

ASX Release

5 June 2026

EP-494 PROSPECTIVITY UPDATE

Highlights:

- **New seismic interpretation adds a significant oil prospect to the portfolio**
- **Potential for oil and gas up-dip of existing wells with known oil shows**
- **Three additional leads identified and currently being evaluated**
- **Barberton 3D seismic processing underway**
- **Recent legislation changes enable exploration for hydrogen and helium**

Macallum New Energy Limited (ASX:MNE) (**Macallum New Energy, MNE** or the **Company**) is pleased to provide the following prospectivity update and attached technical presentation for its 100%-owned exploration permit EP-494 in the onshore North Perth Basin, resulting from new interpretation of existing and recently released seismic data.

The Perth Basin petroleum system

The North Perth Basin contains a prolific and proven, multi-source, multi-reservoir petroleum system with commercial production since the late 1960's from a variety of reservoirs. The primary source of hydrocarbons in the basin is the Lower Triassic age Kockatea Shale with additional contribution from Permian shales in the Irwin River Coal Measures and Cattamarra Coal Measures. These source rocks are extensive, with the present-day mature source kitchen sitting in the Dandaragan Trough, immediately adjacent to EP-494.

The petroleum system that hosts all the discoveries in the region extends across the basin and because the southern portion of the basin is massively underexplored there is considerable opportunity for large scale discoveries of oil and gas.

The Opportunity: The under-explored lower two-thirds of the North Perth Basin

The northern third of the North Perth Basin (north of Ocean Hill-1) is heavily explored with dense seismic data coverage and more than 321 wells drilled to date, giving a well density of one well per 26km². Most exploration in the basin has focussed on this northern area due to modest drilling target depths and a natural tendency to concentrate exploration close to existing discoveries. The Waitsia Gas Field discovery in 2014 reignited exploration in the North Perth Basin resulting in several large gas and oil discoveries.

By comparison, the lower southern two-thirds of the basin is significantly underexplored with just 53 wells drilled to date, in total giving a well density of one well per 217km², less than 10% of the well density in the north. A simple reason for this is that historical exploration focussed on Permian reservoirs which are too deep to drill in much of the central basin, as they are more than 9,000m below ground.

Why the Barberton and Yarra Yarra Terraces (and therefore EP-494) are highly prospective

The eastern margin of the North Perth Basin was, for a long time, considered to be defined by a large single fault, the Darling Fault, which puts Permian reservoirs in the basin beyond the range of drilling capability. Macallum New Energy's 2019 Mogumber 2D seismic survey and subsequent 2022 Mogumber North 2D seismic survey changed that view, clearly demonstrating the eastern margin of the basin was established by multiple parallel faults that create a terrace where target reservoirs are significantly shallower and at similar depths to the most recent Permian discoveries in the north. The Jurassic targets in these terraces are almost 2,000m shallower than in adjacent permits, placing prospects in EP-494 at much more favourable depths for better reservoir quality and lower drilling costs.

New Prospects and Leads

MNE continues to evaluate the entire EP-494 permit using all available data in the region while waiting for delivery of the new data volumes from the Barberton 3D and Condor 2D seismic surveys. With new 2D seismic data recently released into the public domain, MNE has evaluated areas of the permit that previously had limited seismic coverage. MNE is pleased to report that this has resulted in one new prospect and three new leads being identified within EP-494.

The new prospect and leads (Figure 1) have been identified to be prospective for both oil and gas and work is underway to determine Prospective Resources and geological chance of success with results expected to be announced in Q3 of 2026.

The *Aberfeldy* prospect is a fault-bounded closure up-dip of two wells with known oil and gas shows in a location well suited to hydrocarbon charge and improved reservoir quality. Dandaragan-1 was drilled by Discovery Petroleum in 1995 and recovered biodegraded oil from a shallow reservoir at 820m. Energy Resources Limited drilled Dandaragan Deep-1 in 2025 in adjacent permit EP-507 and reported oil and gas shows over 1,000m in the Jurassic section. *Aberfeldy* is a material size prospect with a closure area of 16km² and multiple potential reservoir targets in the Jurassic Yarragadee Formation and Cattamarra Coal Measures.

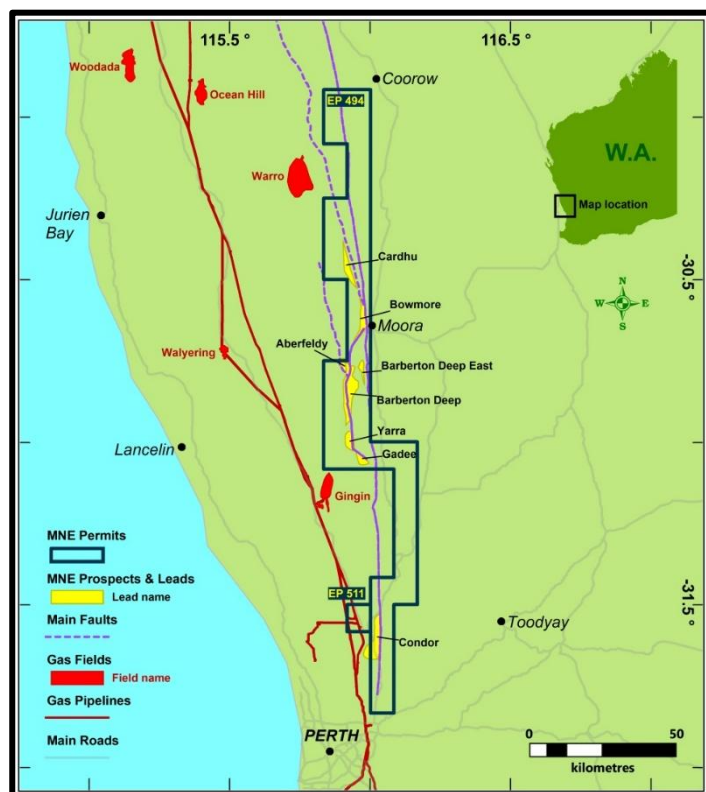


Figure 1. EP-494 Prospects and Leads

Three additional leads have been identified with technical studies ongoing. The *Bowmore* and *Cardhu* leads are Jurassic three-way closures and pinch-out traps downthrown to the Urella and Darling Faults whereas the *Barberton East* lead is a Triassic/Permian three-way closure against the Darling Fault, sealed by crystalline basement on the upthrown side. Additional 2D seismic data may be required to fully mature these leads to drillable status.

Hydrogen and Helium potential of EP-494

MNE is pleased to report that on 28 May 2026, the Western Australian government implemented the *Petroleum Legislation Amendment Act (2024) (PLAA)* amending the former *Petroleum and Geothermal Energy Resources Act (1967) (PGERA67)*. The amended Act enables exploration for naturally occurring hydrogen and helium within petroleum permits and can be granted to existing titles on application. MNE intends to apply for these gases to be added to EP-494 and will consider helium (and potentially hydrogen) as a potential secondary objective in our oil and gas activities.

