

Independent resources review of Rafael conventional wet gas discovery confirms potential for major gas resource

Buru Energy Limited (Buru or the Company) provides the following announcement in relation to the independent certification of the resources of the Rafael conventional wet gas discovery in the Canning Basin of northwest Western Australia.

Highlights:

- The independent resources evaluator has assessed that the Ungani Dolomite reservoir in the Rafael 1 well contains Gross 3C Contingent Resources of some 1.02 TCF of recoverable gas and 20.5 million barrels of condensate.
- The 3C Resources assessment is constrained by the mapped structural closure of the accumulation with a gas column defined by ERCE of some 634 metres.
- In Buru's view the pressure data in the well not only supports this interpretation of the height of the gas column, but also suggests it could be significantly larger.
- Gross 1C Contingent Resources of 59 BCF of recoverable gas and 1.2 million barrels of condensate have been assessed, constrained by the "gas down to" in the Rafael 1 discovery well.
- In Buru's opinion the gross 3C Contingent Resources of in excess of one TCF of recoverable gas with significant condensate content provide multiple pathways to commercialisation.
- There is a clear route to increasing 1C resources through additional appraisal activity commencing with the planned recompletion and test of additional zones in the Rafael 1 well.
- As expected and appropriate at this early stage of the evaluation of the discovery, a wide resources range has been identified by the independent resources evaluator. Additional appraisal activity that is under consideration by the joint venture including the acquisition of 3D seismic data and the drilling of appraisal wells has the potential to convert the 3C resources to 1C resources.
- Prospective Resources have also been assessed for the Upper Laurel Carbonate zone where encouraging gas shows and wireline log interpretation indicated a wet gas accumulation, with the planned Rafael 1 testing program aimed at converting these Prospective Resources to Contingent Resources.

Background

The Rafael 1 well was drilled in late 2021 and defined a significant conventional gas and condensate resource in the Ungani Dolomite equivalent reservoir and in the dolomitised Upper Laurel Carbonate reservoir.

Subsequent to the recent successful flow test of the well, ERCE Australia Pty Ltd (ERCE), a specialist resource assessment consulting group, was commissioned to undertake an independent assessment of the gas and liquids resources of the Rafael 1 discovery.

ERCE's evaluation assessed both the Contingent Resources in the Ungani Dolomite equivalent section and the Prospective Resources identified within the Upper Laurel Carbonate. The detailed results of ERCE's assessment and required disclosures and qualifications are set out in this ASX announcement.

