

Breaking new ground.

Projects in Kansas and Nebraska, USA returning high concentrations of geologic hydrogen and helium.

Geological Society
of London
Hydrogen Summit,
July 2025

ASX: HYT
hyterra.com



HYTERRA

A WORLD OF OPPORTUNITY



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Competent Person Statement Information

The resources estimate information and supporting documentation referred to in this announcement was reviewed by HyTerra’s Chief Technical Officer and Executive Director, Mr Avon McIntyre, who is a full-time employee of the Company. Mr McIntyre is a qualified oil and gas geologist with over 20 years of international experience. He has extensive experience of oil and gas exploration, appraisal, strategy development and reserve/resource estimation. Mr McIntyre has a BSc, MSc and PhD in geology from The University of Waikato, New Zealand and is a member of The Society of Petroleum Engineers (SPE). Mr McIntyre is qualified in accordance with the ASX Listing Rules and has consented to the form and context in which this statement appears.

Important Risk Commentary

It is important to note that there remains both geological and potential development risks with these projects and the Company’s commercial and business objectives. This is an emerging frontier with the potential to unlock significant low-carbon hydrogen gas supplies but with equally significant risk and uncertainty. Key risks include the presence, concentrations, recovery, and commercial potential of both hydrogen and helium gases. For more information on risks please refer to the ASX release ‘Entitlement Issue Prospectus’ on April 8th, 2024: <https://wcsecure.weblink.com.au/pdf/HYT/02793318.pdf>.

Our purpose

To deliver the world's
cheapest, cleanest,
and most profitable
hydrogen.

How we will get there.

- 01 Deliver a comprehensive exploration program.
- 02 Secure key partnerships and customers.
- 03 Demonstrate a commercial project.

April 2025. Maiden drilling at the
Nemaha Project, Kansas.



Key investment highlights

01

Leading the way in the #1 global H₂ hotspot.

Early drilling results demonstrate the presence of a working hydrogen and helium system nearby industrial and agricultural hubs.

02

Clear strategy to explore and appraise resource potential.

Multiple wells in multiple plays to methodically de-risk commercial viability. Data driven approach. Drill all wells, analyse, then test.

03

Leveraging existing hydrogen and helium value chains.

Clear monetisation plan that can be quickly implemented with existing technology for both hydrogen and helium.

04

Well funded to deliver within a supportive jurisdiction.

Strategic alliance and funding by Fortescue to progress the Nemaha Project and explore new opportunities.

05

Our team has a long track record in oil, gas, and mining.

Experienced leadership and technical team with a global track record in resource exploration and development, and production.



April 2025. Drilling the Sue Duroche 3 well in Kansas

Firstly, what is geologic hydrogen?

Geologic hydrogen is hydrogen gas that exists naturally within the Earth's crust, unlike hydrogen produced through industrial processes like steam methane reforming (grey hydrogen) or electrolysis using renewable energy (green hydrogen).

- Geologic hydrogen is cleaner, greener, and cheaper to produce than man-made hydrogen.
- It requires minimal processing and may be recovered from underground reservoirs using conventional oil and gas techniques.

*Geologic hydrogen has a carbon intensity of 0.37 kg CO₂e per kilogram of hydrogen when including the embodied emissions of the well casing and hydrogen emissions, according to a published paper in Joule by Stanford's Dr. Adam Brandt.

Modified from <https://koloma.com/geologic-hydrogen/>. Values obtained from 2022 GREET Model. Carbon intensity of hydrogen production for natural hydrogen was calculated based on Brandt, A. Greenhouse Gas Intensity of Geologic Hydrogen Produced from Subsurface Deposits. 2023. EarthArXiv preprint. <https://doi.org/10.31223/X5HM1N>. Calculation maintained consistency with GREET methodology.

<https://gh2.org/our-initiatives/gh2-green-hydrogen-standard#:~:text=Green%20hydrogen%20is%20hydrogen%20produced,a%2012%2Dmonth%20period>

Grey Hydrogen

Made from natural gas.
H₂ separated from CH₄.

Carbon emissions not captured.

○ 9.0kg CO₂e per kg H₂[#]

White (Geologic) Hydrogen

Naturally occurring, found in underground deposits.

Cheapest hydrogen to produce.

○ <1.0kg CO₂e per kg H₂^{*}

Blue Hydrogen

Made from natural gas.
H₂ separated from CH₄.

Carbon emissions captured.

○ 3.0kg CO₂e per kg H₂[#]

Green Hydrogen

Made by using renewable energy to electrolyse water.
H₂ separated from H₂O.

Production is expensive.

