



# CORPORATE PRESENTATION

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

FEBRUARY 2024

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DENR OTC



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

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## 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

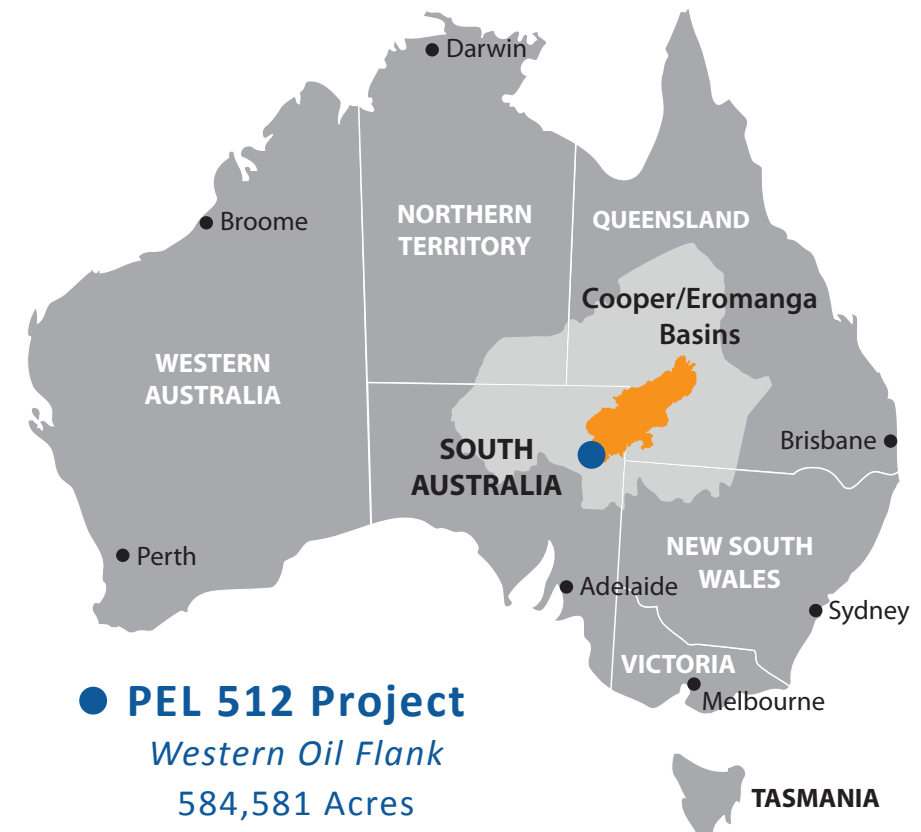
Regionally productive oil reservoirs with strong recovery driven by the Great Artesian Aquifer that covers 23% of the Australian continent.

# 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 90 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 3000 oil and gas wells have been 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 240.4 Mmbbl of oil, 88.9 Mmboe of condensate, 91.9 Mmboe of LPG and 5.7 Tcf of gas.

Producing 6.1 Mmbbl of oil, 0.6 Mmboe of condensate, 1.3 Mmboe of LPG and 58 Bcf of gas annually. (2021-2022)

# 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.

**\$23.8B**

Market Cap/\$AUD

**DISCOVERY**  
E N E R G Y



**beach**

**\$3.9B**

Market Cap/\$AUD

***Santos and Beach Energy have significant capital commitments in the Cooper Basin for fiscal 2024***

# Our Team



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

## **KEITH SPICKELMIER**

*Chairman*

Executive Chairman of Sintana Energy Inc. Entrepreneur with proven track record in start-up ventures and corporate finance for energy companies.

## **KEITH MCKENZIE**

*CEO, Director*

Over 35 years of experience in in various executive, finance and consulting capacities working with energy, mining and industrial companies.

## **WILLIAM BEGLEY**

*CFO, COO, Pres & Director*

35+ years of energy industry & finance experience. Started career at BP, senior positions at Solomon Brothers and Magellan Petroleum.

## **WOODY LEEL**

*Exploration Manager*

Certified petroleum geologist with 40+ years of domestic and international experience. Held senior positions at Hess Corp, Triton Energy and Getty Oil.

## **SEAN AUSTIN**

*Corp. Secretary, Treasurer*

40+ years of international and domestic experience in energy finance, administration and accounting. Senior positions at Hess for over two decades.

## **ANDREW ADAMS**

*Managing Director, Australia*

Over 40 years' experience in petroleum exploration ranging across technical & commercial aspects the business in Australia.

# Technical Group

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

## **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, Rincon generates high impact exploration prospects. Rincon has extensive experience and 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 is highly experienced in implementing Project Management Systems with the ability to plan, design, manage and execute projects of any size and complexity.

# Key Milestones



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

**Issued the PEL  
512 Exploration  
Licence**

*October 2012*

**Completed  
Independent  
resource study**

*October 2015*

**Completed the  
Nike 180 km<sup>2</sup>  
3D survey**

*December 2016*

**Completed the  
Adidas 262 km<sup>2</sup>  
3D survey**

*March 2023*



**Reprocessed Lake  
Hope 3D survey**

*June 2013*

**Raised \$5.5M USD  
of project funding**

*May 2016*

**Completed a regional  
3D Assessment**

*December 2018*

# 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.

## Seismic Control

The 180 km<sup>2</sup> Nike 3D program resulted in 38 leads and drilling prospects. The Adidas 262 km<sup>2</sup> 3D interpretation is expected to be completed in Q2/24.



