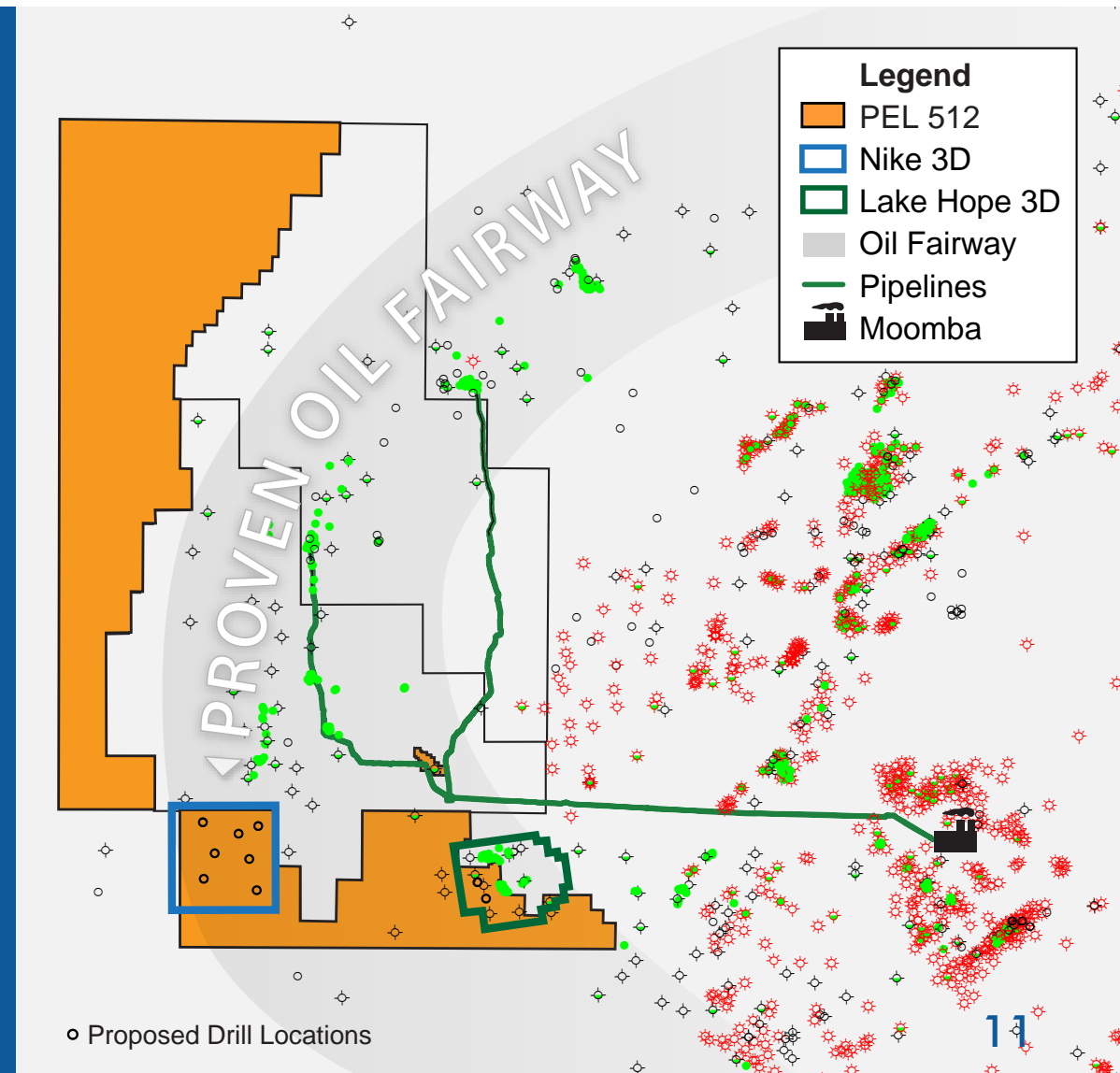
# On The Right Path



On trend and directly offset to oil fields operated by Beach and Santos in the proven oil fairway.

Oil Field/Wells	MMBO
Bauer - 84 wells (2013)	31.4
Butlers - 13 wells (2009)	3.6
Callawonga - 22 wells (2006)	8.3
Christies - 7 wells (2003)	2.3
Growler - 14 wells (2007)	7.2
Parsons - 12 wells (2008)	4.6
Sturt & Sturt E - 12 wells (1988)	2.9
Tantanna - 13 wells (1988)	8.0

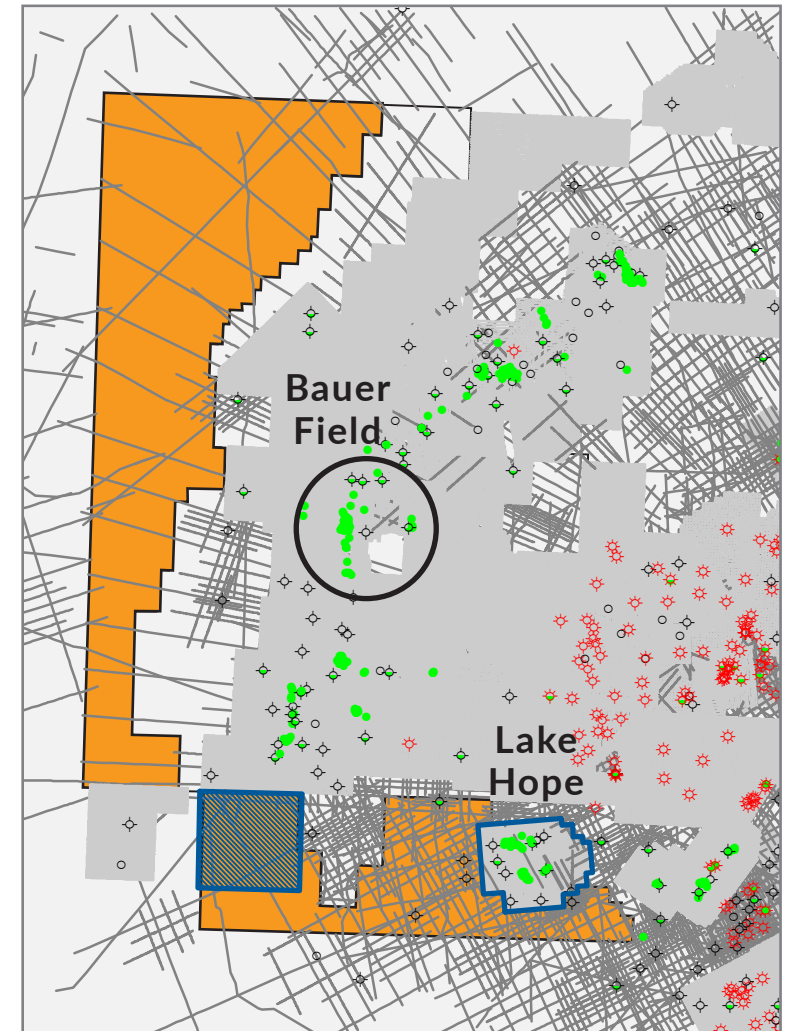
Source: PEPS-SA - Production as of 03/31/22