Sub-soil sampling analysis in EP-494, undertaken in 2022 by researchers from Curtin University, demonstrated strong evidence for naturally occurring hydrogen and helium within the permit with the Darling Fault being identified as a possible conduit for these gases.

Laboratory analysis of two Isotube gas samples collected from EP-494 showed highly anomalous helium concentrations up to 1600 times normal background atmospheric levels.¹

While oil and gas remains our priority in the Perth Basin, MNE will continue to monitor exploration results by others in this field and will consider helium (and potentially hydrogen) as a secondary objective in our oil and gas exploration activities.

Barberton 3D seismic processing underway

Macallum New Energy's conventional oil and gas exploration programme remains on track. With completion of the Barberton 3D seismic survey in May, processing of the data is underway. Preliminary "fast-track" data will be available to MNE in late June with final Pre-stack Time and Depth (PSTM and PSDM) volumes scheduled for delivery in Q3 of 2026.

Further prospectivity updates incorporating results from the Barberton 3D, Condor 2D and reprocessed Mogumber 2D surveys will be released after the data has been interpreted and prospectivity assessment completed.

-Ends-

This announcement was approved for release to the ASX by Macallum New Energy's Board of Directors.

For more information contact:

INVESTORS

Andy Furniss

Chief Executive Officer

E: enquiry@macnewenergy.com.au

+61 (8) 6245 9867

MEDIA

Josh Nyman

SPOKE.

E: josh@hellospoke.com.au

+61 413 243 440

¹ [Vidavskiy, V. et. al. \(2024\). Natural Hydrogen in the Northern Perth Basin, WA Australia: Geospatial Analysis and Detection in Soil Gas for Early Exploration. *Journal of Energy and Natural Resources \(Volume 13, Issue 2\)*](#)

About Macallum New Energy

Macallum New Energy is an oil and gas exploration company focused on the assessment and future development of its 100% owned exploration permits located in the onshore North Perth Basin in Western Australia, being EP-494 and EP-511 (the **Projects**).

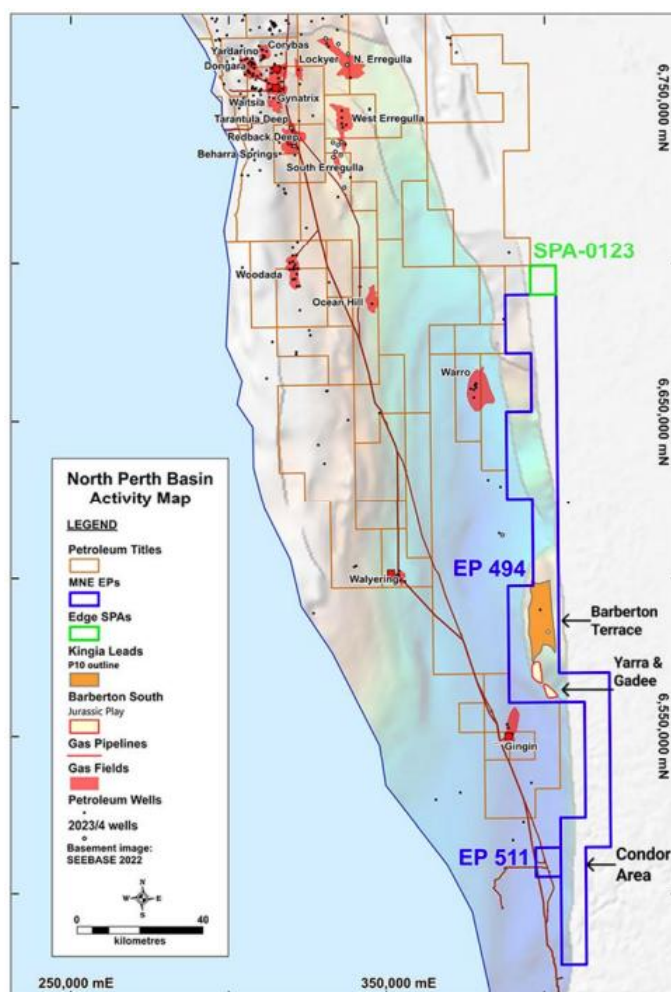
MNE offers investors a rare opportunity to participate in the multi-Tcf onshore Perth Basin Kingia gas play. The Projects host a portfolio of mature prospects aimed to be derisked through the execution of a clearly defined work program.

With a strong management team and funding for short-term activities, MNE are set to explore some of the largest undrilled gas prospects in the Perth Basin and are strategically positioned to address Western Australia's tightening domestic gas market.

Forward-Looking Statements

This release may include forward-looking statements. Such statements may relate to, among other things, exploration activities, resource potential, development plans, production targets, funding requirements, regulatory approvals and commercialisation opportunities. Words such as "anticipate", "believe", "estimate", "expect", "intend", "may", "plan", "potential", "should" and similar expressions are intended to identify forward-looking statements. Although MNE believes its expectations reflected in these are reasonable, such statements involve risks and uncertainties, and no assurance can be given that actual results will be consistent with these forward-looking statements. and actual results, performance, actions and developments of the Company may differ materially from those expressed or implied by the forward-looking statements in this document. Such forward-looking statements speak only as of the date of this announcement.

The entity confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed.





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EP-494 Prospectivity Update

5 June 2026

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By attending an investor presentation or briefing, or accepting, accessing or reviewing this document you acknowledge and agree to the "Disclaimer" as set out above.

Competent Person Statement

The information in this document that relates to estimates of prospective resources is based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of Hong Feng Wu, Director of Molyneux Advisors Pty Ltd. Hong Feng Wu is a (Full) member of Society of Petroleum Evaluation Engineers (SPEE #1021) and a member of Society of Petroleum Engineers (SPE # 5084882), with sufficient experience which is relevant to the evaluation and estimation of prospective resources. Hong Feng Wu and Molyneux Advisor Pty Ltd have each consented to the inclusion in this presentation of the matters based on their information in the form and context in which they appear. The Company confirms that it is not aware of any new information or data that materially affects the information included in the prospectus dated 28 November 2025, and in the case of estimates of prospective resources, that all material assumptions and technical parameters underpinning the estimates in the prospectus dated 28 November 2025 continue to apply and have not materially changed.

Prospective Resource Cautionary Statement

The estimated quantities of petroleum that may potentially be recovered by the application of a future development project relate to undiscovered accumulations. The estimates in this document 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 hydrocarbons.

