



Quarterly Activities Report for the Period Ended 31 December 2022

GOLD HYDROGEN LTD (ASX:GHY)

Shares on Issue
140 million

Market Capitalisation
A\$80 m (at A\$0.60 per share)

Directors
Rt Hon Alexander Downer (Chair)
Neil McDonald (Managing Director)
Luke Titus (Executive Director)
Roger Cressey (Executive Director)
Kathrine Barnet (Non-Executive Director)

Company Secretary
Karl Schlobohm

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HIGHLIGHTS

- **Gold Hydrogen Limited (GHY) listed on the Australian Securities Exchange (ASX) following the end of the Quarter on 13 January 2023, with the Initial Public Offering raising gross proceeds of \$20m, via a fully underwritten and oversubscribed offer.**
- **An airborne gravity-magnetic survey is scheduled to commence in March 2023, following the lodgment of the permit application in December 2022 with the South Australian Department for Energy and Mining.**
- **2D seismic reprocessing completed in December 2022 has significantly improved subsurface architecture, and identified additional leads outside existing prospects.**

EXPLORATION AND TECHNICAL ACTIVITIES

General

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 Gold Hydrogen. 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 75,332km². Gold Hydrogen holds one granted petroleum exploration license (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 (**refer Figure 1**).

Gold Hydrogen is also the preferred applicant for four (4) gas storage exploration licenses applications (GSELA) covering an additional 8,107km² within the renewable energy zone of PEL 687 of the Yorke Peninsula region of South Australia. A summary of the status of the group's tenure is outlined in **Appendix A**.