# Our Technical Advantage



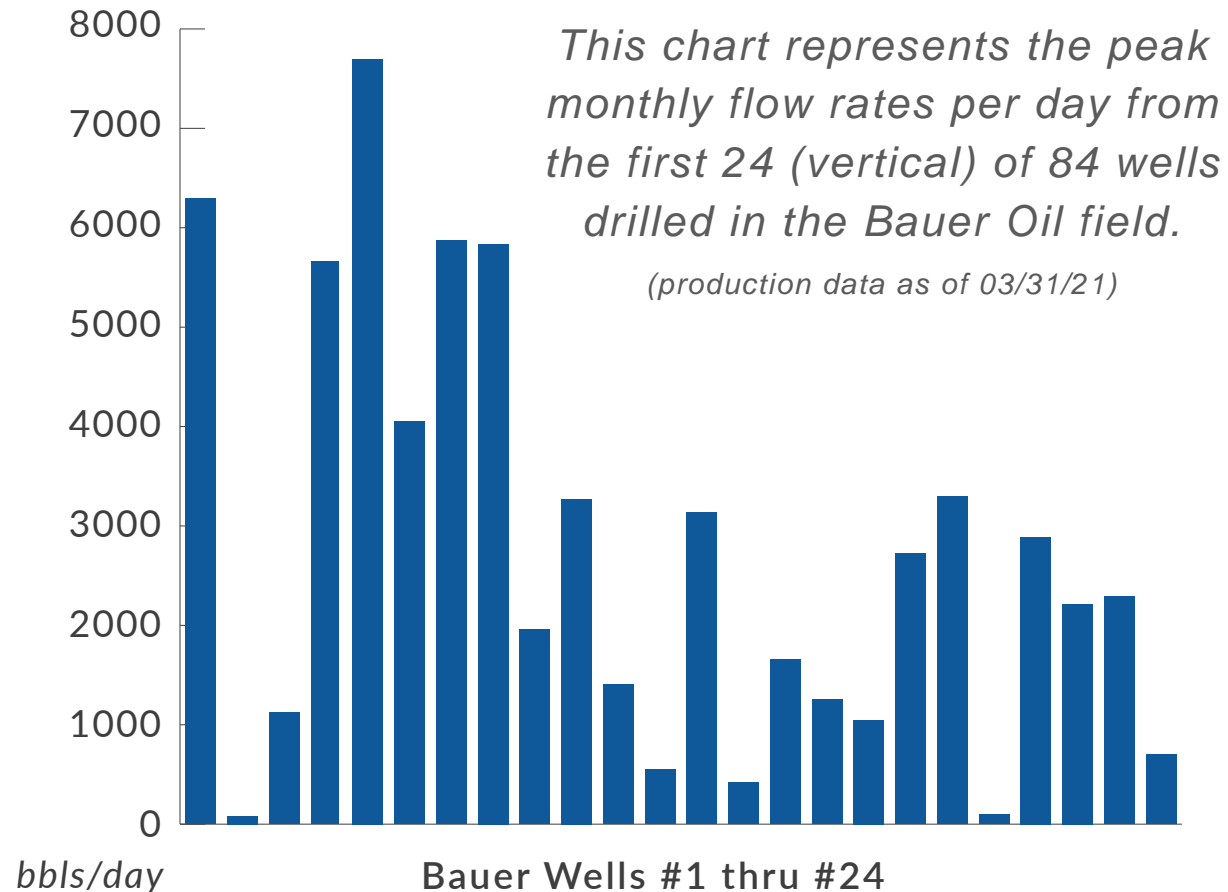
- ▶ Rincon has synthesized the 3D seismic surveys covering the trend of producing oil fields operated by Beach Energy, Santos and Senex in the Western Flank to the north of the PEL 512 South Block.
- ▶ Regional merged seismic grids totalling 3,630 km<sup>2</sup> (1,400 sq. miles) of 3D data combined with digital drilling logs, perforations, production and other data is conditioned and processed to produce synthetic production models, analogs and mapping.
- ▶ Synthetic modelling has been conducted on the prolific Bauer Oil field (Basin's 3rd largest producer) by studying dipole sonic and density logs for possible forward multi-offset AVO modelling.
- ▶ The analysis also includes synthetic seismograms of the Lake Hope 3D survey to develop geophysical profiles and production analogs of the offset oil fields operated by Santos Ltd. and to further delineate drill ready prospects into the inventory.



# Our Analog Production Model



The Bauer Oil Field discovered in 2013 is the basin's third largest producer.



Year  
Discovered  
**2013**

Acre  
spacing  
**20**

Daily  
Production  
**>13K**  
Barrels

Cumulative  
Production  
**31.4M**  
Barrels

Oil Quality  
**~45°**  
(API)

Avg. Depth  
**5480'**  
(1670 meters)