## 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 2024.

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

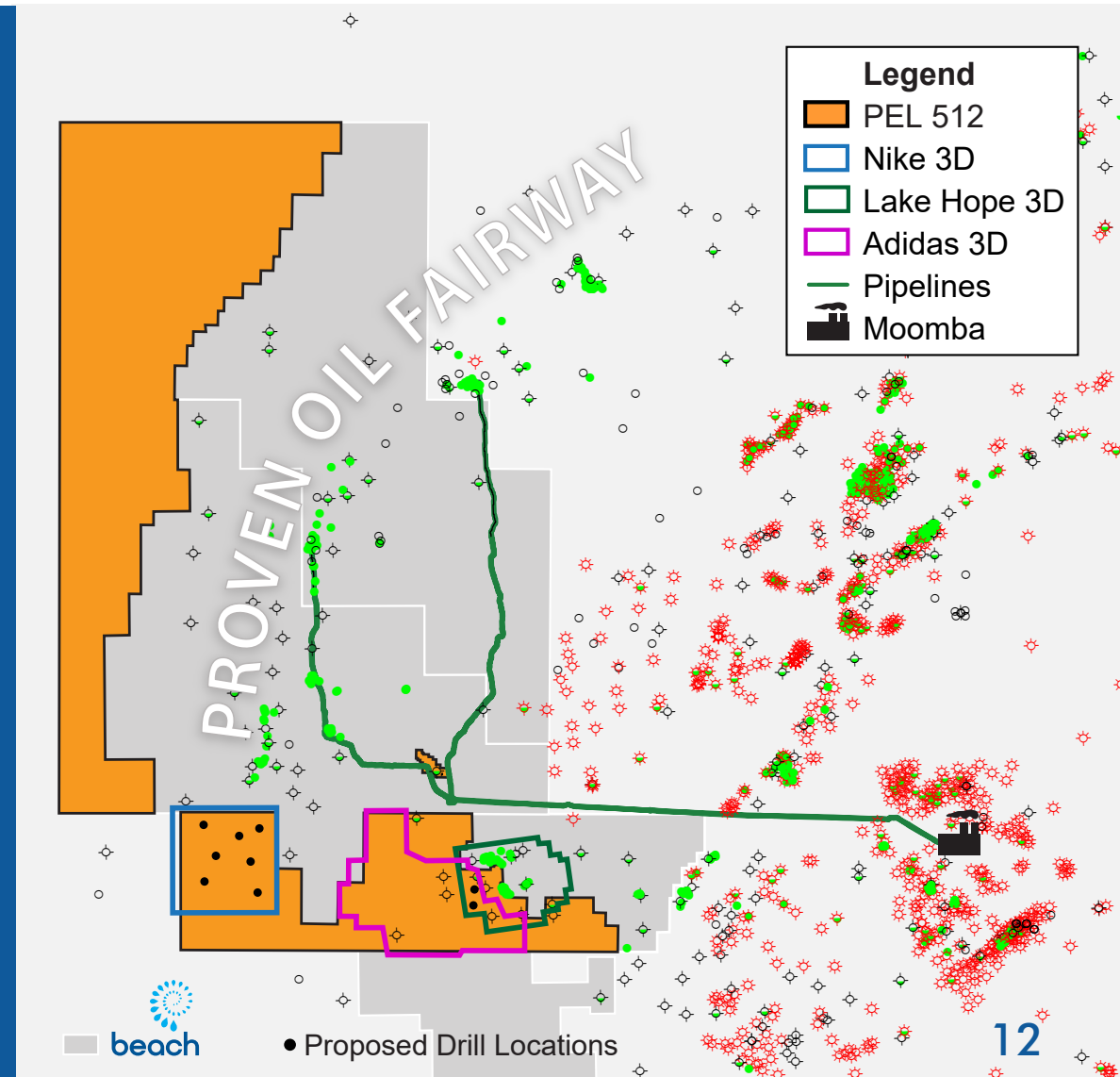
# On The Right Path



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)	32.9
Butlers - 8 wells (2009)	3.7
Callawonga - 18 wells (2006)	8.6
Christies - 7 wells (2003)	2.2
Growler - 21 wells (2007)	7.6
Parsons - 6 wells (2008)	4.7
Sturt & Sturt E - 12 wells (1988)	2.9
Tantanna - 13 wells (1988)	8.0

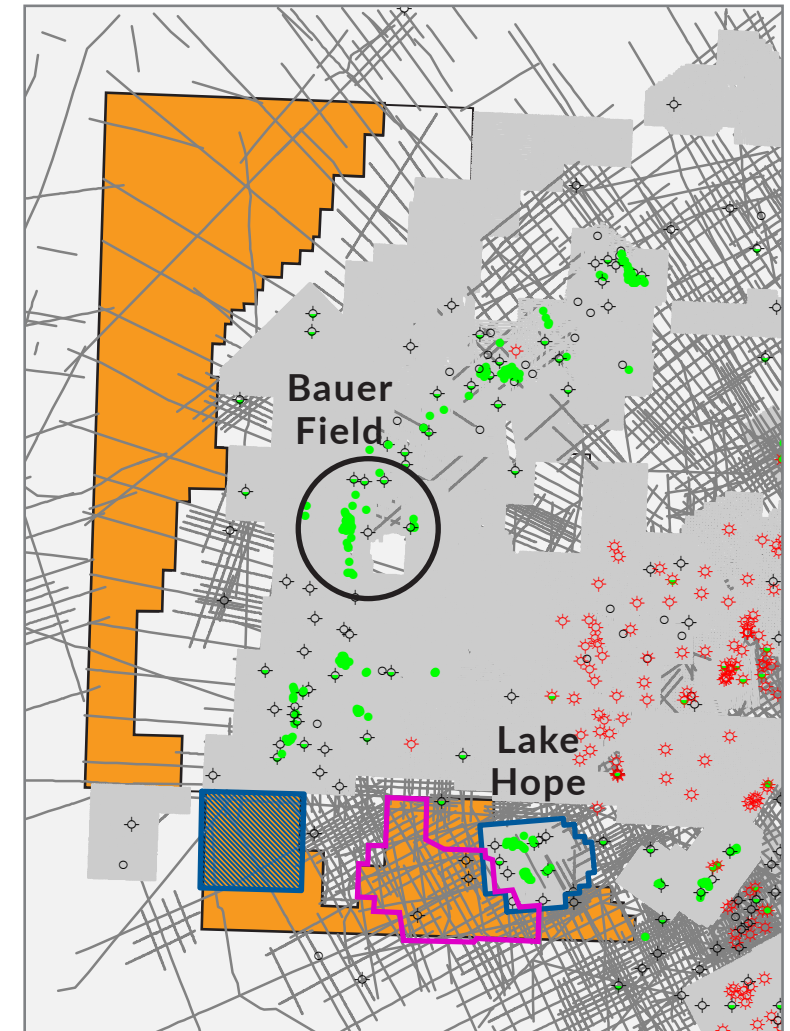
Source: PEPS-SA - Production as of 07/31/23