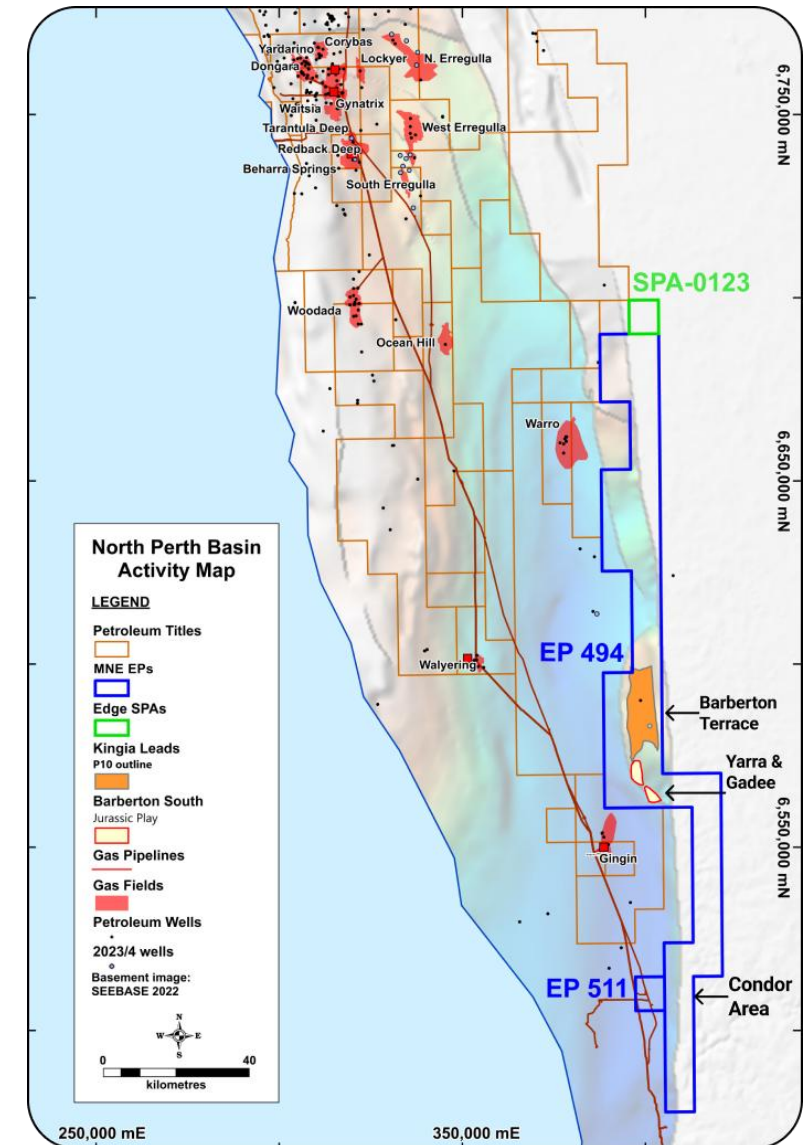
MACALLUM NEW ENERGY CONTINUES TO ADD TO ITS PORTFOLIO OF EXPLORATION OPPORTUNITIES

- **Macallum New Energy (MNE) is on track with its oil & gas exploration work program** with the Barberton 3D seismic survey complete and the Condor 2D survey days away from completion
- While waiting for processed results from the new data, MNE continues to evaluate EP-494 and EP-511. The recent release of new 2D seismic data to the public domain has given new insights into areas of EP-494
- **A new prospect, Aberfeldy, added to MNE's portfolio of opportunities with both oil and gas potential**
- **Three additional leads identified in EP-494** with work ongoing to fully evaluate their potential
- In May, the Western Australian government implemented new regulations to allow petroleum permit holders to explore for natural hydrogen and helium. MNE plans to apply for both substances to be added to the EP-494 permit and will consider adding to EP-511 after interpretation of the new Condor 2D seismic survey
- **EP-494 shows high potential for helium** with a published research paper reporting highly anomalous helium concentrations from soil gas samples taken in the permit
- **MNE remains focussed on oil & gas exploration.** Helium and hydrogen potential will be considered as a secondary objective

EP-494 Petroleum Potential

UNDEREXPLORED WITH HIGH POTENTIAL

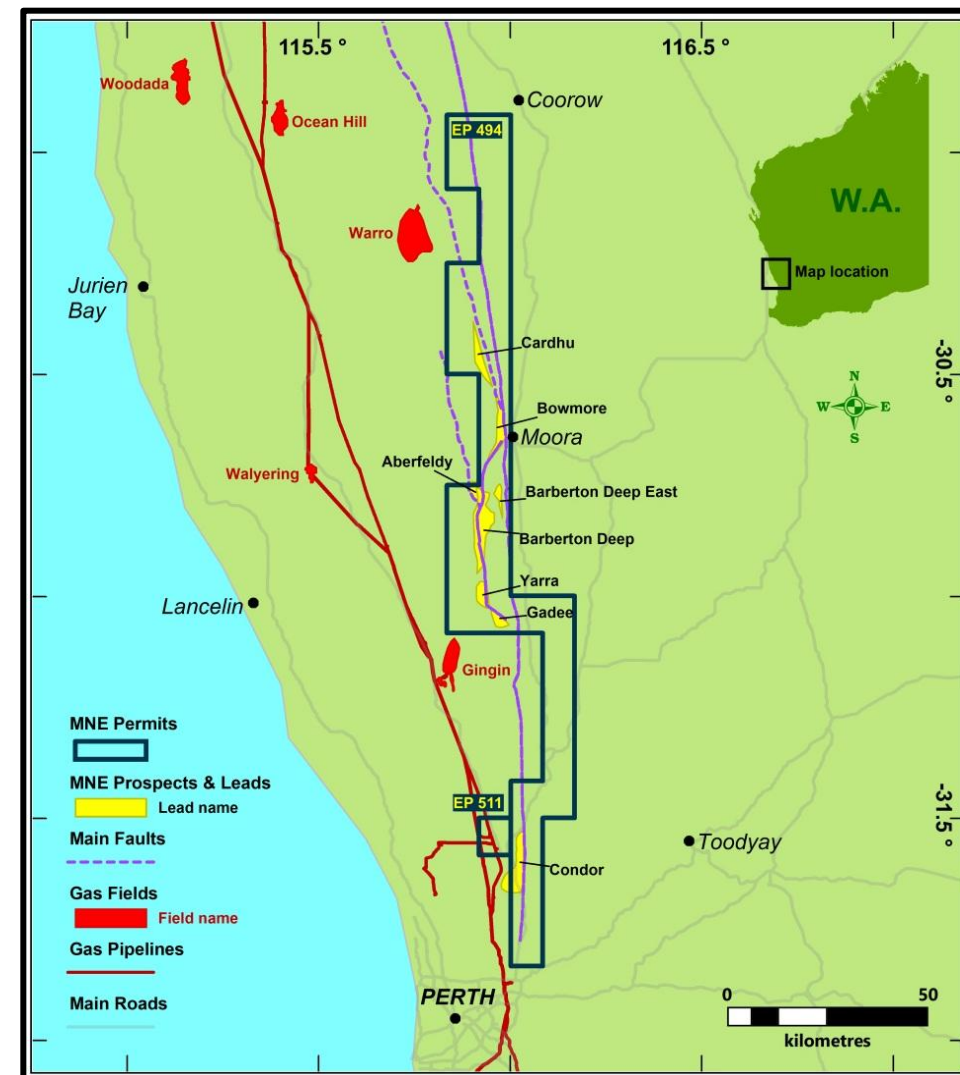
- EP-494 is a large permit of 2,577 km²
- Located in the underexplored southern part of the prolific North Perth Basin
- Adjacent to Warro and Gingin gas fields in a proven petroleum system
- Highly prospective for oil and gas with multiple prospects and leads identified in both proven Jurassic and Permian plays
- Ideally located close to existing gas pipelines and the dormant Red Gully gas processing plant
- Proven potential for helium and hydrogen