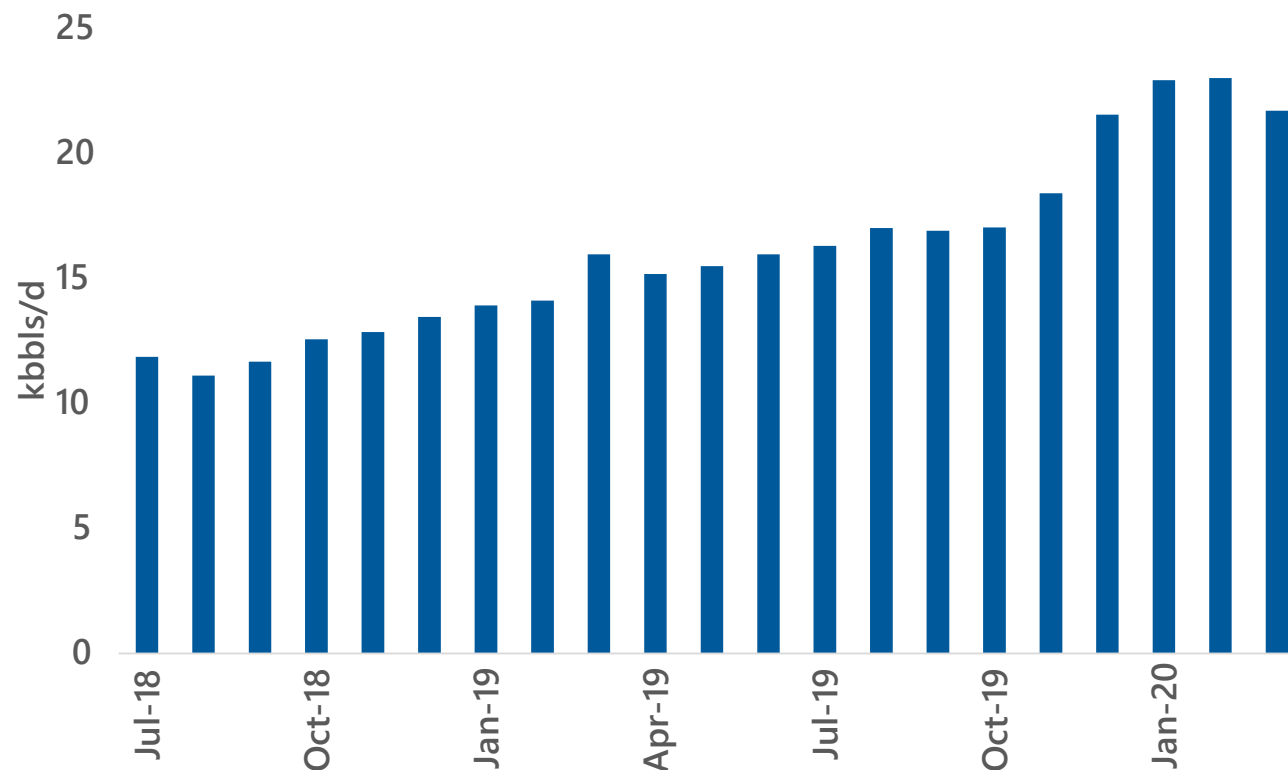


# Western Flank Drilling Success



Beach Energy's operated oil production doubled over an 18 month period averaging over 22,000 BOPD.

## Western Flank Average Oil Production Rate

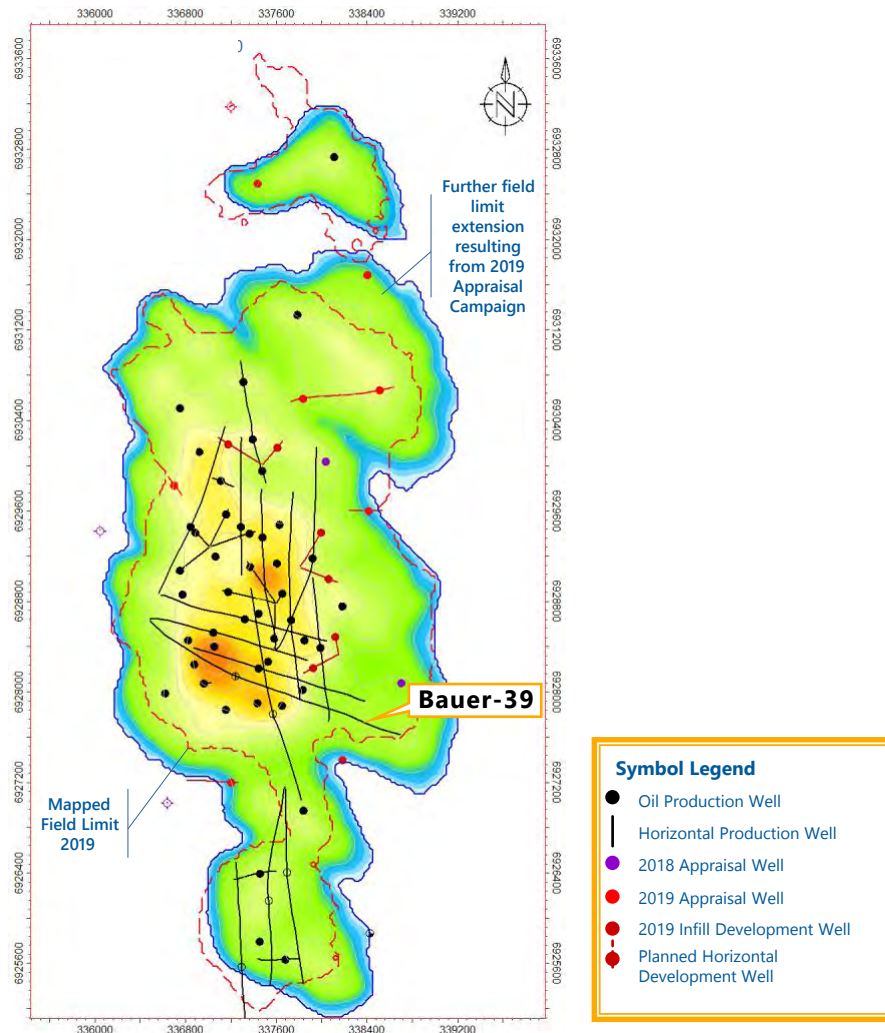


- ▶ Drilling success added 11.5 MMboe in 2P reserves, a 159% 2P reserves replacement ratio.
- ▶ Field operating costs less than A\$5/bbl.
- ▶ Oil production generates positive operating cash flow above US\$10/bbl<sup>(1)</sup> Brent.
- ▶ Most development well IRRs exceed 100%.

(1) Assuming field operating costs, tariffs, tolls and royalties

Source: Beach Energy - Western Flank Update - May 2020

# Bauer Keeps On Getting Bigger



A record year of investment and drilling by Beach with 27 horizontal oil wells drilled across the Western Flank oil fields.

- ▶ Outstanding FY20 drilling results at the Bauer Oilfield with the drilling of 8 appraisal wells and 15 development wells, including 7 horizontal wells.
- ▶ In FY19, the first four operated horizontal wells averaged spud-to-TD of 8.5 days and spud to online time of 23.5 days.
- ▶ Bauer 39 achieved the longest lateral length drilled at 1,629 metres, first month on pump produced at an average 3,500 bopd.