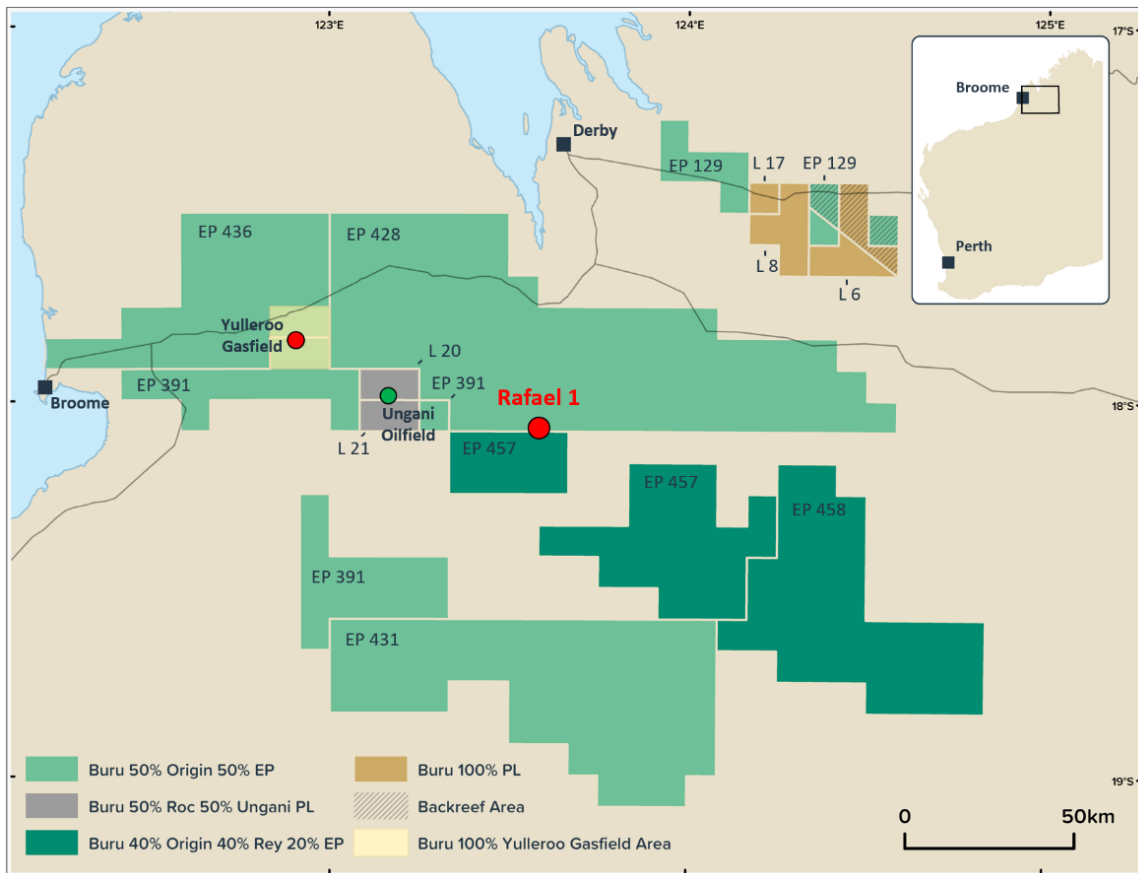
Buru's Executive Chairman Eric Streitberg commented:

"This independent assessment by ERCE has confirmed Buru's view that the Rafael structure contains a large condensate rich conventional gas accumulation that has the potential to be regionally significant for both the Kimberley region and for the State of Western Australia.

The potential size, if proven by successful appraisal of the discovery, could be sufficient to support a major commercialisation project. Options for these projects could include export of gas out of the basin to the North West Shelf LNG processing infrastructure to access high value international LNG markets, or local usage providing feedstock for a low carbon methanol or ammonia project in the Kimberley. The relatively high levels of condensate in the gas means that Rafael 1 is also a very significant light oil discovery, with the condensate providing the potential for a substantial light oil production project as part of any development.

The conventional gas volumes estimated to be in the immediate vicinity of the well at the 1C level are a major economic benefit in themselves as they alone would be sufficient to supply the current gas needs of the Kimberley region with a much-reduced carbon footprint compared to the current energy supply system.

We look forward to quickly advancing the project to bring forward the benefits that a development will bring to Kimberley communities, Traditional Owners and the State of Western Australia."



Rafael 1 location

Contingent Resources and Prospective Resources context

The assessment incorporated the technical evaluation of the Rafael 1 well results and the subsequent flow test of a limited part of the interpreted hydrocarbon column in the well.

Defining initial Contingent Resources is a very important step forward in the route to commercialisation of the Rafael accumulation. There is a well-defined pathway of increasing certainty from Contingent Resources to Petroleum Reserves, and from Prospective Resources to Contingent Resources, and this independent review is a significant step forward in that process.