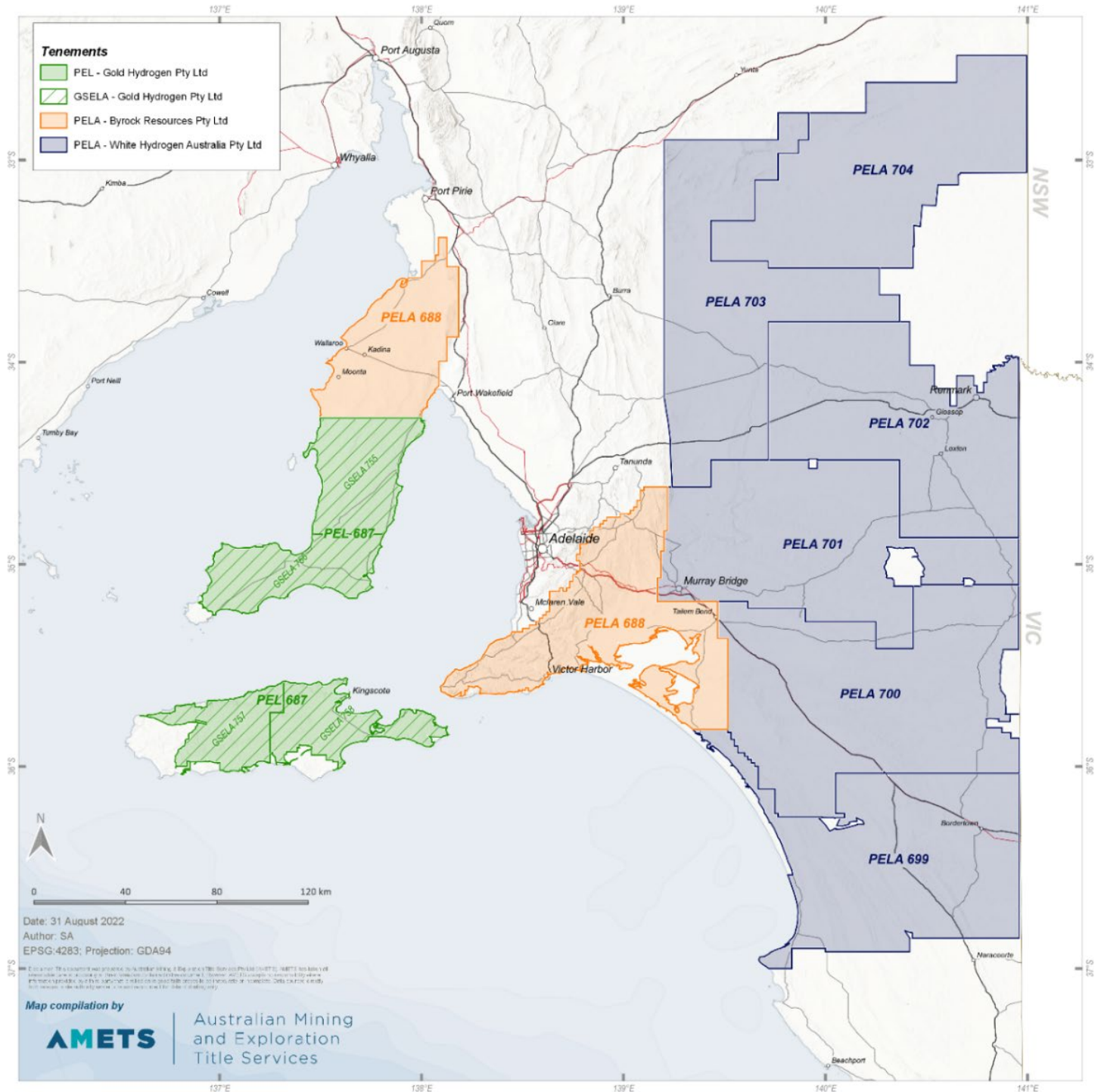


Figure 1 – Gold Hydrogen Group tenement and areas under application located in South Australia.

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 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.

Airborne Survey

In South Australia, Gold Hydrogen has commenced operations and submitted an 18,200-line km airborne gravity-magnetic survey to the Department of Energy and Mines for approval. This non-invasive airborne survey is scheduled to commence in early March 2023 with Stage 1 over the Yorke Peninsula, and Stage 2 over Kangaroo Island, the timing of which will be determined following the conduct of Stage 1. The survey is designed to enhance subsurface understanding of rich natural hydrogen source rocks, structures, and identifying future well locations to mature the independently accessed Best Estimate Prospective Resources 1.3 billion kilograms of natural hydrogen gas in PEL 687 (refer Prospective Resource Statement on the following page).