Source: Beach Energy - Full Year Results - August 2020

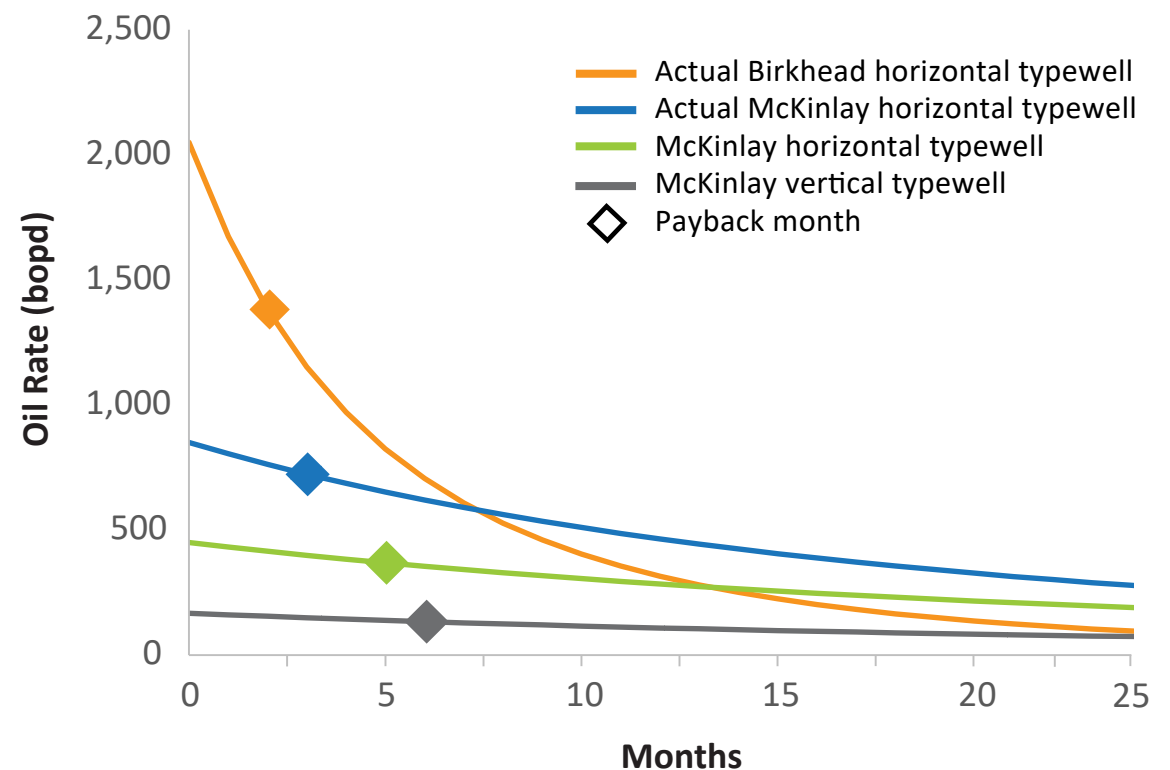
# Horizontal Drilling Has The Pay



The transition to horizontal drilling has led to an increase in recovery per well, reserves growth and a reduction in payback times as low as 2.5 months.

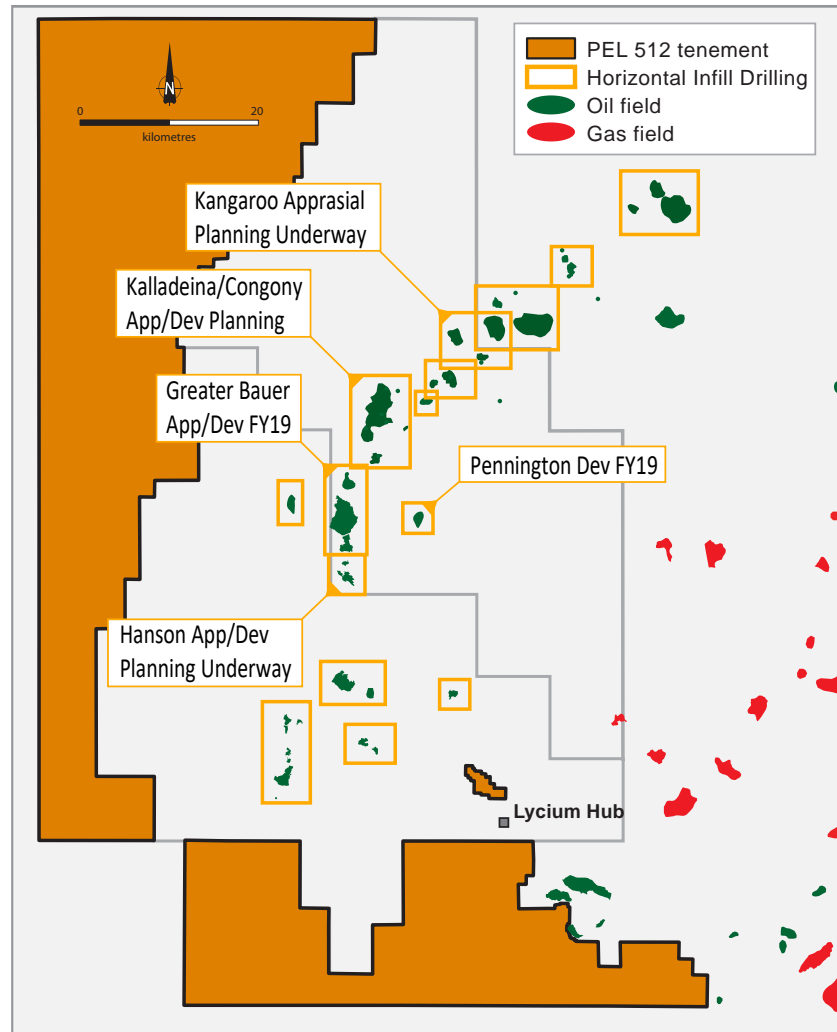
- ▶ The first horizontal wells were drilled in the Western Flank by Beach Energy in early 2018.
- ▶ Initial production of ~7,000 bopd on pump from horizontal wells Bauer-29,-30,-31,-32.
- ▶ Horizontal drilling has enhanced economics at ~1.5x cost of a vertical well with delivery of ~8x productive potential.
- ▶ Payback time on average is 6 months at lower oil prices.

### Comparison of Well Paybacks<sup>(1)</sup>



Source: Beach Energy - Western Flank Update - May 2020

# Western Flank Strategy



Strong economic metrics have always been a competitive advantage for the Western Flank Oil.