New Prospects and Leads in EP-494

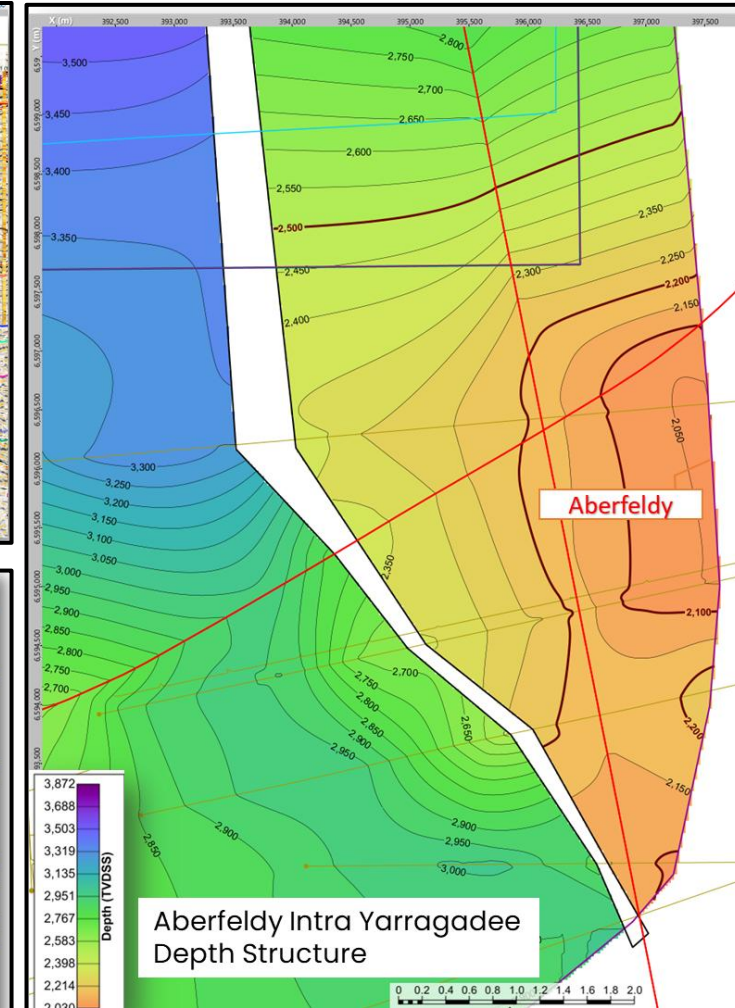
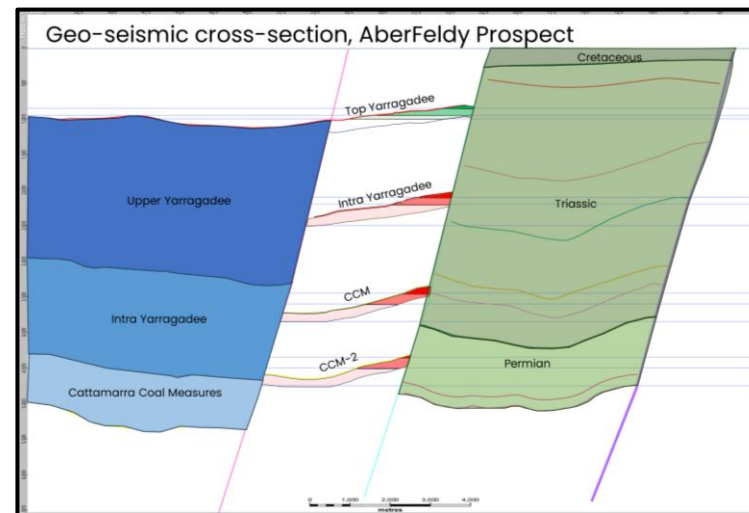
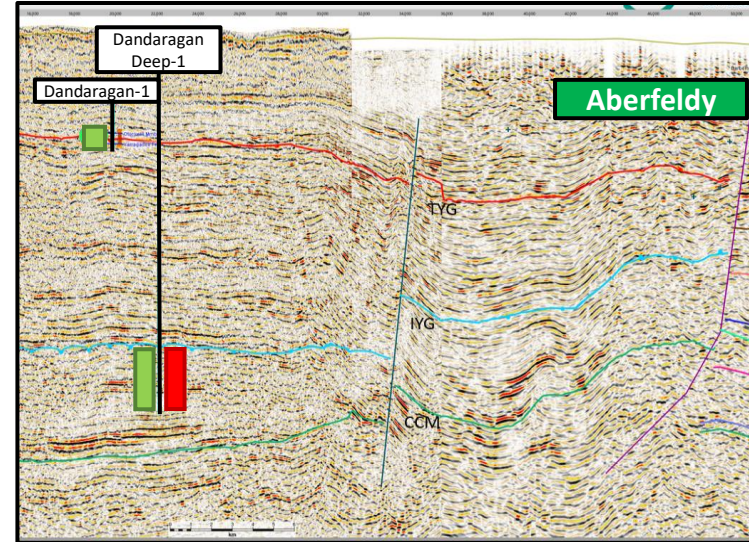
RECENTLY RELEASED SEISMIC DATA PROVIDES NEW INSIGHTS TO EP-494 ADDING TO EXPLORATION POTENTIAL

- Ongoing interpretation of all available data in the permit has identified a **significant new oil/gas prospect in EP-494, Aberfeldy Prospect**, and three new leads which require additional work to mature
- Interpretation of EP-494 is ongoing while we await delivery of the processed Barberton 3D and Condor 2D seismic surveys
- Western Australian government recently released the Charger 2D seismic survey acquired by Mineral Resources in 2022. Data incorporated into MNE's regional database
- Updates to Yarra and Gadee leads will be provided after interpretation of the new Barberton 3D seismic survey, expected in Q3 2026
- Barberton Deep Permian prospect to be updated after completion and interpretation of 2D PSDM reprocessing project