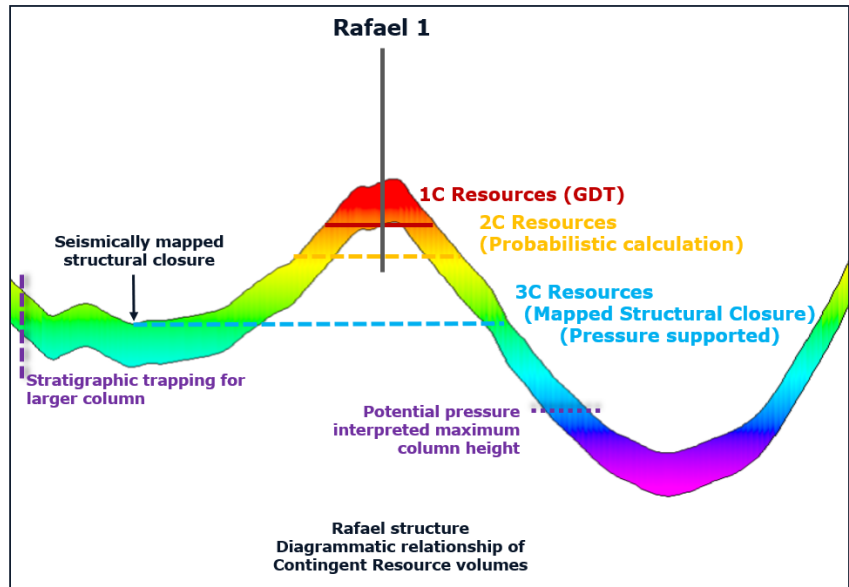
Buru also notes that in its opinion the early stage of definition of the resources appropriately incorporates a conservative approach to a number of the parameters in the assessment, and in particular to the recovery factor used for the conversion of gas in place to recoverable gas.

Assessment methodology

There are two significant variables in the estimation of the Resources in the Ungani Dolomite reservoir of the accumulation, the height of the gas column and the recovery factor. The interpretation of the gross rock volume is reasonably well controlled by the existing 2D seismic data to the level required for resource estimation.

Gas Column

A major determinant of the size of the accumulation is the height of the gas column. The Rafael 1 well did not encounter a gas/water interface (gas on rock) so that estimates of the size of the gas column rely on both consideration of the size of the structure, including the seismically mapped closure, and the pressure in the gas column. ERCE's assessment of the Contingent Resources in the Ungani Dolomite section of the well take into account the "gas down to" in the Rafael 1 well at the 1C level, and at the 3C level the structural closure 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 height of the hydrocarbon column as defined by the "gas down to" at the Rafael 1 well is some 165 metres. However, 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

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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.

Well Test data

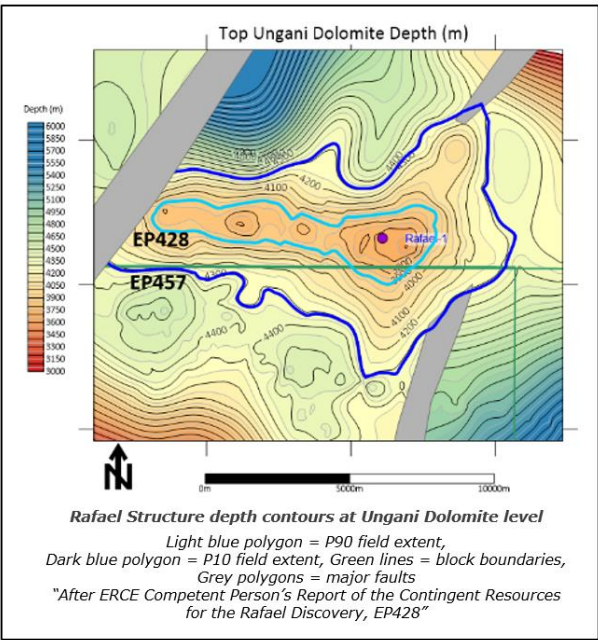
The recovery factor of the Original Gas in Place is in part correlated to well deliverability.

The analysis of the data from the recent flow test of the well suggests that the lower open hole section that has been flow tested had relatively low calculated permeability, with indications that some near wellbore occlusion may have been caused by the high mud weight required to control the gas influxes while drilling.

