2H Resources – Natural Hydrogen and Helium Business Update

Buru Energy Limited (Buru, Company) (ASX: BRU), is pleased to provide the attached presentation made by its wholly owned hydrogen and helium (H/He) focused subsidiary, 2H Resources at the Australian Natural Hydrogen Conference 2024 held today in Adelaide.

Buru's CEO Thomas Nador commented:

"2H Resources is leveraging at low cost Buru's extensive geological and operational expertise for the emerging field of natural hydrogen and helium exploration.

With a robust portfolio of prospective areas in Australia, increased regulatory support for Australian H/He exploration, and 2H Resources' leading technical capabilities, the Company continues to progress its commercialisation options for 2H Resources to ensure Buru shareholders benefit from this new energy business which continues to attract global attention and investment.

Buru's priority project and primary focus is developing a compelling foundation gas and condensate (diesel replacement) business in the Kimberley region of Western Australia, underpinned by the 100% owned Rafael conventional wet gas discovery – the Rafael Project."

Authorisation

This ASX announcement has been authorised for release by the Chair of Buru Energy.

For further information, visit www.buruenergy.com or contact:
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Natural Hydrogen Exploration in Australia

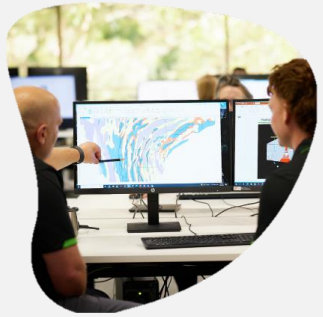
What have we learnt so far?

Grant McMurtrie
Exploration Manager

Hugo Beldame
Geoscientist

Presentation at the Australian Natural Hydrogen Conference 2024
South Australia

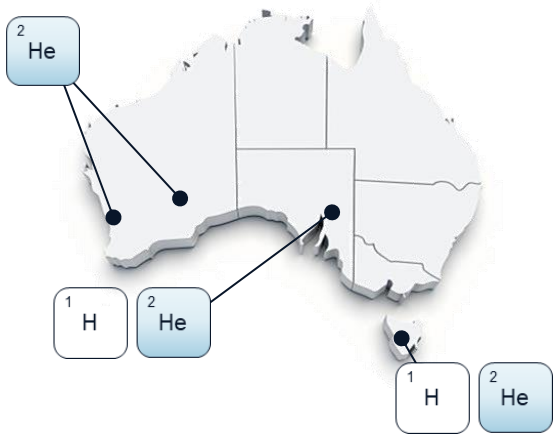
2H Resources overview



Our Vision

Become a leader in the world initiative to net zero through the supply of **Natural Hydrogen** energy and locally-sourced **Helium**

Diverse portfolio



Parent Co. capability

Buru Energy

>40 wells

>20 seismic surveys

Field development

Robust science

Curtin University

University of Oxford

Durham University

CSIRO

Australian National University

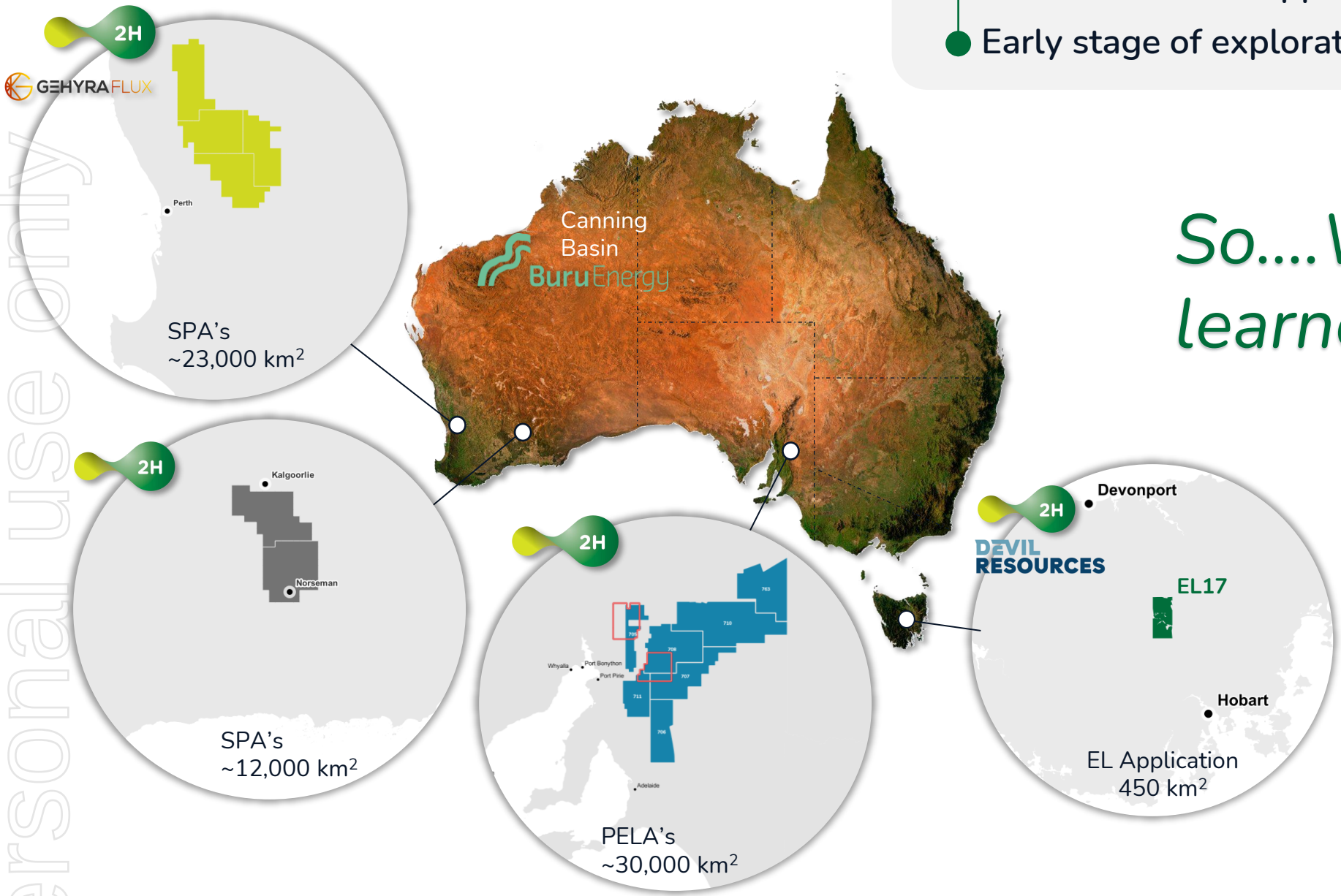
Partnerships

GEHYRAFLUX

DEVIL RESOURCES

2H Resources Portfolio

- 16 SPA/PELA/EL applications across 3 states
- Early stage of exploration program(s)