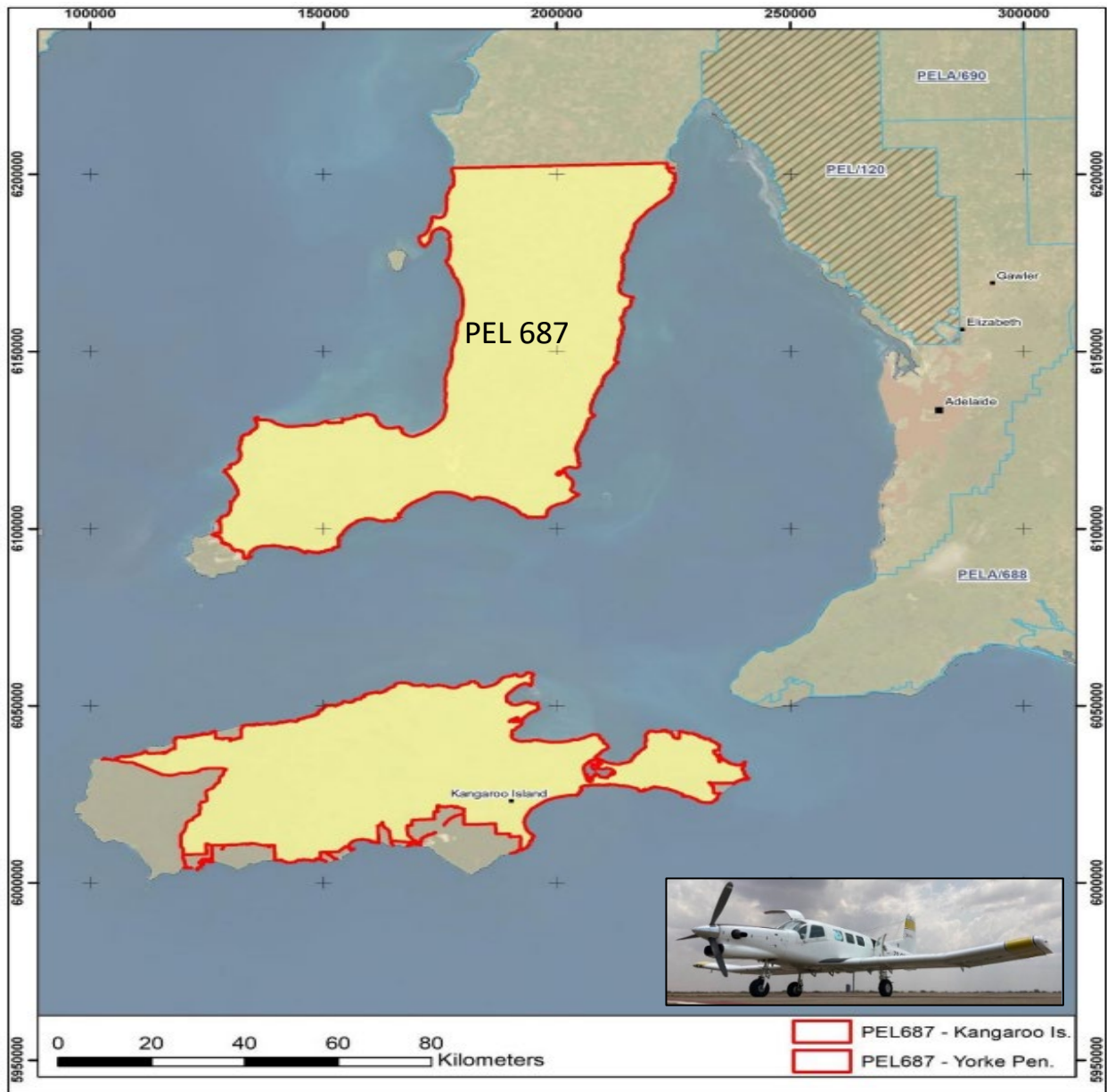


Figure 2 – Ramsay Project airborne survey, PEL 687

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	1313	4187	8820		22%	48%	10%
	Yorke Peninsula									
PEL 687	Ramsay FB	Prospect	124	931	2712	6989		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.

2D Seismic Reprocessing – Yorke Peninsula

Selected 2D seismic reprocessing completed in December 2022 has significantly improved subsurface architecture. Additional leads were identified outside previously mapped and reported prospects on the Yorke Peninsula. Ongoing works to finalise Stansbury Basin thickness, estimated Cambrian formation tops, faults, structures, basement depths, basement source rock type and local hydrology through mid-February 2023 will conclude potential new drill locations and well proposals.

