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## INVESTEE ADVENT ENERGY PEP11 -BALEEN WELL

### Geophysical Indications of Gas in Offshore Sydney Basin confirmed in Geoscience Australia Report

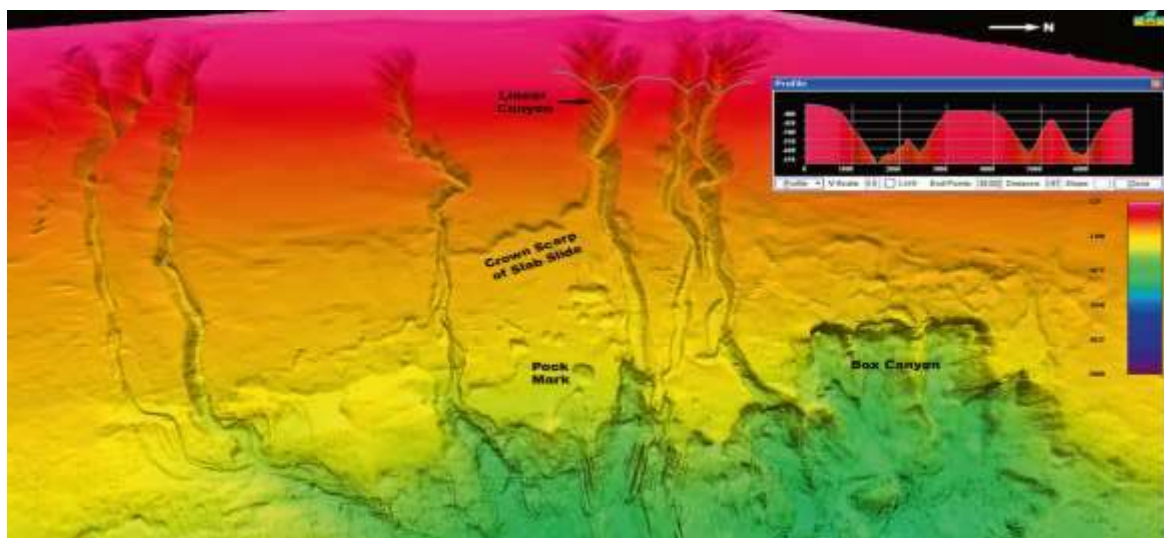
BPH Energy Ltd (“BPH” or the “Company”)(ASX:BPH) highlights the following information provided by its investee company , Advent Energy Ltd .

Advent Energy has further reviewed research reports by the Australian Government Agency Geoscience Australia (\*1). The report extracts below are from the NSW Continental Slope Survey Post Voyage | report (\*2). The report confirmed natural gas features in the Offshore Sydney Basin and identified a series of large pockmarks.

- “It is significant that the sediment directly above the largest fault is disturbed and distinctive circular depressions occur in the sea floor. These depressions are likely to be caused **by methane gas and fluid from the Permian coal measures** escaping along the fault plane.”
- “On the mid slope between the Newcastle Canyons are a number of depressions on the seafloor. These are large features and for example, extend 750 m across slope, with side scarps showing slopes over 20° and floors 70 m below the rims. These features resemble those found on sidescan records from the Mississippi Delta known as “collapse depressions” and result from gas and fluid expulsion from subsurface Units (e.g., Prior and Coleman, 1980). “... “It is considered likely that the **features found off Newcastle are also depressions formed from gas and/or fluid escape...**”

[The concept that hydrocarbons migrate from subsurface accumulations and mature source rocks to near surface sediments is well documented. Similar features with pockmarks and active hydrocarbon seeps are noted in the North Sea, Offshore Norway, and in the Gulf of Mexico. These generally occur where generation and migration of hydrocarbons from source rocks are ongoing today (\*3)].

These remarkable gas features were illustrated in a further post voyage publication from the Research Voyage (\*4). See pockmarks below.



