

Oil and Gas and the Energy Transition



# **Disclaimer**

This document has been prepared by Buru Energy Limited ABN 71 130 651 437 ("Buru") and has been authorised for release to the ASX by the Executive Chairman.

This presentation contains certain statements which may constitute "forwardlooking statements". It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including, but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve and resource estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial market conditions in various countries and regions, political risks, project delays or advancements, approvals and cost estimates. All of Buru's operations and activities are subject to joint venture, regulatory and other approvals and their timing and order may also be affected by weather, availability of equipment and materials and land access arrangements, including native title arrangements. Although Buru Energy believes that the expectations raised in this presentation are reasonable there can be no certainty that the events or operations described in this presentation will occur in the timeframe or order presented or at all.

There are numerous uncertainties inherent in estimating reserves and resources, and in projecting future production, development expenditures, operating expenses and cash flows. Oil and gas reserve engineering and resource assessment must be recognised as a subjective process of estimating subsurface

accumulations of oil and gas that cannot be measured in an exact way. All contingent resources and prospective resources presented in this report are pursuant to the Company's ASX release of 26 April 2022. The estimates of contingent and prospective resources included in this Presentation have been prepared in accordance with the definitions and guidelines set forth in the SPE PRMS. Buru Energy is not aware of any new information or data that materially affects the information included in this presentation and all material assumptions and technical parameters underpinning the estimates in this presentation continue to apply and have not materially changed. The probabilistic method was used to prepare the estimates of the contingent and prospective resources.

No representation or warranty, expressed or implied, is made by Buru or any other person that the material contained in this presentation will be achieved or prove to be correct. Except for statutory liability which cannot be excluded, each of Buru, its officers, employees and advisers expressly disclaims any responsibility for the accuracy or completeness of the material contained in this presentation and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence if any information in this presentation or any error or omission there from. Neither Buru nor any other person accepts any responsibility to update any person regarding any inaccuracy, omission or change in information in this presentation or any other information made available to a person nor any obligation to furnish the person with any further information.

All references to \$ are in Australian currency, unless stated otherwise.



## **BURU'S BUSINESS MODEL**

# Buru Energy's core oil and gas business provides the platform for its participation in the high growth Energy Transition Economy

#### **Our Core Business:**

Profitable oil production, conventional gas appraisal and development, extensive exploration acreage and well developed operating capability.

# **Our Energy Transition Assets:**

**2H Resources** – Natural Hydrogen exploration and production

Geovault - Carbon Capture and Storage (CCS)

**Battmin** – Battery Minerals (PB/Zn/Ag) in the Canning Basin

# **Our People:**

The Buru senior executive team is being strengthened by the appointment of a CEO and senior staff who are experienced in the energy transition and strategic growth options





"Buru recognises the **shifting sentiment from fossil fuels,** whilst acknowledging they will be part of the energy mix for decades to come.

The Company's active
participation in the energy
transition economy is vital to
ensuring it remains relevant and
commercially viable in the future.

Eric Streitberg, Executive Chairman



# Key assets and infrastructure to drive value

## Large contiguous land holdings in the Canning Basin (~22,000 sq kms) with onshore Carnarvon expansion

- Onshore, underexplored basins
- Exploration prospect inventory with extensive exploration running room



## **Exploration and Appraisal**

- Rafael 1 wet gas discovery with potential major gas resource
- Major seismic program recently completed to mature drilling prospects for 2023 and beyond



## **Operated oil production**

- Stable and secure oil production from Ungani Oilfield
- Production ~550 600 bopd
- Ungani 8 development well suspended, with potential for a vertical well in 2022/23 to capture high oil prices.



