

## Independent Resources Review for Permit EP 487 and EP 129 confirms prospectivity and potential for significant gas and liquids resources in conventional Butler Sands

### Background

The Butler undrilled exploration prospect is a regionally significant onshore conventional gas, condensate and oil prospect that straddles permits EP 487 and EP 129 in the northern Canning Basin, near the Western Australian regional town of Derby.

Subsequent to the identification and mapping of the prospect, ERC Equipoise Pte Ltd ("ERCE"), a globally recognised independent specialist resource assessment consulting group, were commissioned by two of the interest holders in the permits, Doriemus PLC ("Doriemus") and Buru Energy Limited ("Buru") to undertake an independent assessment of the prospective gas and liquids resources of the Butler prospect.

This independent assessment by ERCE has confirmed Buru's and Doriemus' view that the Butler prospect has the potential to host a very significant conventional gas and liquids accumulation with gross unrisksed mean Prospective Resources of 3.14 TCF of recoverable gas, with an associated 42 million barrels of condensate, in accordance with the full resource statements set out below.

### Location and equity holdings

The Butler prospect is a large onshore stratigraphic trap that lies on the edge of the Lennard Shelf in the northern Canning Basin in northwestern Western Australia, located south-east of the regional town of Derby. The prospect is mapped on good quality 2D seismic data and this mapping demonstrates that the prospect is principally contained in two permits, EP 487 with Doriemus farming in to earn a 50% interest from the 100% interest held by Rey Resources Limited ("Rey"), and EP 129 held 100% by Buru. Doriemus announced its farm-in terms on EP 487 to the ASX on 28 March 2019.

In order to provide an independent assessment of the prospect and the distribution of the resource across the permits, ERCE were commissioned by both parties to assess the geological characteristics of the prospect and to provide an estimate of the Prospective Resources as attributable to the various permits.

### Resource Summary Highlights

ERCE are of the opinion that the potential conventional sand in the Butler prospect (the "Butler Sand") contains gross unrisksed mean Prospective recoverable volumes of 3.14 TCF of gas and 42 million barrels of hydrocarbon liquids (condensate and LPG). Full details of the range of Prospective Resources in the Butler Sand as estimated by ERCE, and the equity interests in these resources are set out in the tables below.

ERCE have further identified that the regionally pervasive Basin Centered Gas System ("BCGS") accumulation in the Laurel Formation is also likely to be present in the permits, including underlying the conventional Butler Sand prospect. The BCGS accumulation is likely to have contributed to the source of the potential gas and liquids accumulation in the Butler Sand, and to also contain significant quantities of gas and liquids in tight sands. The gross unrisksed Prospective recoverable gas resources attributable to the Laurel Formation BCGS in EP 487, EP 129 and the adjacent L17 and L8

are some 5.2 TCF. These volumes are calculated separately to the Butler Sand. The full resource statement for this BCGS accumulation is set out in the appended tables.

## Resource Assessment

ERCE has carried out the evaluation using the 2018 Petroleum Resources Management System (PRMS) as the standard for classification and reporting. The ERCE resource assessment has been prepared using the probabilistic method and an evaluation date of 10th April 2019. The Buru and Doriemus equity interests in the resources that ERCE have assessed are set out below noting that Doriemus has an earn-in 50% equity interest from Rey in the resources assigned to EP 487.

## Prospective Resources

Prospective Resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) 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. ERCE's estimate of the ranges of the unrisks recoverable volumes of Prospective Resources for the Butler accumulation is provided in the following tables noting the following:

- i. Prospects are features that have been sufficiently well defined through analysis of geological and geophysical data that they are likely to become drillable targets.
- ii. "Gross Unrisks Prospective Resources" are 100% of the volumes estimated to be recoverable from an accumulation.
- iii. "Net Unrisks Prospective Resources" are equity interest fraction of the gross resources per permit.
- iv. Prospective Resources reported here are "unrisks" in that the volumes have not been multiplied by the Geological Chance of Success (COS) or the Chance of Development, as defined under SPE PRMS.
- v. The low, best, high and mean case estimates in these tables are 1U, 2U, 3U and Mean respectively.
- vi. The mean is the average of the probabilistic resource distribution.
- vii. The Prospective Resources are based on the statistical aggregation method.