Off Newcastle and the Hunter River in central NSW, upper slope deltas are incised by linear canyons (*top center*), and box canyons are retrogressing up the middle slope (*lower right*). A large pockmark is seen in the lower centre.

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## **Active seeps and migrated hydrocarbons are a key indicator of ongoing hydrocarbon generation** (\*3)

Michael Abrams (in D Schumacher and M.A. Abrams, eds., Hydrocarbon migration and its near surface expression: AAPG Memoir 66, p. 1-14) (\*3) states

“Active seeps occur where gas bubbles, pockmarks, or bright spots are visible on seismic profiles and where chemosynthetic communities are present in conjunction with large concentrations of migrated hydrocarbons (microseeps). These generally occur where generation and migration of hydrocarbons from source rocks are ongoing today”.

It is noted of potential importance to the probability of success of hydrocarbon exploration in PEP11, “A recent review of more than 850 wildcat wells – all drilled after completion of surface geochemical surveys – finds that 79% of wells drilled in positive geochemical anomalies resulted in commercial (hydrocarbon ) discoveries; in contrast, 87% of wells drilled in the absence of an associated geochemical anomaly resulted in dry holes.” (Schumacher, D., 2000, Surface geochemical exploration for oil and gas: New life for an old technology, The Leading Edge)

Advent notes the PEP11 project is also the closest potential new source of gas to the NSW gas market. The PEP11 Joint Venture partners have confirmed that all gas sourced from the permit will be supplied in to the east coast gas market.

Developing Australian energy resources including natural gas for industries, job creation and power generation in regions like Newcastle is critical .The Joint Venturers note that any gas discovery in PEP 11 would be for the benefit of NSW Industry and jobs and consistent with the Federal Government’s policy emphasis on gas supplies for the Hunter Region as a transition fuel for electric power generation and for normal domestic uses in NSW.

On 16<sup>th</sup> February 2021, the ACCC released its report on the gas supply market. In a release commenting on that report the Federal Treasurer Hon. Josh Frydenberg MP said the Government will continue to take strong action to ensure domestic gas users get the best deal. “Affordable and reliable gas is crucial to our economic recovery from the COVID-19 pandemic and is a key plank of the Government’s JobMaker plan,” the Treasurer said. The ACCC report release confirmed...gas prices were still higher than export parity, ..and the risk of a supply shortfall remains.

### **Geosequestration (CCS)**

BPH also has noted the Federal Government funding incentives for carbon capture and storage (CCS) technology announced in the Federal Government Budget .

This focus on CCUS has highlighted the additional objective of the Baleen Well drilling. BPH has previously announced the Baleen well program offers environmental benefits in carbon capture and storage (carbon reduction) for the greater Sydney/Newcastle area (Reference ASX announcement of 14<sup>th</sup> December 2020).

The Baleen project is the closest potential offering of storage capacity for CCUS to Sydney/Newcastle which produces approximately one third of Australia’s CO2 emissions.

BPH advises that over 7,000 investors have joined the BPH shareholder register since last year and the company now has over 9,600 shareholders .There are nearly 17,000 shareholders across the public companies involved in PEP 11 and there has been an estimated \$43,000,000 spent on the Offshore Basin Permit areas .

David Breeze (Director) authorised the release of this announcement to the market.