## Long term, experienced local operator

- Well established in the Kimberley
- Excellent stakeholder relations
- JV Operator for
  - Origin Energy (exploration/appraisal)
  - ROC Oil (Ungani production)
  - Mineral Resources (CCS feasibility)



# **Funding**

- Current working capital of ~\$10mm
- Rights issue aimed to strengthen balance sheet for Rafael appraisal
- Cash flow from Ungani production
- Origin Energy farm-in part funding exploration
- Full carry for Carnarvon Basin activity



#### **Focus on Emissions Reduction**

- Geovault a key CCS project enabler
- Ungani production system optimisation and potential for trucking and shipping reduction and offsets
- Target net zero by 2050





# **Exploration programs to drive value**

Extensive 2021 exploration program including two wells and regional seismic program.

Rafael I well discovery of significant conventional wet gas accumulation with independently verified Contingent Resources potentially sufficient for major gas development.

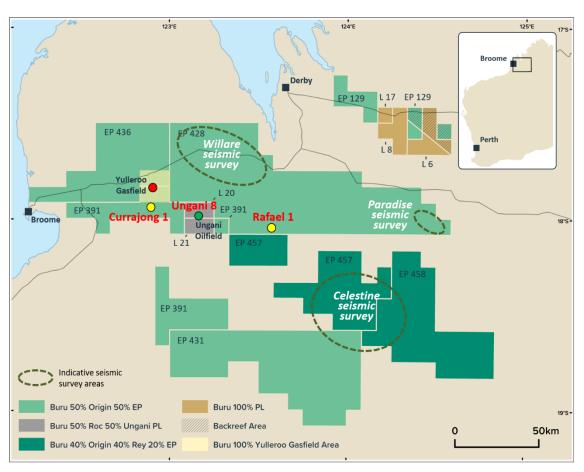
Currajong 1 well – first 2021 exploration well with encouraging oil shows and good reservoir but no commercial flows.

990 kilometres of new 2D seismic acquisition during 2021 over high prospectivity play types.

Significant funding from Origin Energy Farmin earning 50% across all Buru 100% exploration permits and 40% in southern EP457/458 permits with major additional contingent carry.

Buru retains 100% interest in substantial proven tight gas resources in Yulleroo Gasfield area with major regional tight gas endowment.

Ungani 8 horizontal development well suspended after mechanical difficulties – JV considering vertical well in 2022/23 to capture high oil prices.



Operations Location Map



# Carnarvon Basin conventional oil and gas and CCS potential

# **Canning Basin IP applied to new areas**

Buru's experience and knowledge of Palaeozoic aged geology in the Canning Basin is being applied in other Australian Basins to competitive advantage.

# Successful application and farmout

Bid block L20-1 onshore Carnarvon Basin offered to 50/50 Joint Venture between Buru Energy and Mineral Resources Limited (EnRes). Subsequent farmout to EnRes once permit is granted, with Buru retaining 25% in return for carry for two wells and EnRes operatorship.

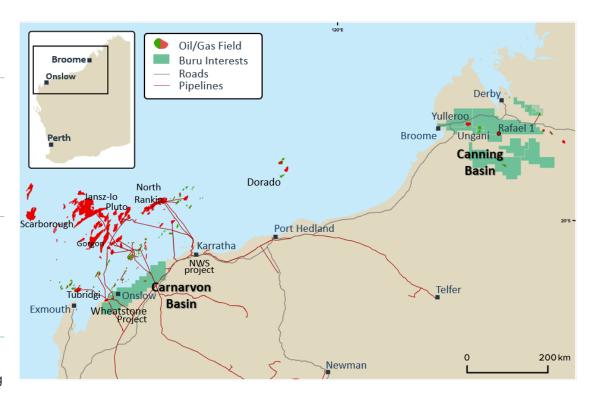
# **Strategic location**

Close to existing gas infrastructure including the Tubridgi gas storage facility, the Dampier-to-Bunbury Natural Gas Pipeline and the Wheatstone and Macedon gas processing plants.

# **Prospective geology**

Geology and play types similar to and complement Buru's Canning Basin assets, representing new prospectivity for the L20-1 area. With excellent prospectivity for CCS – Geovault engaged for review with recent offer of Commonwealth grant funding.

Deeper geological section underexplored with two drill ready prospects planned for 2023.





