

22<sup>nd</sup> May 2025

ASX RELEASE

## Sue Duroche 3 finds both Hydrogen and Helium

- Several zones of both hydrogen and helium identified in Sue Duroche 3.
- Independent laboratory analyses have verified concentrations of up to 96% hydrogen and 5% helium from Sue Duroche 3 mud gas samples<sup>1</sup>.
- Laboratory results validate the historical occurrences of up to 92% hydrogen and 3% helium measured in Sue Duroche 2 (2009)<sup>2</sup>.
- These concentrations of hydrogen and helium are amongst the highest ever reported in the USA<sup>3</sup>.
- Kansas is a leading producer of helium in the US with decades of continued production from the Hugoton natural gas field with concentration ranges of 0.25 to 2.5% helium<sup>4</sup>.
- The Sue Duroche 3 exploration well was immediately converted into a long-term surface pressure and gas monitoring well via a work-over rig.

**HyTerra Limited (ASX: HYT)** (HyTerra or the **Company**) has two firm wells in the drilling sequence which commenced drilling in April 2025 at the Nemaha Project in Kansas, USA. This marks the first steps for the Company in executing a comprehensive 12-month exploration work program designed to unlock the potential of natural (white) hydrogen in Kansas through its 100% owned and operating subsidiary HYT Operating LLC. This exploration program funding is sourced from the recent investment in the Company by Fortescue Future Industries Technologies Pty Ltd.

**Benjamin Mee, Executive Director** says “Great start to the exploration program. Seeing concentrations of both hydrogen and helium in the mud gas in the same well is advantageous and, arguably, unique. We are in the right jurisdiction for this combination and are glad we turned Sue Duroche 3 into a pressure and gas monitoring site quickly. We keep executing the plan to unlock the potential of clean hydrogen and helium in Kansas.”

<sup>1</sup> Mud gas logs and samples carry residual uncertainty due to the nature of gas detection, drilling parameters and equipment, and behaviour of the gas due to geological and operational processes. Samples are air corrected to account for atmospheric contamination when collected at surface. Corrected hydrogen values were reported by Isotech Laboratories Inc. in Champaign, Illinois, and corrected helium values were calculated by HyTerra using a methodology endorsed by Isotech Laboratories Inc.