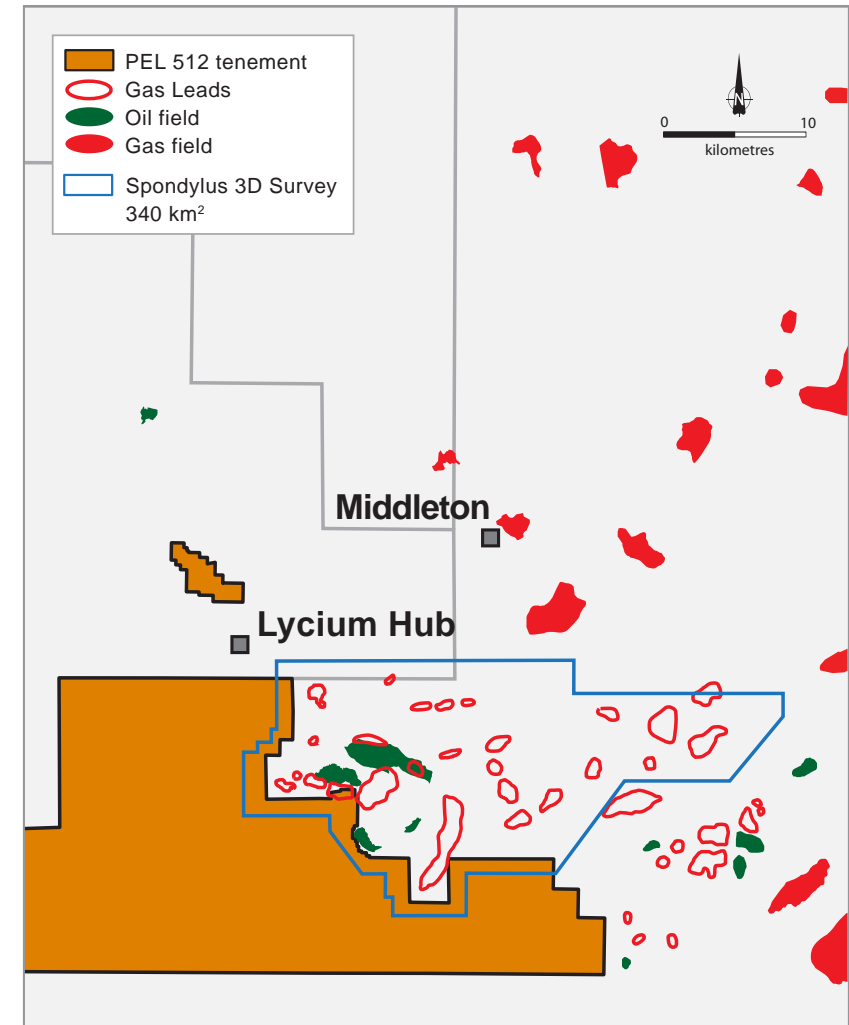
- ▶ Target maintaining gross average output above 20,000 BOPD in FY21.
- ▶ Beach has increased the application of horizontal well technology, targeting the lower permeability McKinlay and Birkhead reservoirs.
- ▶ Significant upside in McKinlay and Namur reservoirs from this approach.
- ▶ Further appraisal opportunities identified with at least 4 oil fields yet to be fully appraised.

*Source: Beach Energy - Full Year Results - August 2020*

# Emerging Western Flank Gas Play



- ▶ Extensive Southwest Patchawarra (SWP) and Permian Edge (PE) play fairways.
- ▶ ~1,300 km<sup>2</sup> of under-explored PE fairway.
- ▶ Drilling program to support objective of long term stable production out of Middleton.
- ▶ Future development drilling in the core Middleton, Brownlow and Lowry field area.
- ▶ Scope for cost reduction via pad drilling of development wells.
- ▶ Drill 5 prospects delineated by Spondylus 3D seismic survey to extend proven stratigraphic play and test new exploration plays during 2021.



Source: Beach Energy - Half Year Results - Feb 2021

# What We've Learned To Date



## Geology

Fuller understanding of petrophysics and reservoir analysis following a regional AVO study of all available seismic and well data.

## Team

Built and fostered a highly integrated operations & technical team who deliver.

## Operations

Horizontal drilling is now being implemented in the Western Flank which will deliver enhanced production and recovery rates.

## Results

Improved economics, larger recoverable resource, higher quality inventory.

Wells  
Drilled

**>3400**

Exploration  
Success Rates

**~45%**

Appraisal  
Success Rates

**90%**

Development  
Success Rates

**100%**

Recovery  
Rates <sup>(1)</sup>

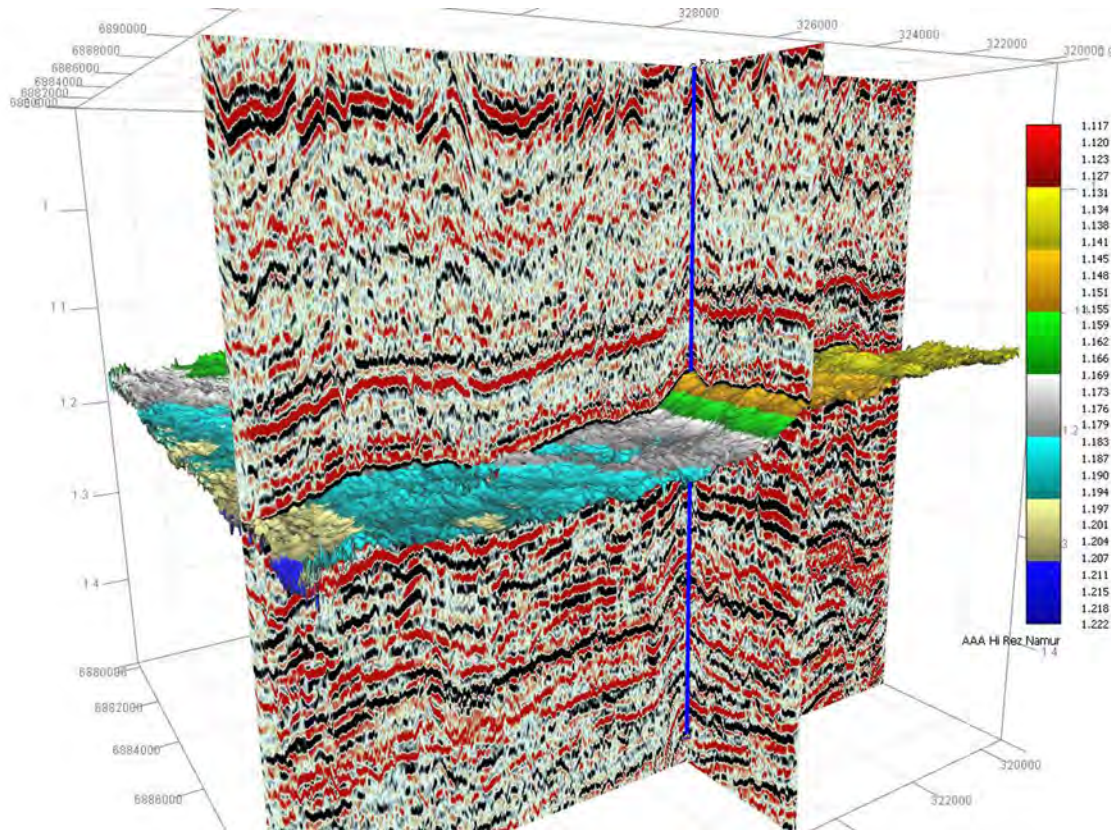
**~75%**

(1) Recovery Rate is based on the Bauer oil field producing from the Namur formation

# Project Is Drill Ready



A high quality drilling inventory was developed using state of the art technology.