# Rafael conventional wet gas discovery

Rafael 1 well drilled on large structure with gas encountered in three zones

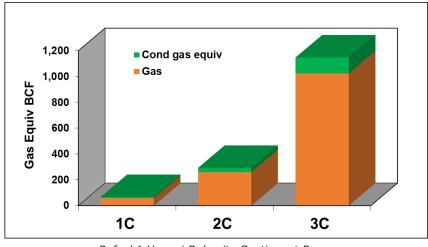
Well is located in EP 428, a 50/50 Joint Venture between Buru Energy (Operator) and Origin Energy

Rafael geology is similar to the currently producing Ungani Oilfield with conventional reservoir in Ungani Dolomite equivalents and a new play type in Upper Laurel dolomites. Test results in restricted part of the reservoir in the Ungani Dolomite equivalent provided encouraging flow rates up to ~7 mmcfd with excellent quality gas (<2% CO2 and 40 bbls/mmcf condensate).

Independent report on resource volumes assessed Contingent Resources as follows (Refer to the ASX release of 26 April 2022 for full definitions and disclosures)

	Oil and C	Condensate	(MMstb)	Gas (Bscf)			
	1C	2C	3C	1C	2C	3C	
Gross Contingent Resources	1.2	5.3	20.5	59	260	1,024	
Net Contingent Resources	0.6	2.6	9.7	29	126	486	

Wide range of resources as expected at early stage of evaluation. 1C is the gas seen in the well, 3C is the inferred gas in the structural closure and backed up by pressure data. 2C is probabilistic calculation with no physical basis.



Rafael 1 Ungani Dolomite Contingent Resources



Rafael 1 flow to flare pit



# Rafael significance

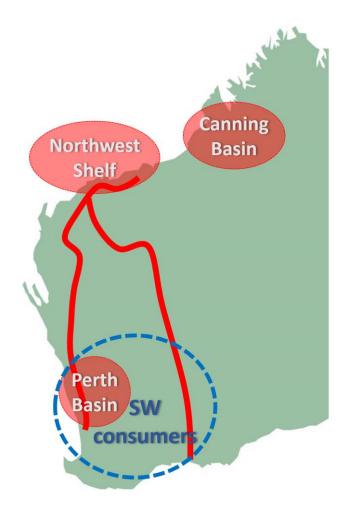
On an energy equivalent basis, Rafael contingent resource equates to  $\sim$ 190 mmbbls of oil at 3C level (energy equivalent basis 6,000 cubic feet of gas = 1 barrel of oil)

Resources are potentially sufficient to provide a large-scale commercialisation pathway.

One trillion cubic feet of gas (1 TCF) is enough gas to provide Western Australian retail customers with gas for over 30 years, and to supply the whole of Western Australia's domestic gas market needs for approximately three years.

Potential volumes are greater than some of the recent Perth Basin gas discoveries that have generated so much excitement.

Rafael also potentially contains more than 20 million recoverable barrels of condensate, a light oil, which could make it one of the biggest onshore Australian oil discoveries in decades.





# Rafael forward program

Initial testing program demonstrated excellent quality gas with less than 2% inerts (CO2) and rich condensate (light oil) of 40 barrels per million cubic feet with no pressure depletion or reservoir boundaries observed.

Targeted program over next six months to add value and increase contingent resources.

Initial well test restricted to part of one zone because of well configuration. Planning underway to test two additional zones and retest initial zone in third quarter with confidence of increased flow rates. Higher rates likely to increase contingent resources giving more confidence of higher recoveries from gas in place.

Test program will include remediation of potential formation blockage as well as perforation of additional intervals currently behind casing where gas flows were encountered while drilling, and Prospective Resource zone in the Upper Laurel. Program currently planned for third quarter 2022.

3D seismic survey also planned for the third quarter. Data will provide confirmation of structure size and aims to confirm potential for gas column extent. It will also make sure the appraisal wells in 2023 are optimally sited.

Commercialisation studies/activity undertaken in parallel with operations.

