

ASX ANNOUNCEMENT

5 September 2022

Operational Update

Top End Energy Limited (**Top End** or the **Company**) (ASX:TEE) is pleased to provide an operational update.

HIGHLIGHTS

- Updated prospectivity review of conventional gas plays over ATP 1069 underway
- Target exploration agreement with native title holders of EP 258 at upcoming on country meetings
- Study commissioned into natural hydrogen prospectivity across the Company's existing portfolio
- Dr Mike Fischer presented the Company's NT strategy alongside other onshore gas players at NT Resource week

ATP 1069

The Company has engaged Discover Geoscience (**Discover**) to assist in undertaking geological and geophysical (**G&G**) studies following the recent completion of the 2D seismic reprocessing exercise carried out by Howman Seismic Services. The reprocessed data, consisting of ~220 line km of 2D seismic across the southern portion of the Company's 100% owned ATP 1069 permit (**Permit**), will be integrated into updated hydrocarbon charge and migration modelling of the Adavale Basin. This will allow the Company to assess more accurately the hydrocarbon migration pathways from regional source rock "kitchens" into the area covered by the Permit. The key objectives of the G&G studies are the following:

- mature the conventional gas prospectivity of the Adavale Basin in the southern portion of the Permit;
- optimise the location of the planned 2D seismic acquisition campaign; and
- identify potential drilling leads and reservoir targets.

The Gilmore gas field, situated 50 km west of the Permit, has demonstrated commercial conventional gas production from the Lissoy Sandstone and Log Creek Formation of the Adavale Basin. Initial seismic interpretation suggests these formations may be present within the Permit, but no wells have been drilled to these depths on the Permit. The Company's work program is targeted to better understand this potential conventional gas

prospectivity and ultimately high-grade drillable prospects. The modelling and interpretation exercise is targeted to be completed in early Q4 2022.

In parallel, the Company is preparing for the proposed acquisition of up to 120 line km of new 2D seismic and is currently engaging with both landowners and seismic contractors.

NORTHERN TERRITORY

EP 258

The Company has been negotiating with representatives of the Northern Land Council (**NLC**) the terms of a proposed exploration agreement ancillary to an agreement under section 31(1)(b) of the Native Title Act. This proposed agreement will be presented to the native title holders of EP 258 at the upcoming On Country Meetings (**OCM**). The execution of the ancillary agreement is the key pre-requisite for achieving formal grant of the permit.

OCMs with the native title holders originally scheduled for August have been rescheduled to mid-September due to factors outside of the Company's control. Multiple contingency dates have also been allocated by the NLC to the Company for the coming months, and the Company remains focused on achieving its stated work program timing, specifically:

- receiving formal grant of EP 258 before year end; and
- undertaking the proposed acquisition of up to ~150 km of 2D seismic survey in H1 2023, conditional on receiving grant of EP 258 and satisfaction of necessary approvals and land access agreements.

In parallel with the native title engagement, the Company has commenced preparation of the approvals, agreements and other submissions required ahead of undertaking on ground activities, including Aboriginal Areas Protection Authority certificate applications in accordance with the proposed native title ancillary agreement, Environmental Management Plan and land access agreements.

The objective of the proposed seismic survey is to confirm the extension of the proven play system that hosts the significant discoveries which have been made in the Beetaloo Basin, including the conventional Bessie Sandstone and unconventional Velkerri Shale reservoirs, into the Company's application areas on the Southern McArthur Basin margin, and ultimately aid in the identification of drilling targets.