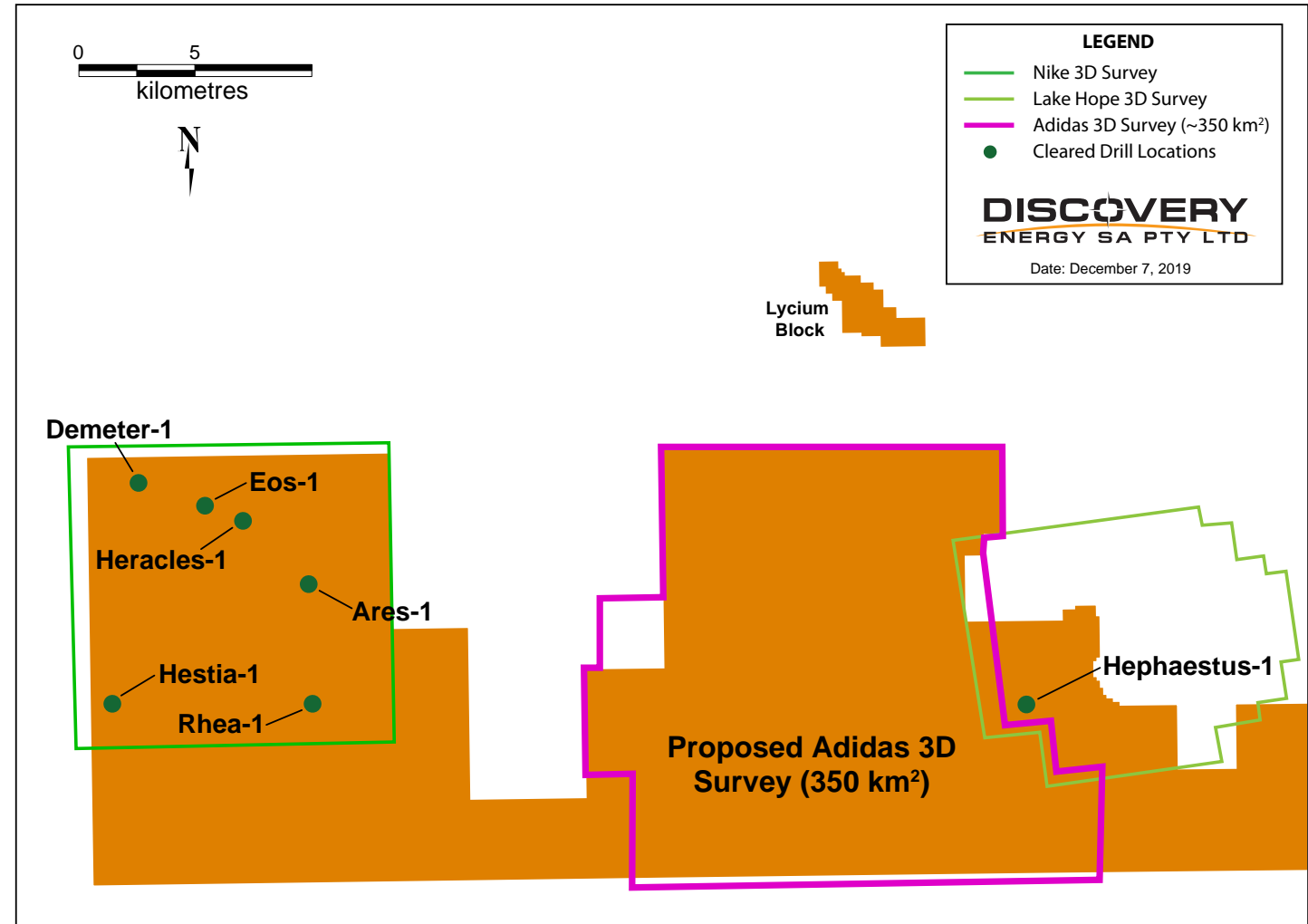
In advance of the upcoming drilling programs Discovery completed the Nike 3D survey (180 km<sup>2</sup>) on the southwest production trend acreage of PEL 512 and AVO analysis of surrounding 3D surveys covering the offset oil fields to the north and east of PEL 512.

*Amplitude versus offset (AVO) analysis is a technique that geophysicists can execute on seismic data to determine a rock's fluid content, porosity, density, seismic velocity, shear wave information and fluid indicators (hydrocarbon indications).*

# 2023 Planned Work Program



- ▶ Six high-grade well locations have been surveyed and cleared with Native Title in the Nike 3D Survey Area.
- ▶ One high-grade well location has been surveyed and cleared with Native Title in the Lake Hope 3D Survey Area.
- ▶ The Adidas 3D Survey Area (350 km<sup>2</sup>) has been proposed to convert existing 2D leads to defined 3D drill prospects.



