

**9 August 2023**  
**ASX Announcement**  
**Ramsay Project**  
**Airborne Survey Update**

**Highlights:**

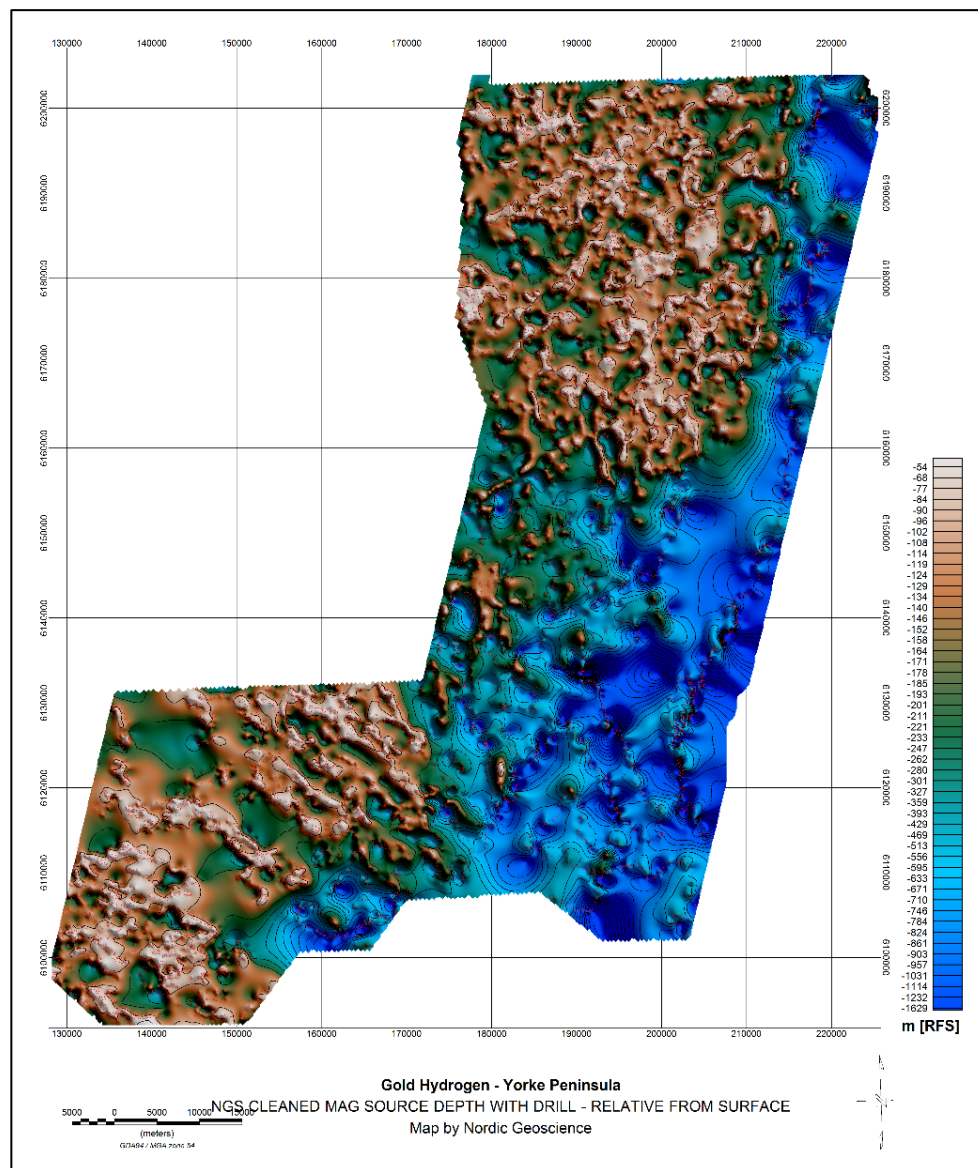
- **Airborne survey geophysical interpretation received.**
- **Results expected to enhance subsurface understanding for the distribution of natural hydrogen source rocks, subsurface structures, stratigraphy, and mature leads to prospects across the Ramsay Project.**
- **Planning continues for the execution of the Company's maiden drill program for the Ramsay Project, expected to commence in October 2023.**

The Directors of Gold Hydrogen Limited (**Gold Hydrogen, ASX: GHY, the Company**) are pleased to report that the interpretation of the previously acquired airborne survey data has now been received. As reported on 3 May 2023, the 10,529-line kilometre gravity-magnetic-digital terrain geophysical survey was flown by Xcalibur Multiphysics over the mainland Yorke Peninsula component of the Company's flagship Ramsay Project (refer **Location Map**).