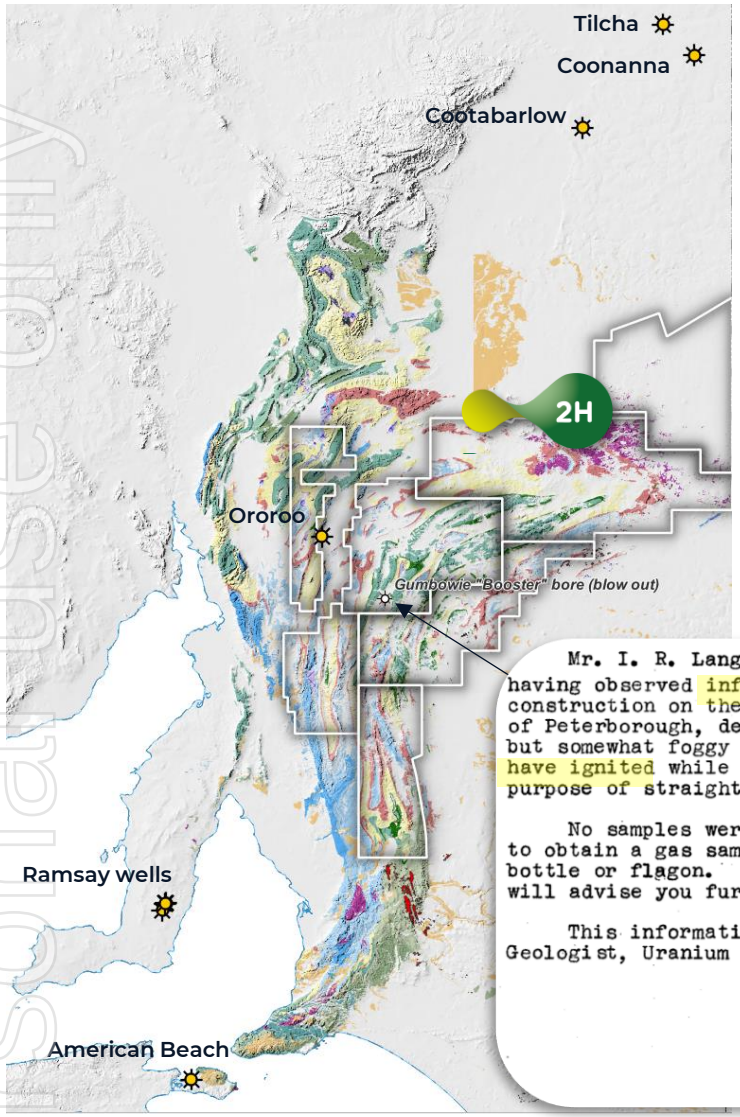


So....What have we learned so far?

Dig deep for historical information

South Australia

H_2 and He occurrences around 2H Resources SA's position



Gas exsolving during water sampling. Zak Milner 2023 field trip

Mr. I. R. Lang, of Peterborough, called to report having observed inflammable gas in a water bore under construction on the above section, about 8 miles N.E. of Peterborough, depth about 50 ft. Gas was odourless, but somewhat foggy while in bore. It was reported to have ignited while placing quartz in the hole for the purpose of straightening.

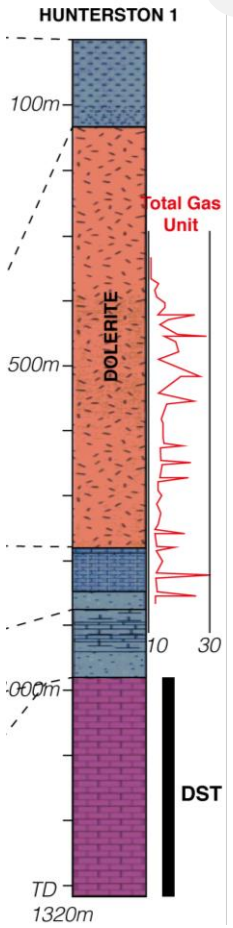
No samples were produced. Mr. Lang was advised how to obtain a gas sample, by displacement of water in a clean bottle or flagon. Should such a sample be submitted, I will advise you further.

This information may be of interest to the Senior Geologist, Uranium and Fuel.

TECHNICAL INFORMATION OFFICER

Gumbowie bore historical report (1957)

Tasmania



Hunterston-1 DST gas composition in 2H Resources EL17 licence

~~DWERTER~~ ASSEMBLY
DST-3

-Air Corrected Composition

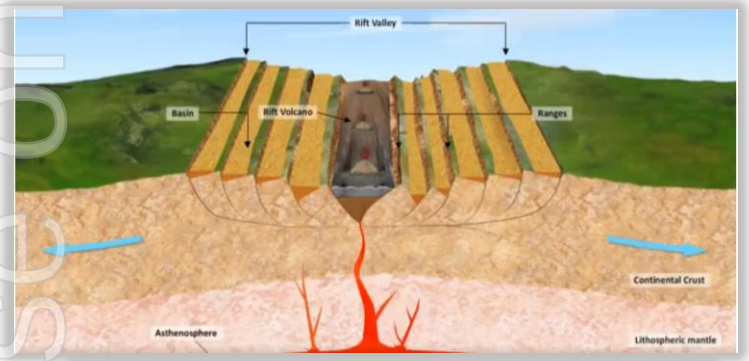
GAS	MOL %
Nitrogen	98.67
Helium	1.03
Hydrogen	0.30
Carbon Dioxide	0.00
Methane	0.00
Ethane	0.00
Propane	0.00
I-Butane	0.00
N-Butane	0.00
I-Pentane	0.00
N-Pentane	0.00
Hexanes	0.00
Heptanes	0.00
Octanes and higher h'cs	0.00
Total	100.00

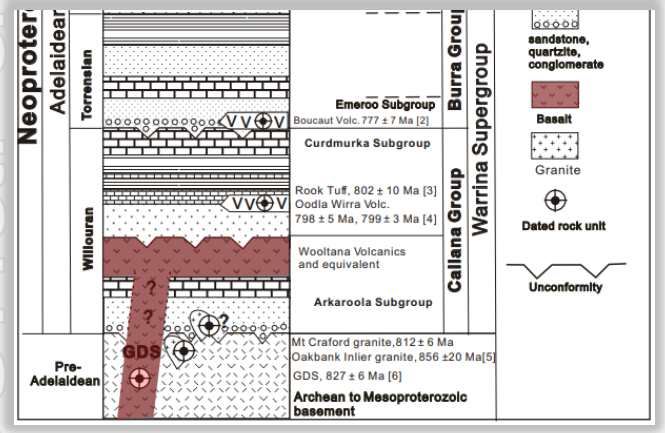
Explore where a diversity of potential sources exist

