Breaking new ground.

Update on the Nemaha Hydrogen Exploration Project, Kansas

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VP Development and Operations

Drilling for Hydrogen
September 2025
Houston Texas

ASX: HYT
hyterra.com

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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.

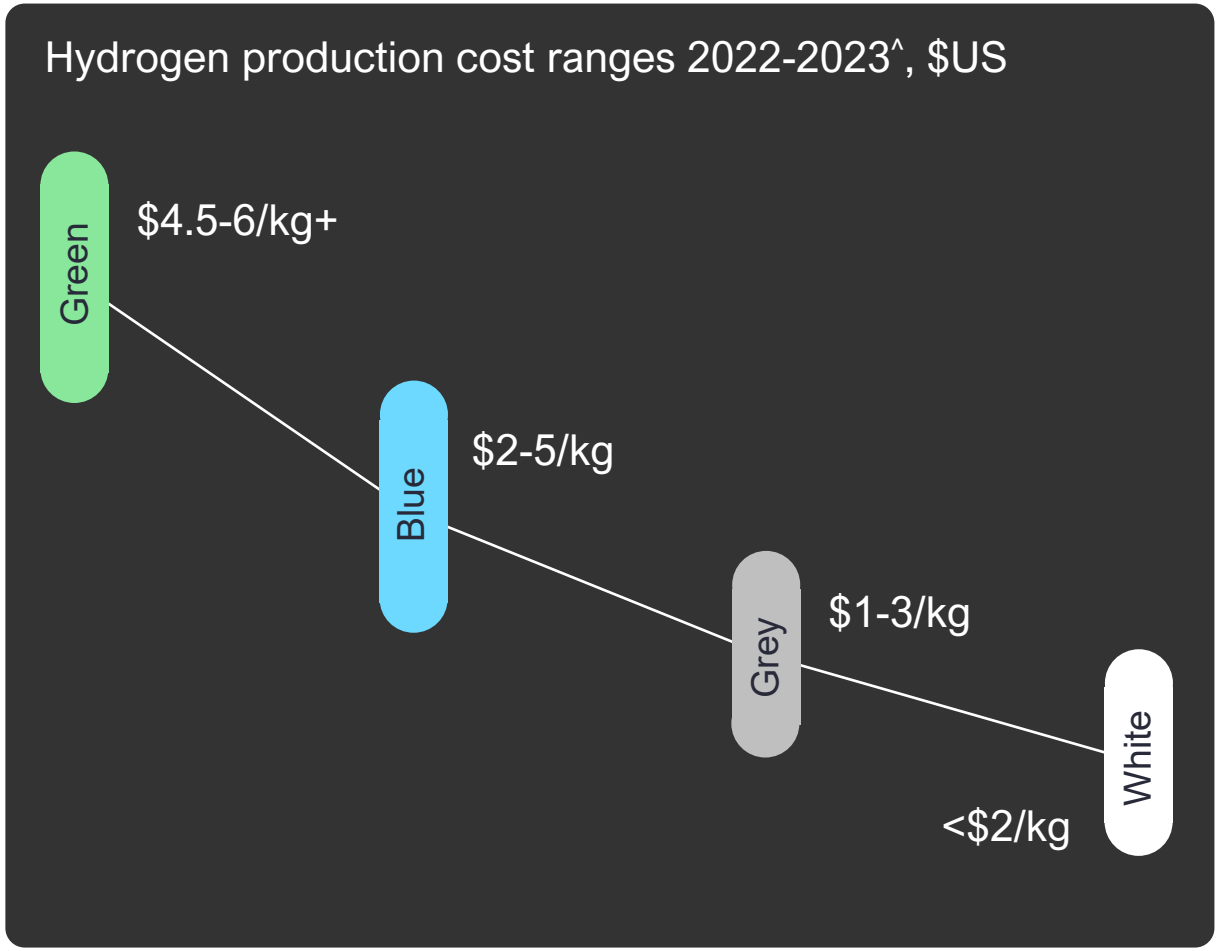
01	Deliver a comprehensive exploration program.
02	Secure key partnerships and customers.
03	Demonstrate a commercial project.

July 2025. Drilling McCoy 1 at the Nemaha Project, 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.