# Our Technical Advantage



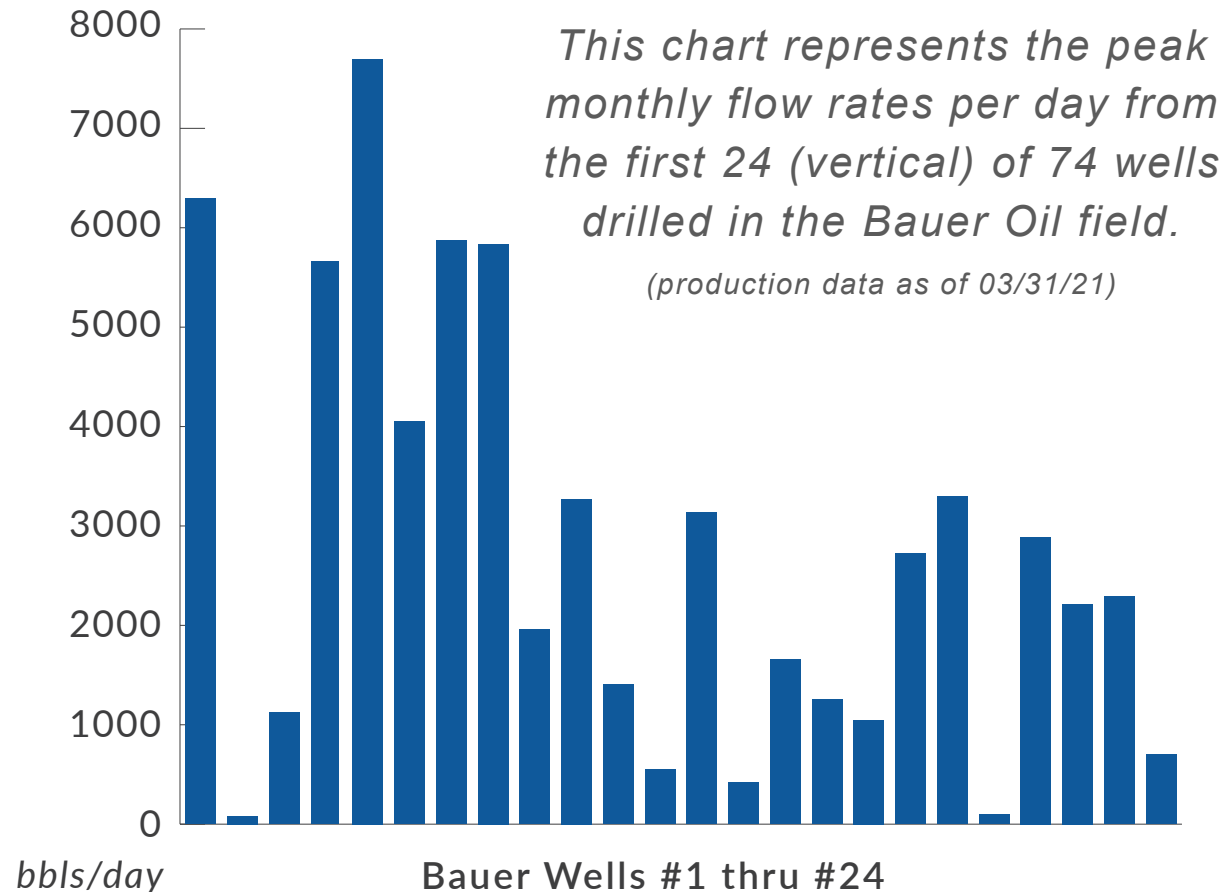
- ▶ Rincon has synthesized the 3D seismic surveys covering the trend of producing oil fields operated by Beach Energy and Santos in the Western Flank to the north of the PEL 512 South Block.
- ▶ Regional merged seismic grids totalling 3,630 km<sup>2</sup> (1,400 sq. miles) of 3D data combined with digital 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**

Peak Daily  
Production (2020)  
**+20K**  
Barrels

Cumulative  
Production  
**32.9M**  
Barrels

Oil Quality  
**~45°**  
(API)

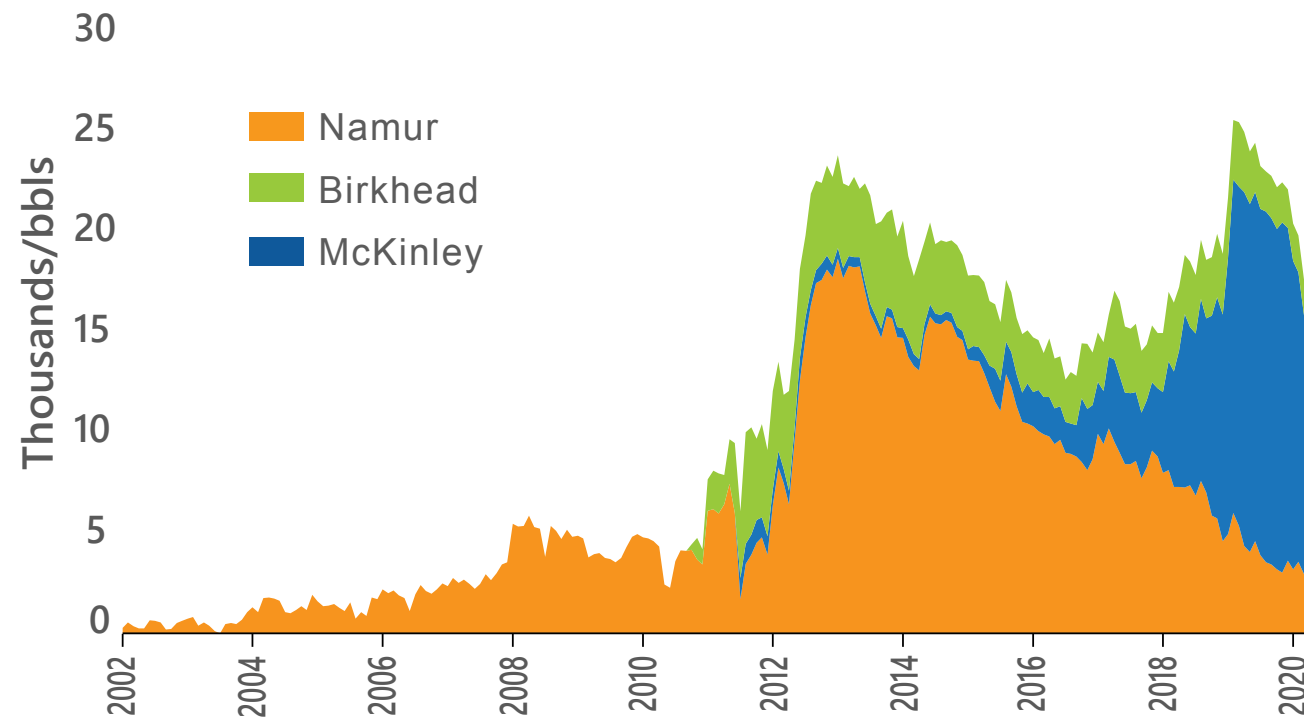
Avg. Depth  
**5480'**  
(1670 meters)

