2H Resources – Natural Hydrogen Research Agreement executed with CSIRO

Highlights

- *2H Resources natural hydrogen exploration program substantially advanced through a Research Agreement with the Commonwealth Scientific and Industrial Research Organisation (CSIRO).*
- *The Research Agreement is for a project entitled "Baseline study for natural hydrogen flow – long term deployment of autonomous monitoring instruments to detect natural hydrogen and other gases in soil."*
- *As part of this study, 2H Resources will get access to autonomous soil gas sensors developed by the CSIRO, which will measure the flow of hydrogen and other gases in the soil. The sensors are part of the experimental exploration workflow developed by 2H Resources to high grade areas prospective for natural hydrogen and accelerate the positioning of future dedicated natural hydrogen exploration wells.*
- *2H Resources has six Petroleum Exploration Licence (PEL) and two Gas Storage Exploration Licence (GSEL) applications in South Australia that are considered highly prospective for naturally occurring hydrogen. Buru has been confirmed as the preferred applicant for these licences by the South Australian Government.*
- *Exploration on these application areas including the field deployment of the sensors will commence following the execution of land use agreements on the application areas, and the subsequent granting of the PELs and GSELs.*

Buru Energy (**Buru, Company**) is pleased to provide the following operations update in relation to its wholly owned hydrogen and helium business, 2H Resources.

On 24 July 2023, 2H Resources and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) executed a Research Agreement for a study to develop autonomous monitoring sensors to detect in real time surface occurrences of natural hydrogen, similar in concept to geochemical sampling for mineral exploration.

Buru's CEO Thomas Nador commented:

"Buru has been actively incubating its 2H Resources subsidiary focused on natural hydrogen and helium exploration and development to ensure it is part of the future of energy, and not a passive observer of the transformation of the energy sector that is well underway.

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This latest development, involving this Research Agreement with the CSIRO will provide 2H Resources with added expertise and access to potential breakthrough innovation to support early exploration efforts for this essentially carbon-free energy source.

In concert with progressing key land access agreements to support the granting of the South Australian Petroleum Exploration Licences covering over 30,000 sq kms, and commissioning an independent third-party assessment of the prospective hydrogen resource potential of these areas, the Company is making steady progress to realising the potentially very substantial shareholder value from this exciting and innovative hydrogen initiative."

Research Agreement

On 24 July 2023 CSIRO and 2H Resources signed a Research Agreement for a project entitled "Baseline study for natural hydrogen flow – long term deployment of autonomous monitoring instruments to detect natural hydrogen and other gases in soil."

As part of this study 2H Resources will evaluate prototype autonomous soil gas sensors developed by CSIRO, which will measure the flow of hydrogen and other gases in the soil.

The sensors are part of the experimental exploration workflow developed by 2H Resources to high grade areas prospective for natural hydrogen, which aims to accelerate the positioning of future dedicated hydrogen exploration wells.

The sensors will be deployed on selected test sites on 2H Resources' South Australian Petroleum Exploration Licence areas (PEL) once the licences are granted, to remotely monitor the presence and flux of gases in soil, and to test survey design options and data analytics strategies.

Following the provision and deployment of the initial six monitoring units and one base station over a 3-month period, larger upscaled production using external manufacturing contractor(s) will be considered to expand the deployment of up to 140 autonomous monitors to cover larger test sites over a period of 6 months.

Although ownership of the monitors and its technology will remain with the CSIRO, 2H Resources will receive the benefits of being an early adopter of newly developed monitoring technology and will have access to the large amount of data acquired to inform its future exploration plans.

2H Resources background and strategy

2H Resources was established to apply the geological knowledge of its supporting shareholder, Buru Energy, to the exploration and appraisal of natural hydrogen and associated helium accumulations.

2H Resources has established an exploration portfolio in South Australia where the regulatory framework is in place for natural hydrogen exploration and is actively evaluating other areas with the potential for natural hydrogen occurrences.

In 2022, 2H Resources was confirmed as the preferred applicant for the granting of six South Australian Petroleum Exploration Licences (PEL) for hydrogen, and two Gas Storage Exploration Licences. The granting of the hydrogen exploration and gas storage licences to 2H Resources is subject to a valid land access agreement executed in accordance with the

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requirements of the Commonwealth *Native Title Act 1993* over any area where Native Title interests exist. Accordingly, 2H Resources has commenced engagement with key Native Title groups covering the application areas as a precursor to the formal granting of the licences.

Prospective Hydrogen Resources

In January 2023, 2H Resources received an independent third-party Hydrogen Prospective Resource estimate from RISC Advisory for its South Australian petroleum exploration licence application areas which indicated a range of risked prospective hydrogen resources across the six application areas of between 49 million kilograms (1U) and 1.3 billion kilograms (3U) with a risked Prospective Best Estimate Resource (2U) of 343 million kilograms. (Refer ASX announcement 23 January 2023). These risked prospective resources can be viewed in the context of the widely accepted target price of $2 per kilogram for alternative methods of hydrogen production to be competitive with hydrogen generated from fossil fuels.

Prospective Resources relate to the estimated quantities of naturally occurring hydrogen gas that may potentially be recovered by the application of future development projects to undiscovered accumulations. These estimates have both an associated risk of discovery and risk of development. Further exploration and appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable naturally occurring hydrogen gas.

2H Resources confirms that it is not aware of any new information or data that materially affects the information included in the ASX announcement of 23 January 2023, and that the technical parameters underpinning the estimates continue to apply and have not materially changed.