The processed and interpreted airborne survey data has sharpened the imagery of the main structural boundaries, and is assisting the Company with the visualisation of the subsurface geology of the survey area. The combined gravity and magnetic data is also aiding in the detection of large-scale faults, estimated depths to basement, and the potential composition of the basement rocks. The data is an essential component for the subsurface model of where hydrogen may be coming from, as well as potential migration routes. Importantly, the data also supports the selection of the first well location. A sample of the suite of images from interpreted data is shown in **Figure 1**.

The airborne survey interpretation will now be considered and analysed by the Gold Hydrogen team in conjunction with the various other datasets being compiled by the Company including the soil-gas survey results, the reprocessing and interpretation of historical seismic data, sub-surface static and dynamic modelling, and the legacy well data.

In the short-term, this combination of geological and geophysical data will support the Company's maiden drilling program, scheduled to commence in October 2023. With the drilling and testing results, the airborne survey data and interpretation are expected to play an important role in the delineation of the potential hydrogen discovery, and with the identification of additional plays, leads and ultimately future drill hole locations.



**Figure 1 – Sample of the suite of images from interpreted airborne data**

The data acquisition and drilling activities are assisting the Company with the transition of its independently accessed Best Estimate Prospective Resources for the Ramsay Project of 1.3 billion kilograms of natural hydrogen to Contingent Resources (refer prospective resource statement in **Table 1** below).

### **Ramsay Project Objectives**

From a technical perspective, the primary objectives of the Ramsay Project are to:

- (i) progress its natural hydrogen Prospective Resources to Contingent Resources and/or Reserves. This will involve the processes of discovery, appraisal and commercialisation; and
- (ii) transfer portions of the granted title PEL 687 to Production Licence.

Historically, natural hydrogen gas was recovered in three samples taken in Ramsay Oil Bore 1 drilled in 1931. The samples were taken at depths of 240.8m, 262.1m and 507.8m, all indicated as being within the Cambrian Parara Limestone. The Company's Prospective Resource Statement is outlined in Table 1 below.

The first exploration well to be drilled by Gold Hydrogen (Ramsay 1) is being designed and located to verify the findings of the historic Ramsay Oil Bore 1 in order to mature the historical occurrences of natural hydrogen to a 'discovery' for resource evaluation and reporting purposes. Exploration wells need to be drilled, evaluated and tested to determine the presence, producibility, extent and thus 'discovery' of hydrogen from the geological reservoirs.

It is important to note that there are both geological and potential development risks associated with the Ramsay Project and the Company's objectives as outlined above. These risks relate to the presence, producibility and potential volumes of hydrogen, but also due to the location of the resource within agricultural areas and the proximity to National Parks on both Yorke Peninsula and Kangaroo Island, requiring significant landholder and community engagement. The worldwide, National and South Australian Government and industry efforts to secure hydrogen as an alternative energy source provides confidence that any technical and social concerns may be overcome.

#### **About Gold Hydrogen**

Gold Hydrogen is focused on the discovery and development of world class natural hydrogen gas in a potentially extensive natural hydrogen province in South Australia. This region has only recently had its natural hydrogen potential identified by the Company. The domestic and global demand for hydrogen, combined with new natural hydrogen exploration techniques and experienced personnel, provides Gold Hydrogen with an extraordinary opportunity to define and ultimately develop a new natural hydrogen gas province.