## Prospective recoverable gas resources in the Butler Sand prospect by Permit and equity interest

Permit	Butler Sand Gross Unrisks Prospective Gas Resources (Bscf)				Company Equity Interest	Butler Sand Net Unrisks Prospective Gas Resources (Bscf)				COS
	1U	2U	3U	Mean		1U	2U	3U	Mean	
EP487	385	1,055	2,410	1,264	Doriemus 50%	193	528	1,205	632	16%
EP129	581	1,567	3,564	1,875	Buru 100%	581	1,567	3,564	1,875	
Total	966	2,622	5,973	3,139						

## Previous Prospective resource evaluation

In accordance with ASX Listing Rule 5.36 the following information is provided:

The previous Prospective Resource evaluation of the EP 487 permit was undertaken by 3DGeo and was set out in an ASX release dated 17 July 2017 made by Rey as shown below.

The 3DGeo evaluation estimated the following quantities of Prospective Resources in the EP 487 permit which at the time was 100% held by Rey. Note that this evaluation was of the Laurel BCGS and did not evaluate the Butler Sand prospect as this was not identified at the time.

		Prospective Potential Recoverable Resources SPE PRMS (2011) <sup>3</sup>		
		P90 <sup>1</sup>	P50 <sup>1</sup>	P10 <sup>2</sup>
Gas in place	Tcf <sup>1</sup>	68.0	169.6	412.9
Recoverable Gas	Tcf <sup>1</sup>	9.4	28.4	81.1
Recoverable Condensate	MMbbl <sup>2</sup>	239	707	2,066
Recoverable BOE	MMBOE <sup>4</sup>	1,852	5,283	15,096

Table 1: Rey Resources' 100% attributable interest in the gross prospective potential recoverable resources estimate of the Laurel BCG in EP487 (estimate prepared by 3D-GEO June 2017).

- <sup>1</sup> Tcf- trillion cubic feet.
- <sup>2</sup> MMbbl- million barrels.
- <sup>3</sup> SPE PRMS (2011) - Society of Petroleum Engineers Petroleum Resource Management System (2011).
- <sup>4</sup> MMBOE- million barrels oil equivalent. Calculated using ratio of 6.22 billion cubic feet of gas equivalent to 1 million barrels of crude oil.

*Prospective resources are the estimated quantities of petroleum that may be potentially recovered by the application of a future development project 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.*

The following statements are provided in accordance with the requirements of ASX Listing Rule 5.36:

- The new data and information relied upon for the changes in Prospective Resources include the acquisition and reinterpretation of geological and geophysical data in the EP 487 permit area.
- The ERCE report takes a more restricted evaluation of the BCGs taking into account more restrictive geographic and volumetric limits and is therefore not immediately comparable to the 3DGeo assessment.

### Background and geological review

The Butler prospect is located on the northern margin of the Fitzroy Trough where the Laurel Formation exhibits a unique depositional signature with a major foresetting depositional sequence prograding into the basin from what appears to be a localised source area.

Along the rest of the flank of the basin the Laurel Formation appears to have been deposited from a long distance sediment source and in consequence is fine grained and has poor reservoir characteristics. In the vicinity of the Butler Prospect there is potential for generally improved