# The Western Flank Delivers



Beach Energy's net FY21 production was 8.9 MMboe with net 2P reserves of 34 MMboe.

## Historic Western Flank Oil Production

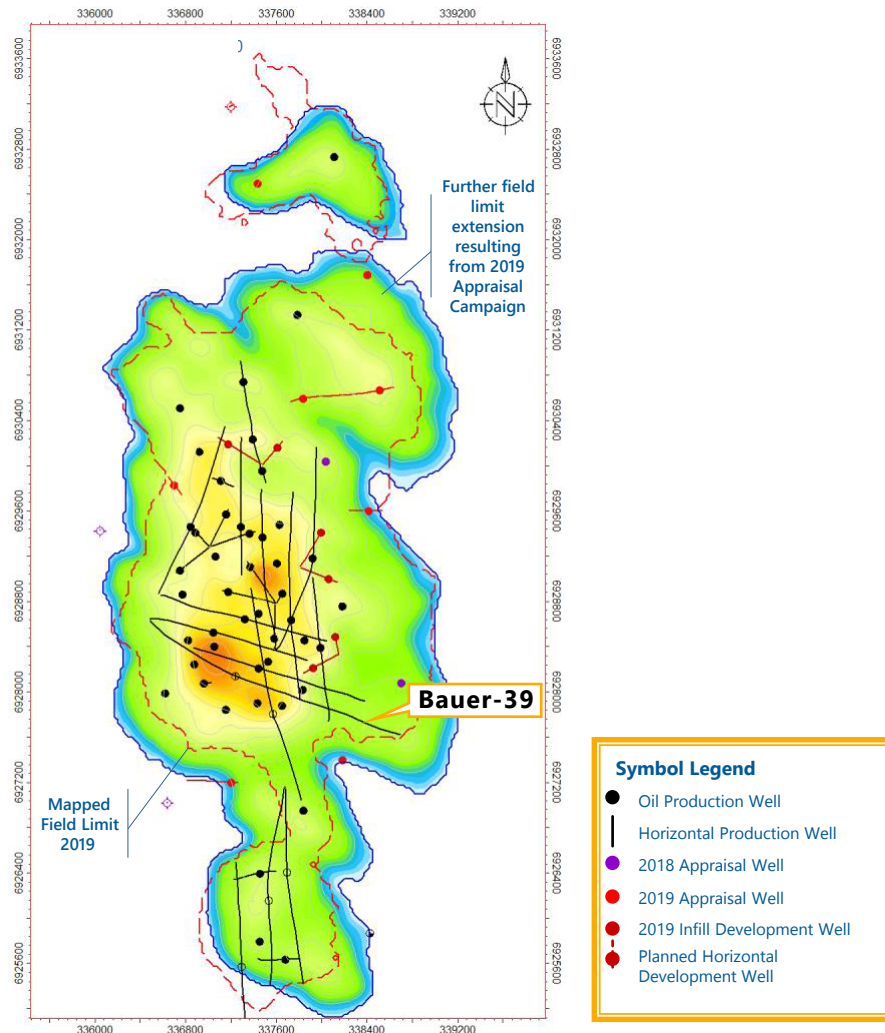


- ▶ 185 wells producing from 27 oil fields and 4 gas fields.
- ▶ Field operating costs ~A\$5/bbl.
- ▶ Oil production generates positive operating cash flow above US\$10/bbl<sup>(1)</sup> Brent.
- ▶ Most development well IRRs exceed 100%.

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

Source: Beach Energy - Western Flank Update - May 2020 and 2021 Investor Update - September 2021

# Bauer Keeps On Getting Better



The Bauer field discovered in 2012 was initially estimated to contain 1 MMbbls of 2P reserves.

- ▶ Estimated ultimate recovery is now 40 MMbbls comprised of cumulative production of 30 MMbbls and 2P reserves of 10 MMbbls.
- ▶ 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 a lateral length drilled at 1,629 metres, first month on pump produced at an average 3,500 bopd.