STRUCTURAL TRAP WITH POTENTIAL FOR OIL AND GAS, UP-DIP OF KNOWN OIL DISCOVERY

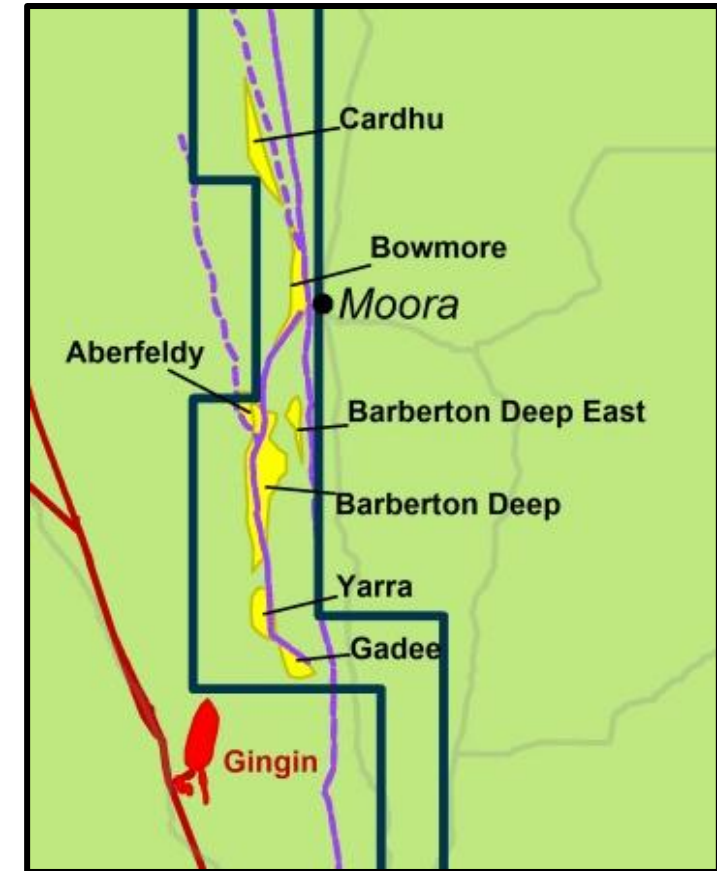
- 16km² fault-bound structural closure up-dip of Dandaragan-1 (Discovery Petroleum, 1995) and Dandaragan Deep-1 (MinRes, 2025)
- Dandaragan-1 encountered oil at 819m to 832m. A production test produced oil at low rates (0.8-3 BOPD) due to biodegraded nature of oil at very shallow depth
- Dandaragan Deep-1 reported more than 1,000m of oil and gas shows throughout the Jurassic, reaching TD at 4,843 MDRT
- Aberfeldy is located up-dip of these wells in a more favourable position for both hydrocarbon charge and better reservoir quality



Additional Leads in EP-494

THREE ADDITIONAL LEADS IDENTIFIED IN EP-494

- **Significant upside potential** remains in the permit with multiple leads and prospects in the portfolio to follow-up from a successful well that proves the Jurassic play in EP-494
- Work is ongoing to mature additional Jurassic leads:
 - **Bowmore & Cardhu Leads** are Jurassic three-way closures and pinch-out traps downthrown to the Urella and Darling Faults
 - **Barberton East Lead** is a Triassic/Permian three-way closure against the Darling Fault (sealed by crystalline basement on the upthrown side)
- Leads are material, but loosely constrained on current legacy 2D data and a new 2D seismic survey may be proposed in the future to mature the leads
- Drilling in nearby permits will provide new geological data in the near term to assist resource definition and determine geological chance of success



EP-494 Barberton Terrace Prospects and Leads

SUMMARY OF UNRISKED PROSPECTIVE RESOURCES (EXISTING PROSPECTS & LEADS) IN EP-494

- **Barberton Terrace Deep (BTD): Drill-ready Kingia prospect**
 - Large un-drilled Permian structures identified with a mapped area estimated to be ~100km²
 - Preliminary exploration well location, BTD-1, has been selected
- **Yarra and Gadee: 3D mapping of Jurassic leads underway**
 - 3D seismic acquisition completed for Yarra and Gadee in Q1 2026. Advanced 3D seismic analysis underway to enhance prospect definition
- **Condor: Structural lead with 2D seismic almost complete**
 - Basin margin Jurassic play in a petroleum system with excellent reservoir and charge proven by the nearby Eclipse-1 well (2003).
 - 2D seismic acquisition near completion
 - New data to validate prospect definition

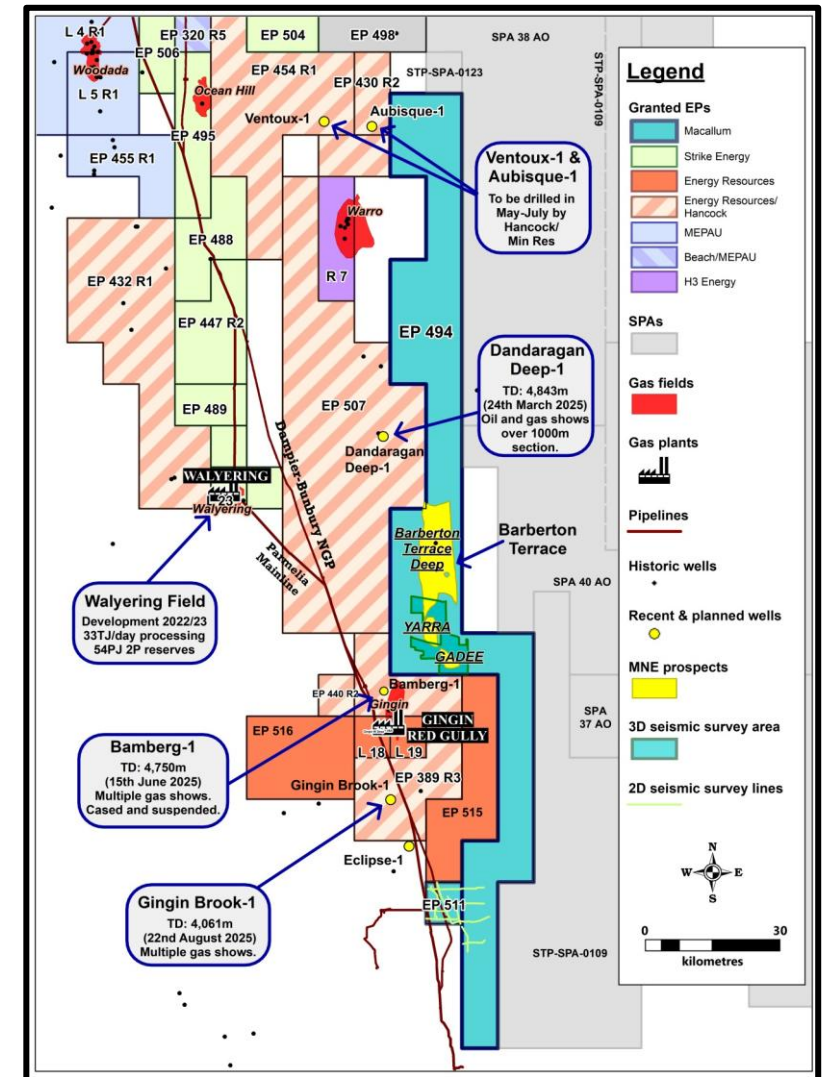
COMBINED PROSPECTIVE RESOURCE ESTIMATE (GAS RECOVERABLE - BSCF)			
	1U	2U	3U
Permian BTD Prospect (Kingia and Dongara Formation)			
Dongara	43	306	1,158
Kingia	204	974	2,789
Total	247	1,280	3,947
Jurassic Leads - Yarra, Gadee and Condor			
Yarra	55	179	421
Gadee	38	108	238
Condor	85	379	1,072
Total	178	666	1,731

Cautionary Statement: The estimated quantities of petroleum that may potentially be recovered by the application of a future exploration and development project(s) relate to undiscovered accumulations. These estimates are un-risked, probabilistically determined, and 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 hydrocarbons.