Serpentinisation

^{1}H

- Basal rift mafics
- Iron formations
- Intermediate basement



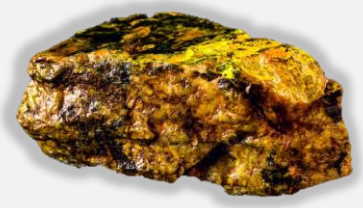


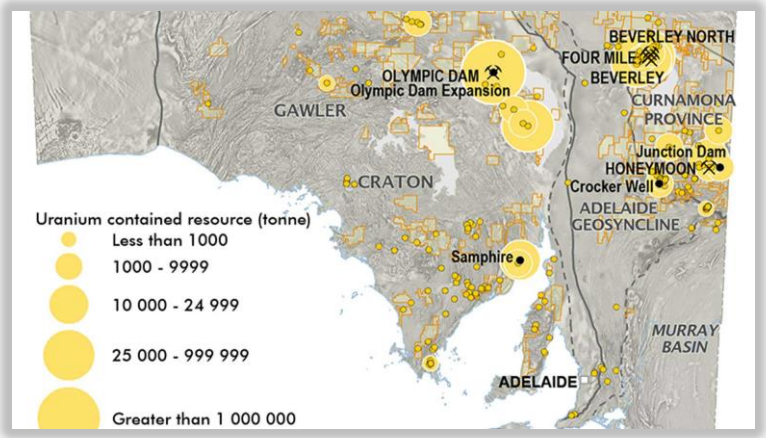
Adelaide Superbasin lithostratigraphy after (Wang et al., 2010)

Radiolysis

^{1}H ^{2}He

- U & Th-rich Granitic Cratons and eroded sediments



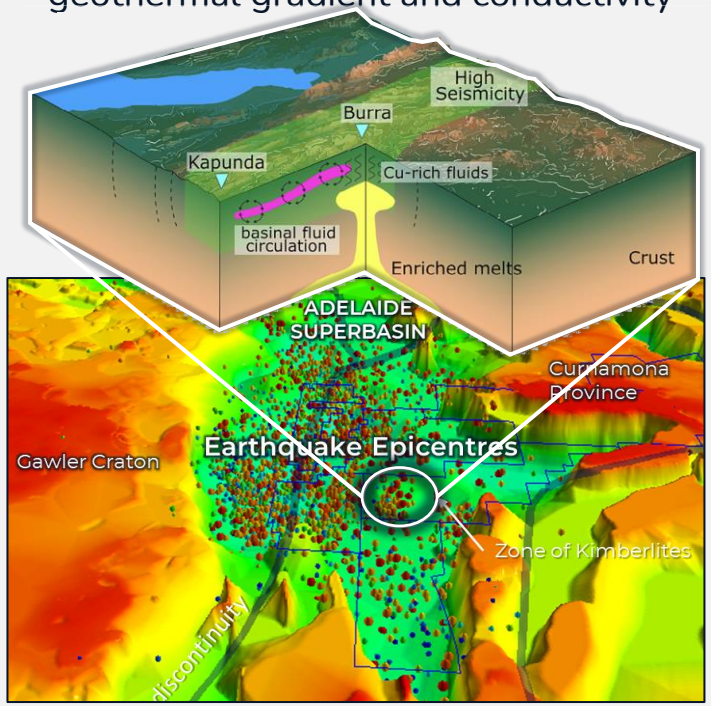


South Australian uranium occurrences

Deep source and enhanced migration

^{1}H ^{2}He

- Dense and active seismicity highlighting deep migration of fluids
- Kimberlite intrusions
- Crustal discontinuities linked to high geothermal gradient and conductivity

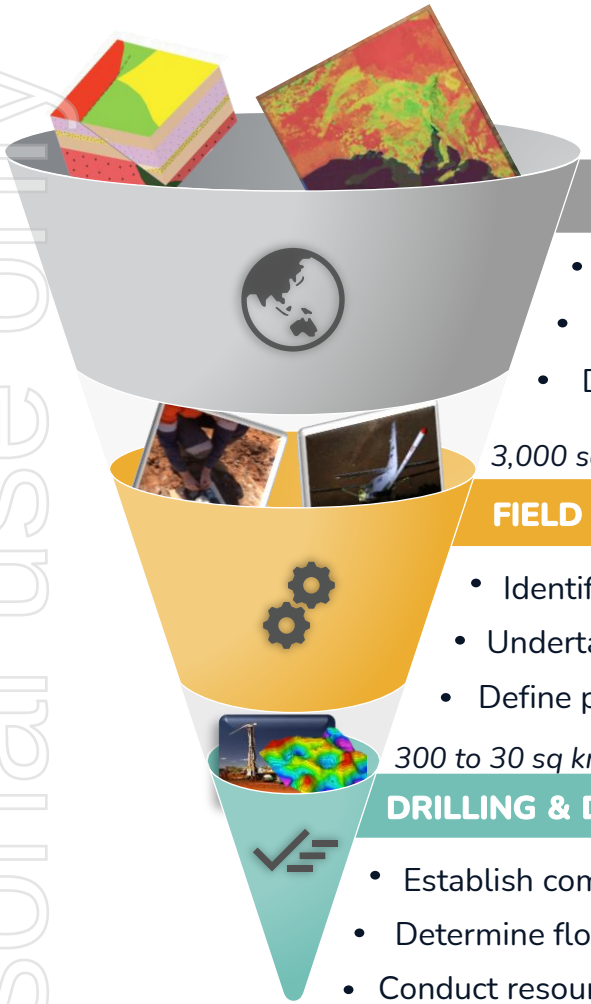


Seismic cluster within the middle crust of the basin and 3D in South Australia (Kay et al., 2024).

Adapt to explore

Flexible modelling to weight uncertainty of complex datasets

Adapt traditional workflows



30,000 sq km

REGIONAL & PLAY EXPLORATION

- Build a geological model
- Generate prospect portfolio
- Delineate high-grade targets for monitoring

3,000 sq km

FIELD SURVEY & LEAD SELECTION

- Identify and demonstrate active migration
- Undertake geophysical surveys
- Define prospects