○ <1.0 kg CO₂e per kg H₂[#]

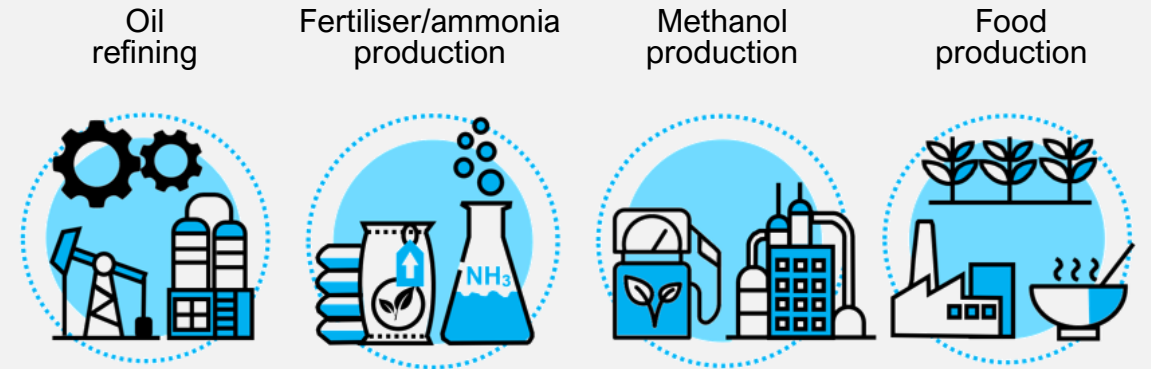
Hydrogen has many current uses and some exciting new ones.

Today, hydrogen is used for oil refining and the production of fertiliser, ammonia and food.

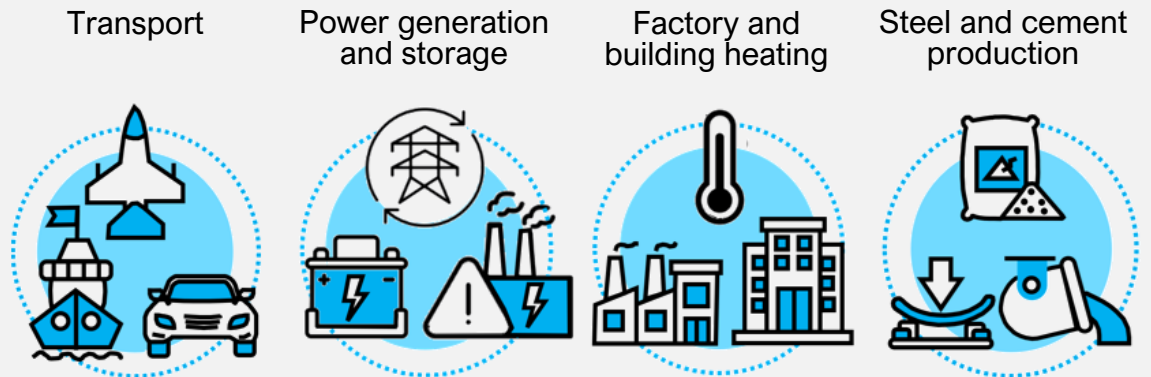
- Tomorrow, it will be a low-carbon fuel option for transportation and manufacturing and used to store and generate electricity.
- The demand for hydrogen reached an estimated 87 million tonnes (Mt) in 2020 and is expected to grow to as much as 580 Mt by 2050¹.

¹Source: <https://www.mckinsey.com/industries/oil-and-gas/our-insights/global-energy-perspective-2023-hydrogen-outlook>