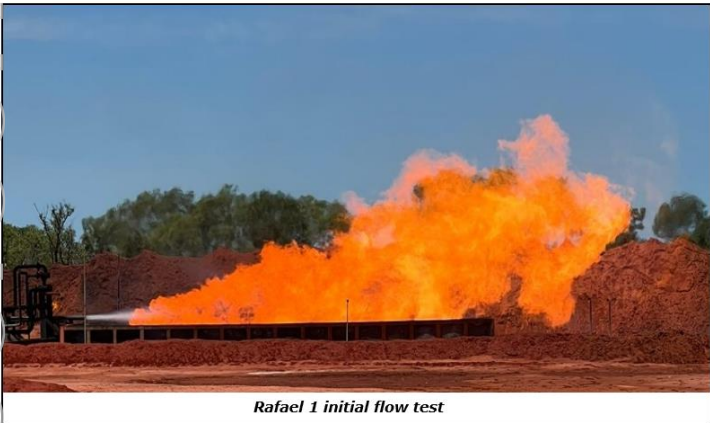
There are also sections of the reservoir which appear from logs to have better developed porosity and hence permeability, and these were not part of the tested open hole zone.

There was also a "hold-up depth" in the lower part of the reservoir that has potentially isolated the lower part of the reservoir from the flow test.

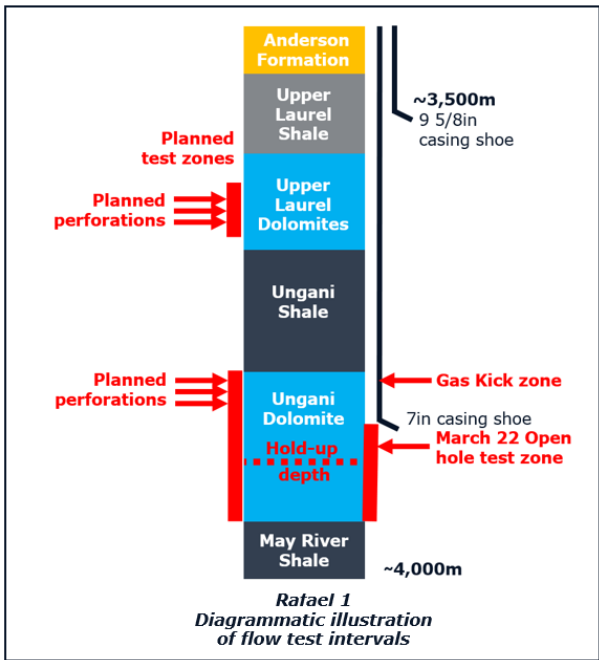
Despite the interpreted limited section contributing to the flow and the apparent near wellbore occlusion from the formation being exposed to drilling fluid for several months, the well was still capable of producing over 7 million cubic feet a day of high quality gas with low inerts and high condensate content.



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The proposed well recompletion and production test, planned to be undertaken in the third quarter of 2022, will include all of the zones in the Ungani Dolomite, remediation operations to address any near wellbore effects, and an investigation of the lower hold-up depth in the well.



The conversion of the Prospective Resources that have been assessed in the Upper Laurel Carbonate section to Contingent Resources will be another objective of this recompletion and well test program. Analysis of the data from this zone has provided encouragement that it may contain sufficiently high levels of condensate to be a gas-rich light oil zone, noting that ERCE have assumed a gas condensate reservoir for the purposes of their evaluation.

The flow test is proposed for the third quarter of 2022 and more details on the form and timing of the test will be provided in due course.