The combined natural hydrogen permit area of the Gold Hydrogen group is approximately 75,332km<sup>2</sup>. Gold Hydrogen holds one granted petroleum exploration license (the Ramsay Project - PEL 687) and its two 100% owned subsidiary companies (White Hydrogen Australia and Byrock Resources) hold an additional seven (7) applications for natural hydrogen exploration within South Australia.

Gold Hydrogen is also the preferred applicant for four (4) gas storage exploration licenses applications (GSELA) covering an area of 8,107km<sup>2</sup> within the Yorke Peninsula portion of PEL 687 in South Australia. These storage licence applications are in addition to the granted exploration licence and application licences.

**Table 1 – Prospective Resource Statement for Natural Hydrogen**

Gold Hydrogen’s Ramsay Project: Prospective Resources* of Hydrogen in ‘000 Tonnes – 30 Sept 2021										
PEL	Prospects	SPE PRMS Sub-class	1U Low Estimate	2U Best Estimate	Mean	3U High Estimate		Pg	Pd	Pc
PEL 687	All Prospects and Leads		207	1,313	4,187	8,820		22%	48%	10%
Yorke Peninsula										
PEL 687	Ramsay FB	Prospect	124	931	2,712	6,989		22%	50%	11%
PEL 687	Ramsay Lst	Prospect	10	70	191	492		26%	50%	13%
PEL 687	Maitland	Lead	7	26	40	92		17%	35%	6%
Kangaroo Island										
PEL 687	Navigator	Lead	34	152	280	678		19%	40%	8%
PEL 687	Kanmantoo	Prospect	32	134	237	569		25%	40%	10%

**\*This estimate of Natural Hydrogen Prospective Resources must be read in conjunction with the notes in the Company's ASX release of 13 January 2023.**

It should be noted that the estimated quantities of Natural Hydrogen that may potentially be recovered by the application of a future development project(s) 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 recoverable Natural Hydrogen.

The Company confirms that it is not aware of any further new information or data that materially affects the estimates of Natural Hydrogen Prospective Resources (as originally estimated on 30 September 2021), and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

#### Further Information

Further information on the Gold Hydrogen group, its projects, and its Board and Management can be found on the Company's website ([www.goldhydrogen.com.au](http://www.goldhydrogen.com.au)) together with a copy of the Company's Replacement Prospectus of 29 November 2022. Gold Hydrogen also has accounts on LinkedIn and Twitter (@GHY ASX), and copies of market releases will be emailed to all interested parties who register via [info@goldhydrogen.com.au](mailto:info@goldhydrogen.com.au)

The Board looks forward to providing regular updates to the market as preliminary exploration efforts continue on the Company's flagship Ramsay Project.

This announcement has been authorised for release by the Board.