Current uses of hydrogen



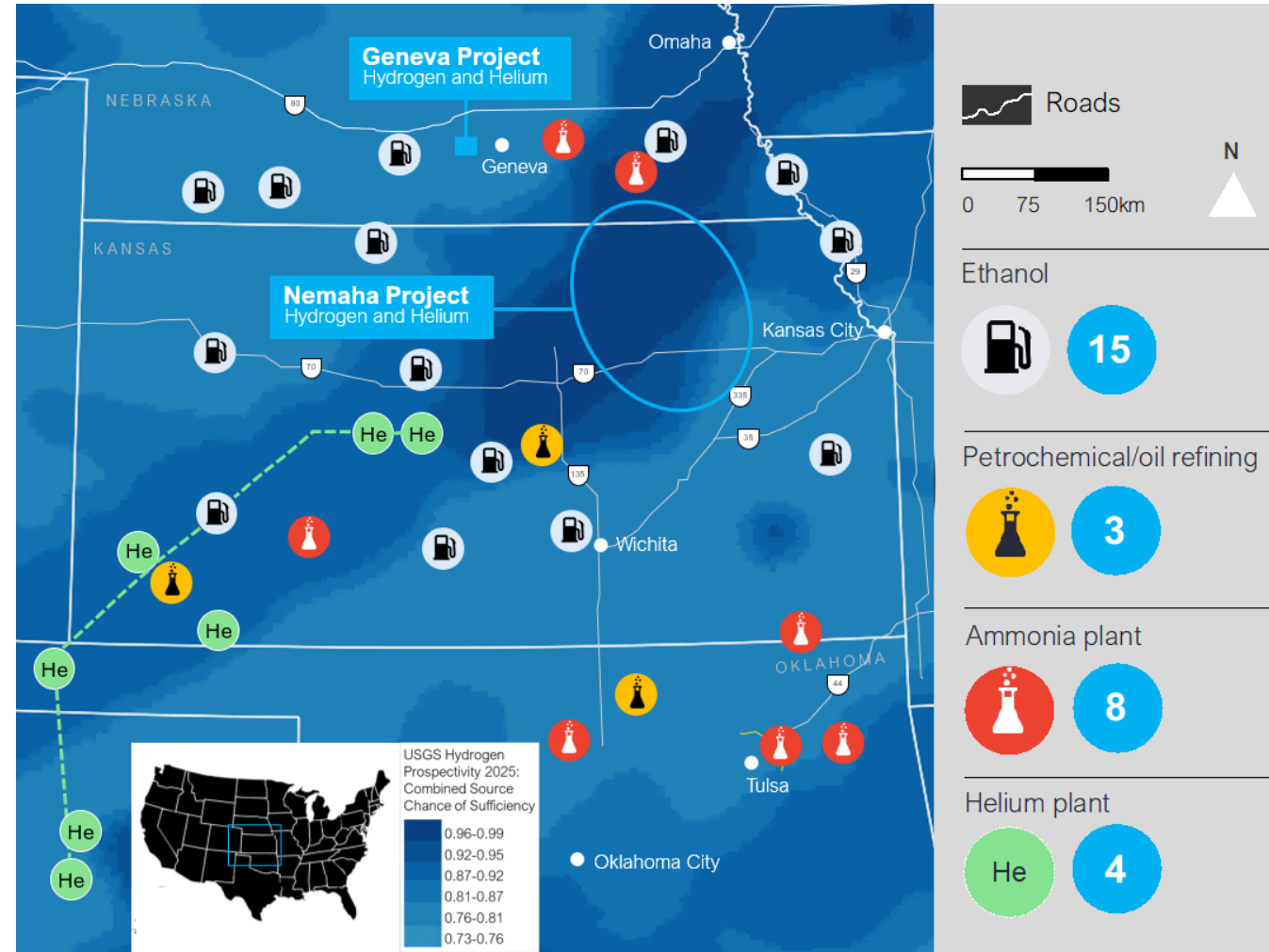
Emerging uses of hydrogen



Leading the way in the #1 global H₂ hotspot.

- HyTerra's 100% owned and operated leases cover over 80,000 acres above the hydrogen-generating Mid-Continental Rift system.
- Flagship Nemaha Project (Kansas) well sampling results show high concentrations of hydrogen up to 96% and helium up to 5%¹.