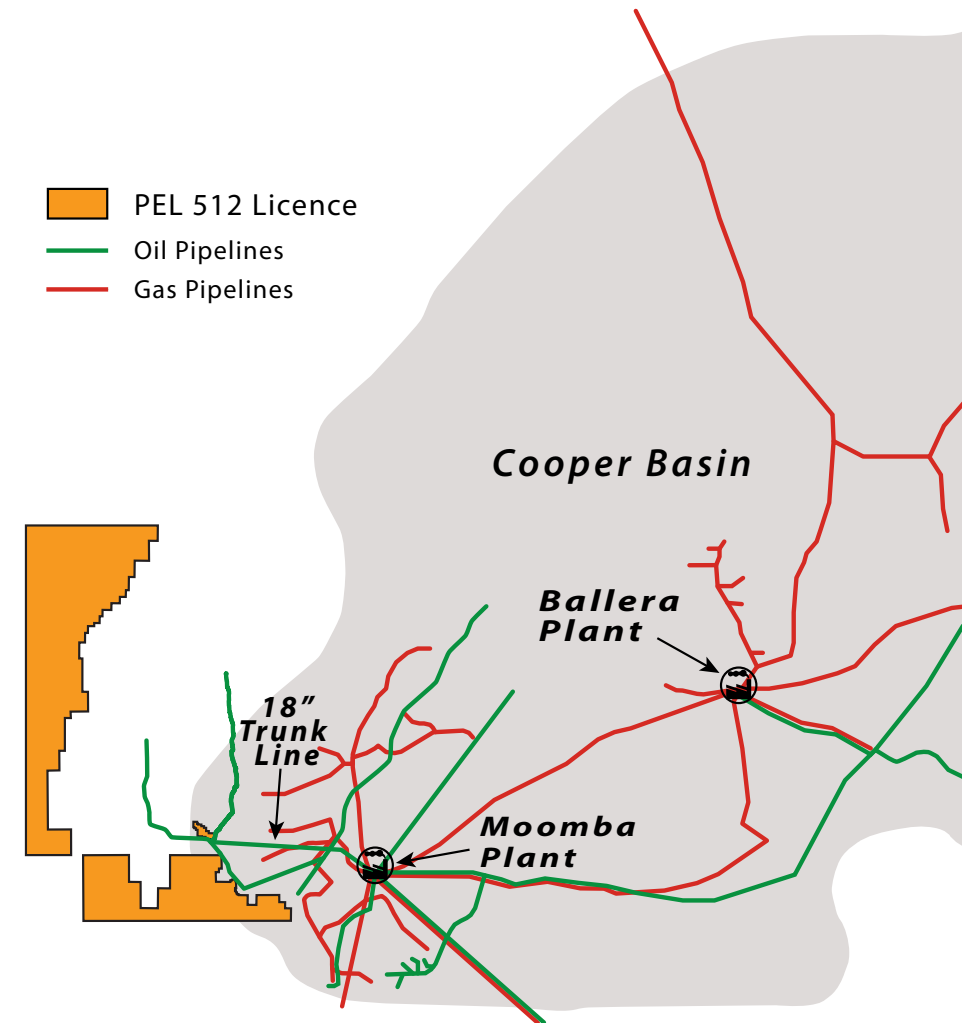


# Regional Infrastructure



Local oil and gas industry is highly developed.

- ▶ Oil and gas will be transported to the Moomba processing terminal by either:
  - ▶ Short haul trucking - Just 65 km from PEL 512 to Moomba Processing Plant.
  - ▶ Existing pipeline infrastructure.
- ▶ Existing 18" trunk line from the Lycium Hub to the Moomba Plant with additional capacity of >20,000 Bopd.
- ▶ Several other nearby pipelines provide additional local tie-in to Moomba.
- ▶ Oil piped to Brisbane or Port Bontyhton for export to world markets at Brent prices.



# Compelling Economics



Low cost shallow vertical wells, simple completions and high flow rates.

Avg. IP Rate

**640**

Bopd

Avg. Reserves

**1.2**

Mbo

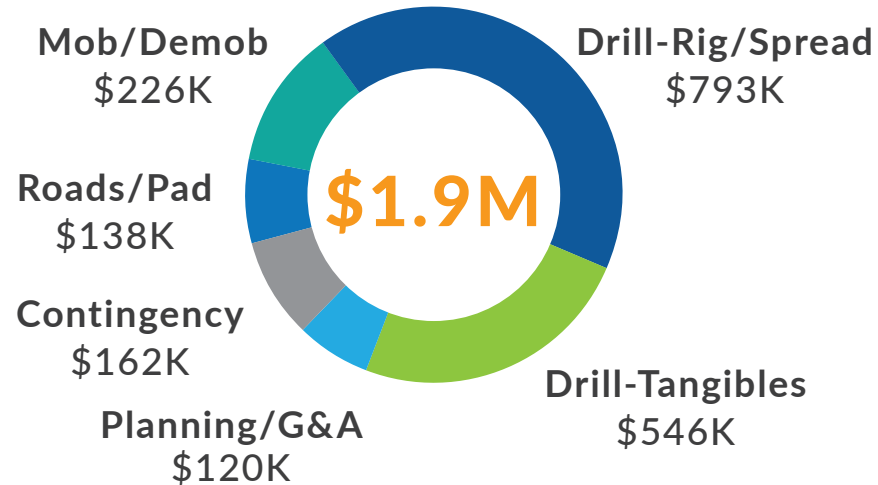
Avg. Well Life

**14**

Years

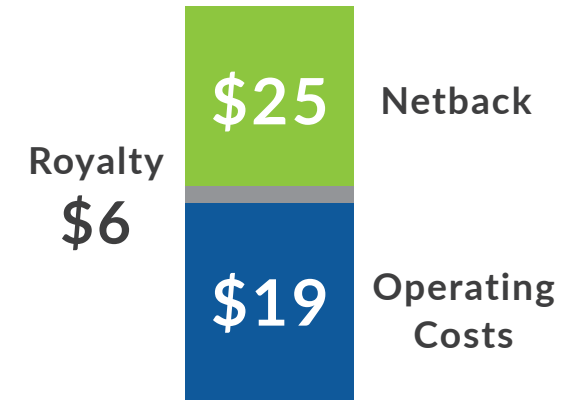
Typical Exploration Well Costs

(Case & Suspend \$USD)



Typical Well Netback

(USD\$50/barrel)



***From Discovery to Revenue in approximately 90 days***

Royalty  
**11%**

# Payback to Profits



Delivering quick payback, compelling IRR's and rapid value creation.

Well Program (\$US 000)	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
Monthly Net Revenue	714	649	632	577	563	533
LOE	(221)	(215)	(196)	(191)	(181)	(166)
Transport	(32)	(31)	(29)	(28)	(27)	(24)
Production Tax	(14)	(13)	(13)	(12)	(11)	(11)
Operating Cash	447	390	395	346	344	332
Cum Operating Cash	1,055	1,445	1,840	2,186	2,530	2,862
<b>Well Type/Cum Net Cash</b>						
Exploration (Cost \$1,965)	(910)	(520)	(125)	221	565	897
Appraisal (Cost \$1,558)	(503)	(113)	281	627	972	1,304
Development (Cost \$1,292)	(238)	153	547	893	1,238	1,570

*Estimated payback model for typical Cooper Basin wells based on an initial production rate of 640 bopd using a flat Brent US\$50 bbl oil.*

***A typical vertical well payback is approximately 65,000 barrels***

# The Right Time To Invest

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Now that the regional geotechnical study to fine tune our understanding of the play is completed, it's time to execute on the drilling and development strategy.