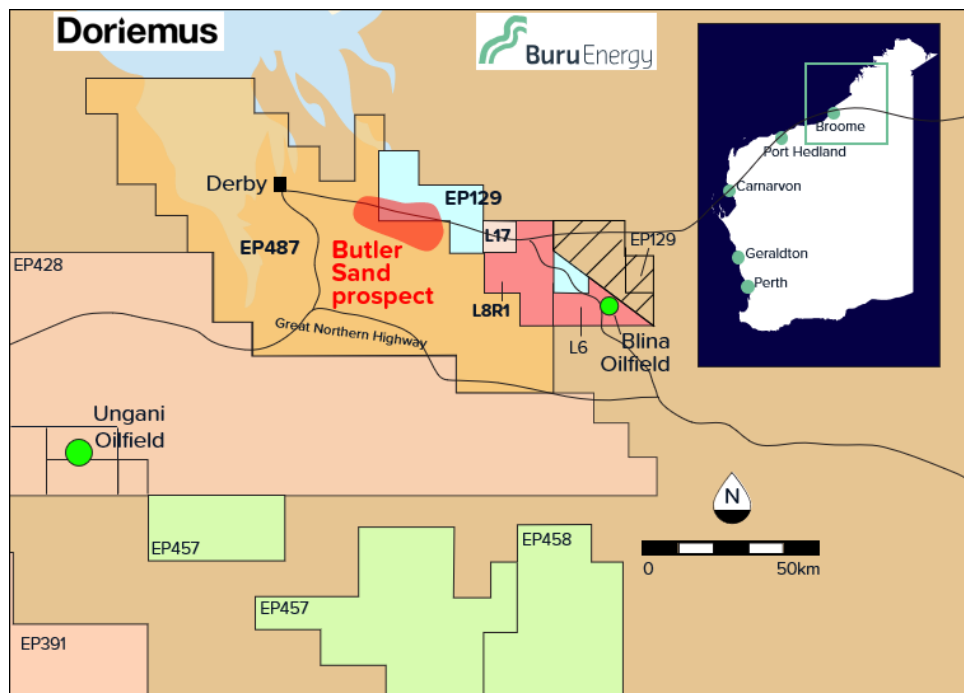


Figure 1 – Location of Butler prospect

reservoir quality in the foreset sequences that have been derived from local sediment input. More importantly, seismic mapping has also identified the potential for thick sections of reworked Laurel Formation where good quality porosity and permeability reservoir could be encountered infilling the eroded top of the underlying prograding foresets. This potential reservoir has been characterised as the “Butler Sand”. Analogue depositional settings indicate that the reservoir can have excellent quality.

These reworked areas of Butler Sand are interpreted on the good quality (though sparse) 2D seismic in the area. They have been mapped as discrete packages on these data, but due to the relatively large line spacing may also be continuous over an extensive area across the front of the foreset package. The ERCE resource evaluation has been confined to the packages identified on individual seismic lines, but as the packages are potentially much more widely distributed and continuous, the prospective resources could be considerably larger.

The Butler Sand has been interpreted to lie at the top of the wet gas maturity window and this has been used by ERCE to characterise the potential reservoir hydrocarbons as wet gas. However, the packages potentially extend into the oil window with oil being recovered from a stratigraphically and structurally deeper sand in the adjacent Wattle 1 well. Accordingly, there is potential for the Butler Sand to be oil bearing.

The Butler Sand trap is purely stratigraphic and relies on both the development of reservoir quality Butler Sand and the updip seal to the packages to be effective. In that regard the play configuration has some similar physical characteristics to the “fan plays” that have been successful in hosting significant accumulations in Africa and Alaska.

Taking these risk factors into account, ERCE have assigned the Butler Sand prospect an overall chance of geological success of 16%. ERCE have assigned a geological chance of success of 77% to the Laurel BCGS