- Geneva Project (Nebraska) well testing results show hydrogen concentrations up to 44% and helium up to 13%².
- Leases are surrounded by important ammonia/fertilizer and helium production plants in the United States.
- Kansas imports anhydrous ammonia from other U.S. states but is the USA's largest helium producer.

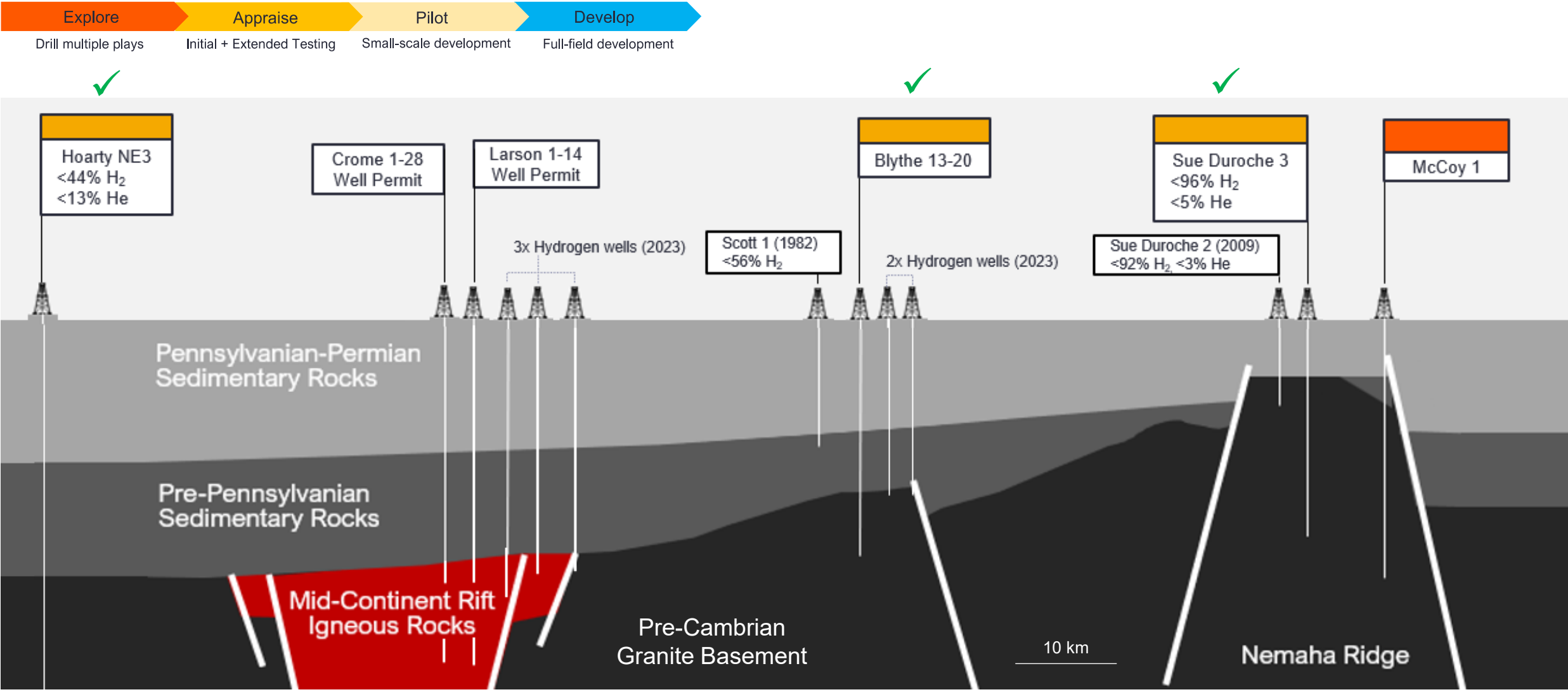
Early drilling results demonstrate the presence of a working hydrogen and helium system.