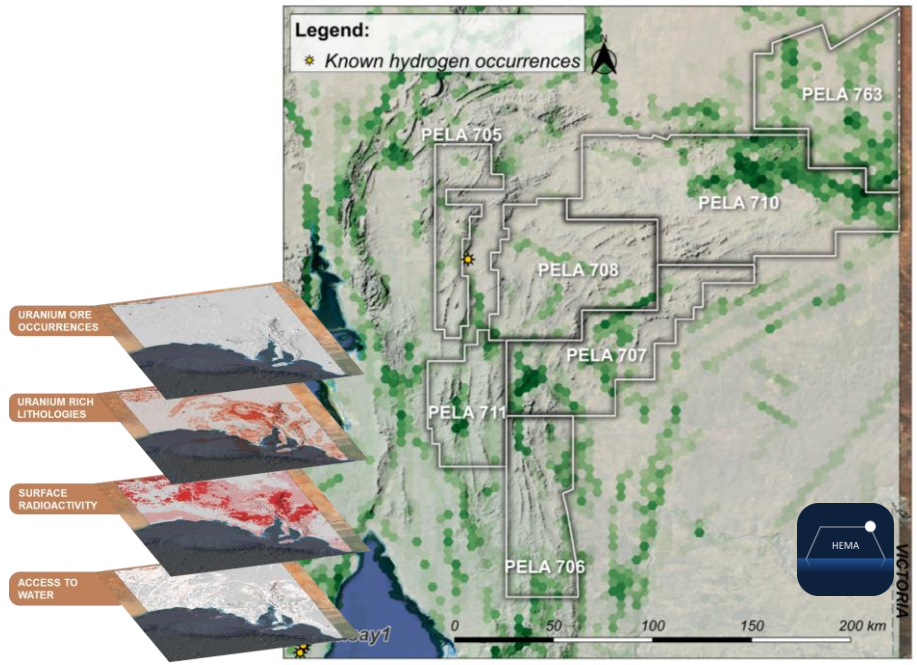
300 to 30 sq km

DRILLING & DISCOVERY

- Establish composition
- Determine flow rate
- Conduct resource assessment

Adapt Software

A step in the 2H Resources exploration workflow



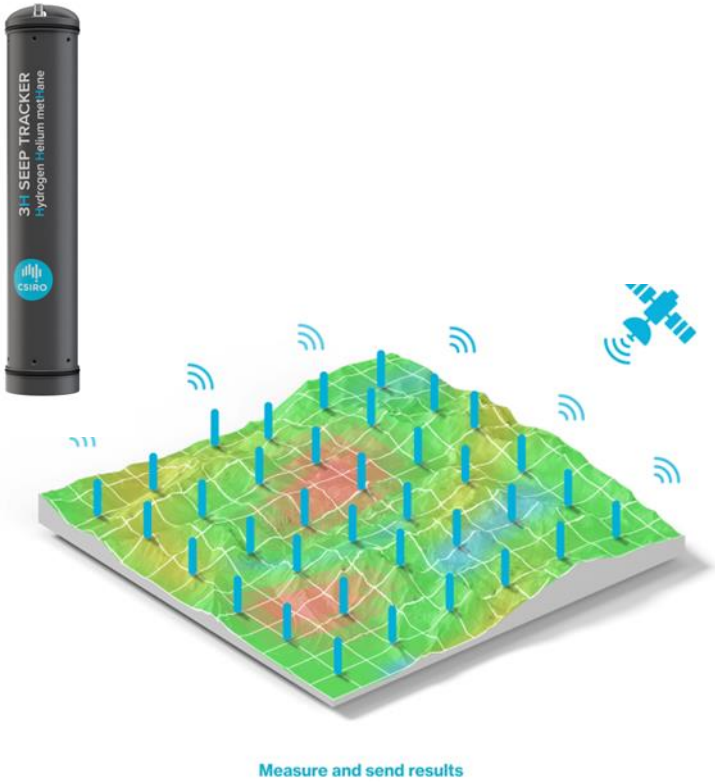
Adapt to explore

Developing exploration tools and adapt existing technologies

Develop spot gas sampling

Spot soil gas sampling equipment

Develop long-term sensors



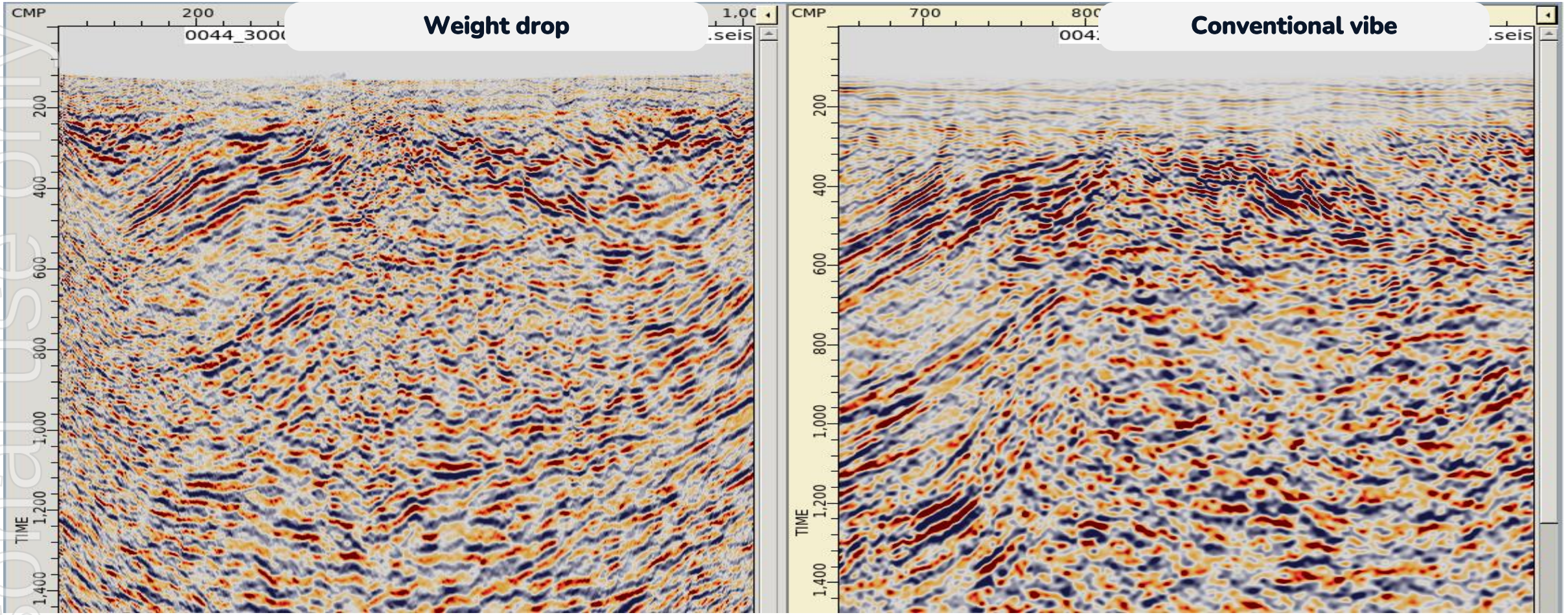
2H Resources collaboration with CSIRO

Adapt seismic acquisition

Efficient | Affordable | Sound science | Low environmental footprint