Carbon intensity of hydrogen production

- ~9.0kg CO_2e per kg H_2#
- ~3.0kg CO_2e per kg H_2#
- <1.0kg CO_2e per kg H_2*
- <1.0 kg CO_2e per kg H_2#

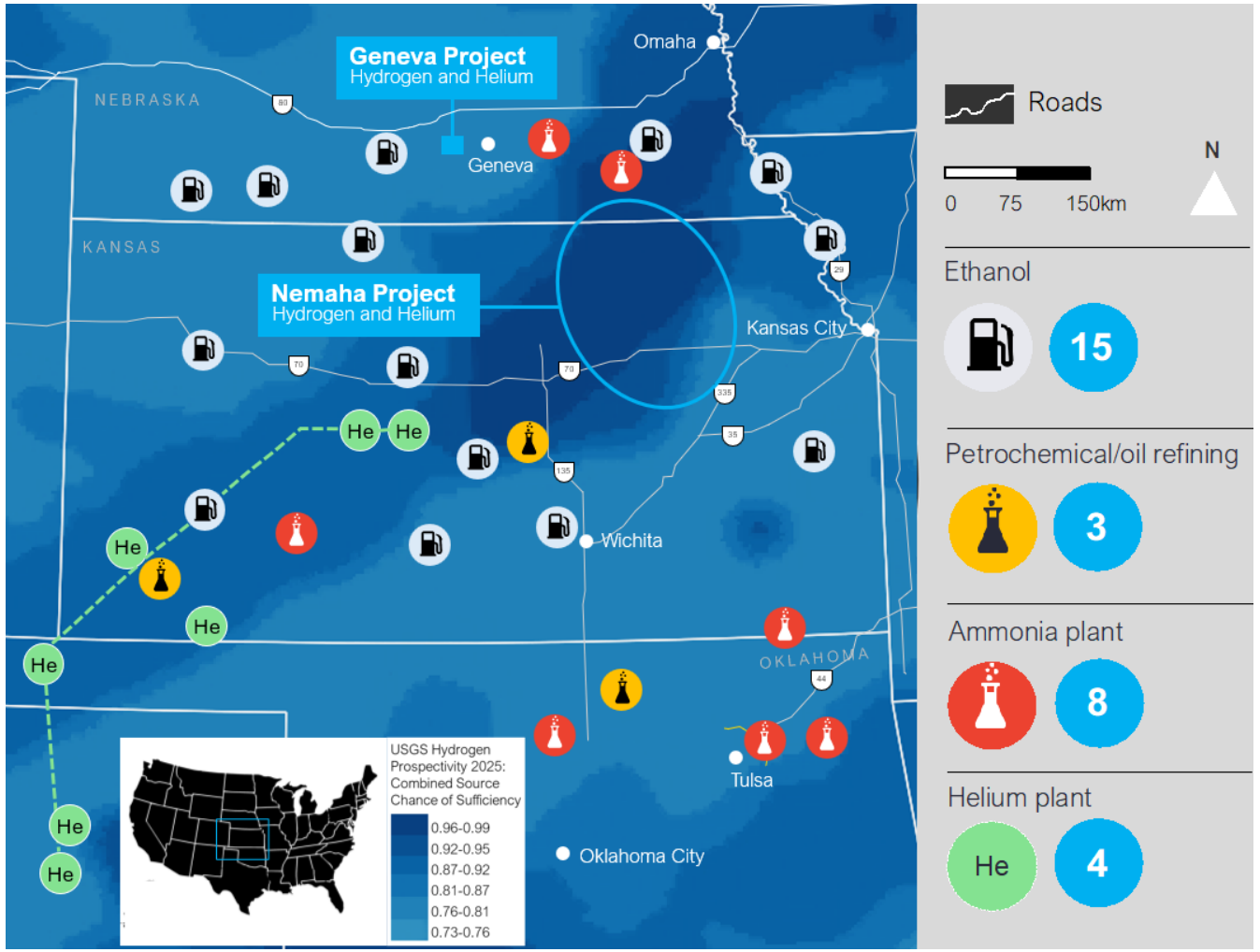
Modified from https://koloma.com/geologic-hydrogen/. Values obtained from 2022 GREET Model. Carbon intensity of hydrogen production for natural hydrogen was calculated based on Brandt, A. Greenhouse Gas Intensity of Geologic Hydrogen Produced from Subsurface Deposits. 2023. EarthArXiv preprint. https://doi.org/10.31223/X5HM1N".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

*Geologic hydrogen (white) has a carbon intensity of 0.37 kg CO_2e 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.