Renewed Interest in the Jurassic play

SIGNIFICANT NEARBY ACTIVITY IS REVITALISING THE SUCCESSFUL JURASSIC PLAY

- Well established play type with multiple fields and wells throughout the basin
- **Walyering Field** (Strike Energy) proves Jurassic Play commerciality : 2P Reserves ~ 60 Bcf. Gas plant size: 33 TJ/day
- **Warro Gas Field** (H3 Energy) contains 1.5 TCF 2C contingent resource¹. Fieldwide re-evaluation underway aiming for commercialisation in 2027
- **Significant activity in adjacent permits** with MinRes/Hancock currently drilling Jurassic plays at Ventoux-1 and Aubisque-1, the latter being located just 4km west of EP-494
- **Encouraging results** from 2025 drilling activity by Hancock Energy & Mineral Resources targeting Jurassic plays:
 - ✓ **Bamberg-1** (MinRes/Hancock) – Encountered multiple gas shows and was cased and suspended for a future testing program²
 - ✓ **Gingin Brook-1** (MinRes) – Multiple gas shows³
 - ✓ **Dandaragan Deep-1** (MinRes/Hancock) – Oil & gas shows reported over 1,000m section of Jurassic coal measures²



Sources:

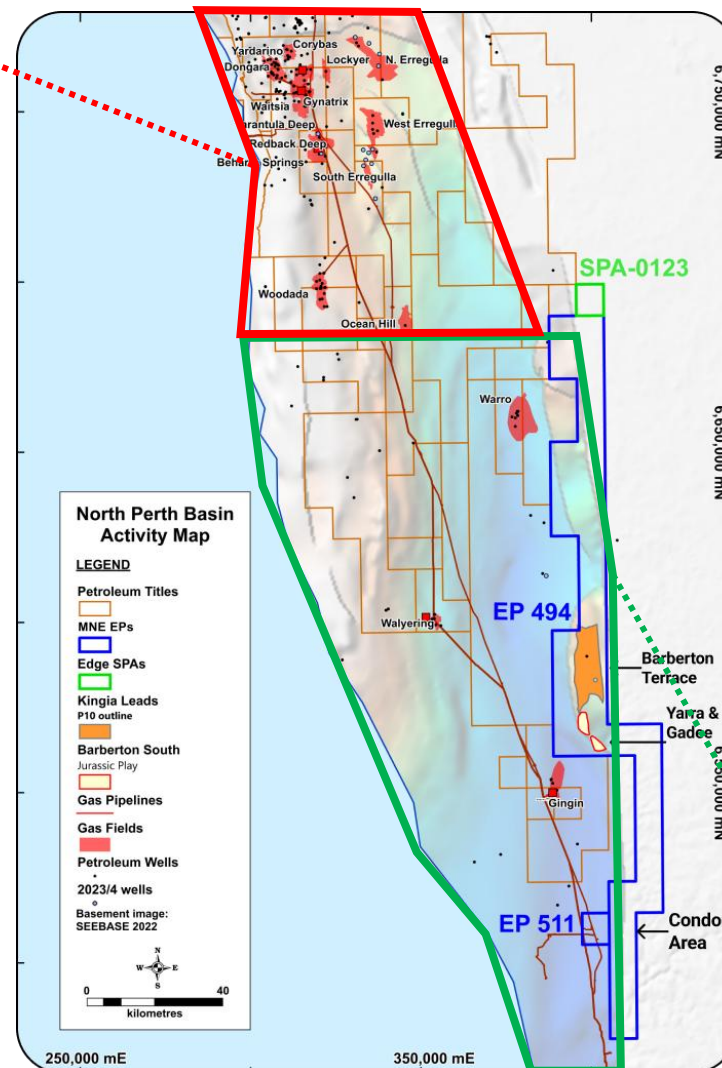
- 1 – H3 Energy website: <https://h3energy.com.au/projects/the-warro-gas-field-project/>
- 2 – Mineral Resources Quarterly Activities Report April-June 2025 (Q4 FY25)
- 3 – Mineral Resources Quarterly Activities Report July-September 2025 (Q1 FY26)

The Underexplored South

THE SOUTHERN PART OF THE PERTH BASIN IS VASTLY UNDEREXPLORED

NORTH

- Approx 8,400 km² under permits
- 321 Petroleum wells drilled
- **1 well per 26 km²**
- Dense 2D and 3D seismic cover
- 24 wells > 4000m (7%).
Only 4 drilled pre-2015
- Until 2014 exploration focused almost exclusively on Permian reservoirs <3500m in the Dongara/Wagina play.
- 2014 Waitisia discovery reset the basin proving viability of deeper Kingia reservoir
- All recent exploration since 2015 chasing Kingia play



SOUTH

- Approx 11,500 km² under permits
- 53 Petroleum wells drilled
- **1 well per 217 km²**
- Sparse 2D seismic cover, limited 3D
- 15 wells > 4000m (28%)
12 drilled pre-2015
- Historical exploration focused on deep Jurassic targets > 4000m
- Permian play previously considered too deep in most of the area
- MNE 2022 2D seismic survey shows a shallower terrace prospective for Jurassic and Permian plays

Perth Basin Petroleum System

SAME PETROLEUM SYSTEM AS THE NORTH BUT BETTER POSITIONED

Same hydrocarbon source rocks.

