

## Vintage applies petroleum systems expertise and AI to unlock critical minerals in Northern Gawler Basin

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Vintage Energy Ltd (ASX: VEN) has taken the opportunity to leverage its knowledge of petroleum basin systems and Cooper Basin brines to target critical energy minerals in South Australia's Arckaringa Basin region of the Northern Gawler Craton.

The company has been advised it is to be offered two new exploration licence areas (EL's 7122 and 7123) in the northern Gawler Craton in the Ackaringa Basin South Australia following an innovative and successful submission to competitive tender. Vintage had identified the two tenement offerings, as prospective and priority targets for lithium, uranium and sedimentary copper.

Vintage's successful submission was premised on application of the "source-migration-trap" model, a cornerstone of oil and gas exploration, now being adapted to mineral systems. By combining this framework with AI-driven analysis, the company aims to rapidly identify zones where metals have been mobilised, transported and concentrated into potentially economic deposits.

This initiative represents a natural extension of Vintage's strategy and expertise to diversify across the broader energy sector, targeting minerals critical to electrification, battery storage and future energy security.

Managing Director, Neil Gibbins, said: "This is a step-change in how we can adapt our expertise to the search for critical energy minerals. We are taking the proven principles of petroleum systems analysis and combining them with AI to better predict where critical minerals may be concentrated."

"Our competitive advantage lies in understanding fluid flow in the subsurface. By applying that knowledge beyond hydrocarbons, we are opening new opportunities in commodities essential to the global energy transition, while diversifying Vintage as an energy-focused company."

The award of the EL's carries a modest work commitment estimated to total approximately \$200,000 across the two tenements during the initial two years.

Vintage's technical work highlights a compelling geological setting. Fertile basement rocks of the Gawler Range Volcanics and Hiltaba Suite granites provide a rich source of lithium, uranium and associated elements, while extensive historical petroleum data confirms the presence of basin-scale fluid pathways capable of transporting these metals into structural traps.

Artificial intelligence and machine learning will play key roles in integrating seismic data, drilling results, structural interpretation and groundwater geochemistry into predictive 3D models. This approach is designed to map fluid flow pathways, identify redox boundaries and prioritise the most prospective targets - particularly for roll-front uranium and lithium-bearing brine systems - before drilling.

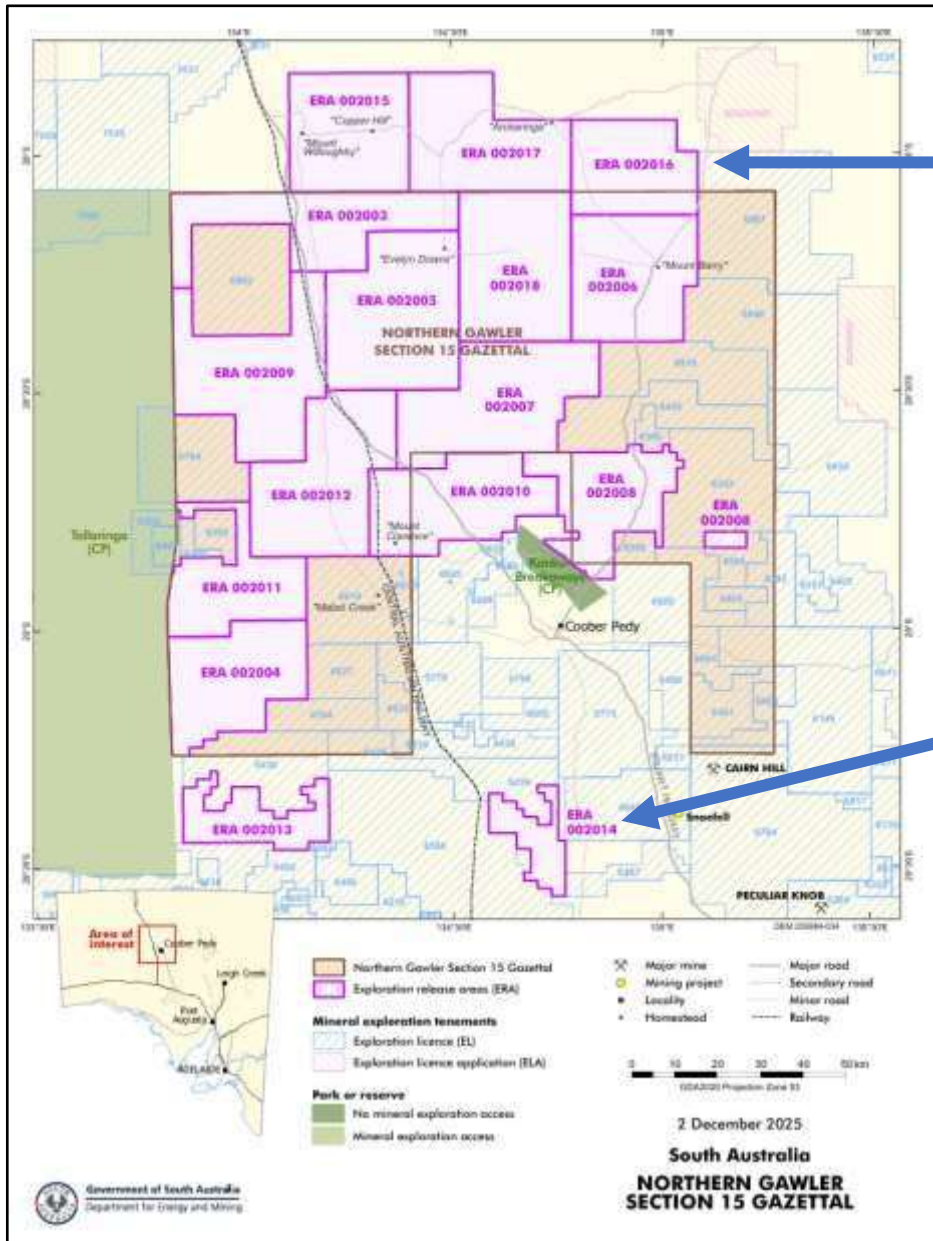
EL 7123 (formerly ERA 002016) is considered highly prospective for lithium-rich brines and uranium, including both unconformity-style and roll-front deposits, supported by evidence of deep-sourced fluid migration and favourable basin architecture. EL 7122 (formerly ERA 002014) presents additional upside for lithium brines and sedimentary copper, where structural complexity may enable fluid trapping and concentration.

This release has been authorised by the board of Vintage Energy Ltd.

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# Location map

## EL offerings to Vintage Energy April 2026



ERA 002016  
offered as  
EL 7123

ERA 002014  
offered as  
EL 7122

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