^ Numerous ranges of production costs exist due to changing variables such as, but not limited to, technology advancement, existing infrastructure, feedstock price etc. Source: Ranges sourced from BloombergNEF, IEA, Lazard, IRENA. 'At the dawn of a hydrogen era', Clota Varde Feb 2023,

Why Kansas?

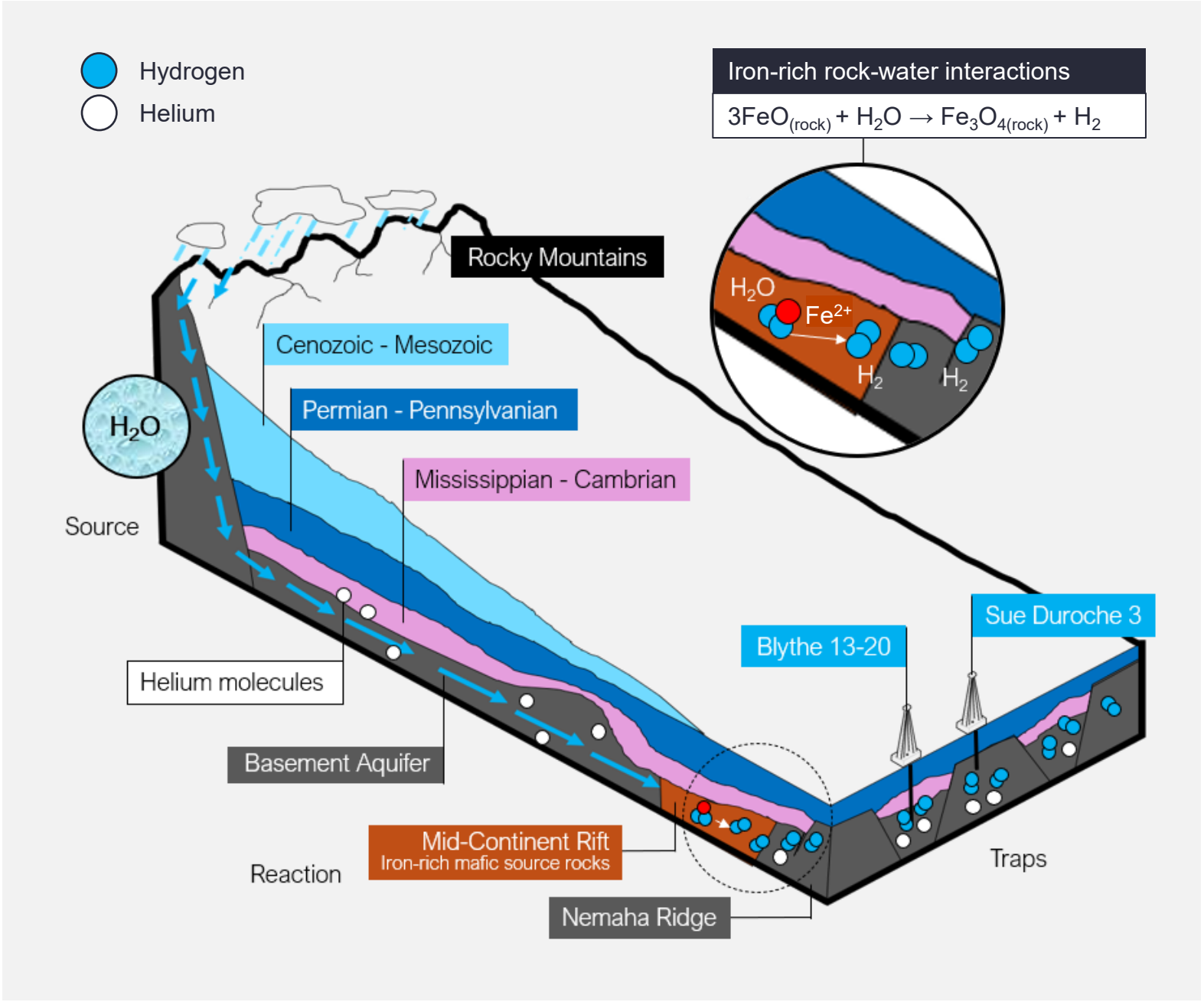
- Prospective subsurface above the Mid-Continental Rift with strong well control, historical offset data and active research support.
- Stable, standardised jurisdiction with supportive local, State and Federal agencies across approvals, contractors and technical requirements.
- Established energy services and workforce built on decades of oil and gas activity, giving a skilled local contracting base.
- Fast path to market near ammonia and helium plants, so gas is not stranded and could be commercialised quickly.