- EP-494 sits directly over the source “kitchen” where source rocks are mature for gas at present day. Better location than northern fields where long-distance migration is required

Same reservoirs

- Reservoirs believed to be deposited from the east and northeast along the Darling Fault. Potential for the same excellent reservoir quality and porosity preservation as seen in the north

Same seals

- Seismic character shows thick development of Kockatea and Carynginia Shales to act as regional seals (and potential source)

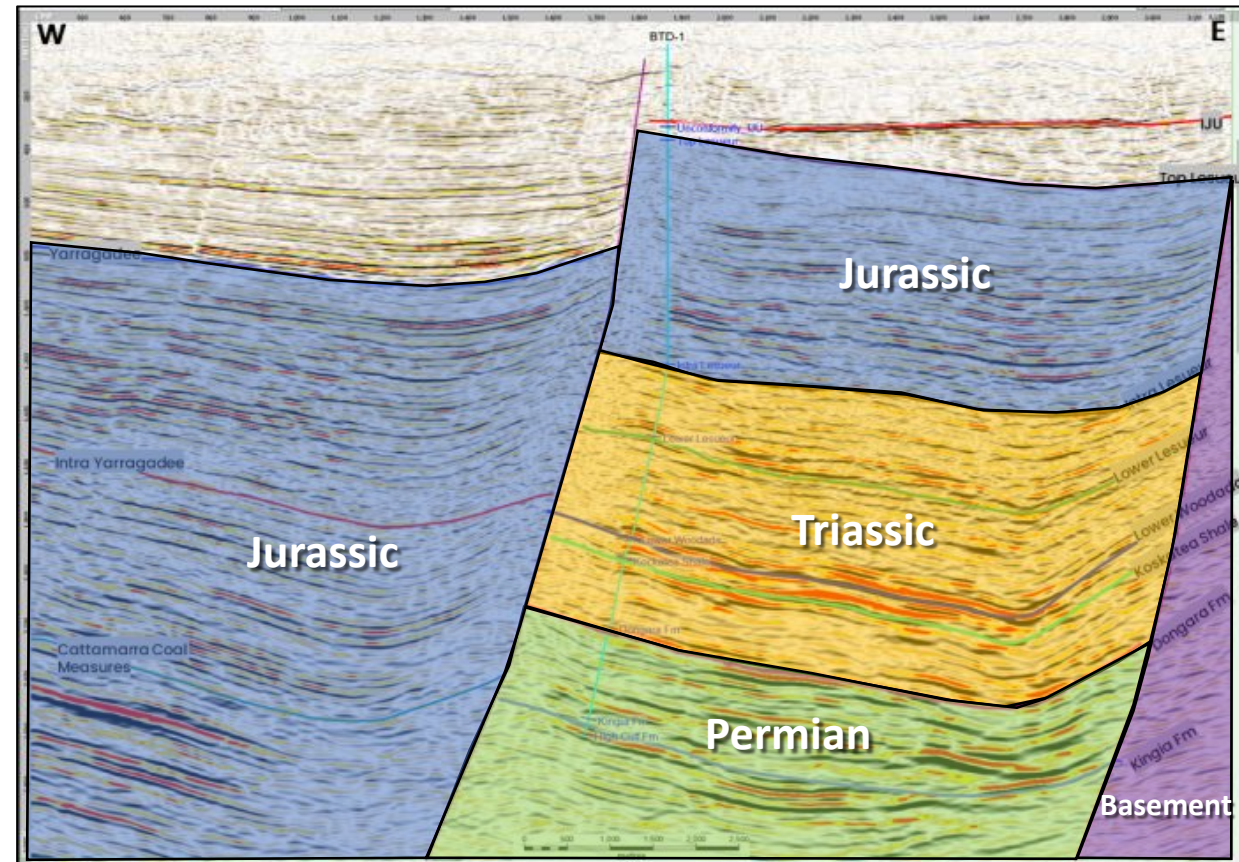
Same traps

- Fault-bound closures and trap configuration is the same as all northern discoveries

Age	Formation	Petroleum System Elements	Fields
Jurassic	Yarragadee Fm		◻ Warro
	Cadda Fm	Seal	◻ Ocean Hill
	Cattamarra Coal Measures	Seal & Reservoir	◻ Walyering ◻ Gingin ● Mt Horner ● North Yardanago
	Eneabba Fm		
Triassic	Lesueur Sst	Reservoir	
	Woodada Fm		
	Kockatea Shale	Seal	● Mt Horner ● Dongara
Permian	Dongara Sst	Reservoir	◻ South Erregula ◻ Baharra Springs ◻ Mondarra ◻ Woodada ● Mt Horner ● Hovea ● Jingamia ● Dongara ● Yardanio
	Carynginia Fm	Source & Seal	◻ Yardanio ◻ Dongara ◻ Woodada
	Irwin River Coal Measures	Source, Reservoir & Seal	◻ Dongara ◻ Yardanio ● Mt Horner
	Kingia Sst	Reservoir	◻ Hovea ◻ Waitsia
	Bit Basher Shale	Reservoir	◻ Lockyer Deep ◻ West Erregulla ◻ South Erragulla ◻ Baharra Springs Deep
	High Cliff Sst	Reservoir	
	Holmwood Shale	Source & Seal	
	Nangetty Fm		

EP-494 UNIQUELY SITS OVER A SERIES OF TERRACES PLACING RESERVOIRS AT MORE FAVOURABLE DEPTHS

- **Barberton and Yarra Yarra Terraces** put Jurassic targets ~2,000m shallower than every other well in adjoining permits = better reservoir quality and cheaper wells
- **Barberton Terrace** identified on MNE's 2022 seismic data shows Kingia Reservoir at ~4,500m = drillable target depths comparable to Lockyer Deep, West Erregulla etc. Outside EP-494 Kingia typically >9km
- **Prospects sit directly above the source kitchen** putting it in excellent location for direct vertical charge of hydrocarbons
- **Excellent seismic data quality** in the south is much better than the north = increased confidence in trap definition = lower risk wells