Adapt to explore

Comparative testing on the same seismic line



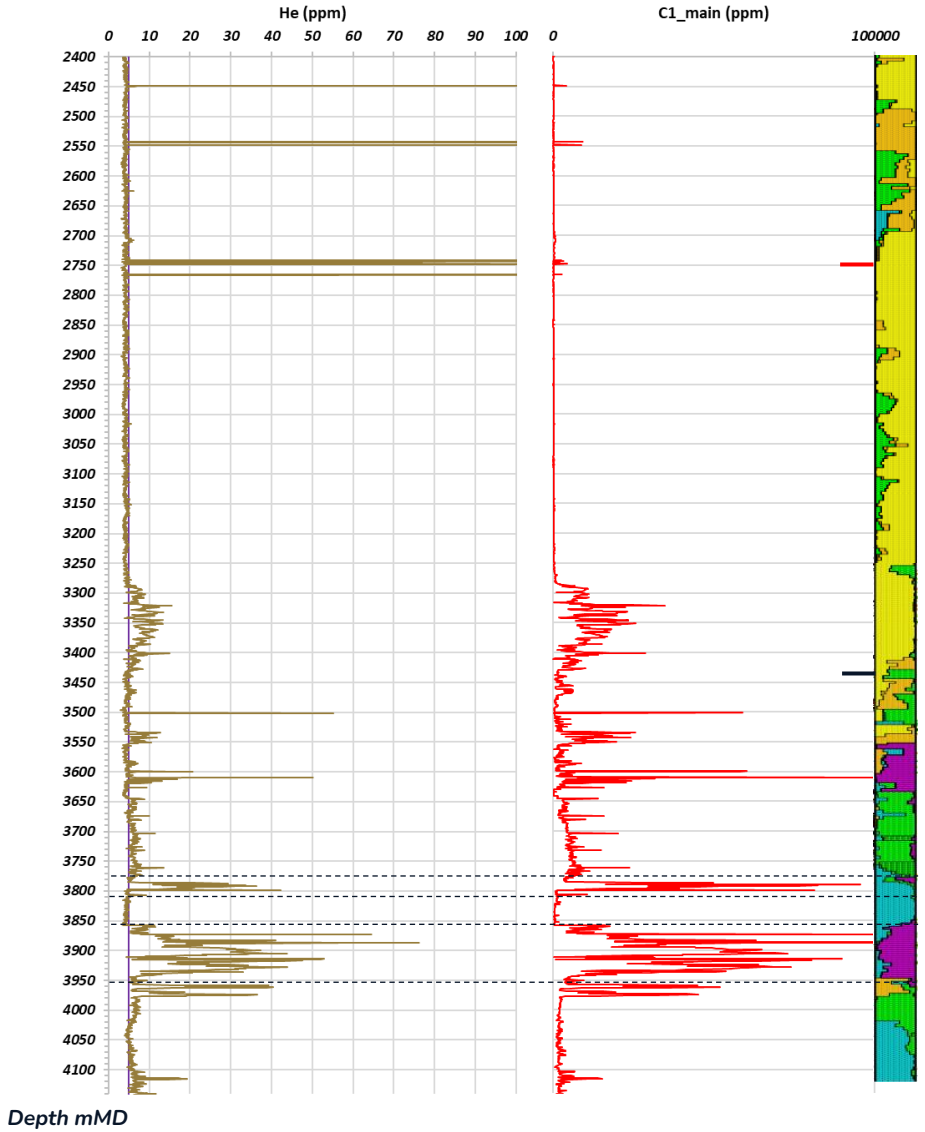
Low-impact weight drop sourced seismic showing positive results in a test area of complex geology.

Adapt to explore

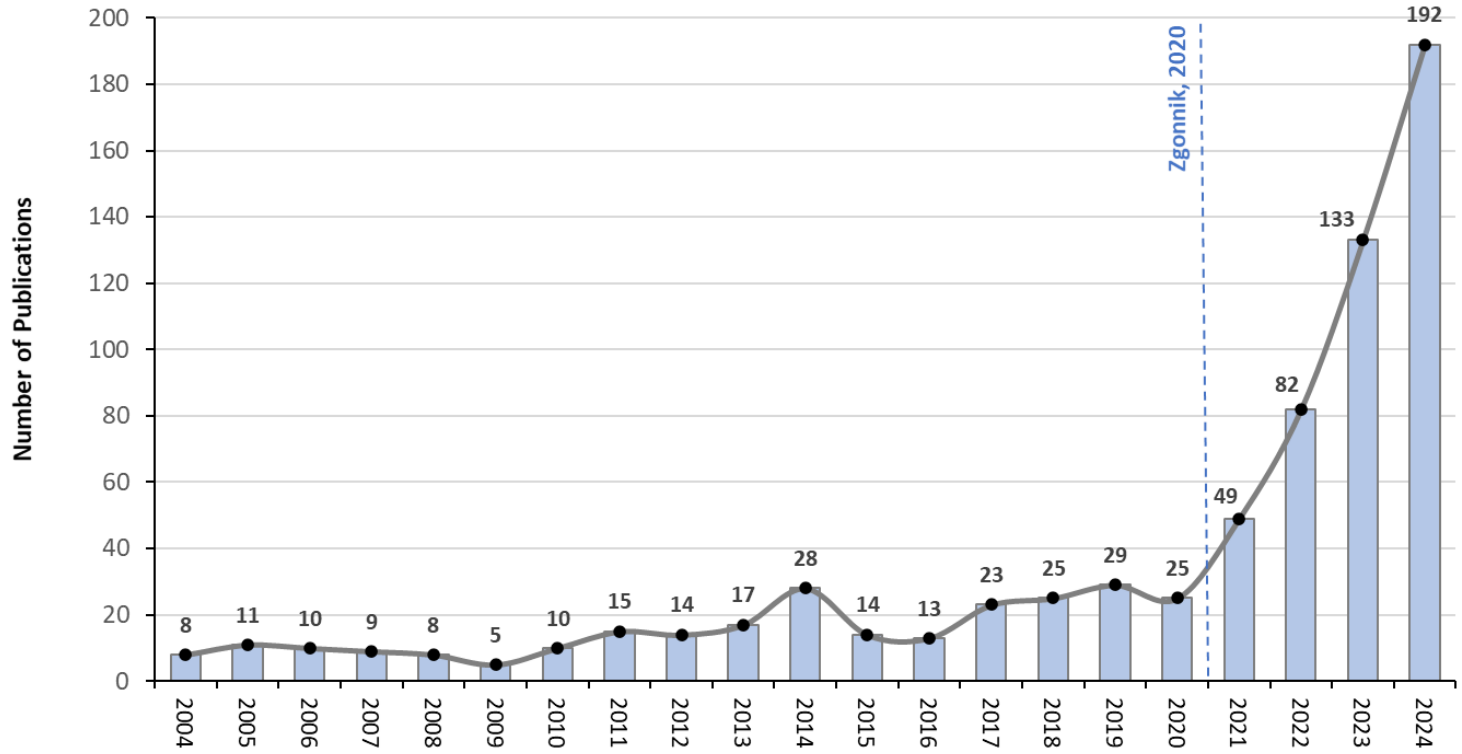
Combining technology to learn

- **Helium readings** in mud gas using DQ1000 in the Canning Basin
- Strong correlation between helium and methane content
- Interpretation of hydrogen anomalies requires detailed monitoring of drilling parameters to identify false anomalies from “bit burn”