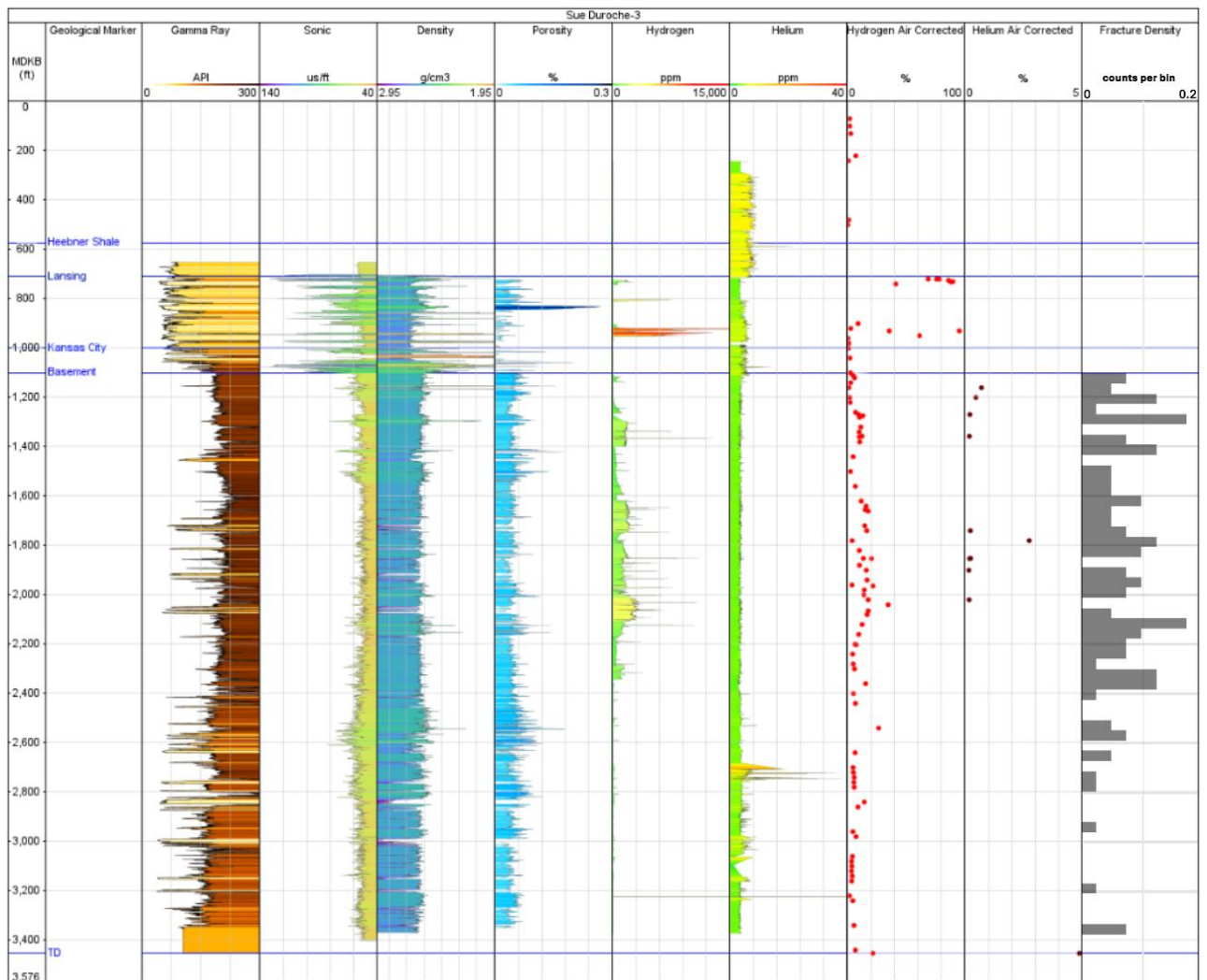
<sup>2</sup> Guelard, J., Beaumont, V., Rouchon, V., Guyot, F., Pillot, D., Jezequel, D., et al., 2017. Natural H<sub>2</sub> in Kansas: deep or shallow origin? *Geochem. Geophys. Geosyst.* 18, 1841-1865. H<sub>2</sub> and He percentages reflect published values for gases recovered from the wellbore. Uncertainty remains on historic well operations, sampling techniques, and analyses. H<sub>2</sub> and He values are rounded to the nearest percent.

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

<sup>4</sup> <https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-kansashttps://www.geoconvention.com/wp-content/uploads/abstracts/2023/93836-expanding-the-giant-a-review-of-th.pdf>. Helium concentrations vary across a large natural gas field over time and area.

## Sue Duroche 3 update

The Sue Duroche 3 well was drilled to a total depth (TD) of 3,453ft mDKB (1,052m) on time, on budget, with no HSE incidents. The well reached TD on May 1st, 2025. drilling through approximately 1,100ft (335m) of sedimentary rocks and 2,350ft (716m) of Pre-Cambrian basement. Schlumberger (**SLB**) recorded mud gas log data in real time during drilling, collected mud gas samples at surface, and completed wireline logging including rotary side-wall cores. The mud gas log recorded multiple elevated hydrogen gas readings while drilling, indicating the presence of a hydrogen play in this area. As previously announced by the Company (6th May ASX Release), mud gas samples analysed by Isotech Laboratories Inc verified hydrogen concentrations of over 96%<sup>1</sup>. Additionally, elevated helium readings were also visible on the real time mud gas logs. Analyses performed by Isotech Laboratories Inc. on mud gas samples taken after the well had reached TD and was circulating bottoms up verified helium concentrations of up to 5%<sup>1</sup>. The calibrated helium mud gas log in *Figure 1* suggests that the most likely source is the increase in helium observed between 2700 and 2800ft mDKB.



*Figure 1: Sue Duroche 3 well logs. SLB H<sub>2</sub> and He mud gas logs<sup>1</sup> (ppm) are not air corrected. Air corrected hydrogen and helium data points (volume %) are from mud gas sample laboratory analyses<sup>1</sup>. Fracture density is based on preliminary image log analysis and is ongoing.*

The calibrated mud gas data shown above suggests that in Sue Duroche 3 hydrogen is mainly present in the sedimentary section above 1100ft mDKB and underlying upper basement sections, while helium is believed to be mainly present in the basement section. Ongoing petrophysical analysis by expert consultants continues to demonstrate zones of porosity; dolomitization in the carbonate sedimentary section, matrix porosity throughout all sections, and open fractures in the Pre-Cambrian basement.