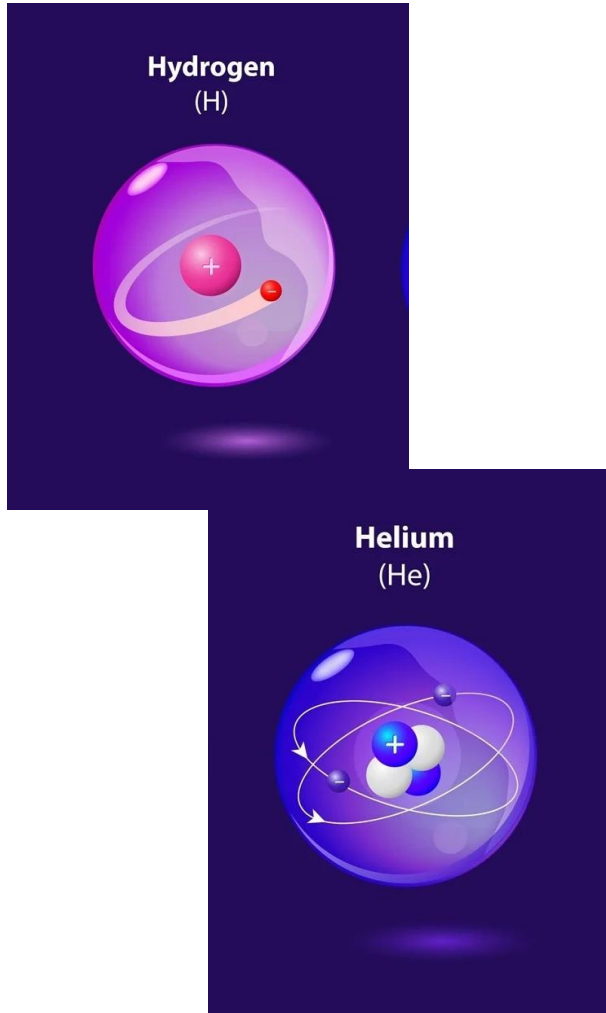


Seismic line MMN22-09 over Barberton TerraceDeep Prospect

EP-494 IS DIFFERENT TO ALL OTHER SOUTHERN PERMITS

Helium & Hydrogen Potential

EP-494 HAS CONFIRMED POTENTIAL FOR HELIUM AND NATURAL HYDROGEN



- On 28 May 2026, the WA government implemented new regulations to allow petroleum permit holders to include regulated substances into existing licenses, including helium and natural hydrogen
- MNE intends to apply for both helium and hydrogen to be added to its permits
- Soil gas samples taken from EP-494 in 2022 identified elevated helium and hydrogen readings indicating strong potential for both gases in the permit
- MNE's primary focus will remain on oil and gas potential but helium (and possibly hydrogen) will be considered as a secondary target
- Global demand for helium forecast to increase by 83% by 2035 ¹
- A global helium shortage due to declining production worldwide and reduced capacity due to damaged infrastructure resulting from the Middle East conflict is driving long term helium prices in excess of US\$500/Mcf with recent spot prices exceeding US\$1,000/Mcf²

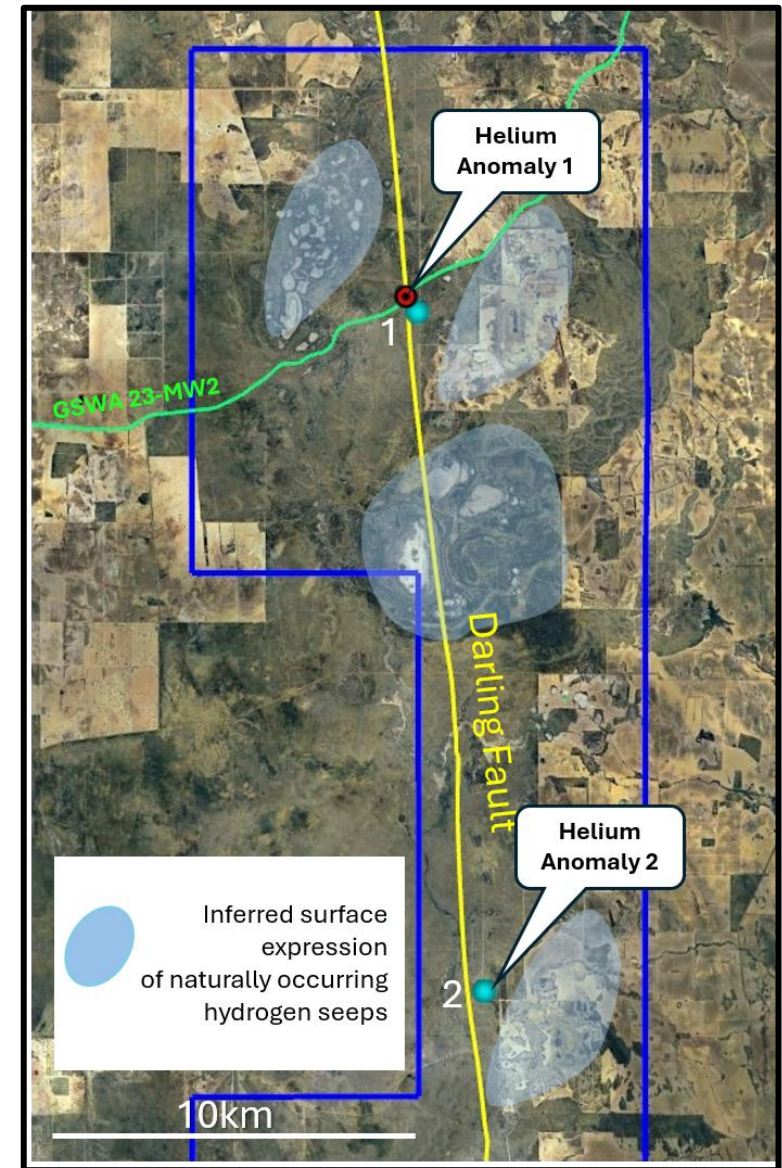
Sources:

1. IDTechEx Report [Helium for Semiconductors and Beyond 2025-2035: Market, Trends, and Forecasts](#)
2. Gas Ecosphere Report: [Northeast Asia Helium Spot Surges 21.5% to \\$152.7/MC on Qatar Force Majeure](#)

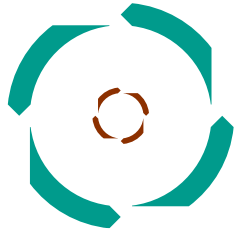
Helium Potential in EP-494

EP-494 POSITIONED DIRECTLY ABOVE A POTENTIAL CONDUIT FOR HYDROGEN & HELIUM

- Northern area has surface expressions commonly associated with natural hydrogen seeps
- A sub-soil gas sampling survey was conducted in 2022 by researchers from Curtin University. The peer-reviewed paper reports:
 - Two samples were collected in Isotubes® and analysed in a laboratory with both samples reporting **anomalous helium concentrations** up to 1,600 times natural background levels
 - Location 1 sits on a regional seismic line (GS23-MW2) which clearly shows the helium anomaly positioned directly above the Darling Fault zone which is interpreted to act as a conduit for gases
 - Field samples measured with a handheld gas detector showed **elevated hydrogen readings** at multiple sites
 - **Source:** [Vidavskiy, V. et. al. \(2024\). Natural Hydrogen in the Northern Perth Basin, WA Australia: Geospatial Analysis and Detection in Soil Gas for Early Exploration. *Journal of Energy and Natural Resources* \(Volume 13, Issue 2\)](#)
- MNE will assess the helium and hydrogen potential in EP-494 in conjunction with ongoing geological and geophysical studies for hydrocarbons



- Macallum New Energy continues to create value by developing a diverse portfolio with multiple targets in different play types
- EP-494 is a highly prospective permit with numerous oil & gas prospects and leads
- The underexplored permit and southern part of the Perth Basin provides the opportunity for TCF-scale discoveries
- Near-term activity in neighbouring permits to provide valuable data to further de-risk EP-494
- Aberfeldy Prospect is a significant oil & gas target. Prospective resource size is under evaluation and will be announced in Q3 2026
- Interpretation of Barberton 3D and Condor 2D seismic surveys to enable further prospectivity updates in second half of 2026
- Potential for naturally occurring hydrogen and helium in the permit
- Hydrogen and helium rights to be included in permit subject to regulatory approval



macallum
new energy

ASX:MNE

Exploring the Perth Basin to meet the energy needs of Western Australia

Registered Office:

11 Moreau Mews
Applecross WA 6153

Tel:

Email:

Web:

08 6245 9867

Enquiry@MacNewEnergy.com.au

www.macnewenergy.com.au