Background: USGS Geologic Hydrogen Prospectivity Maps 2025: Combined Source³

Clear strategy to explore and appraise resource potential.

Multiple wells in multiple plays to methodically de-risk commercial viability.

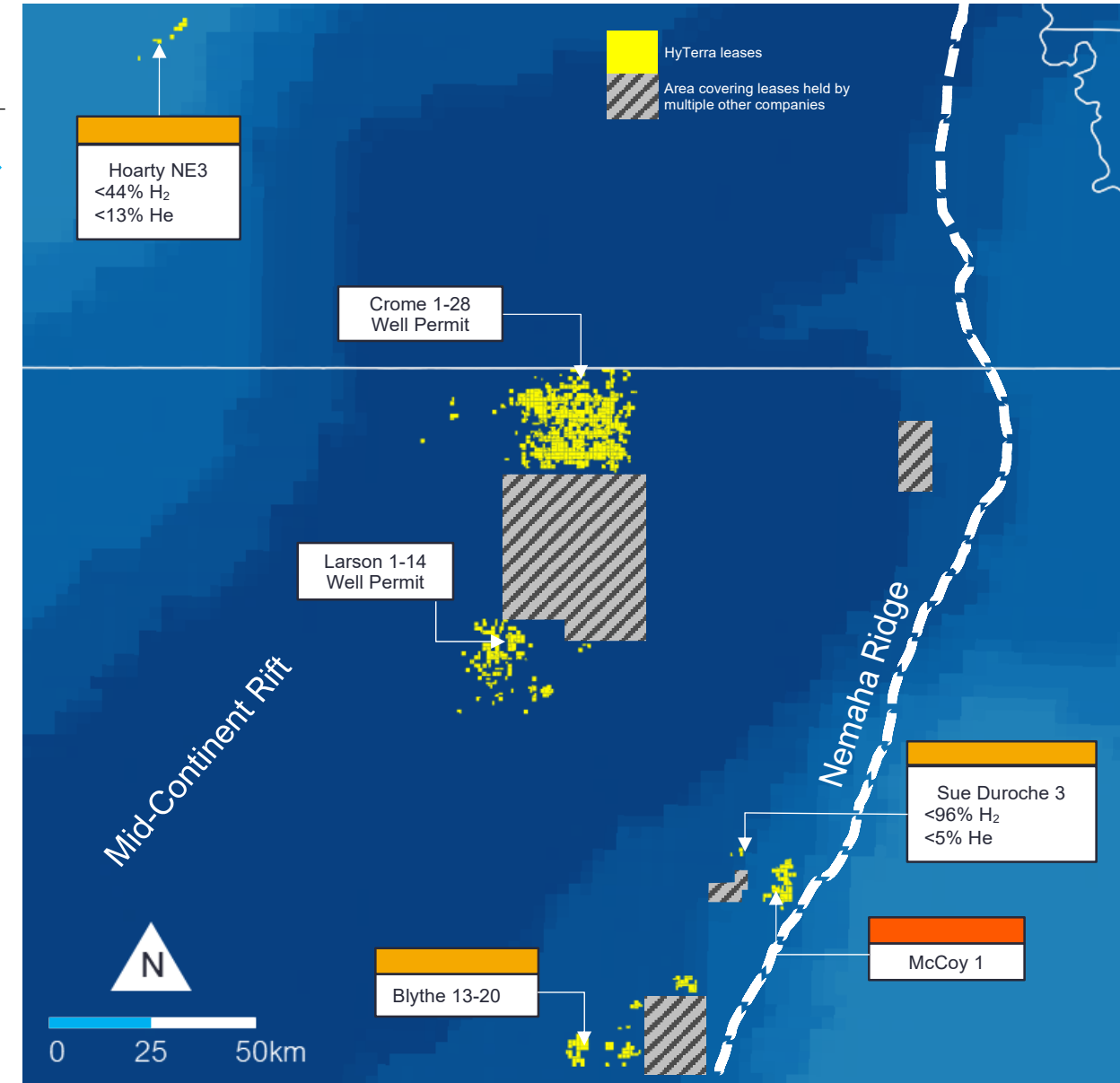


Data driven approach.



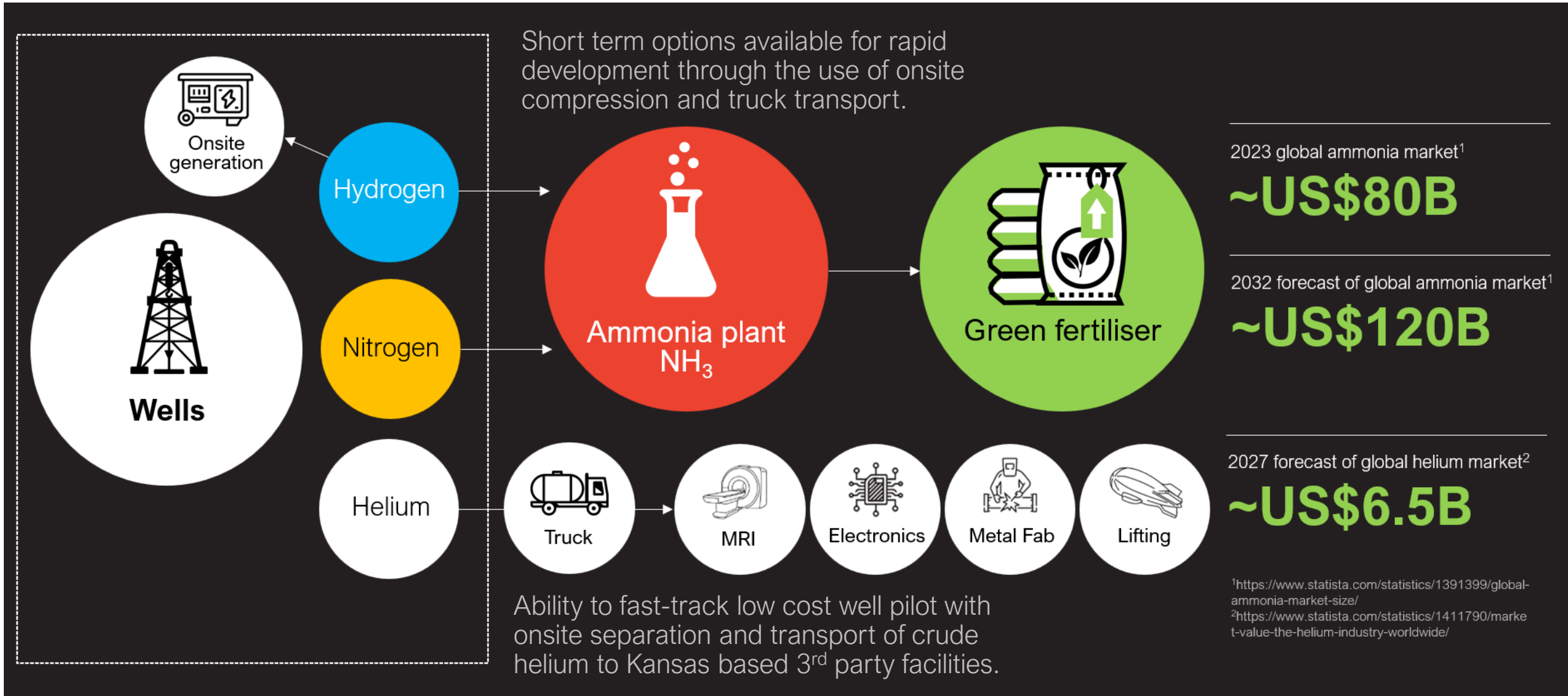
- Secure priority acreage defined by inhouse geological model.
- Drill multiple exploration wells across multiple plays.
- Collect key data to define hydrogen and helium zones and potential for reservoir deliverability.
- Convert encouraging exploration wells into appraisal via work-over rig re-entry.
- Clean well up and install downhole monitoring equipment on appraisal wells to inform the design of an initial testing program.
- Conduct initial testing after all wells are drilled and subsurface data analysis is integrated.