Background: USGS Geologic Hydrogen Prospectivity Maps 2025: Combined Source[3]

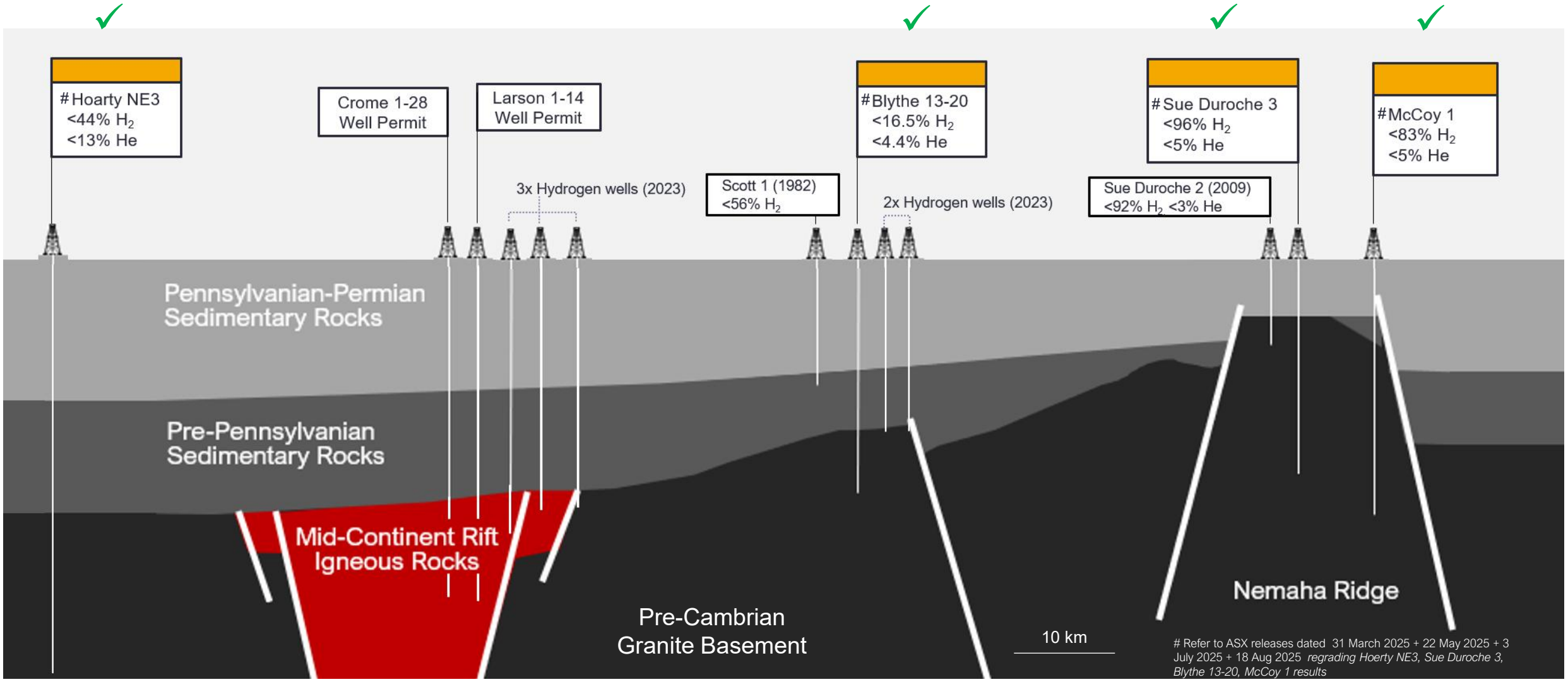
Hydrogen and Helium in Kansas

- Water from the Rocky Mountains seeps underground and flows eastward.
- The underground water reacts with iron-rich rocks at elevated temperatures to make H_2, which migrate upwards into various traps along the Nemaha Ridge.
- Helium is also present.