Market Updates

The Company also notes the recent updates from operators in the very active Beetaloo Basin, a sub-basin of the Greater McArthur Basin, specifically with respect to production test flow rates:

- On 15 August, Tamboran Resources announced that the Tanumbirini 2H (**T2H**) and Tanumbirini 3H (**T3H**) wells in EP 161 were currently flowing at 40% and 150% higher eight-day average flow rates, respectively, when compared to corresponding rates in January 2022;
 - The T3H well peaked at 9.1 million standard cubic feet per day (**mmscfd**) and is flowing at an eight-day average rate of 4.4 mmscfd over a 600-metre horizontal section (normalised at 7.4 mmscfd over 1,000-metres); and

- The T2H well peaked at 4.0 mmscfd and has an eight-day average rate of 2.8 mmscfd over a 660-metre horizontal section (normalised at 4.3 mmscfd over 1,000-metres); and
- On 22 August 2022, Empire Energy announced that the Carpentaria-2H had achieved an average of 2.6 mmscfd sustained flow rate over the first 13 days of flow testing with negligible decline, indicating a normalized rate of 2.8 mmscf / day per 1,000m of horizontal section;
 - Peak rate of > 11 mmscf / day achieved after a 2 day shut-in to change wellheads and monitor pressure build up following which the well returned to trend production rate as expected.