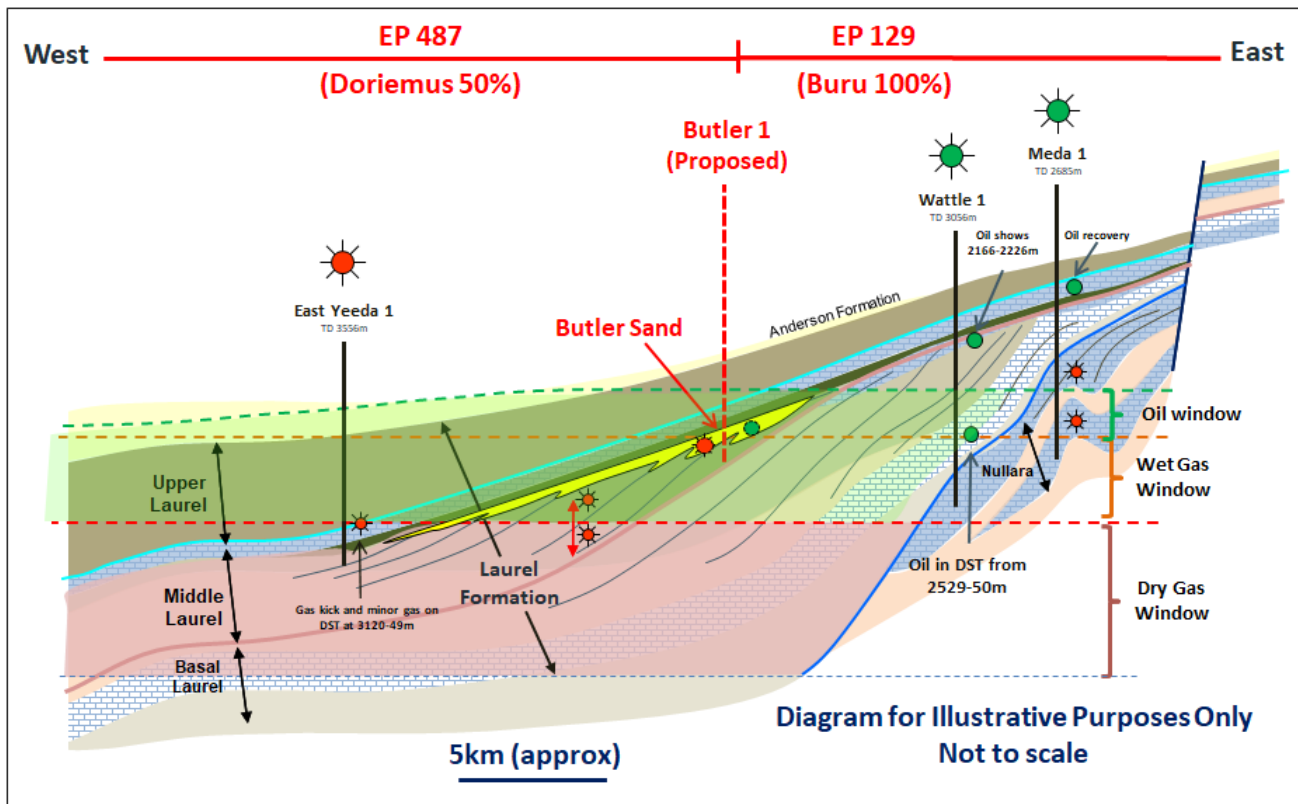


Figure 2 – Butler Sand Prospect geological concept

## Forward Plan for the Butler Prospect

Doriemus and Buru are currently collaborating on the planning for the drilling of the Butler 1 well to a total depth of up to 4,000 metres at a location in EP 487 close to the boundary of EP 129. The well could potentially be drilled with the Loc 405 rig at the completion of Buru's drilling program that is due to commence shortly with the Ungani 6 development well. Further details of the program will be provided as they are finalised.

**Doriemus Chairman, David Lenigas, commented:**

*"The ERCE report confirms our internal evaluation that the Butler Prospect represents a new very exciting and highly prospective play in the EP 487 permit. The identification of the Butler Sand play provides an exploration target that could potentially deliver high flow rates and recoveries from good to excellent reservoir sands with potential resources that are more than sufficient to support a major gas and liquids development with low capital costs and low environmental impact. This is a great result and gives us the confirmation we need to aggressively pursue the drilling of this prospect."*

**Buru Energy's Executive Chairman, Eric Streitberg, commented on the results of the ERCE review report:**

*"The Butler Sand prospect is a unique and extremely attractive play. The Butler area appears to have a very different Laurel Formation depositional history to other areas of the basin, with potential to have much coarser grained sediments and hence more porous and permeable reservoirs than elsewhere along the Lennard Shelf margin of the Fitzroy Trough. We are very excited to have identified a play that we have been chasing in the Canning for some years and to now have a chance to get it tested, and will work closely with Doriemus to help them achieve their objective of getting the well drilled this year."*