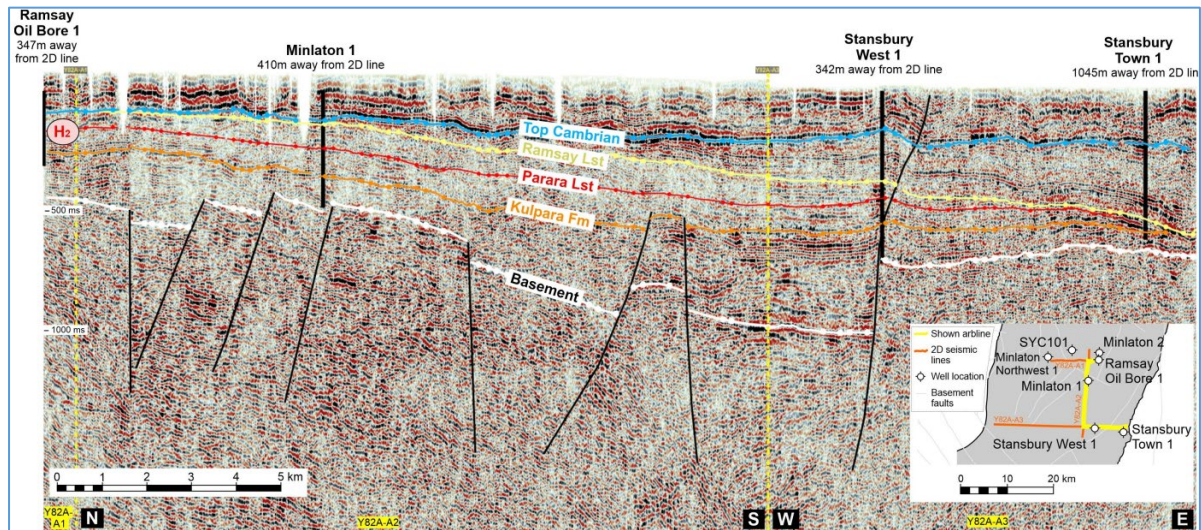


Figure 3 – Onshore Yorke Peninsula 2D seismic line. Notable horst and graben structure highlights extensional makeup of natural hydrogen basement source rocks. Some basement faults have been interpreted to extend into overlying Stansbury Basin Cambrian stratigraphic section and could be acting as migration pathways to potentially charged reservoirs.

Other Planned Activities

Further non-invasive natural hydrogen gas soil surveys with national science agency CSIRO are scheduled to commence in March-April 2023. Up to 100 soil survey locations have been identified to explore areas associated with potential natural hydrogen surface seeps sometimes referred to as fairy circles. Additional workflows, including geological modelling with Schlumberger, further seismic interpretation with Total Seismic and core sampling of selected wells for natural hydrogen fluid inclusion lab analysis and rock mechanics experiments by CSIRO is ongoing and will enhance the Company’s understanding of additional areas of high natural hydrogen gas prospectivity.

Gold Hydrogen is initially focusing on natural hydrogen exploration in the Stansbury Basin, Kanmantoo Trough and Kanmantoo Platforms of South Australia. The Company is planning to twin where possible historic wells that have reported natural hydrogen occurrences. Exploration drilling is scheduled to commence in Q3 2023 with 3 exploration wells currently being planned. Well testing to determine reservoir performance is planned to follow drilling.

The Company intends to keep the market up to date on the results of these activities, as well as all other progress towards expanding its granted tenement areas, and defining and developing its Prospective Resources.