Clear strategy to explore and appraise resource potential.

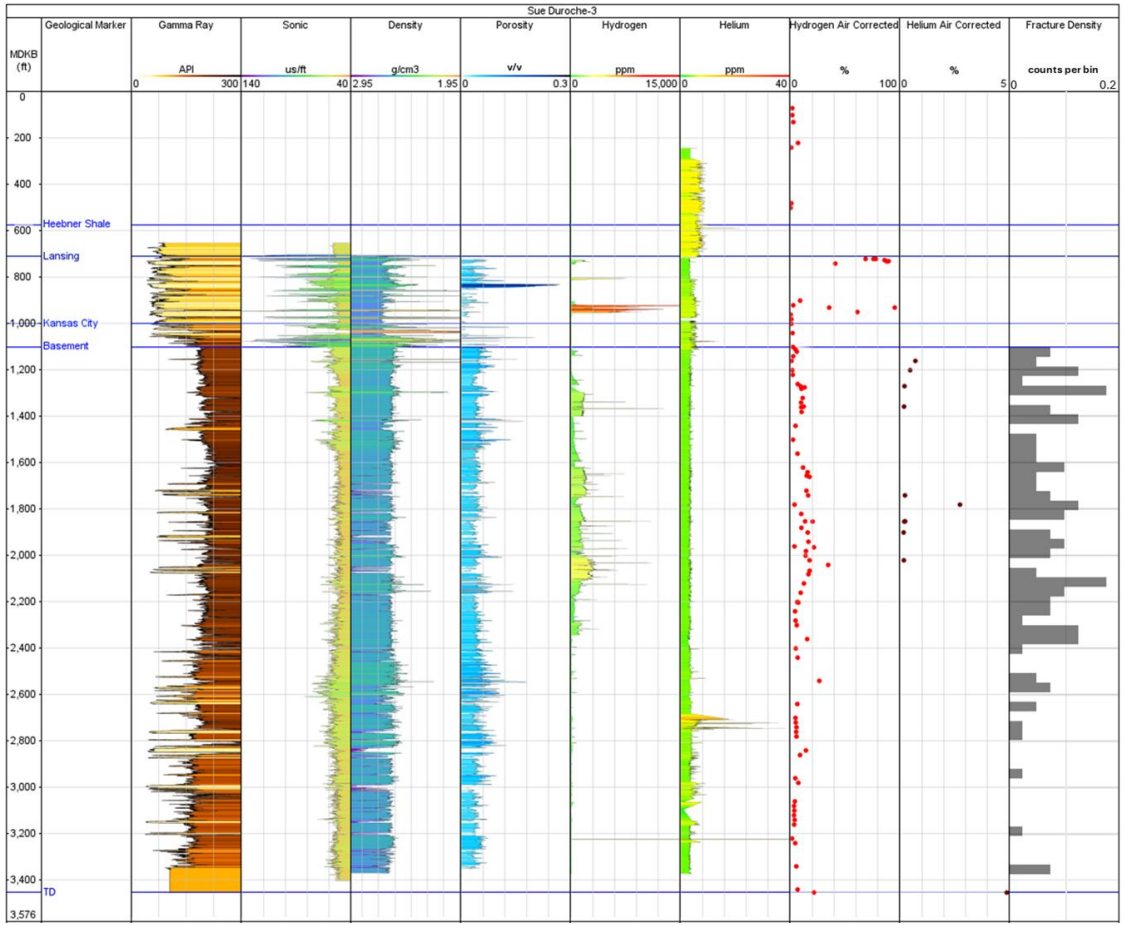
Multiple wells in multiple plays to methodically de-risk commercial viability.