Drill all wells, analyse, then test.



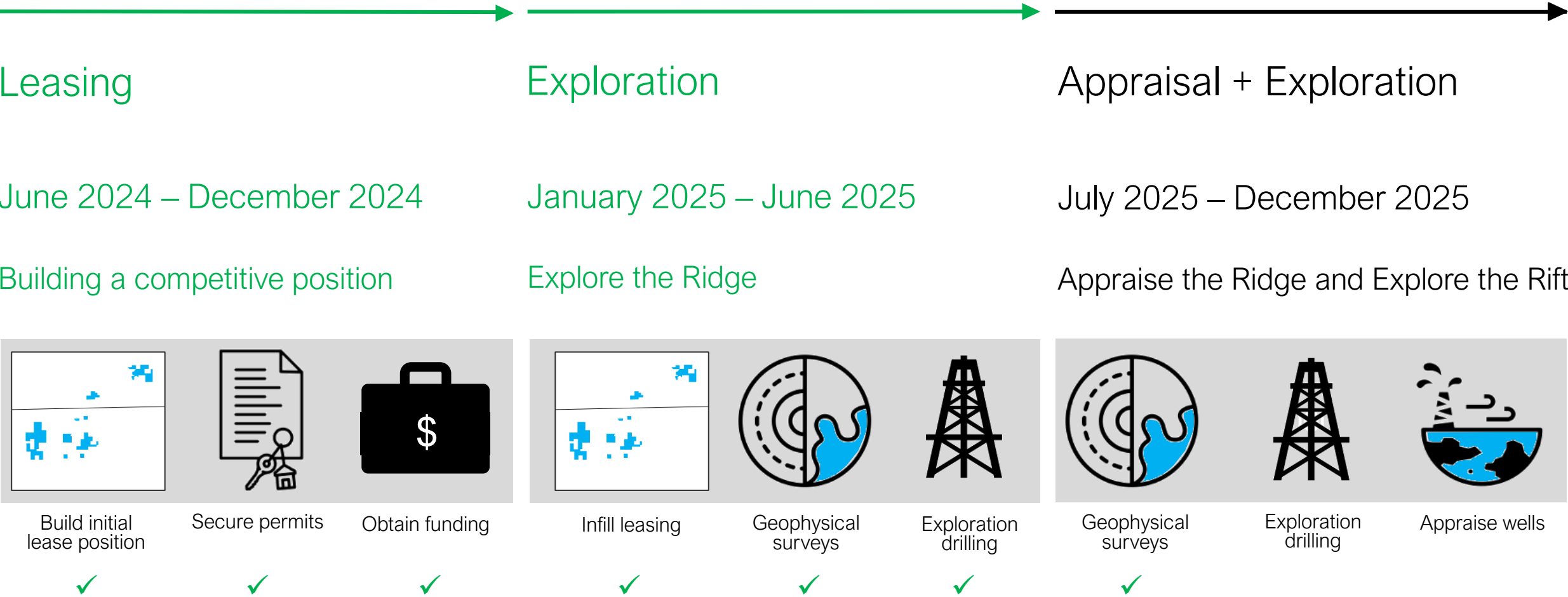
Leveraging existing hydrogen and helium value chains.

Clear monetisation plan that can be quickly implemented with common technology.



Continuous Work Program.

Strong news flow ahead with continued exploration drilling and accelerated appraisal.



Nemaha funded by \$22 million investment by Fortescue.

Fortescue acquired a 40% strategic stake in HYT for approximately A\$22 million in December 2024¹.

- Funding supports a 12-month exploration program, including continued leasing, advanced geophysical surveys and additional exploration wells.
- Fortescue and HyTerra entered into a Strategic Alliance Agreement to progress the Nemaha Project and mutually explore new opportunities globally.

¹ Refer ASX release dated 6 December 2024 *Fortescue acquires a strategic interest in HyTerra*



Our world-class team has a long track record in oil, gas, and mining.



Russell Brimage
Non-Executive Chairman

Over 40 years' experience in the upstream oil and gas industry, ranging from public listed oil and gas companies to the service industry – both onshore and offshore. Served in the capacity of Operations Manager and CEO on several ASX listed entities since 1997.



Benjamin Mee
Executive Director

Over 20 years' experience in international oil and gas with a successful track record in project delivery from exploration, through to appraisal, development and production both onshore and offshore in various global locations. Most recently, held the title of Exploration Manager Deepwater Africa for Shell, during which time significant petroleum discoveries were made.



Dr. Avon McIntyre
Executive Director & CTO

More than 20 years' experience in minerals and oil and gas exploration industries, with roles in government, service and operating companies. Worked for Shell in Australia and internationally in new ventures and new energies from 2008 to 2021, during which time he developed an interest in natural hydrogen and helium occurrences.