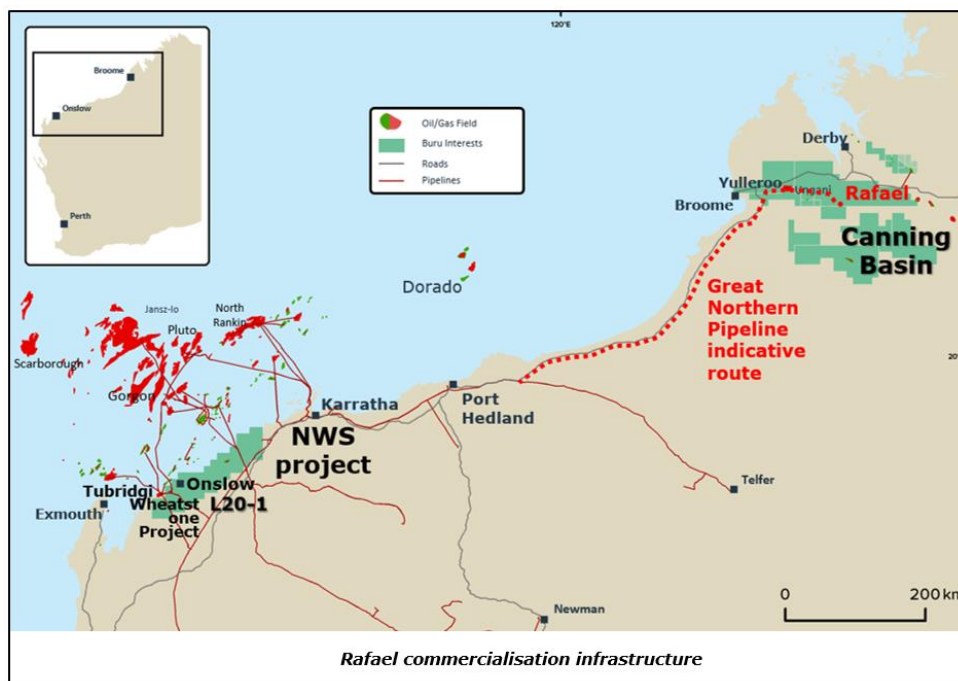
Forward Appraisal Program

Commercialisation of the Contingent Resources at Rafael will require the systematic conversion of the Contingent and Prospective Resources to Petroleum Reserves. As set out above, the major areas of uncertainty in the resource calculation for the Ungani Dolomite section are the height of the hydrocarbon column and the permeability of the reservoir. The forward appraisal program will address these parameters through the proposed well recompletion and test, a 3D seismic survey and subsequent appraisal wells.

Commercialisation Implications

The Rafael accumulation is located in the onshore of the Canning Basin in northwest Western Australia. The local hydrocarbon infrastructure is limited and includes Buru's current oil production and transport operations. The existing and proposed local market for gas is relatively small and the currently defined 1C Contingent Resources alone could be sufficient to supply a lower emissions solution for the existing Kimberley power generation systems that are currently provided by trucked LNG from the North West Shelf area. This local energy market may also include future industrial users and will form an important part of the domestic gas supply of any future development.

Development of the larger resource base will require either the establishment of export infrastructure from the Canning Basin similar to Buru's previously planned Great Northern Pipeline to the Pilbara markets and the Northwest Shelf LNG processing facilities, or the establishment of a local petrochemical industry to produce methanol or ammonia. Any project that is developed would be supported by Geovault, Buru's



Carbon Capture and Storage (CCS) subsidiary that has the expertise to ensure that the development has low carbon intensity.

Buru's extensive previous analyses of the commercialisation opportunities for gas resources in the Canning Basin including previous customer and Government discussions have been reinvigorated, with strong customer interest and Government engagement.

These discussions are being advanced under appropriate commercial confidentiality agreements but confirm Buru's view that a resource of some 500 BCF of recoverable gas would provide the basis for a large scale commercial project. The estimated 3C Contingent Resources of the Rafael accumulation could be sufficient to provide substantially in excess of these volumes if they are able to be converted to reserves through a successful appraisal and commercialisation program.