Source: Beach Energy - 2021 Investor Update - September 2021

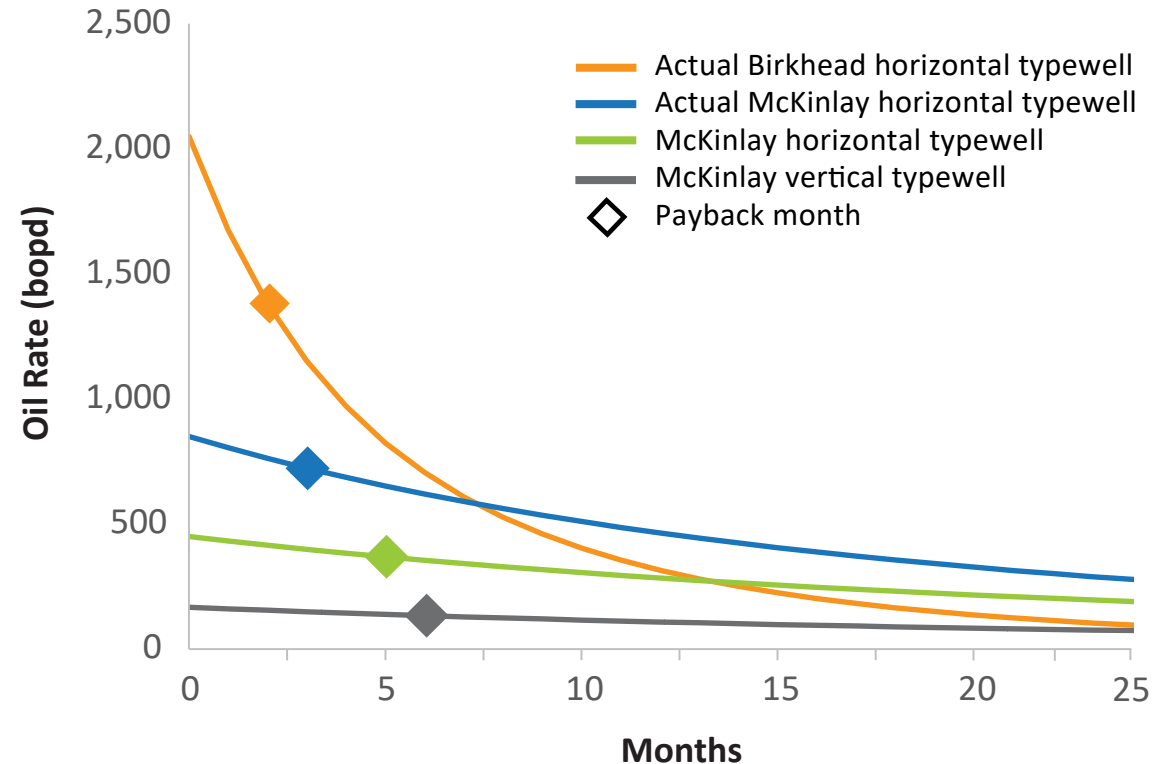
# Horizontal Drilling Has The Pay



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.

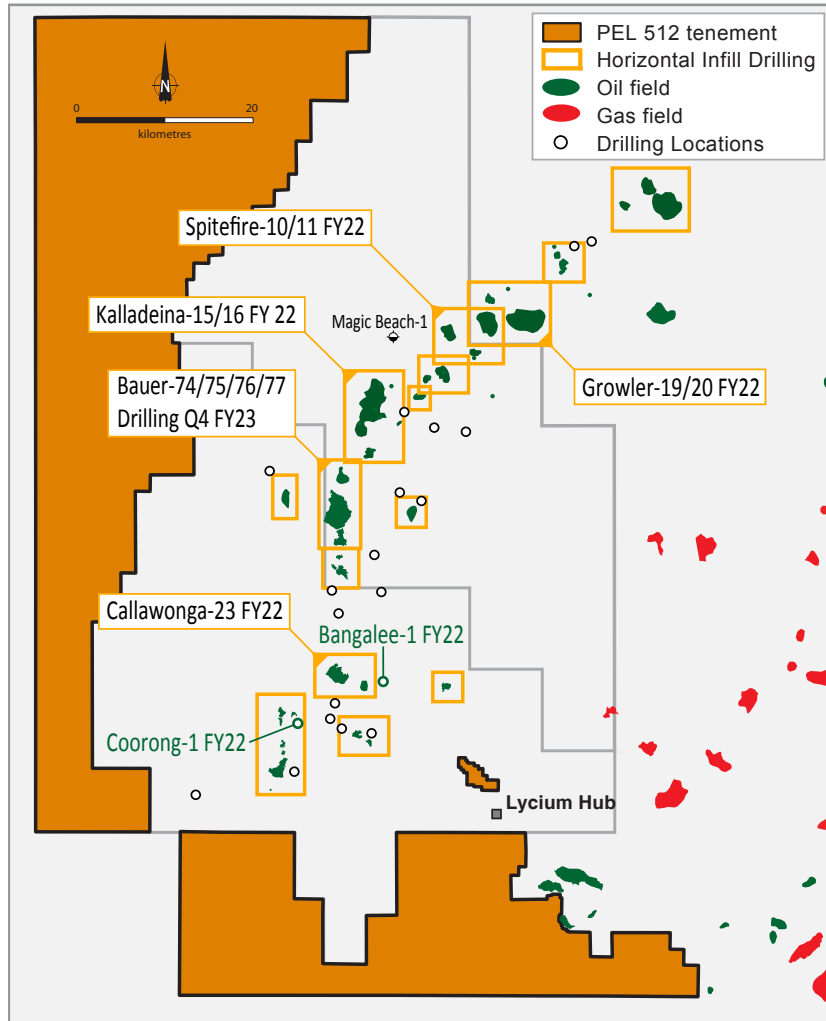
- ▶ The first horizontal wells were drilled in the Western Flank by Beach Energy in early 2018.
- ▶ Initial production of ~7,000 bopd on pump from horizontal wells Bauer-29,-30,-31,-32.
- ▶ Horizontal drilling has enhanced economics at ~1.5x cost of a vertical well with delivery of ~8x productive potential.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

- ▶ New seismic techniques (PSDM) improved accuracy of depth imaging.
- ▶ Beach increased the application of horizontal well technology, targeting the lower permeability McKinlay and Birkhead reservoirs.
- ▶ 24 prospects matured to drill-able status in FY22.
- ▶ Drilling ~30 wells (predominantly oil), including up to 12 horizontal wells in FY23.