Christine Nicolau
Non-Executive Director

Served Australian major Fortescue since 2010. As Group Manager of Corporate Portfolio Management, her responsibilities include driving governance, management and administration of Fortescue's interests via directorships across various company internal and external strategic growth subsidiaries. Previously coordinated Fortescue's minerals business in Latin America as Metals General Manager LATAM.



Dr. Josh Whitcombe
VP Development and Operations

Extensive experience in early-stage exploration and appraisal projects across conventional and unconventional oil and gas and geological hydrogen. Previously COO for Gold Hydrogen. Commenced his career with Shell International and has experience in several overseas jurisdictions along with Australia.

Corporate overview

Share price

A\$0.027

As at 27 June 2025
52 week high \$0.059, low \$0.023

Market capitalisation

A\$44.2m

As at 27 June 2025

Top shareholders

Fortescue	39.3%
Balance of top 20	22.8%
Non top 20	37.9%

Top 20 ownership

62.1%

As at 27 June 2025

Shares on issue

1,638.3m

As at 27 June 2025

Cash

A\$19.1m

As at 31 March 2025

Options and Performance Rights

794m

As at 27 June 2025

Enterprise Value

A\$25.1m

As at 27 June 2025

ASX:HYT Share price performance (\$A)

12 months to 27 June 2025



A world of opportunity.

HyTerra is advancing hydrogen and helium projects in the heart of an established agriculture and manufacturing hub.

- 01** Leading the way in the #1 global H₂ and He hotspot.
- 02** Clear strategy to explore and appraise resource potential.
- 03** Leveraging existing hydrogen and helium value chains.
- 04** Well funded to deliver within a supportive jurisdiction.
- 05** Our team has a long track record in oil, gas and mining.





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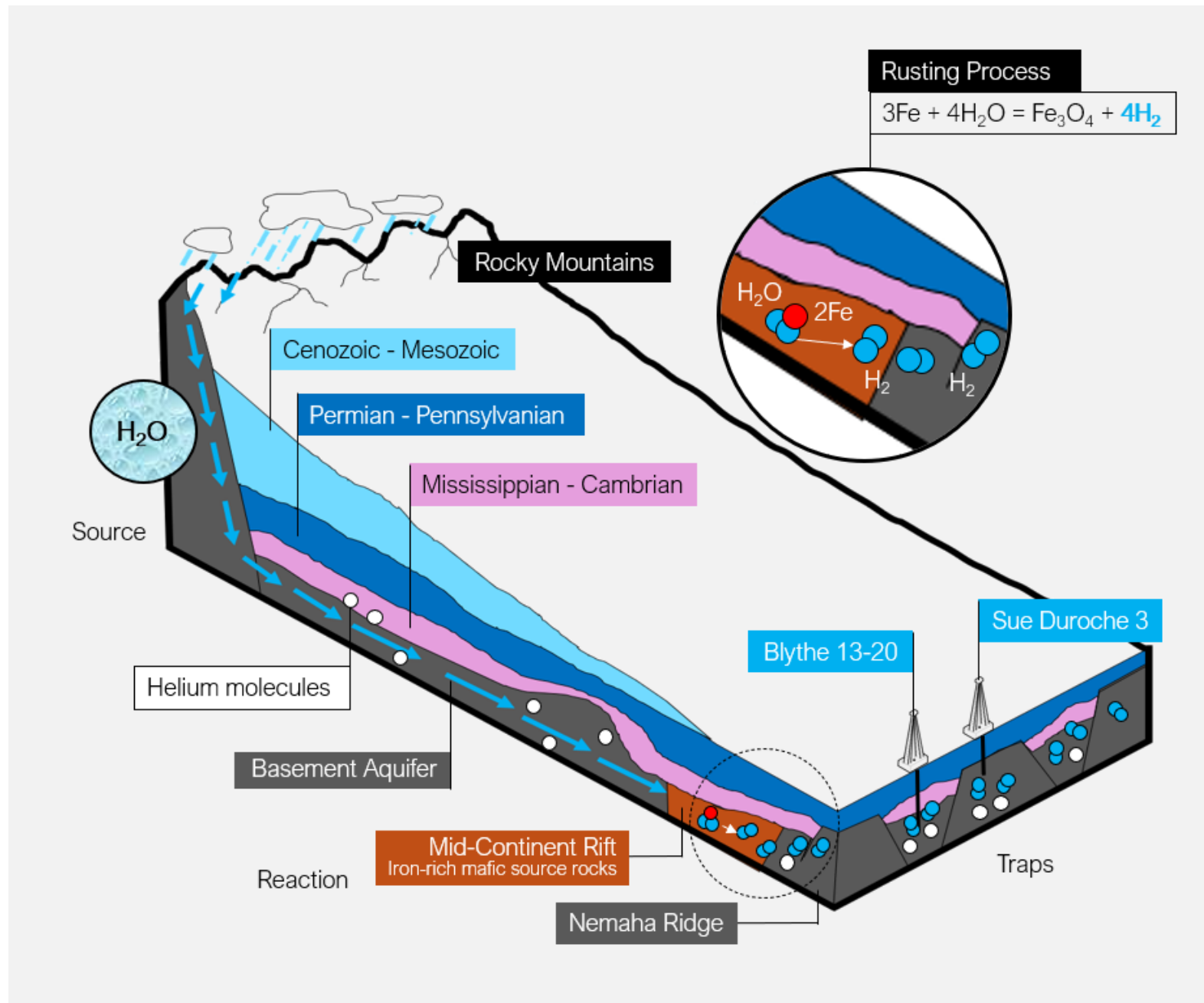
APPENDICES