Feb 22 Well test with flow from restricted zones



O3 22 Test with all zones open 3D seismic Commercialisation advances



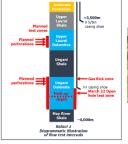
04 22 Resource reevaluation Commercialisation pre-feed



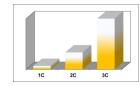
2023 Appraisal drilling Resource confirmation Commercialisation Feed

















# Rafael commercialisation

Multiple paths for commercialisation.

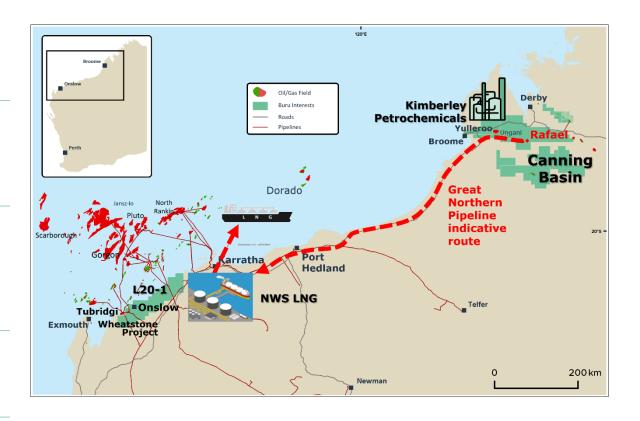
Export to NW Shelf, Pilbara markets, petrochemicals and Blue Hydrogen in the Kimberley.

Current ullage window on the NWS opens the way for access to lucrative international LNG markets. Pipeline costings, route and approvals pathway part of Buru's previous long term planning for gas export from the Basin.

Kimberley based petrochemical projects with potential for low to net zero emissions facilitated by Geovault have similar capex and potentially shorter project timelines than export. Blue Hydrogen and potentially ammonia production, with associated geological CCS provided by Geovault for green product stream.

At the IC Contingent Resource level, sufficient gas is available to supply current domestic Kimberley gas markets with a much reduced carbon footprint.

Discussions with project proponents underway under confidentiality arrangements and with regulators with aim of end of year project definition.





#### INTEGRATED ENERGY TRANSITION



# Geovault

CCS (Carbon Capture and Storage) is a key component of any realisable path to net zero by 2050.

Geovault aims to be a pre-eminent operator in the identification and operation of CCS projects, focused on the sequestration of CO2 in underground geological reservoirs.

Geovault's objective is to consolidate the geological IP for these processes and to undertake a demonstration project to gain experience in the operation of CCS projects using geological storage.

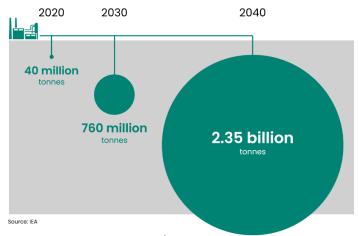
CCS will be an enabler for any Canning Basin or Carnarvon gas project with the potential for developments to be able to dispose of process and reservoir CO2 in a cost effective manner for a "green" product stream.

The Company has access to technical specialists with extensive experience in Australian and international CCS projects. Is undertaking wide ranging technical studies to ensure it is at the forefront of the industry.

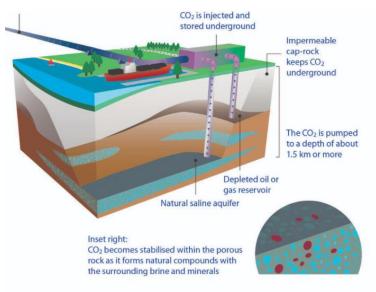
Buru has recently been offered a Commonwealth Grant of matching \$7 million to investigate the feasibility of CCS in the onshore Carnarvon Basin in the vicinity of its L20-1 application area. This validates the expertise within Geovault and the prospectivity of Buru's acreage for CCS.

Under recent transactions, EnRes will match the Commonwealth Grant funding. Buru will operate the Grant Feasibility study and EnRes will operate any subsequent GHG permit with a 75% interest and Buru 25%.