In summary, the conventional gas discovery at Rafael has the potential to capture a current window of opportunity for gas/LNG export from the Northwest Shelf and for “green” petrochemical manufacture in association with Geovault, and Buru together with its joint venture partners will be moving as quickly as possible to capture those opportunities.

Independent Resources Assessment

Buru commissioned ERCE to make independent estimates of the Contingent and Prospective Resources associated with the Rafael discovery. ERCE has carried out this work in accordance with the June 2018 SPE/WPC/AAPG/ SPEE/SEG/SPWLA/EAGE Petroleum Resources Management System (PRMS) as the standard for classification and reporting. ERCE has used probabilistic methods to make these estimates. The effective date of the report is 12 April 2022 and the issue date of the report is 22 April 2022.

Buru’s equity interest in the permits that ERCE have assessed is 50% in EP 428 and 40% in EP 457. The gross and net estimated recoverable volumes of Prospective and Contingent Resources for the Rafael accumulation as determined by ERCE are summarised in the following tables.

Contingent Resources of the Ungani Dolomite Reservoir

Contingent Resources are defined as those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations, but the project is not yet considered mature enough for commercial development due to one or more contingencies.

ERCE’s estimate of the range of the estimated recoverable volumes of Contingent Resources for the Ungani Dolomite section of the Rafael accumulation are as follows:

Contingent Resources as of 12 April 2022

	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

Notes

1. Gross Contingent Resources represent a 100% total of estimated recoverable volumes within EP428 and EP457.
2. Net Contingent Resources represent Buru’s share of the Gross Contingent Resources based on its working interest in EP428, which is 50% and EP457, which is 40%, and the proportion of the volumes in the appropriate permit.
3. These are unrisks Contingent Resources and are sub-classified as Development Unclarified, with a 60% Chance of Development (COD). Quantifying the COD requires consideration of both economic contingencies and other contingencies, such as legal, regulatory, market access, political, social license, internal and external approvals and commitment to project finance and development timing. As many of these factors are outside the knowledge of ERCE they must be used with caution.
4. Contingent Resources volumes shown have had a shrinkage applied to account for removal of inert gases and CO₂ and include hydrocarbon gas only.
5. No allowance for fuel and flare volumes has been made.

The following statements are provided in accordance with the requirements of ASX Listing Rule 5.33:

- This evaluation is in relation to Exploration Permits EP 428 and EP 457.
- The basis for confirming the existence of a significant quantity of potentially moveable hydrocarbons and the determination of a discovery is that gas and condensate have flowed to surface from the Rafael 1 well.
- The estimates of Contingent Resources are the statistical aggregates of hydrocarbon resources.
- The analytical procedures used to estimate the Contingent Resources are based on probabilistic simulation using ranges for each parameter of the volumetric equation. The output of this simulation is a range of original gas in place (OGIP) and gross Contingent Resources.
- The estimates of Contingent Resources were prepared by the use of appropriate geologic, petroleum engineering and evaluation principles and techniques that are in accordance with practices generally recognised by the petroleum industry and in accordance with the June 2018 SPE/WPC/AAPG/ SPEE/SEG/SPWLA/EAGE Petroleum Resources Management System (PRMS).
- The key technical contingencies that prevent the Contingent Resources from being classified as petroleum reserves are acquisition of additional technical data to demonstrate producing rates and volumes that support commercial development and the necessary facilities and infrastructure to support the development plan associated with these Contingent Resources.
- Further appraisal drilling and evaluation work to assess the potential for commercial development could include, amongst other activity, and subject to further technical review and Joint Venture and all other necessary approvals, additional seismic data, further flow tests of the Rafael 1 well and the drilling and testing of appraisal wells.

Prospective Resources of the Upper Laurel Dolomite section

Prospective Resources are “the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s), and relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.”

Buru notes that hydrocarbons have been identified in the Upper Laurel Dolomites through wireline log interpretation and hydrocarbon shows in cuttings and mud gas analysis, and the section now requires flow testing to determine its commercial significance.