High success rates for exploration drilling by our peers around PEL 512 provides insight of the results in the trend, using the same matrix we are set for major growth, revenue and profits.

The PEL 512 Licence appears to be the last undeveloped resource in the heart of the Western Flank. With initial drilling ready to begin, now is the right time to invest in this unique early stage opportunity.

For more information visit us at [discoveryenergy.com](https://discoveryenergy.com)



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## **SUBSIDIARY COMPANY (AUS)**

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Level 8 - 350 Collins Street  
Victoria 3000 AUS  
Tel: 61 (0) 3 8601 1131  
Fax: 61 (0) 3 8601 1180  
Email: [info@discoveryenergy.com.au](mailto:info@discoveryenergy.com.au)

## **LISTING**

Exchange: OTC MARKETS  
Trading Symbol: "DENR"  
Cusip Number: 25470P 102  
ISIN Number: US25470P1021

## **TRANSFER AGENT**

Computershare Trust Company  
8742 Lucent Blvd., Suite 225  
Highlands Ranch, CO 80129  
Tel: (800) 736 3001  
Website: [www.computershare.com](http://www.computershare.com)

## **SHARE CAPITAL AUTHORIZED AND ISSUED AS AT FEBRUARY 28, 2021**

Authorized: 500,000,000 common shares  
without par value  
Issued and Outstanding: 154,365,396

## **STOCKHOLDER INFORMATION**

Restricted Shares: 138,372,112  
Unrestricted: 15,993,284  
High/Low: \$0.35/\$0.10  
Fiscal Year End: February 28

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For more information, visit us at [DiscoveryEnergy.com](http://DiscoveryEnergy.com)

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# Forward Looking Statements

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Although Discovery believes that the expectations reflected in such forward-looking statements are reasonable, it can give no assurance that such expectations will prove to have been correct. Discovery cautions that actual performance will be affected by a number of factors, many of which are beyond Discovery's control, and that future events and results may vary substantially from what Discovery currently foresees. Discussion of the various factors that may affect future results is contained in Discovery's Annual Report on Form 10-K, which is available at [www.sec.gov](http://www.sec.gov) or [www.sedar.com](http://www.sedar.com). Discovery's forward-looking statements are expressly qualified in their entirety by this cautionary statement. Accordingly, readers are cautioned not to place undue reliance on forward-looking statements.

# Addendum



# Corporate History

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## Q2/06

Santos Resource Corp is incorporated in Nevada and files Registration Statement to become a public Company.

## Q1/12

New management acquires control, acquires PEL 512 licence rights and raises \$1.5M in seed capital from high net investors.

## Q3/12

Name change to Discovery Energy Corp, incorporates Australia subsidiary and is awarded PEL 512 licence from Australia Government.

## Q2/16

Raised \$5M in debenture financing from principals of the Avista Fund and Texican Energy.

## Q2/17

Completed the 180 km<sup>2</sup> Nike 3D seismic survey inline with the Western Flank production trend.

## Q1/19

Conducted an extensive regional geotechnical program resulting in multiple AVO defined and drill ready targets.



# Our Team



Focused Strategy With Diverse Commercial And Operations Experience.

## **KEITH SPICKELMIER**

*Chairman*

Executive Chairman of Sintana Energy Inc., raised US\$34 Million in funding and signed joint venture with ExxonMobil in Colombia. Founder & Chairman of Westside Energy, a Texas Barnett shale producer founded late 2003 & sold for US\$230M in 2008.

## **KEITH J. MCKENZIE**

*CEO, Director*

Over 35 years' of experience working with private and public companies in the industrial and resource sectors. 20 years in the Oil & Gas sector in various executive, finance, start-up, and consulting capacities. Founding principal & COO of Paxton Energy, Inc.

## **WILLIAM E. BEGLEY**

*CFO, COO, President & Director*

35 plus years' of energy industry & finance experience – starting his career at BP. Held senior positions in energy banking at Salomon Brothers. Served as Chief Financial Officer and Treasurer for Australia focused, Magellan Petroleum. Corporation.

## **WOODY LEEL**

*Exploration Manager*

Certified petroleum geologist with experience in domestic and international exploration and production. Has held senior positions at leading companies such as Hess Corp., Triton Energy, Getty Oil and several other independent oil companies.

## **SEAN AUSTIN**

*Corp. Secretary, Treasurer*

Mr. Austin has over 40 years of both domestic and international industry experience focused on finance, accounting and administration. For more than two decades, Mr. Austin was employed by HESS and held senior management positions in New York, London and Houston.

## **ANDREW ADAMS**

*Managing Director, Australia*

Over 40 years' experience in petroleum exploration ranging across technical & commercial aspects of the business. Managing Director of Australia's Bass Strait Oil Company and Commercial Manager at Cue Energy. Led Santos Ltd. exploration teams with a focus on Australia and Asia.

# Technical Group



A Highly Experienced Team With Cooper Basin Expertise.

## **RINCON ENERGY, LLC** *Geophysical Consultants*

Rincon has extensive experience in seismic processing and currently performs in-house pre-stack time migration, and high-resolution velocity analysis and CDP gather conditioning for AVO interpretation. Using this unique in-house capability and experience, Rincon is actively generating high impact exploration prospects for select clients.

Rincon Energy focuses primarily on exploration, and has drilled multiple successful, high impact wells worldwide. In addition to exploration, Rincon has extensive experience developing large oil fields around the world and has expertise in development geology and reservoir modelling and simulation

## **RESOURCE GEOSOLUTIONS** *Geophysical Project Mgmt*

Resource Geosolutions Pty Ltd. is a seismic consulting company offering a complete range of geophysical services to the petroleum, coal seam gas and mineral exploration industries.

Mark Kneipp, Resource Geosolutions Principal Consultant and Discovery's Nike 3D Project Manager is highly experienced in geophysical project operational delivery, technical support and quality control, implementing Project Management Systems with the ability to plan, design, manage and execute projects of any size and complexity.

## **JAMES A. CARROLL** *Project Geophysicist*

Managing Director of Bell & Murphy and Associates, LLC, is registered, licensed and certified by the Texas Board of Professional Geoscientists and the State of Louisiana Board of Professional Geoscientists.

He has more than 40 years of on and off shore domestic and international successes in oil and gas. He has worked as an independent consultant in geophysics since 1992. International experience includes 3D survey design and detailed interpretation of prospective acreage in the Cooper Basin, South Australia. Prior to Bell & Murphy he held positions with Wessely Energy, Dome Petroleum, Gulf Oil Company and Delta Exploration Company.