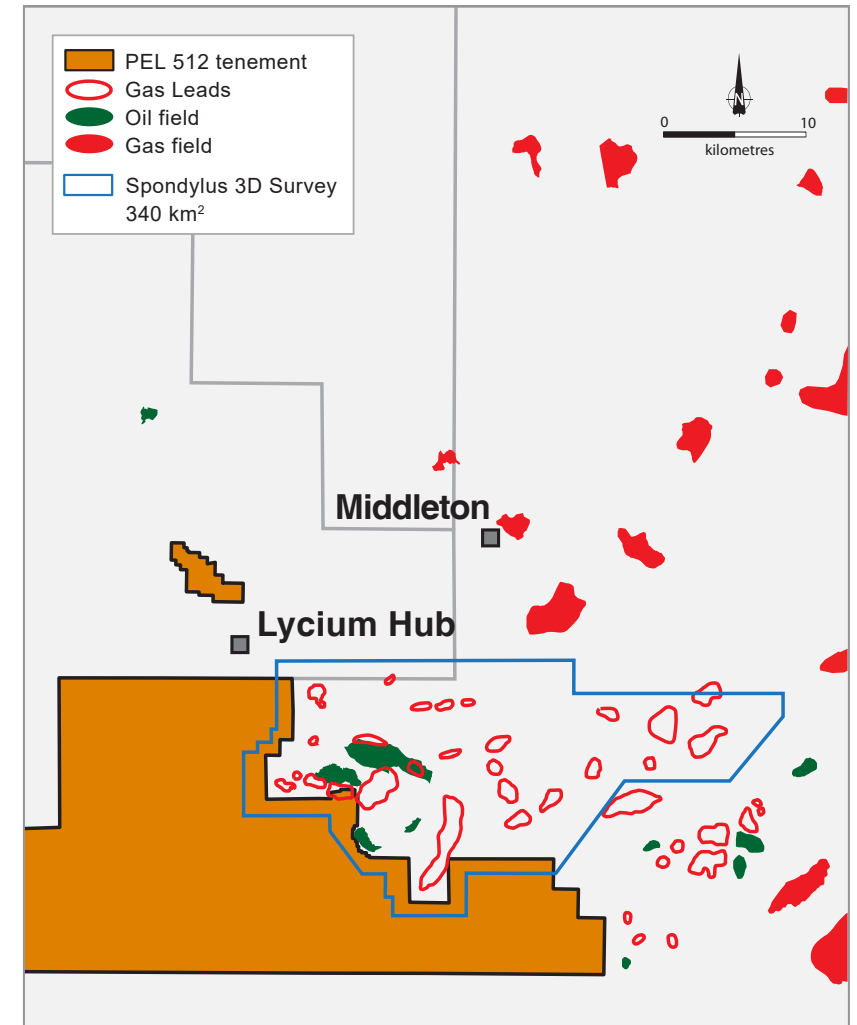
*Source: Beach Energy - Full Year Results - August 2022*

# 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.
- ▶ Drilled 5 prospects delineated by Spondylus 3D seismic survey conducted by Beach Energy 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

**>3000**

Exploration  
Success Rates

**~45%**

Appraisal  
Success Rates

**90%**

Development  
Success Rates

**100%**

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

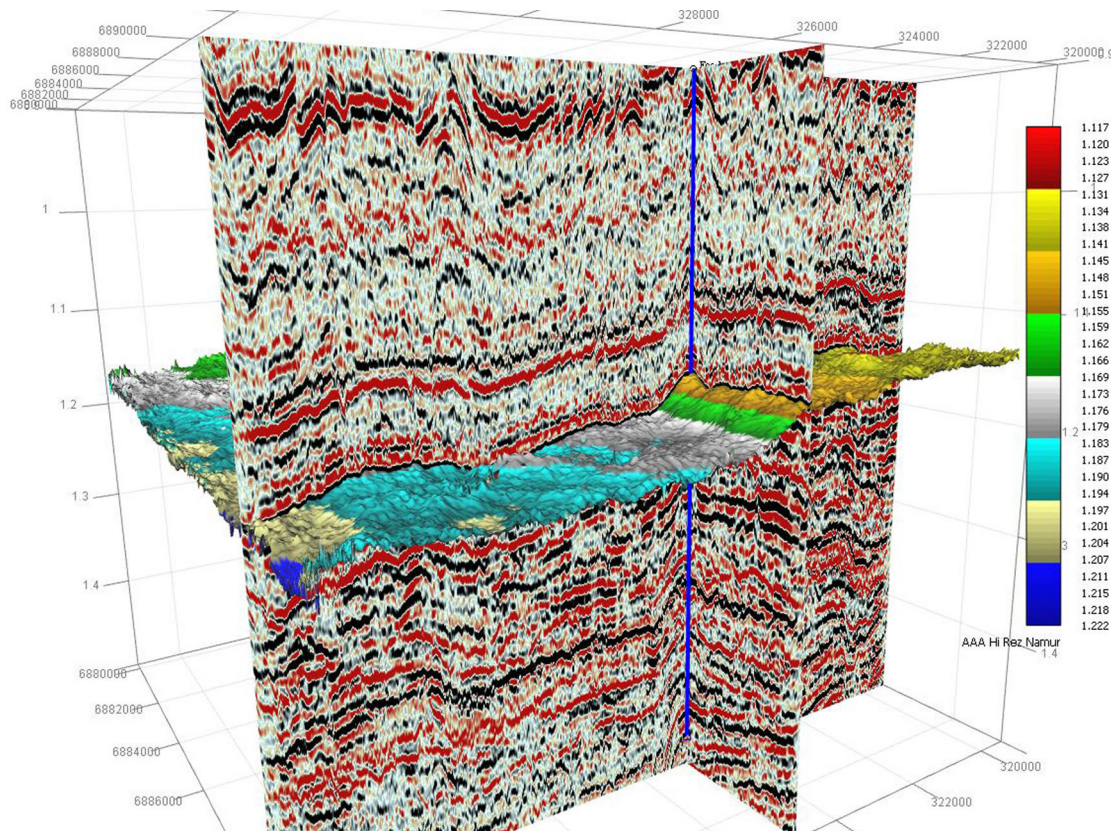
**~75%**

*(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.