Refer to ASX releases dated 31 March 2025 + 22 May 2025 + 3 July 2025 + 18 Aug 2025 *regrading Hoerty NE3, Sue Duroche 3, Blythe 13-20, McCoy 1 results*

All three wells found hydrogen and helium

Fractured basement seen in all 3 wells



Sue Duroche 3 well logs. SLB H_2 and He mud gas logs[1] (ppm) are not air corrected. Air corrected hydrogen and helium data points (volume %) are from mud gas sample laboratory analyses[1]. Fracture density is based on preliminary image log analysis.

- Geologic hydrogen and helium is present in the Precambrian basement[1]
- Precambrian basement contains open fractures which show a general correlation with mudgas shows
- Early appraisal results demonstrated that the Precambrian basement is capable of inflow

[1]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.

2025 program advanced beyond initial well twinning and delivered key technical milestones.

Mining, Oil, and Gas geoscience and geophysical workstreams established the foundation for future drilling.

- Applied proven exploration methods to hydrogen, targeting areas with confirmed shows.
- Completed airborne surveys, seismic acquisition and offset well reviews to refine prospectivity.
- Geophysically defined drilling targets, looking into the hard rocks below the oil and gas systems
- Progressed from twinning wells to standalone exploration well locations (McCoy 1)

Exploring natural hydrogen and helium in the United States.

Hydrogen drilling is similar to oil and gas, but with unique challenges.

It’s similar, but different.

We had to adapt traditional approaches to exploration drilling for hydrogen.

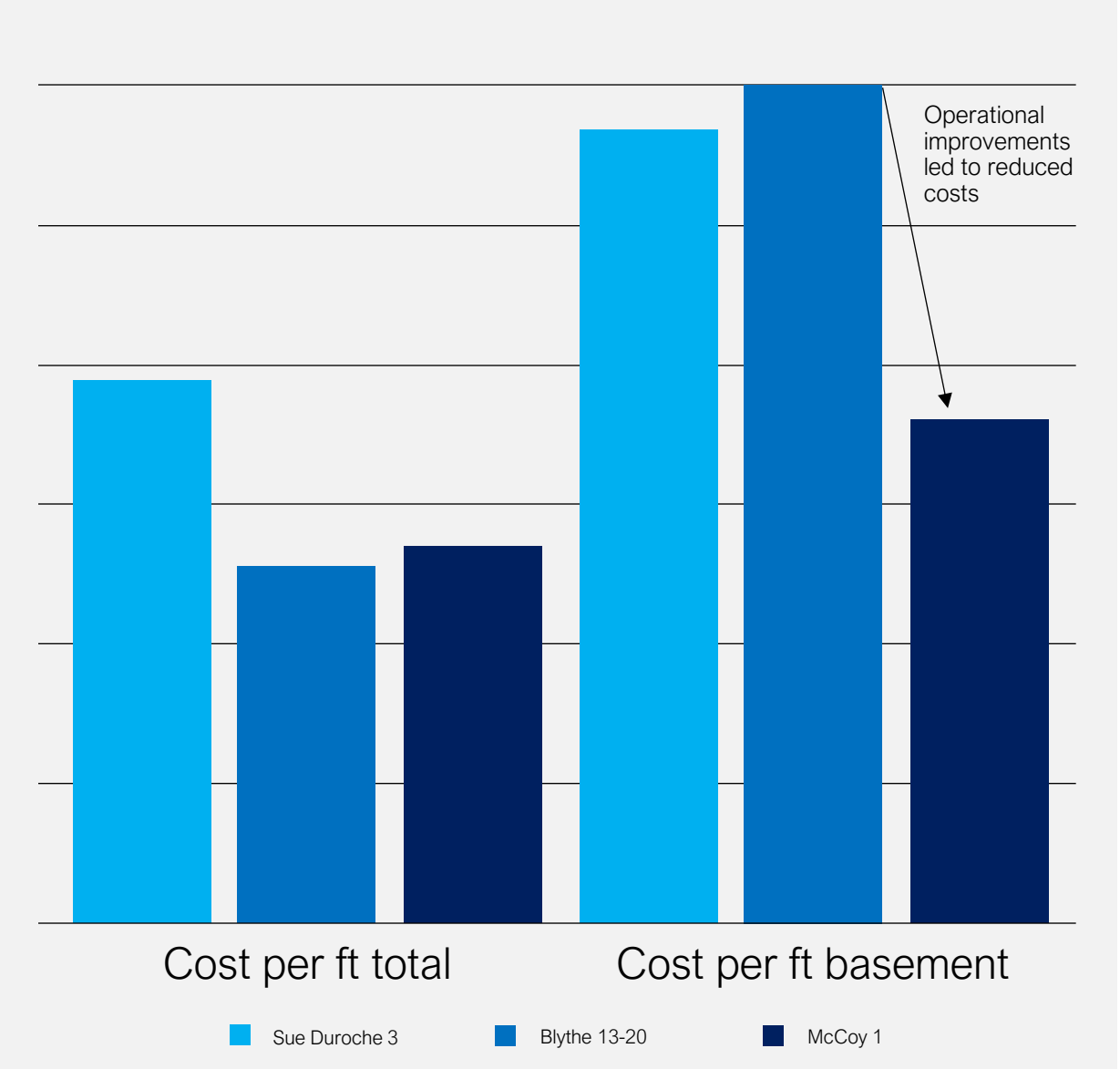
- Standard exploration methods still apply; do your homework, clear well objectives, cost options and detailed planning.
- Challenges include new formations, different gas behaviours and drilling in new areas.
- Success depends on strong technical teams with adaptable skills and experience.