### **References**

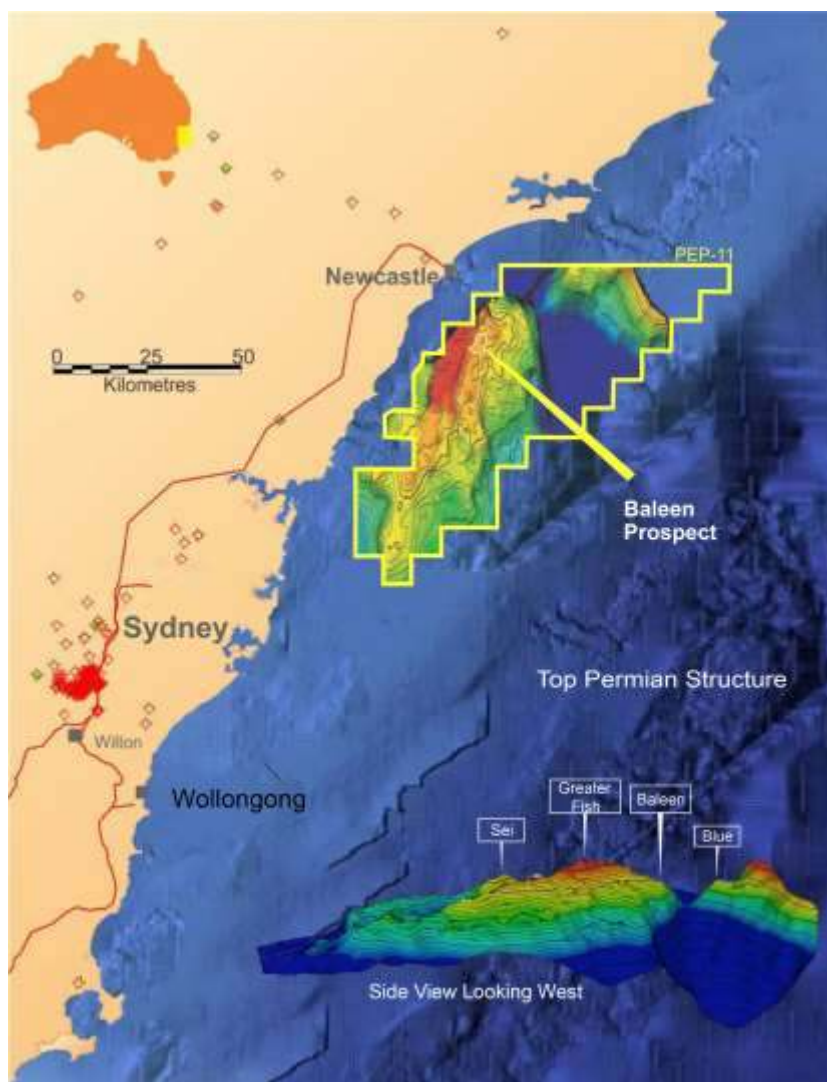
Geoscience Australia is an agency of the Australian Government. It carries out geoscientific research and is the government’s technical adviser on all aspects of geoscience, and custodian of the geographic and geological data and knowledge of the nation.(\*1)

Geoscience Australia” NSW Continental Slope Survey. RV Southern Surveyor 10/2006 October 2006  
Kriton Glenn, Alix Post, Jock Keene, Ron Boyd et al.(\*2)

“Southeast Australia: A Cenozoic Continental Margin Dominated by Mass Transport, Boyd, Keen, Hubble, Gardner, Glenn, Ruming, Exon and the crews of Southern Surveyor 10/2006 and 12/2008 (4\*)

## PEP11 and Baleen Location

Location of PEP 11 offshore Australia (above) and location of Baleen well site approximately 26 km offshore and approximately 30 km SSW of the city of Newcastle



### About Advent Energy Ltd

Advent Energy Ltd is an unlisted oil and gas exploration company held by major shareholders BPH Energy (ASX: BPH), Grandbridge and MEC Resources (ASX: MMR). Advent holds a strong portfolio of near-term development and exploration assets spanning highly prospective acreage onshore and offshore Australia in proven petroleum basins. Advent Energy's asset base also incorporates both conventional and unconventional petroleum targets. Advent is in Joint Venture in PEP11 with Bounty (ASX: BUY)

Geosequestration - The Offshore Sydney Basin offers the potential opportunity for NSW to make deep cuts in its CO<sub>2</sub> emissions through CCS - Carbon Capture and Storage (geosequestration of CO<sub>2</sub> emissions). CCS is part of a suit of solutions with the potential to mitigate greenhouse gas emissions and help address climate change.