On behalf of the Board

Karl Schlobohm

Company Secretary

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**QPRRE Statement**

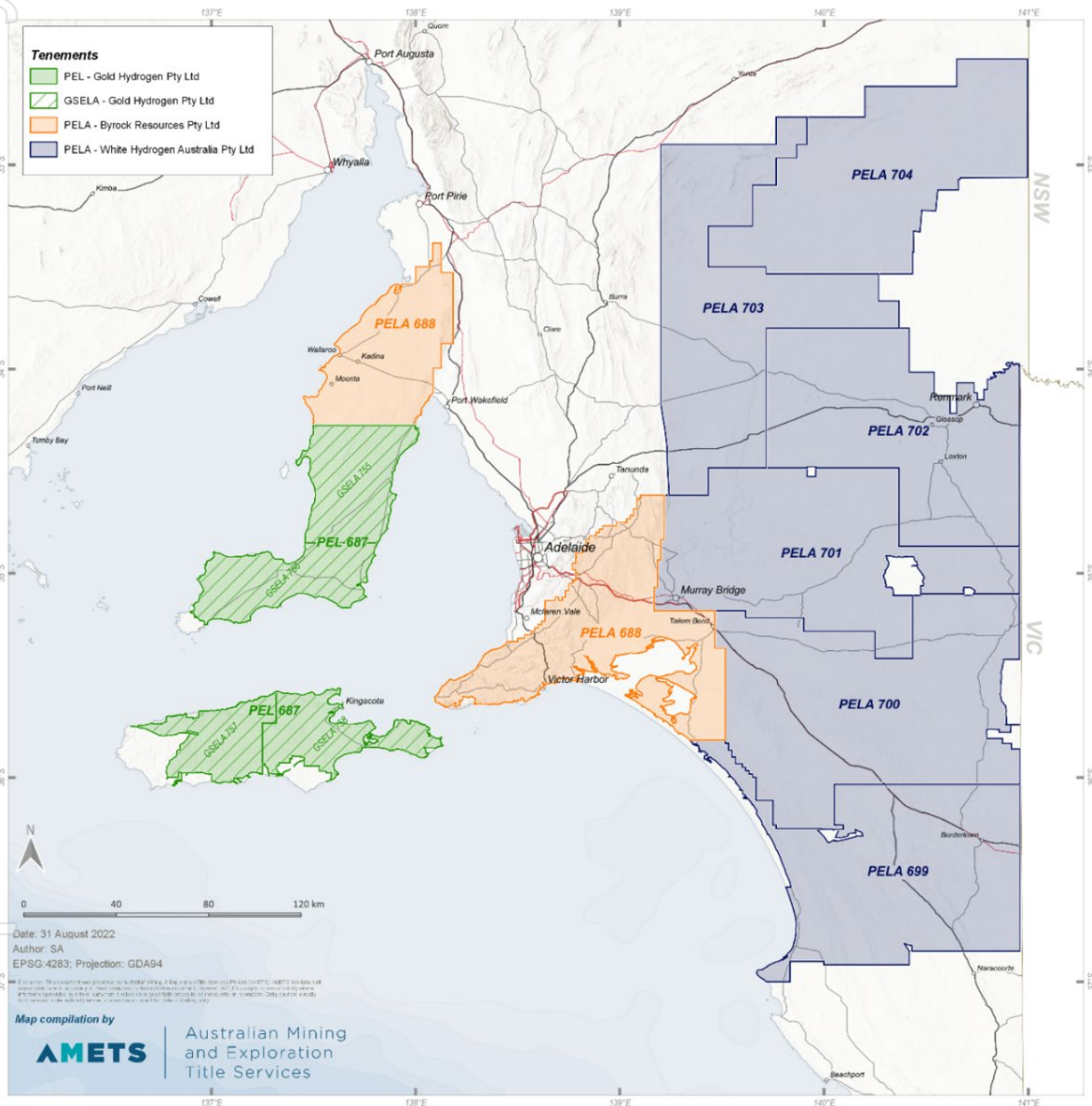
The Prospective Resource Statement in this announcement is based on, and fairly represents, information and supporting documentation prepared by independent consultants “Teof Rodrigues & Associates” with an effective date of 30 September 2021, and which forms part of the Company’s Replacement Prospectus dated 29 November 2022. The Prospective Resource Statement, together with all relevant notes, also appears in the Company’s ASX release of 13 January 2023.

The Prospective Resource Statement has been included in this announcement under the approval of Mr Billy Hadi Subrata, Chief Engineer for Gold Hydrogen, who is a Qualified Petroleum Reserves and Resources Evaluator. Mr Hadi Subrata confirms that, as at the date of this announcement, there is no change to information or additional information, since the effective date of 30 September 2021, that would materially change the estimates of prospective resources quoted.

**Forward Looking Statement / Future Performance**

This announcement may contain certain forward-looking statements and opinion Forward-looking statements, including projections, forecasts and estimates, are provided as a general guide only and should not be relied on as an indication or guarantee of future performance and involve known and unknown risks, uncertainties, assumptions, contingencies and other important factors, many of which are outside the control of the Company and which are subject to change without notice and could cause the actual results, performance or achievements of the Company to be materially different from the future results, performance or achievements expressed or implied by such statements. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. Nothing contained in this announcement, nor any information made available to you is, or and shall be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of Gold Hydrogen Limited.





**Location Map – Gold Hydrogen Group tenement and areas under application located in South Australia.**