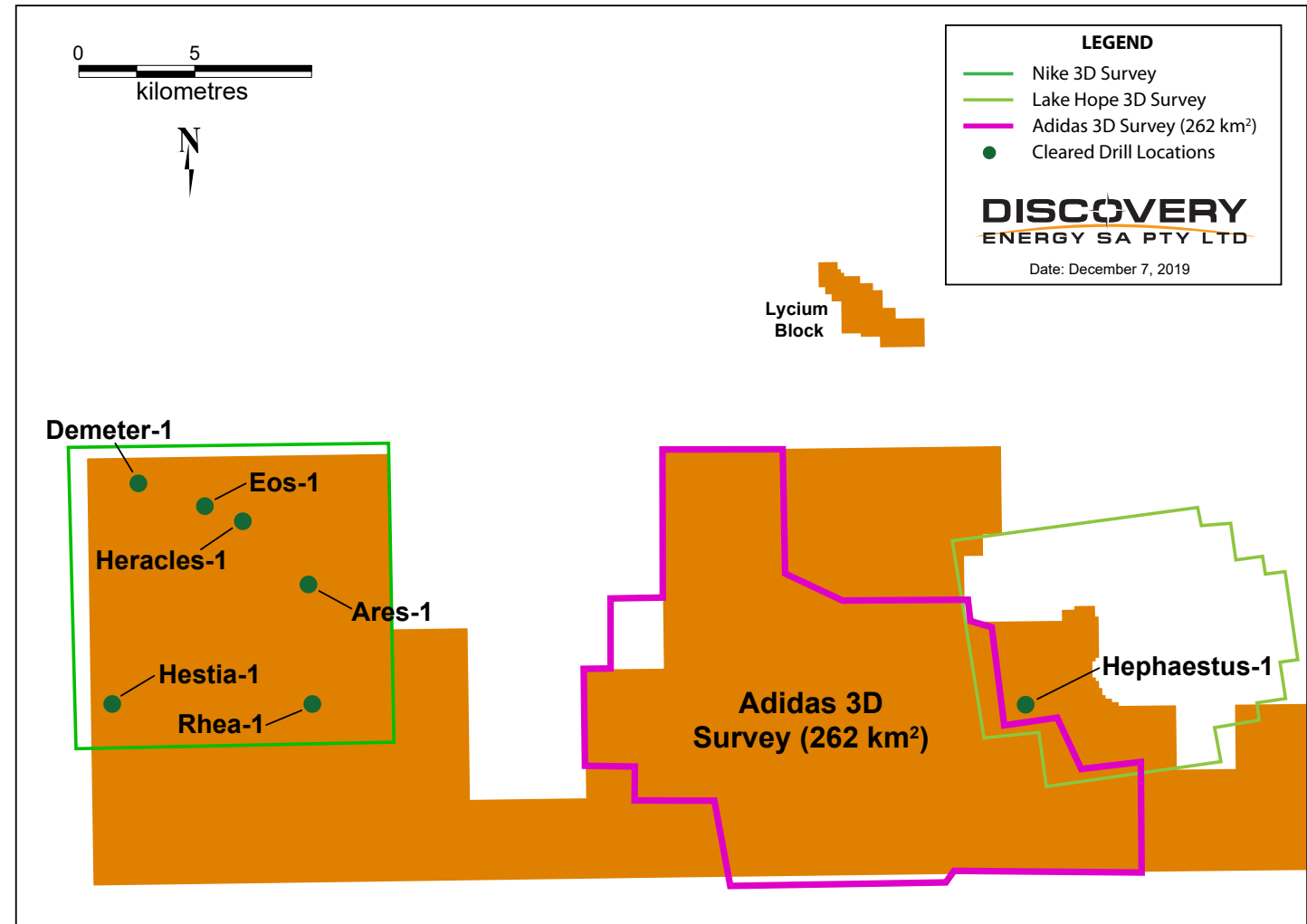
In advance of the upcoming drilling programs Discovery completed the Nike 3D survey (180 km<sup>2</sup>) on the southwest production trend acreage of PEL 512 and AVO analysis of surrounding 3D surveys covering the offset oil fields to the north and east of PEL 512.

*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 Work Program



- ▶ Six high-grade well locations in the Nike 3D survey area and one location at Lake Hope 3D area have been surveyed and cleared with Native Title.
- ▶ The Adidas 3D Survey (262 km<sup>2</sup>) acquisition was completed in March 2023. Processing and interpretation to convert 2D leads to AVO defined 3D drill prospects is expected to be completed in Q2/24.
- ▶ The remaining Work Program is to drill three (3) wells in Year 4 and four (4) wells in Year 5.