## Helium in Kansas

Kansas is a strategic hub for helium production in the USA. The supportive regulatory environment and industry demand is coupled with local skills and equipment that has been producing and transporting helium from Kansas reservoirs for decades. Helium has historically been produced in Kansas as a by-product of conventional natural gas projects. One of the largest natural gas fields in the USA is the Hugoton gas field discovered in Kansas in 1922 that spans across three States namely Kansas, Oklahoma and Texas. Generally, natural gas containing more than 0.3% helium is considered economic for helium extraction in the United States, although the economics of helium extraction often depend on products in a natural gas stream and flow rates<sup>5</sup>. Given Sue Duroche 3 has shown helium concentrations of up to 5%<sup>1</sup> returned in mud gas samples, further monitoring to underpin flow testing plans is warranted.

## Sue Duroche Work-over

Sue Duroche 3 has been converted into a long-term surface pressure and gas monitoring well to support flow testing plans (moving to 'Monitor' in *Figure 2* below). This re-entry was completed two weeks after total depth was reached, and the work-over rig has already been released. These early dynamic insights from Sue Duroche 3 gives HyTerra valuable data immediately to support the next phase of the evaluation. Ultimately, extended well testing would be used to evaluate the productivity, volume, reservoir characteristics, and eventually commerciality of any well.

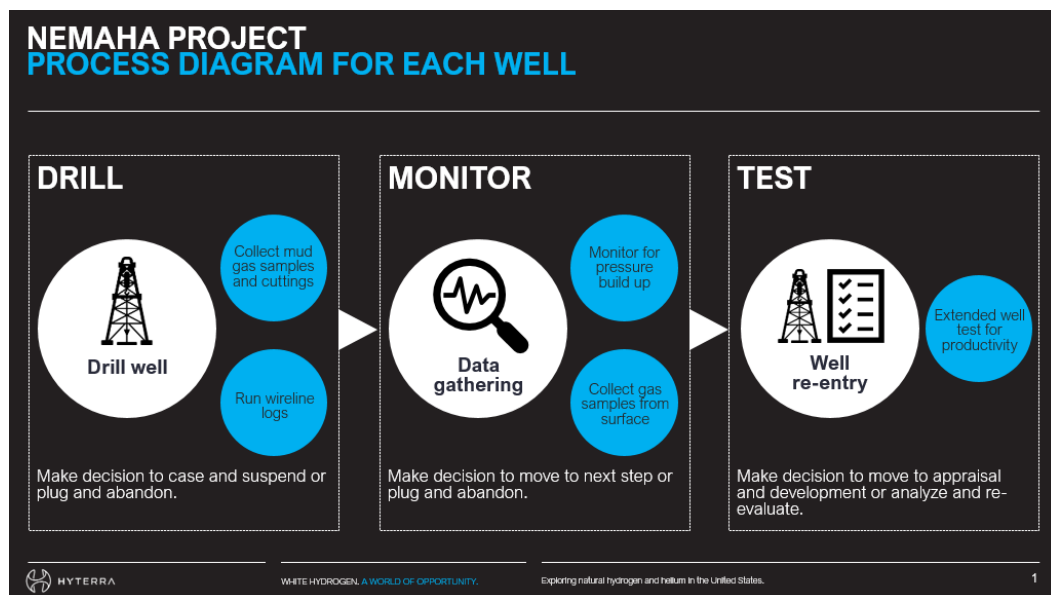


Figure 2: Process diagram for each well, with Sue Duroche 3 now accelerated to 'Monitor' phase

<sup>5</sup> <https://nap.nationalacademies.org/read/9860/chapter/7>

Table 1 – Listing Rule 5.30 information

Name	Sue Duroche 3			
Reference datum	NAD 83			
Latitude	39.162146°			
Longitude	-96.443826°			
Permit	SW/4 Sec. 20-T10S-R09E			
Entity Holders	HYT Operating LLC (100%)			
Type and duration of test <sup>6</sup>	Mud gas samples			
Phase recovered	Gas			
Zones tested	Sedimentary		Pre-Cambrian	
Formation	Lansing, Kansas City and undifferentiated shallower formations		Pre-Cambrian Basement (undifferentiated)	
Gross thickness <sup>7</sup>	~1100ft		~2353ft	
Geological rock type	Limestones, Shales, Dolomites and Sandstones		Pre-Cambrian Basement	
Depth of the zones tested	Between 0ft and 1100ft		Between 1100ft and 3453ft	
Resources	Hydrogen	Helium	Hydrogen	Helium
Air corrected gas composition <sup>1,8</sup>	29% (mean) 96% (max)	No data	10% (mean) 35% (max)	1% (mean) 5% (max)
Volumes recovered, flow rates, choke size	N/A			
Fracture stimulation	None			
Material non-hydrocarbons <sup>9</sup>	N/A as affected by additives in drilling mud			

<sup>6</sup> Refers to gas extracted at surface from the drilling mud while this operational activity was being conducted.