For more information visit www.geovault.com.au



Annual global CCS capacity needed to meet IEA sustainable development scenario





## INTEGRATED ENERGY TRANSITION



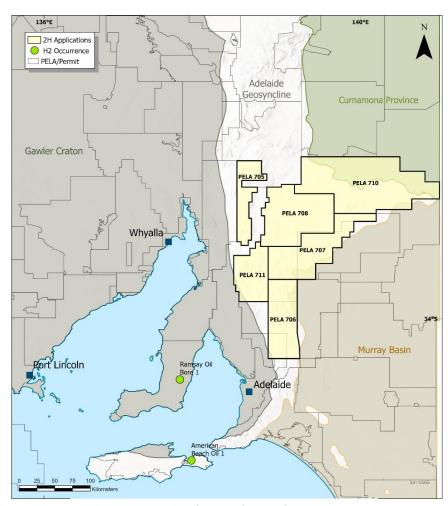
# **2H Resources**

2H Resources is a first moving explorer for Natural Hydrogen (Gold or White Hydrogen) and associated Helium produced from underground reservoirs.

The potential of Natural Hydrogen has only recently been recognised and 2H Resources has moved quickly to establish an exploration portfolio in South Australia where the regulatory framework is in place for natural hydrogen exploration.

Other permit holders in the area have quantified the potential for natural hydrogen based on hydrogen recovered from previous wells in the area. These estimates suggest that on a regional basis there is potential for large volumes of hydrogen in place.

Hydrogen has also been detected in wells drilled in the Canning Basin and these indications are being analysed for their commercial significance. 2H also has proprietary sampling equipment and processes which it will be using for exploration.



2H Resources South Australian application areas



#### INTEGRATED ENERGY TRANSITION



# **Battmin**

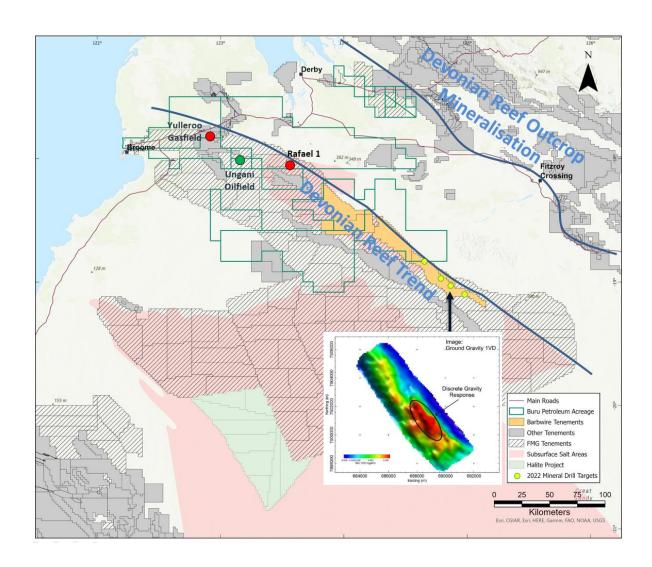
PB/Zn/Ag MVT style deposits are mined from hydrothermal dolomites in the Canning Basin and have been encountered in numerous petroleum wells.

Battmin is using Buru's expertise to explore for blind (undercover) MVT deposits controlled by the same processes that form petroleum deposits in the carbonate terranes of the Canning Basin.

Buru has partnered with mineral explorers who have additional expertise in on-ground mineral exploration and a 2022 drilling program on well defined geophysical anomalies is planned with joint venture partner Sipa Resources Ltd.

Zinc prices are currently very strong at +US\$3,500 per ton.

USGS review indicates median size of MVT deposits worldwide is some 7 million tons of ore at 6% Zn, for contained zinc of 420,000 tons.