DQ-1000 [He] & [C1] mud gas readings



Information sharing is critical



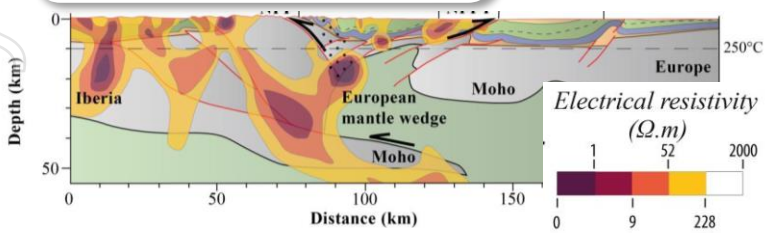
Google Scholar search returns by year for "natural hydrogen" and "energy source"

The exponential raise in scientific publications relating to natural hydrogen has been critical for establishing analogues in this nascent industry.

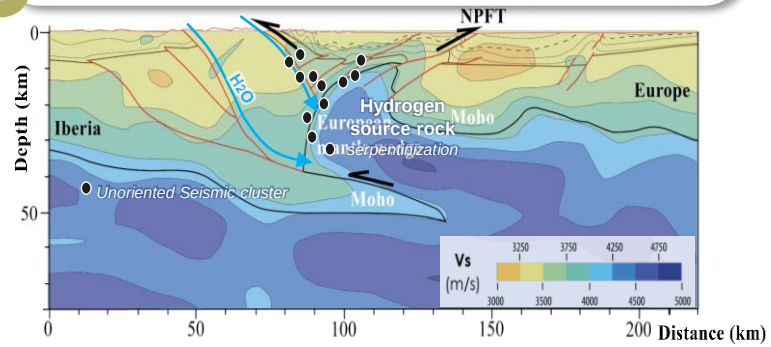
Information sharing for exploration analogues

Analogue: Pyrenean H_2 play, France

1 Conductive anomaly



2 3 Anomalous seismicity and velocity

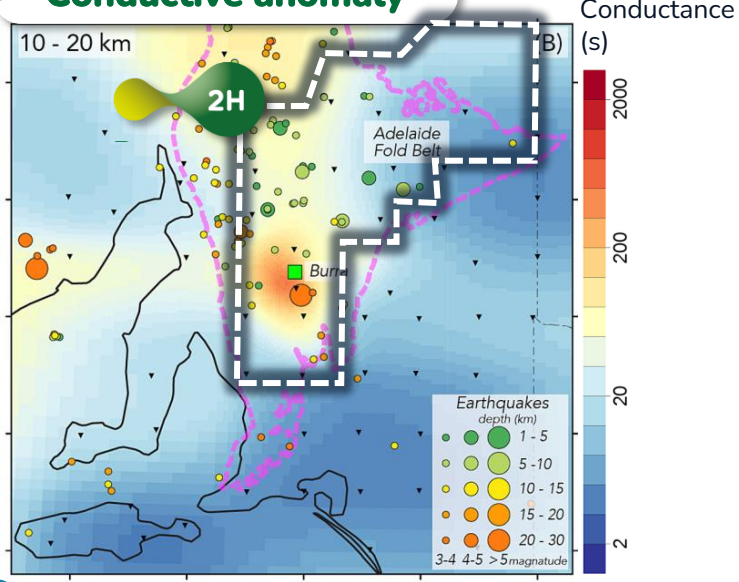


1,2,3: Pyrenean h_2 play, France, modified after (Lefeuvre et al., 2022)

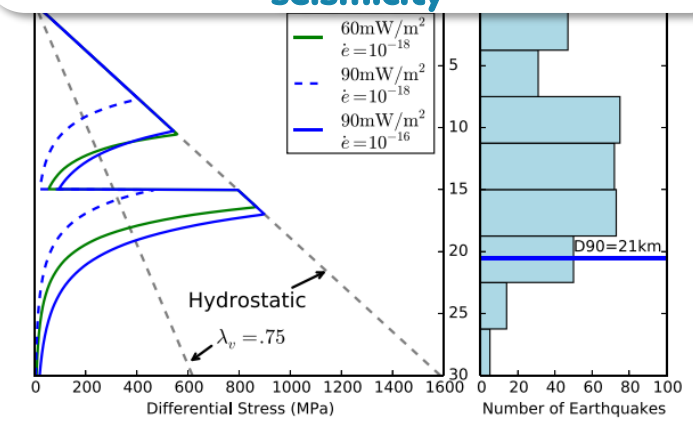
Geophysical data highlights the presence of deep fluids linked to high heat flow = an environment for the generation and migration of helium and hydrogen.