Exploring natural hydrogen and helium in the United States.

Three hydrogen wells safely drilled with continuous operational improvements.

Significant operational efficiency gains across the three wells.

- Drilled deeper for same budget with flat overall costs.
- Team continuity was critical. Spreading drilling across four months avoided risks of crew changes.
- Operational flexibility improved outcomes. We adjusted well design, trialed different contractors and invested in data to drive efficiency.
- We are already on a performance improvement journey



Local capability supported by global expertise delivered safe and efficient wells.

HyTerra leveraged Kansas-based contractors alongside industry specialists.

- Local partners included Murfin Drilling, Paragon Geophysical and Hurricane Services.
- Specialist support from SLB, Edge Systems, Weatherford, Ulterra, Canamera Coring and others.
- Flexibility to adapt contractors across wells improved efficiency and lowered risk.

Exploring natural hydrogen and helium in the United States.

A world of opportunity.

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

01 All three wells found hydrogen and helium

02 2025 program advanced beyond initial well twinning and delivered key technical milestones.

03 Hydrogen drilling is similar to oil and gas, but with unique challenges.

04 Three hydrogen wells safely drilled with continuous operational improvements.

05 Local capability supported by global expertise delivered safe and efficient wells.

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 well[1].

Laboratory analyses 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 USA[3].
- 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? Geochem Geophys Geosyst G3 2017; 18; Coveney, R. M. J., E. D. Goebel, E. J. Zeller, G. A. M. Dreschhoff, and E. E. Angino (1987), Serpentization 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

Blythe 13-20 returned hydrogen and helium concentrations up to 16.5% and 4.4%[1].

Laboratory analyses of mud gas samples validate the historical occurrences of up to 56% hydrogen measured in historic Scott 1 well (2009)[2].

- Encouraging hydrogen and helium results, confirm the presence of an active system in the area.
- The Blythe 13-20 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 3rd July 2025 High Concentrations of Helium Found in Blythe 13-20.

[2]Guelard J, Beaumont V, Guyot F, Pillot D, Jezequel D, Ader M, et al. Natural H2 in Kansas: deep or shallow origin? Geochem Geophys Geosyst G3 2017; 18; Coveney, R. M. J., E. D. Goebel, E. J. Zeller, G. A. M. Dreschhoff, and E. E. Angino (1987), Serpentization 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.