# Experienced Board and management.



Executive Chairman

Exploration and development



**Ms Joanne Kendrick**Independent Non-Executive Director
Petroleum Engineering



**Mr Malcolm King**Independent Non-Executive Director
Petroleum Geology



Mr Robert Willes
Independent Non-Executive Director
Commercial



**Mr Thomas Nador**CEO Designate
Project delivery

# **Corporate Snapshot**

Shares on Issue ~538M Market Cap ~\$100M Share Price \$0.17

Working Capital ~\$10M, with no debt (mid May 2022)

Options 7.2M (Exp 31 Dec 23)

# Current Rights Issue to support Rafael Appraisal and Commercialisation

Record Date 9 May 2022 Entitlement Offer 1 for 6

Issue price 16 cents per share

Discount 24% (to pre announcement price)

Closing date 31 May 2022 Target raise \$14.4 million



# Clear and compelling case for investment: Strong Buru Core Business with significant core asset growth potential and Energy Transition growth.



#### **Buru Core**

Proven gas resource under development. Oil production and infrastructure, with and extensive oil and gas prospectivity



# **Integrated Energy Transition**

Transition to new energy to future-proof the business

## Controlling acreage interest and infrastructure

in underexplored WA Basin with excellent conventional oil and gas prospectivity.

# Rafael gas discovery provides major growth potential

Rafael gas discovery has +TCF potential with clear pathway to commercialisation

# Strong corporate structure

Contingent exploration farmin cash carry across several permits, cash flow from oil production.

Experienced Board and management team.

# **Natural Hydrogen (2H Resources)**

Exploring for naturally occurring (geological) hydrogen. Huge blue sky potential for low cost hydrogen production.

# **Carbon Capture and Storage (CCS) (Geovault)**

CCS is necessary for all aspects of the energy transition with significant investment required. Geovault is focused on geological storage and was recently offered a grant to evaluate geological storage in the onshore Carnarvon Basin.

# **Battery Minerals (Battmin)**

Applying geological hydrocarbon IP to Pb/Zn/Ag MVT deposits in the Canning Basin with drilling coming up.





# Technical Appendix



#### TECHNICAL APPENDIX

# **Rafael Resources determination**

ERCE were engaged to provide a resource estimation of the gas and condensate that had been encountered in the well.

As expected at this early stage of the evaluation there is a wide range of resource estimates. (Refer to the ASX release of 26 April 2022 for full definitions and disclosures).

The principal uncertainty at the main Ungani Dolomite level is the height of the gas column. The Rafael 1 well did not encounter a gas/water interface (gas on rock interpreted) such that the most certain estimate is the 1C resources in the gas column of some 165 metres that was encountered in the well bore.

At the 3C level ERCE have used the structural closure of some 634 metres as mapped from the existing 2D seismic data.

The 2C Contingent Resources estimate of 260 BCF of recoverable gas results from a probabilistic calculation and has no actual physical realisation.

The Ungani Dolomite equivalent section has a gross hydrocarbon column of some 165 metres and an interpreted net section of some 50%.

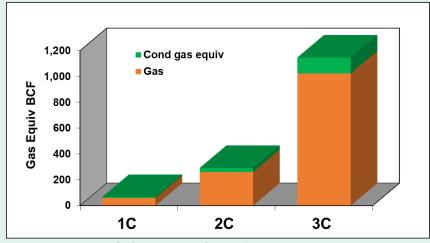
The Upper Laurel Dolomite section shows evidence of some 75 metres of hydrocarbon column (most likely wet gas grading to oil) with approximately 10 metres of interpreted net pay.

# **Ungani Dolomite Contingent Resources**

	Oil and Condensate (MMstb)			Gas (Bscf)			
	1C	2C	3C	1C	2C	3C	
Gross Contingent Resources	1.2	5.3	20.5	59	260	1,024	
Net Contingent Resources	0.6	2.6	9.7	29	126	486	

#### **Upper Laurel Dolomite Prospective Resources**

	Chance of Success	Oil and Condensate (MMstb)			Gas (Bscf)		
	(COS)	1U	2U	3U	1U	2U	3U
Gross Prospective Resources	80	0.3	1.5	6.0	9	38	132
Net Prospective Resources	80	0.1	0.7	2.9	4	18	63