Forward Plan

2H Resources is progressing engagement with key Native Title groups covering its exploration license application areas which is a pre-cursor to the formal granting of the six PELs and two GSELs. This process is expected to conclude by year end 2023.

In parallel, 2H Resources is undertaking further geological and geophysical analysis of these areas to improve the understanding of hydrogen prospectivity and is planning for exploration field activities to commence as soon as practicable after the PELs are granted, including field deployment of monitoring sensors.

A review of various commercialisation options is in progress and has identified that a staged development approach aligned to hydrogen resource appraisal, is the most suitable path to commercialisation.

Initial development opportunities include projects to displace diesel in nearby mining operations, provide hydrogen as a fuel for trucking and heavy mobility applications, and provide power for remote communities.

Subsequent development stages include the potential to establish regional hubs, provide firming energy into the South Australian power grid, and export opportunities aligned to the South Australian Governments' hydrogen export strategy. These commercialisation opportunities are in support of both the South Australian and Federal Government's policies for emissions reduction.

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As 2H Resources is currently wholly owned by Buru, the Company is reviewing its capital structure to ensure existing Buru shareholders benefit from the current and future value accretive activities of 2H Resources, whilst attracting investment to support the commercialisation and expansion potential of this new energy business.

Authorisation

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

For further information, visit www.buruenergy.com ; www.2HResources.com or contact:

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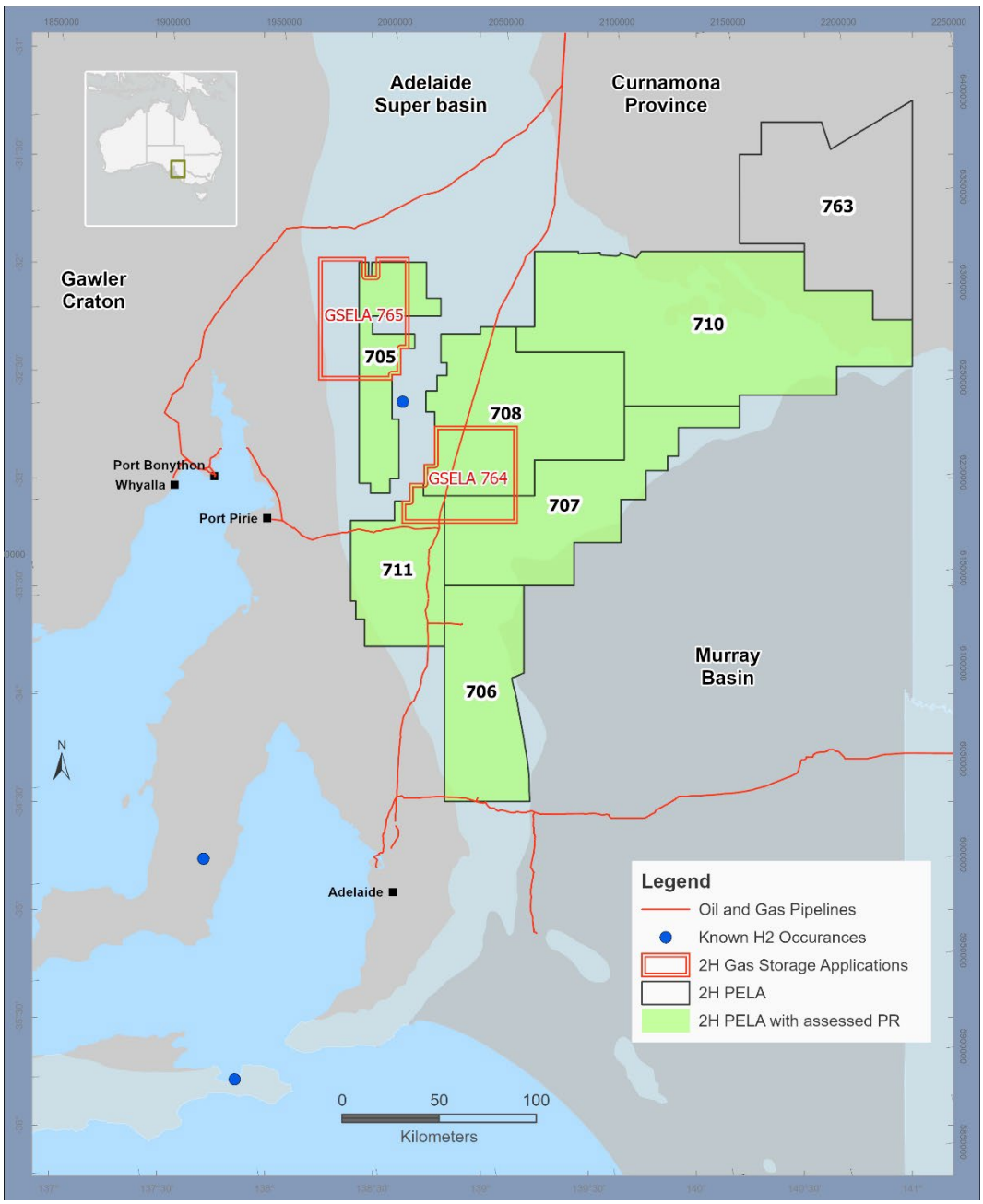

Figure 1: 2H Resources South Australian application areas.

Areas in green have been independently assessed for Prospective Resources

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