Application: Adelaide Superbasin

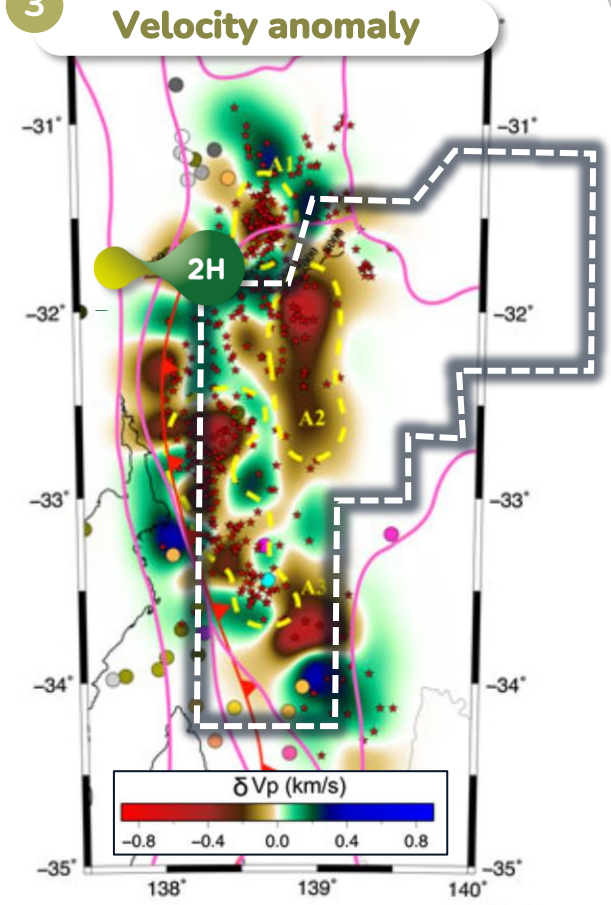
1 Conductive anomaly



2 Anomalous strength profile and seismicity



3 Velocity anomaly



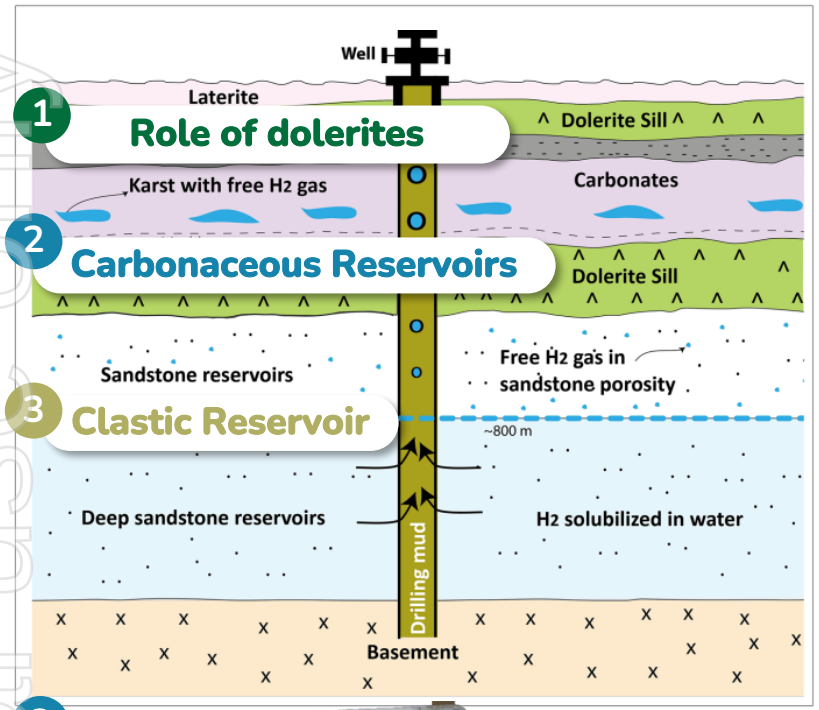
1: 10-20km conductance anomaly from MT data from (Kay et al., 2024)

2: Strength profiles and earthquakes distribution in the Adelaide Basin from (Balfour et al., 2015)

3: Vp anomaly at 18km depth from (Pilia et al., 2013)

Information sharing for exploration analogues - Tasmania

Analogue: Bourakebougou H_2 field, Mali

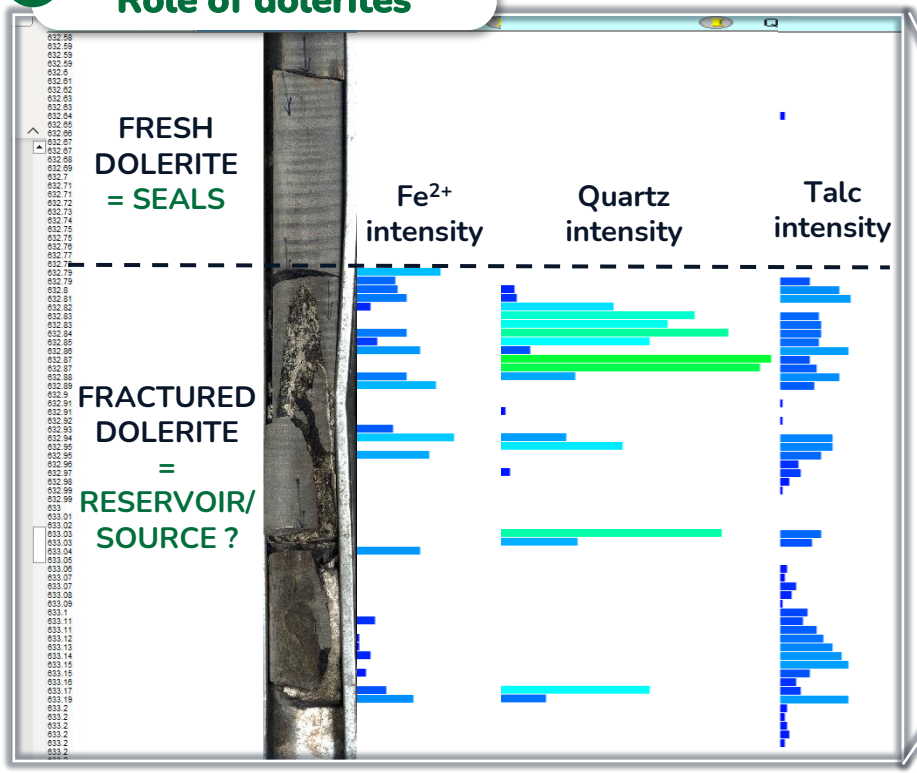


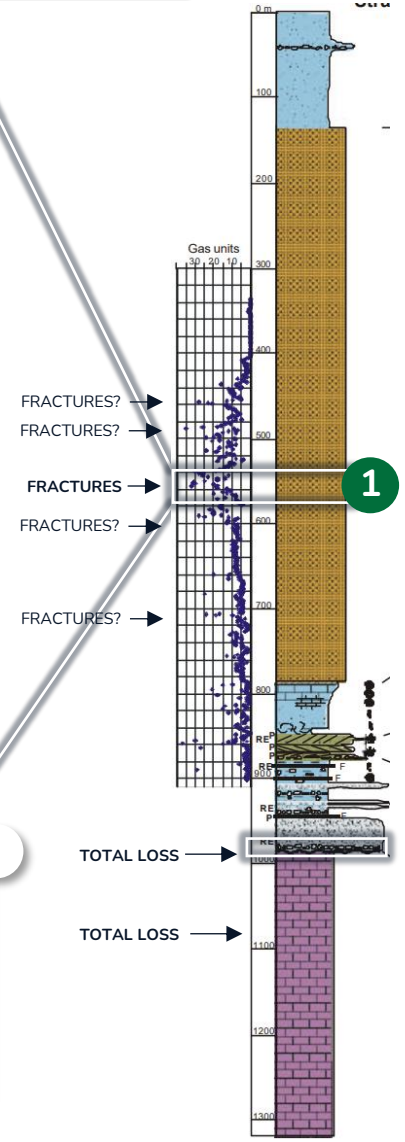
Bourakebougou H_2 field schematic diagram and carbonate reservoir. Modified after (Maiga et al., 2023)

Analogue reservoir and seals.