Rafael 1 Ungani Dolomite Contingent Resources



# Rafael structure and Ungani Dolomite gas column

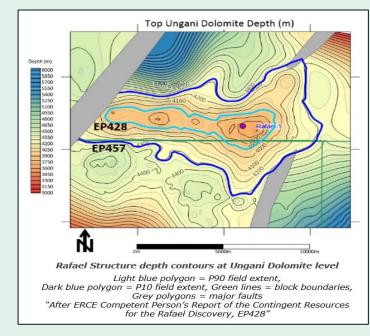
Rafael 1 well drilled on large structure with gas encountered in three zones, Upper Laurel Dolomite (first time in the basin), Ungani Dolomite Equivalent, Anderson Formation (tight).

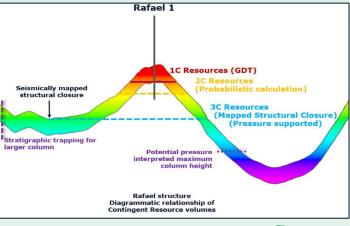
Structure controlled by 2D seismic with up to 700m of mapped closure.

Column height is principal uncertainty in the Ungani Dolomite. The height of the hydrocarbon column as defined by the "gas down to" at the Rafael 1 well is some 165 metres. Buru's interpretation is that the pressure data from the well indicates that the height of the hydrocarbon column could be at least 700 metres, which is generally coincident with the structural closure mapped by Buru on the existing 2D data. Furthermore, the interpretation of the pressure data also implies that the column could be as great as 900 metres, which would require an element of stratigraphic trapping.

The ERCE assessment incorporated a structural closure of some 634 metres at the 3C level as shown on the accompanying map.

Determination of the column will require an appraisal well in the 2023 drilling program. A successful well will convert the 3C to 1C/2C – a very large value increment.







# Rafael hydrocarbon zones and test program

Due to a well control event at the top of the Ungani Dolomite section, 7 inch casing was required to be set over the upper part of the Ungani Dolomite section. The well was then completed "open hole" with no casing over the main reservoir section.

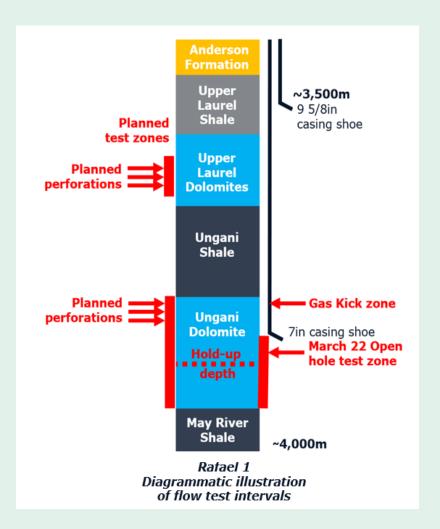
The test program was then conducted over the open hole section below the 7 inch casing. It was also noted that there was a "hold up depth" at approximately half the open hole section. This may have impeded flow from the lower part of the section.

The test was successful in proving free flowing high quality gas with less than 2% CO2 and up to 6% ethane. The condensate ratio measured from field samples was some 40 barrels per million cubic feet of gas.

The condensate has an API gravity of 50 degrees which means it is a light oil. Analysis is currently in progress to quantify the yield with condensates usually yielding high levels of jet fuel and diesel.

The test showed no pressure depletion with reservoir pressures of 6,200 psi being built up quickly after the test.

Analysis of the pressure data indicated potential well bore occlusion (skin damage) from the long exposure to drilling and completion fluids. Despite this the well free flowed gas at up to 7 million cubic feet a day.







# Strong Core Business and Integrated Energy Transition Business Streams



1800 337 330



LEVEL 2, 16 ORD STREET WEST PERTH WESTERN AUSTRALIA 6005



INFO@BURUENERGY.COM



WWW.BURUENERGY.COM



**BURU\_ENERGY** 