June 2025.
Blythe 13-20 well being drilled

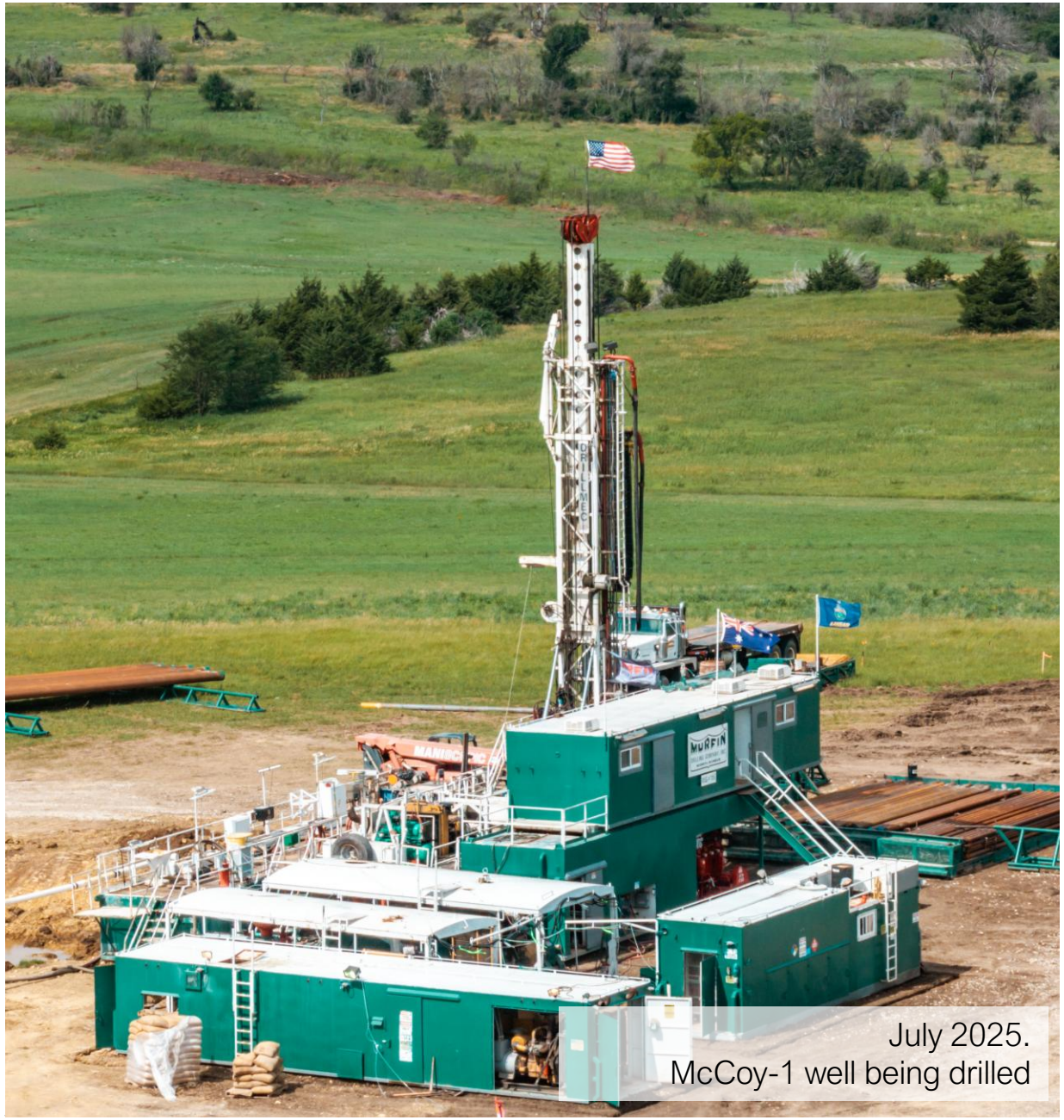
Nemaha Project returned hydrogen concentrations up to 83% in the McCoy 1 well[1].

Laboratory analyses of mud gas samples confirm up to 83% hydrogen and 5% helium, in the first non-twin well

- Confirms the validity of in-house IP and subsurface understanding
- The McCoy 1 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 18th August 2025 *McCoy 1 finds both Geologic 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? Geochem Geophys Geosyst G3 2017; 18; Coveney, R. M. J., E. D. Goebel, E. J. Zeller, G. A. M. Dreschhoff, and E. E. Angino (1987), Serpentization 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.



July 2025.
McCoy-1 well being drilled

All Nemaha wells returned significant hydrogen and helium concentrations

2025 Nemaha wells returned helium concentrations of up to 5%[1].

- The economic threshold for a helium-rich field in the USA is 0.3% for primary production[2].
- Helium is an irreplaceable input for many important technologies, with significant demand from manufacturers of semi-conductors to MRIs.
- Liquid helium is in high demand

Exploring natural hydrogen and helium in the United States.

[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