## 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 <https://www.erce.energy/history>. ERCE are qualified petroleum reserves and resources evaluators and their estimates of Prospective Resources included in this release are:

- 1) Based on, and fairly represent, information and supporting documentation prepared by, or under the supervision of, Mr Stewart Easton.
- 2) The authors are employees of ERCE and are not employees or related parties of Buru Energy or Doriemus PLC.
- 3) The authors are members of the following professional organisations: The Society of Petroleum Engineers, the Geological Society of London.
- 4) ERCE have provided prior written confirmation as to the form and context in which the estimated Prospective Resources and the supporting information are presented in this release

## Qualified Petroleum Resources Evaluator Statement

Except where otherwise specifically noted in relation to ERCE, information in this release related to exploration and production results and petroleum resources is based on information compiled by Eric Streitberg who is an employee of Buru Energy Limited. Mr Streitberg is a Fellow of the Australian Institute of Mining and Metallurgy and the Australian Institute of Company Directors, and a member and Certified Petroleum Geologist of the American Association of Petroleum Geologists. He has over 40 years of relevant experience. Mr Streitberg consents to the inclusion of the information in this document.

### Doriemus Plc

Doriemus PLC is a British oil and gas company focussing on the Weald Basin in Southern England, with interests in the Horse Hill and Brockham licences and the Isle of Wight, together with farm-in interests in the northern Canning Basin in Western Australia.

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### Buru Energy Limited

Buru Energy Limited (ASX: BRU) is a Western Australian oil and gas exploration and production company headquartered in Perth with an operational office in Broome. The Company's petroleum assets and tenements are located onshore in the Canning Basin in the southwest Kimberley region of Western Australia. It has a 50% interest in and is operator of its flagship high quality conventional Ungani Oilfield project. It has an extensive exploration portfolio with an active drilling program.

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## Appendix

### BCGS Prospective volumes

The following tables include the volumes of gas in the wet and dry gas zones in the BCGS in the permits:

Permit	BCGS Gross Unrisked Prospective Gas Resources (Bscf)				Company Equity Interest	BCGS Net Unrisked Prospective Gas Resources (Bscf)				COS
	1U	2U	3U	Mean		1U	2U	3U	Mean	
EP487	828	2,784	8,715	4,046	Doriemus 50%	414	1,392	4,358	2,023	77%
EP129/L17 L8	268	810	2,321	1,169	Buru 100%	268	810	2,321	1,169	
Total	1,096	3,594	11,036	5,215						

Permit	BCGS Gross Unrisked Prospective Condensate Resources (mmbbls)				Company Equity Interest	BCGS Net Unrisked Prospective Condensate Resources (mmbbls)				COS
	1U	2U	3U	Mean		1U	2U	3U	Mean	
EP487	4.3	17.4	61.8	27.6	Doriemus 50%	2.2	8.7	30.9	13.8	77%
EP129/L17 L8	1.9	7.5	25.5	11.9	Buru 100%	1.9	7.5	25.5	11.9	
Total	6.3	24.9	87.3	39.5						

### Butler Sand prospective condensate volumes

The following table sets out the prospective condensate volumes in the Butler Sand prospect with equity interests shown.

Note – the Butler Sand prospective gas resources are set out in the previous tables.

Permit	Butler Sand Gross Unrisked Prospective Condensate Resources (mmbbls)				Company Equity Interest	Butler Sand Net Unrisked Prospective Condensate Resources (mmbbls)				COS
	1U	2U	3U	Mean		1U	2U	3U	Mean	
EP487	3.4	12.4	35.3	16.7	Doriemus 50%	1.7	6.2	17.7	8.4	16%
EP129	5.0	18.3	52.4	24.9	Buru 100%	5.0	18.3	52.4	24.9	
Total	8.4	30.7	87.7	41.6						