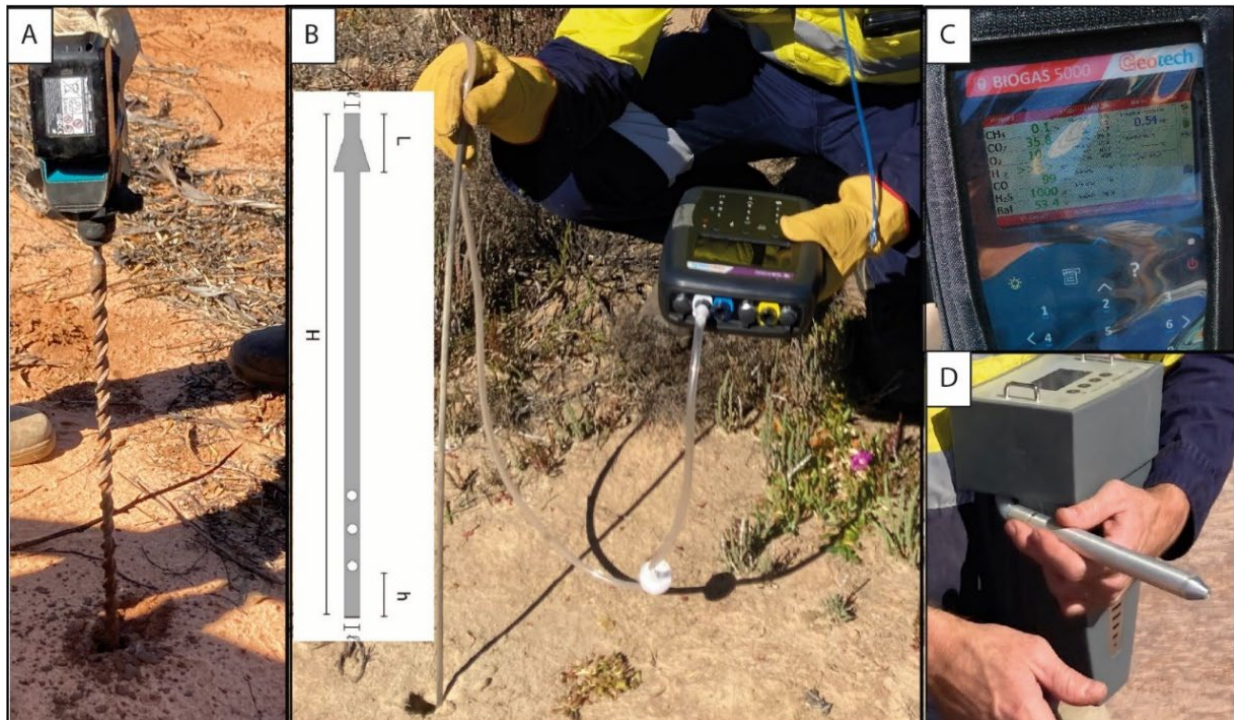


Figure 4 – Instantaneous measurement instrumentation. A. Hammer drill, B. GA5000 coupled with an inox tube. C. GA multi-gas analyser instantaneous readings, D. PHD-4 Portable Helium detector, detection at ppm level

CORPORATE ACTIVITIES

ASX Debut

The Company was admitted to the official list of the ASX on 11 January 2013, and quotation of its securities commenced on 13 January 2023 with the ASX ticker code GHY.

The Company successfully raised gross proceeds of \$20m via the issue of 40 million fully paid ordinary shares at an issue price of 50 cents each. The oversubscribed IPO raising was fully underwritten by Morgans Corporate Limited.

Gold Hydrogen is chaired by the Right Honourable Alexander Downer, who was the sitting member for the federal seat of Mayo in South Australia from 1984 to 2008. The seat of Mayo is within the Company’s granted and application tenure footprint.

Commenting on the Company’s ASX debut, Mr Downer said: *“To know we have the support of so many people in the hunt for low carbon energy sources, and that the search starts in my own state, is incredibly humbling. This is an Australian first, and very exciting for South Australia and Australia.*

We need real solutions to decarbonize in ways that keep the lights on, and innovators like Gold Hydrogen will be essential to those goals.”



Post-IPO Capital Structure

The Company currently has 140 million fully paid ordinary shares (comprising 40 million fully paid shares issued under the IPO and 100 million shares on issue immediately prior to the IPO) and 3,900,000 unlisted options on issue.

Of the 100 million shares on issue immediately prior to the IPO, 97.2% are under ASX-imposed or voluntary escrow arrangements until at least 13 July 2023, with 83.1% subject to escrow arrangements until 13 January 2025.

The unlisted options are all held by Board and Management and are escrowed for a period of 24 months.

FINANCIAL REPORTING

For the December 2022 Quarter the Company was funded via an issue of Convertible Notes which took place on 31 May 2022.

Exploration expenditures that were capitalised relate to the Company's flagship Ramsay Project (PEL 687) over the Yorke Peninsula / Kangaroo Island.

Exploration Expenditures – Item 1.2(a) of Quarterly Cashflow Report

Nature of Expenditure	Amount
Community Engagement	\$58,269
Environmental Processes	\$66,800
Executive Director Time	\$118,051
Feasibility / Initial Studies	\$15,000
Land Access Matters	\$55,200
Sub-Surface and Seismic Work	\$348,159
Tenement Management	\$1,320
Total	\$662,799

Payments to Directors – Item 6.1 of Quarterly Cashflow Report

Payments consisted of fees paid for Executive Director and Non-Executive Director services, pursuant to written agreements, totalling \$299,151 for the December Quarter.

Future Financial Reporting

In the Quarters which follow, the Company will also provide a summary of its spending compared with the Use of Funds statement contained in its Replacement Prospectus of 29 November 2022, as required by the Listing Rules.

This report has been authorised for release by the Board.

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QPRRE Statement

The Prospective Resource Statement in this report 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 report under the approval of Mr Luke Titus, Executive Director of Gold Hydrogen, who is a Qualified Petroleum Reserves and Resources Evaluator. Mr Titus confirms that, as at the date of this report, 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.

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. 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 75,332km². Gold Hydrogen holds one granted petroleum exploration license (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 also has four (4) gas storage licence applications (GSLA’s) within its granted PEL 687 covering an additional 8,107km².

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.