Application: Hunterston-1, Tasmania

1 Role of dolerites

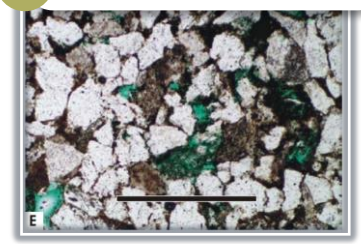




2 Carbonaceous reservoir

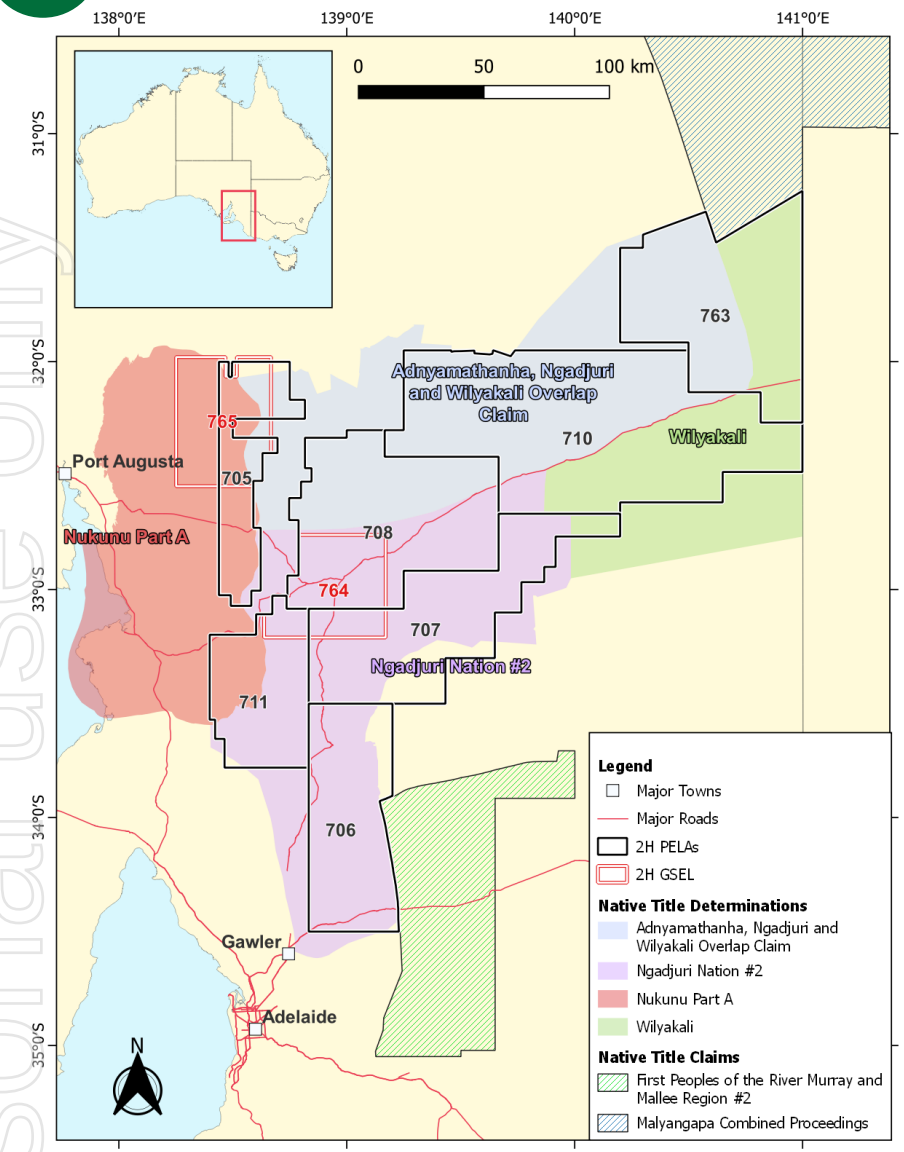
Mudstone core of the Bundella Correlate section @957.5m displaying vuggy porosity

3 Clastic Reservoir

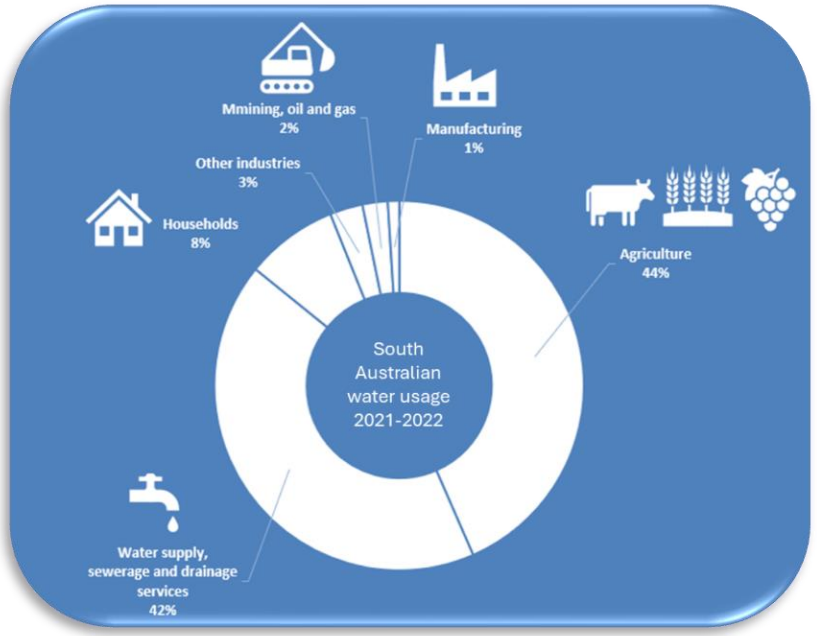


Liffey Group φ

The first step is to obtain the social licence to explore



2H Resources PELA & GSELA with underlying Native Titles



Diverse stakeholders in areas previous unexplored for subsurface gasses.

What have we learned so far?

- **Dig deep for historic records**
- **Diversity of potential sources**
- **Adapt to Explore**
- **Information sharing is critical**
- **A social licence to explore is a critical first step**

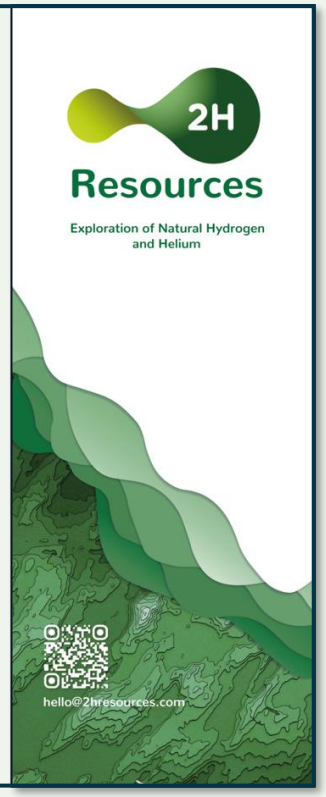
Applying these insights across **16** permit areas in **3** States as we **secure tenure** and position to **commence field activities in 2025**.

Come and visit our booth

Grant

Harvey

Hugo



2H Resources

Contact us to learn more about our mission and work.

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