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- A. Geologic Hydrogen model
 - B. Geneva Project Hydrogen and Helium
 - C. Nemaha Project Hydrogen
 - D. Nemaha Project Helium
 - E. Prospective hydrogen and helium resources



Geologic hydrogen is produced in a chemical process called iron oxidation – also known as “rusting”.

- Water from the Rocky Mountains seeps underground and flows eastward. The water reacts with the sub-surface, iron-rich rocks, producing iron oxide and the reaction generates hydrogen molecules which migrate upwards into various traps along the Nemaha Ridge.



Geneva Project Hoarty NE3 gas samples.

Samples taken from the well head shows helium up to 12.8% and hydrogen up to 44%¹.

- HyTerra has a 16% interest (and the right to earn up to 51%) in a Joint Development Agreement with Natural Hydrogen Energy LLC (NH2E).
- Wildcat well drilled to 11,200ft (3,400m) by specifically targeting geologic hydrogen (Hoarty NE3) in Geneva, Nebraska.
- Isotube® gas samples were taken from the well head by NH2E and analysed by Isotech Laboratories in Illinois from both the 2022 swabbing and 2023 electric submersible pump (ESP) well testing programs
- Given samples were taken at the well head, geological formations, rock types, and/or depths from which each of these gas samples are derived from is unknown.
- Flow potential of this well cannot be fully determined with current data.

¹ Refer ASX release dated 31st March 2025 *Project Geneva – Hoarty NE3 well testing results*



Nemaha Project returned hydrogen concentrations up to 96% in the Sue Duroche 3 well¹.

Laboratory results of mud gas samples validate the historical occurrences of up to 92% hydrogen measured in historic Sue Duroche 2 well (2009)².

- These concentrations of hydrogen are amongst the highest ever reported in the USA³.
- The Sue Duroche 3 exploration well was immediately converted into a long-term surface pressure and gas monitoring well via a work-over rig.

¹ Refer ASX release dated 22 May 2025 *Sue Duroche 3 finds both Hydrogen and Helium*.

² Guelard J, Beaumont V, Guyot F, Pillot D, Jezequel D, Ader M, et al. Natural H₂ in Kansas: deep or shallow origin? *Geochim Geophys Geosyst* G3 2017; 18; Coveney, R. M. J., E. D. Goebel, E. J. Zeller, G. A. M. Dreschhoff, and E. E. Angino (1987), Serpentinization and origin of hydrogen gas in Kansas, *Am. Assoc. Pet. Geol. Bull.*, 71(1), 39–48. H₂ + He + N% reflects occurrences of published gas analyses recovered from the wellbore. Uncertainty remains on historic well operations, sampling techniques, and analyses. The values are considered up to a % of H₂ or He.

³ <https://www.usgs.gov/data/natural-gas-compositional-analyses-dataset-gases-united-states-wells>.



May 2025.
Sue Duroche-3 well being drilled

Our Nemaha wells returned helium concentrations 10x the economic threshold of 0.3%.

2025 Nemaha wells returned helium concentrations of 5%¹.

- The economic threshold for a helium-rich field in the USA is 0.3% for primary production².
- Helium is an irreplaceable input for many important technologies, with significant demand from manufacturers of semi-conductors to MRIs.
- Liquid helium sells at up to 50 times the price of LNG. Current prices are US\$450/thousand standard cubic feet.

¹ Refer ASX release dated 22 May 2025 Sue Duroche 3 finds both Hydrogen and Helium

² <https://www.sciencedirect.com/science/article/pii/S0009254122000845>



Our unrisked prospective hydrogen and helium resources are based on less than 20% of our acreage.

Aggregated Net Recoverable Prospective Hydrogen Volumes (bcf) [#]			Aggregated Net Recoverable Prospective Helium Volumes (bcf) [#]		
P90	P50	P10	P90	P50	P10
49.0	105.5	251.7	0.05	0.59	2.04

#Cautionary Statement: The estimated quantities of natural hydrogen and helium 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 and helium. The Prospective Resource estimates are quoted on an unrisked basis and are aggregated arithmetically by category. Please refer to the ASX release dated 13 December 2023 and June 30th Quarterly Activities report for full details with respect to the Prospective Resource estimate, associated risking and Cautionary Statement.