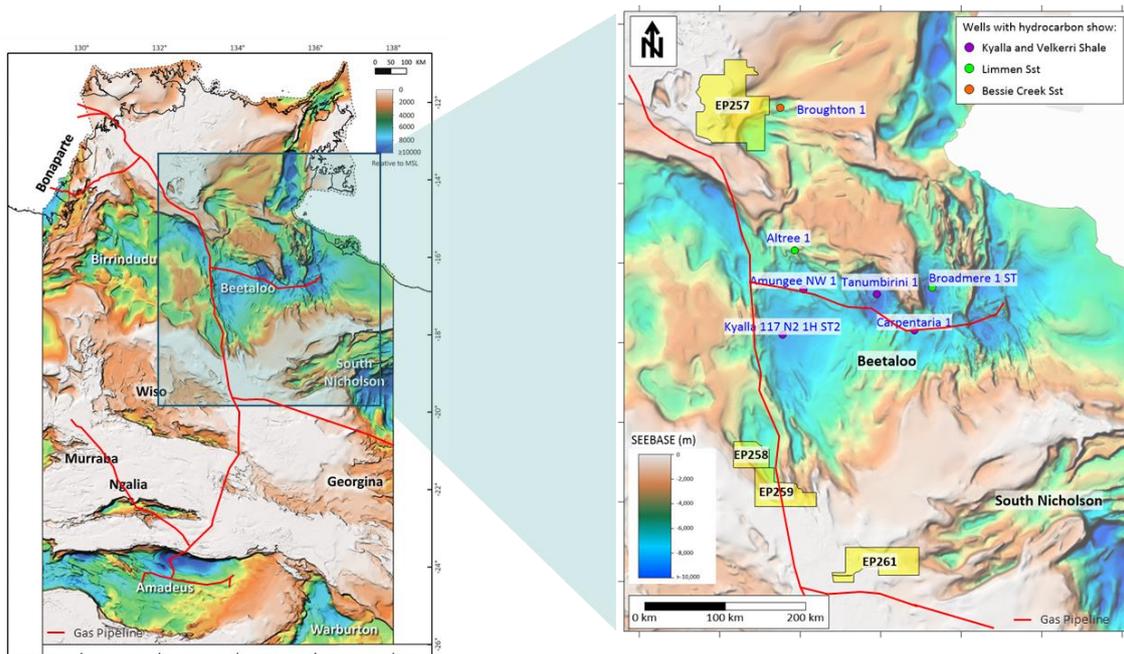


Figure 1: Top End's key permits in the Greater McArthur Basin

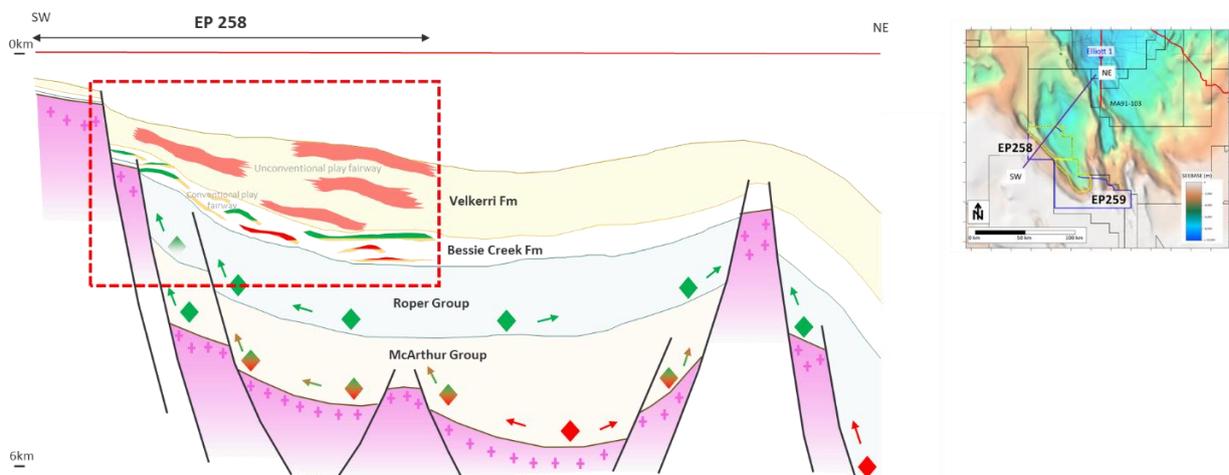


Figure 2: Regional schematic highlighting the potential of the untested southern margin of the Greater McArthur Basin and EP 258

Natural Hydrogen Study

In line with Top End's stated intentions to leverage its existing footprint and explore complimentary clean energy solutions, the Company intends to assess the potential for natural hydrogen and helium across the existing portfolio.

The Company has commissioned Cryptid Energy Consultants to undertake an initial study to assess the potential for natural hydrogen across the Company's portfolio. The portfolio has been tiered into priority areas and will be addressed in phases, with the initial focus being the McArthur Basin margin assets. Basin margins where deep seated faults exist, may be conduits for natural hydrogen migration, providing the opportunity for Top End to explore for natural hydrogen and hydrocarbons concurrently. Following the initial studies, decisions on field surveys and sampling will be made for incorporation into the Company's intended H1 2023 exploration program.

The Company is also looking to collaborate and partner with third parties active in the nascent natural hydrogen and helium space in Australia.

NT Resource Week – SEAAOC

The Company presented at the recent South East Asia Australia Offshore & Onshore Conference (**SEAAOC**) held in Darwin. Dr Mike Fischer, Non-Executive Director of Top End, presented alongside other key onshore NT operators, focusing on the Company's priority assets in the Greater McArthur Basin.



Figure 3: Dr Mike Fischer (Non-Executive Director) presenting at SEAAOC

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This announcement was authorised for release by the Board of Directors of Top End Energy Limited.

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About Top End Energy Limited

Top End aims to be a leading Australian diversified energy provider at the forefront of the energy transition. Combining an attractive portfolio of granted and in-application petroleum permits in Queensland and the Northern Territory, with intentions to pursue complementary clean energy solutions and achieve a target of net zero (Scope 1 & 2) emissions.

For further information on Top End Energy Limited please visit www.topendenergy.com.au

About Howman Seismic Services

Howman Seismic Services is an emerging seismic processing business based in Perth, with a focus on flexibility and customer satisfaction. The business was formed in 2016 with the intention of filling a void in the Western Australian seismic processing market left by the recent exodus of several processing houses.

Howman have positioned themselves as a developing provider of all digital services to the seismic industry. The core of their business is processing seismic data from raw field data through to final migrated images of the subsurface.

For further information on Howman Seismic Services please visit www.howmanseismic.com

About Discover Geoscience

Discover Geoscience was established in 2016 to offer consulting services to the oil and gas industry and has built up its client portfolio, global experience and pool of associates and partners to service the oil and gas industry, the minerals and mining sector, and now the emerging new energies sector.

For further information on Discover Geoscience please visit www.discovergeoscience.com

About Cryptid Energy Consultants

Cryptid Energy Consultants (CEC) are Perth based experts in seismic and geological analysis for the oil and gas, natural Hydrogen, mining, CCS and geothermal industries. CEC specialise in prospectivity evaluation, regional studies and seismic facies mapping.

For further information on Cryptid Energy please visit www.cryptidec.com