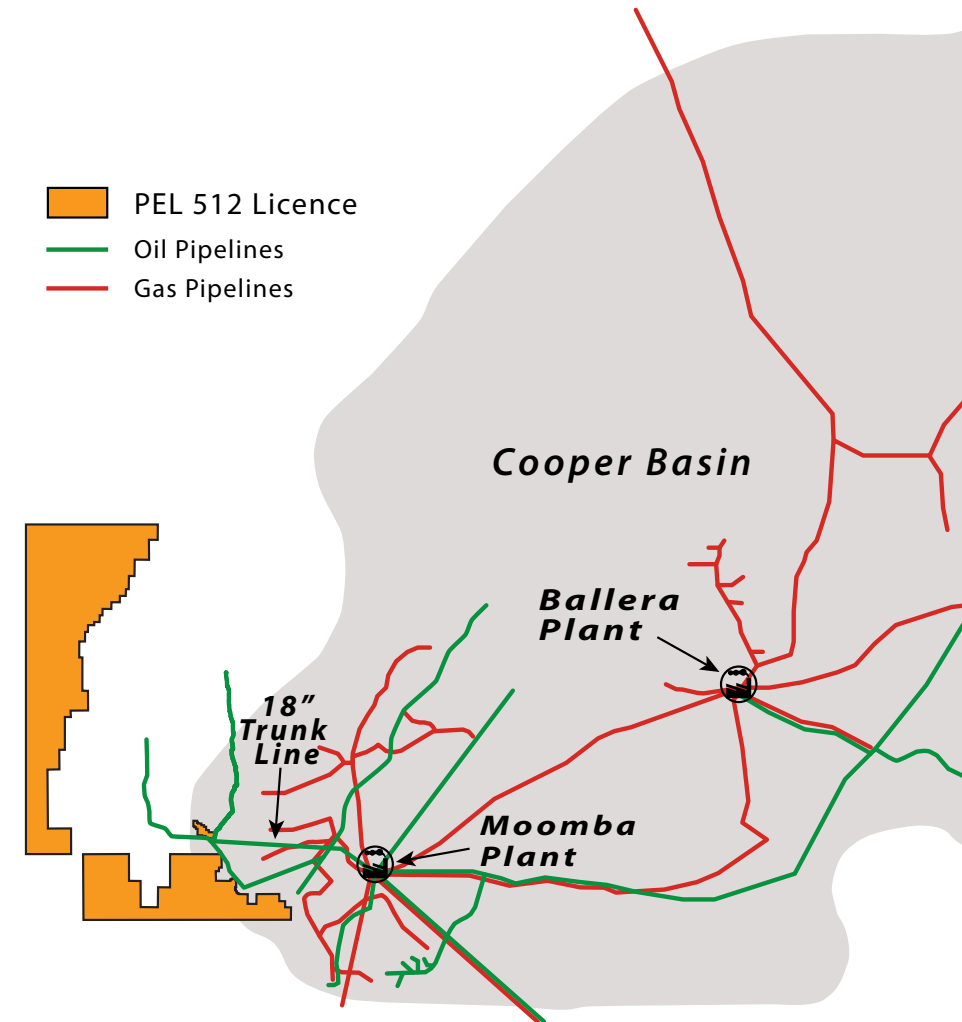


# Regional Infrastructure



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

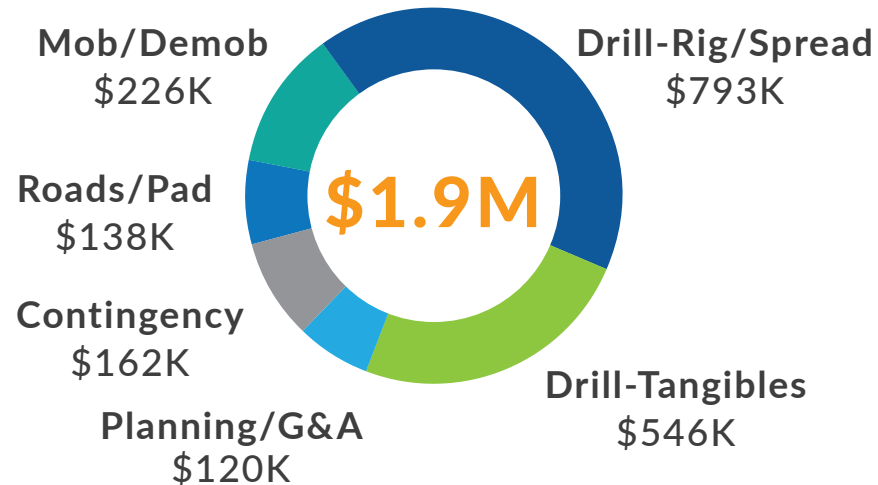
Avg. Well Life

**14**

Years

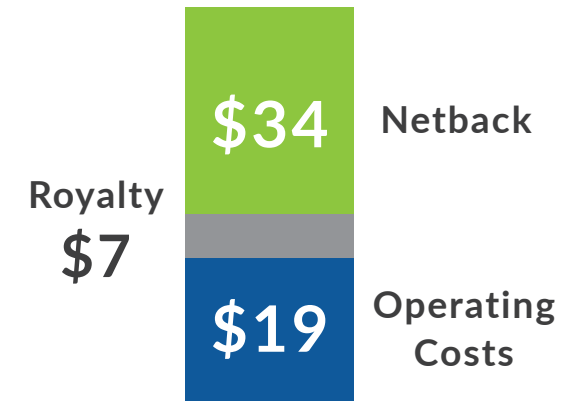
Typical Exploration Well Costs

(Case & Suspend \$USD)



Typical Well Netback

(USD\$60/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	831	756	736	672	656	621
LOE	(209)	(203)	(185)	(181)	(171)	(157)
Transport	(34)	(33)	(30)	(29)	(28)	(25)
Production Tax	(17)	(15)	(15)	(13)	(13)	(12)
Operating Cash	572	505	506	448	444	426
Cum Operating Cash	1,457	1,962	2,468	2,916	3,360	3,786
<b>Well Type/Cum Net Cash</b>						
Exploration (Cost \$1,965)	(844)	(339)	167	615	1,059	1,485
Appraisal (Cost \$1,558)	(489)	16	521	969	1,413	1,839
Development (Cost \$1,292)	(186)	319	825	1,273	1,717	2,143

*Estimated payback model for typical Cooper Basin wells based on an initial production rate of **640 bopd** using a flat Brent **US\$60 bbl** oil.*

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

# Conclusion

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Now that the regional geotechnical study to fine tune our understanding of the play and the Adidas 3D seismic survey is completed, it's time to execute on our 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 growth, revenue and profits.

The PEL 512 Licence is one of the last undeveloped resources in the heart of the Western Flank. With initial drilling as our next step, this is the right time to invest in this unique early stage opportunity.

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

# Forward Looking Statements

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204 THARGOMINDAH INNAMINCKA 56  
ARRABURY 100KM  
WINDORAH 396KM

PEL 512 Cooper Basin



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## **LISTING**

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

## **TRANSFER AGENT**

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

## **SHARE CAPITAL AUTHORIZED AND ISSUED AS AT FEBRUARY 28, 2023**

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

## **STOCKHOLDER INFORMATION**

Outstanding Shares: 154,365,396  
Restricted Shares: 138,372,112  
Unrestricted: 15,993,284  
Fiscal Year End: February 28

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

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