28 September 2023

ASX Announcement

Ramsay Project Update

Initial Drilling Related Activity Approval Received

Commencement of Site Operations

Highlights:

- **The South Australian Government Department of Energy and Mines has issued Gold Hydrogen the first of its required drilling-related approvals.**
- **Site operations and construction of the Ramsay 1 well site drilling pad is now underway.**
- **Gold Hydrogen remains on track to spud Ramsay 1 in mid-October to twin the historic Ramsay Oil Bore 1.**

Further to its previous market releases relating to its flag ship Ramsay Natural Hydrogen Project, the Directors of Gold Hydrogen Limited (**Gold Hydrogen, ASX: GHY, the Company**) are pleased to announce that the Company has received the first of its staged approvals by the South Australian Government Department of Energy and Mines to commence site operations and construction of the Ramsay 1 well site drilling pad.

With this initial approval now in place, a local civil construction company has been mobilized, and well pad construction will commence today on the Ramsay 1 well site. After completing the Ramsay 1 site, equipment will be moved to the proposed Ramsay 2 site, with construction activities scheduled to commence next week. The Company expects to see significant cost savings in building both well sites at the same time.

Rig mobilization is planned for the second week of October, and the Company is on track to spud Australia's first dedicated natural hydrogen well in mid-October, subject to final approval expected in the next weeks.

The primary objective of the Ramsay 1 well is to confirm the presence of hydrogen in the subsurface geologic formations, by replicating the identification of hydrogen gas (up to 89% on an air-corrected basis) encountered during the drilling of the historic Ramsay Oil Bore 1 back in 1931, and to also more broadly confirm geological modelling based on the exploration data obtained during the past year. Confirming the presence of hydrogen is the first step to achieving Gold Hydrogen's Ramsay Project Objectives.

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) mature portions of the granted title PEL 687 to Production Licence areas.

Historically, natural hydrogen gas was recovered in three samples taken in Ramsay Oil Bore 1 drilled in 1931. The gas samples of up to 89% pure hydrogen (on an air-corrected basis) were taken at depths of 240.8m, 262.1m and 507.8m, all indicated as being within the Cambrian Parara Limestone.

Ramsay 1, the first exploration well to be drilled by Gold Hydrogen, has been designed and located to verify the findings of the historic Ramsay Oil Bore 1 (refer **Figure 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. Ramsay 1 is targeting the Parara and Kulpara limestone formations, which reside above a fractured granite basement. Subject to the findings of this initial drilling campaign, the Company is planning to test the granite basement as part of the Company's future exploration activities.

The final timing and location for the drilling of Ramsay 2 will be contingent on the findings from Ramsay 1, but if the decision is made to proceed immediately, it is likely to be drilled in the location outlined in **Figure 1**, and during the November - December 2023 period. The technical objectives of Ramsay 2 will be similar to Ramsay 1 in terms of well depth and target limestone formations.

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.

Figure 1: Location of Ramsay 1 and 2 Relative to the Historic Ramsay Oil Bore

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^2. 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.

The Company's Prospective Resource Statement is attached as **Table 1**.

Gold Hydrogen is also the preferred applicant for four (4) gas storage exploration licenses applications (GSELA) covering an area of 8,107km^2 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.

The group's permit areas are characterised by low population densities, cooperative stakeholders and aspects of the natural environment suited to the exploration and development of a future natural hydrogen gas province. Gold Hydrogen places considerable importance on close liaison with landholders, traditional owners and all other stakeholders, and this approach has led to the grant of its key tenement PEL 687 in South Australia. The Company intends to continue to invest in these efforts.

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) 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

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The Board looks forward to providing regular updates to the market as preliminary exploration efforts commence 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.

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.