<sup>7</sup> Insufficient information is presently available to determine net pay thickness, petrophysical and image log analysis is ongoing.

<sup>8</sup> Mean value is the average composition from the samples taken and does not necessarily imply that this gas composition is present through all of this interval. Well head or downhole gas sample will be required to determine original gas concentrations at different depths of interest.

<sup>9</sup> Isotopic analysis of mud gas samples indicates that non-hydrocarbon gases are mainly derived from additives in the drilling mud. Well head or downhole gas sample will be required to determine original formation gas composition.

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**This announcement has been authorised for release by the Board of Directors.**

**For more information:**

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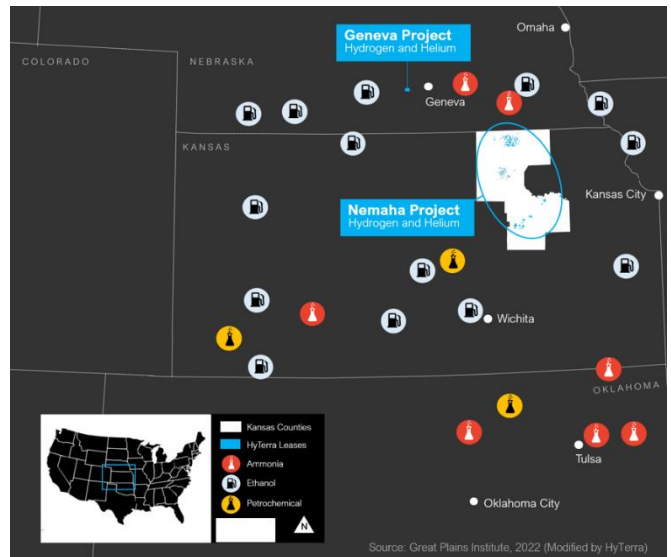
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## HyTerra. A World of Opportunity.

**Exploring for natural hydrogen and helium resources near major industrial hubs.** HyTerra was the first company to list on the ASX with a focus on white hydrogen, which is generated naturally by the Earth. White hydrogen potentially has much lower production costs and carbon emissions than man-made hydrogen.

Our Nemaha Project in Kansas, USA, holds 100% owned and operated leases across the emerging Nemaha Ridge natural hydrogen and helium play fairway. Our Geneva Project in Nebraska, USA, is a 16% earn-in interest in a Joint Development with Natural Hydrogen Energy LLC targeting natural hydrogen and helium. Both projects could be connected via existing transport infrastructure to multiple nearby off-takers, including ammonia manufacturers, and petrochemical plants.



For more information please see the latest corporate presentation: [www.hyterra.com](http://www.hyterra.com)

## 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>.

## Forward Looking Statements:

This release may contain forward-looking statements. These statements relate to the Company's expectations, beliefs, intentions or strategies regarding the future. These statements can be identified by the use of words like "anticipate", "believe", "intend", "estimate", "expect", "may", "plan", "project", "will", "should", "seek" and similar words or expressions containing same. These forward-looking statements reflect the Company's views and assumptions with respect to future events as of the date of this release and are subject to a variety of unpredictable risks, uncertainties, and other unknowns. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, many of which are beyond our ability to control or predict. These include, but are not limited to, risks or uncertainties associated with the discovery and development subsurface gas reserves, cash flows and liquidity, business and financial strategy, budget, projections and operating results, gas prices, amount, nature and timing of capital expenditures, including future development costs, availability and terms of capital and general economic and business conditions. Given these uncertainties, no one should place undue reliance on any forward-looking statements attributable to HyTerra, or any of its affiliates or persons acting on its behalf. Although every effort has been made to ensure this release sets forth a fair and accurate view, we do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. 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 HyTerra.