ERCE’s estimate of the range of the gross and net estimated recoverable volumes of Prospective Resources for the Upper Laurel Dolomite section of the Rafael accumulation is set out in the following table.

Prospective Resources as of 12 April 2022

	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

Notes

1. Gross Prospective Resources represent a 100% total of estimated recoverable volumes within EP428 and EP457.
2. Net Prospective Resources represent Buru's share of the Gross Prospective Resources based on its working interest in EP428 and EP457 which are 50% and 40% respectively, and the proportion of volumes in the appropriate permits
3. The Prospective Resources have also not been adjusted for the geological chance of success ("COS") or chance of development ("COD"). Quantifying the COD requires consideration of both economic contingencies and other contingencies, such as legal, regulatory, market access, political, social license, internal and external approvals and commitment to project finance and development timing.
4. Prospective Resources volumes shown have had shrinkage applied to account for removal of inert gases and CO₂ and include hydrocarbon gas only.
5. No allowance for fuel and flare volumes has been made.

The following statements are provided in accordance with the requirements of ASX Listing Rule 5.35:

- This evaluation is in relation to Exploration Permits EP 428 and EP 457.
- The analytical procedures used to estimate the Prospective Resources are based on probabilistic simulation using ranges for each parameter of the volumetric equation. The output of this simulation is a range of original gas in place (OGIP) and gross Prospective Resources.
- The estimates of Prospective Resources were prepared by the use of appropriate geologic, petroleum engineering and evaluation principles and techniques that are in accordance with practices generally recognised by the petroleum industry and in accordance with the June 2018 SPE/WPC/AAPG/ SPEE/SEG/SPWLA/EAGE Petroleum Resources Management System (PRMS).
- The key technical contingencies that prevent the Prospective Resources from being classified as Contingent Resources are acquisition of additional technical data to demonstrate the productive capacity of the formation.
- Further appraisal drilling and evaluation work to assess the potential for commercial recovery from the identified hydrocarbon zones in the Upper Laurel Dolomite could include, amongst other activity, and subject to further technical review and Joint Venture and all other necessary approvals, additional seismic data, further flow tests of the Rafael 1 well and the drilling and testing of appraisal wells.
- Buru Energy considers the hydrocarbon resources of the Upper Laurel Carbonates are a discovered resource that has been identified through wireline log interpretation and hydrocarbon shows in cuttings and mud gas analysis and now requires flow testing to determine its commercial significance. This is likely to be undertaken during the planned flow test of the Rafael 1 well later in 2022.

Qualified Petroleum Reserves and Resources Evaluator Statement

ERCE is an independent consultancy specialising in geoscience evaluation and engineering and economics assessment. Except for the provision of professional services on a fee basis, ERCE does not have a commercial arrangement with any other person or company involved in the interests which are the subject of this report.

The firm was formed in 2010, when ERC Energy Resource Consultants Ltd (ERC) and Equipoise Solutions Ltd (Equipoise) merged. ERCE employs geoscientists, engineers, petrophysicists and economists, and has an extensive group of senior associates who bring

further regional, technical and petroleum economics expertise to projects. ERCE has offices in UK, Singapore and Perth, Australia.

A more detailed history of ERCE may be found at www.erce.energy/history. ERCE are qualified petroleum reserves and resources evaluators and their estimates of Contingent Resources and Prospective Resources included in this release are:

- Based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, Mr Stewart Easton.
- The authors are employees of ERCE and are not employees or related parties of Buru.
- The authors are members of the following professional organisations:
 - the Society of Petroleum Engineers, and
 - the Geological Society of London.
- ERCE have provided prior written confirmation as to the form and context in which the estimated Contingent Resources and Prospective Resources, as well as the supporting information, are presented in this ASX announcement.

Authorisation

This ASX announcement has been authorised for release by the Board of Buru Energy.

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