Appendix A

Overview of the Gold Hydrogen Group's PEL, PELAs and GSELAs

Permit	Project Name	Gold Hydrogen Interest	Applicant	Geologic Area & Basin	Size (km ²)	Term	Grant Date	Application Date	Expiry Date	Status	Act
PEL 687	Ramsay	100%	Gold Hydrogen Limited	Stansbury Basin & Kanmantoo Trough	7820	5-years	22/07/21	-	21/07/26	Granted	PGEA 2000
PEL(A) 688	Kanmantoo	100%	Byrock Resources Pty Ltd	Stansbury Basin & Kanmantoo Trough	9962	5-years	-	12/5/21	-	Pending	PGEA 2000
PEL(A) 699	Robe	100%	White Hydrogen Australia Pty Ltd	Padthaway Ridge-Kanmantoo Platform & Otway Basin	9624	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 700	Padthaway	100%	White Hydrogen Australia Pty Ltd	Padthaway Ridge-Kanmantoo Platform & Troubridge Basin	9748	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 701	Troubridge	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Troubridge Basin	9750	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 702	Renmark	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9563	5-years	-	19/7/21	-	Pending	PGEA 2000
PEL(A) 703	Boucat	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9015	5-years	-	3/8/22	-	Pending	PGEA 2000
PEL(A) 704	Baratta	100%	White Hydrogen Australia Pty Ltd	Kanmantoo Platform & Renmark Trough	9850	5-years	-	19/7/21	-	Pending	PGEA 2000
GSEL(A) 755	Maitland	100%	Gold Hydrogen Limited	Stansbury Basin	2470	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 756	Yorke town	100%	Gold Hydrogen Limited	Stansbury Basin	2272	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 757	Flinders	100%	Gold Hydrogen Limited	Kanmantoo Trough	1780	5-years	-	28/4/22	-	Pending	PGEA 2000
GSEL(A) 758	Penneshaw	100%	Gold Hydrogen Limited	Kanmantoo Trough	1585	5-years	-	28/4/22	-	Pending	PGEA 2000

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Gold Hydrogen Limited

ABN

74 647 468 899

Quarter ended ("current quarter")

31 December 2022

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(663)	(1,856)
(b) development	-	-
(c) production	-	-
(d) staff costs	-	-
(e) administration and corporate costs*	(651)	(1,364)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	-	-
1.5 Interest and other costs of finance paid	(1)	(1)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)		
- GST & security deposit refunds	158	311
1.9 Net cash from / (used in) operating activities	(1,157)	(2,910)

* It may be ultimately determined that some of these costs relate to the Company's IPO which took place in January 2023. Accordingly, the treatment of said costs may subsequently be adjusted.

2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	(11)
(d) exploration & evaluation	-	-
(e) investments	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
(f) other non-current assets	-	-
2.2 Proceeds from the disposal of:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) investments	-	-
(e) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
2.6 Net cash from / (used in) investing activities	-	(11)

3. Cash flows from financing activities		
3.1 Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2 Proceeds from issue of convertible debt securities	-	-
3.3 Proceeds from exercise of options	-	-
3.4 Transaction costs related to issues of equity securities or convertible debt securities*	(114)	(155)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
3.10 Net cash from / (used in) financing activities	(114)	(155)

* Transaction costs relate to the Company's IPO which took place in January 2023.

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	2,454	4,259
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(1,157)	(2,910)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	-	(11)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(114)	(155)
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	1,183	1,183

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	1,154	2,425
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)		
	- Bank guarantee	29	29
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,183	2,454

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	299
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i>		
<i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)		
- Convertible notes	5,500	5,500
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
<p>The Company's Convertible Notes were issued to various noteholders on 31 May 2022. The Notes were unsecured, set for maturity on 31 May 2023 (if not previously converted), with interest payable at 12% per annum.</p> <p>All of the Notes were converted into fully paid ordinary shares subsequent to the end of the quarter (9 January 2023), as part of the Company's IPO process.</p>		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(1,157)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(1,157)
8.4 Cash and cash equivalents at quarter end (item 4.6)	1,183
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	1,183
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	1.022
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: Yes.	

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: Yes. The Company's oversubscribed IPO, raising gross proceeds of \$20 million, settled in January 2023.

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: Yes. As outlined above.

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 January 2023

Authorised by: Karl Schlobohm – CFO / Company Secretary

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.