

## CONSTELLATION COLLABORATES WITH CSIRO ON NATURAL HYDROGEN RESEARCH AND EXPLORATION

Constellation Resources Limited (the "Company" or "Constellation") is pleased to announce that it has signed a research agreement with CSIRO for the exploration for natural hydrogen in Western Australia.

### HIGHLIGHTS

#### CSIRO Research Agreement

- Constellation and CSIRO to advance prospectivity studies for natural hydrogen and helium, with a focus on the Company's two basin scale Edmund Collier and Yerrida Projects, which cover 56,000km<sup>2</sup> in Western Australia. Part funded by CSIRO's Kick-Start Program, an initiative that provides funding and support for innovative Australian start-ups and small/medium enterprises to access CSIRO's research expertise and capabilities to help grow and develop their businesses.
- Initial activities will focus on CSIRO research scientists evaluating the multiple available datasets (satellite imagery, remote sensing and various geophysics techniques) which could identify the presence of gas seepages at surface within the Company's Natural Hydrogen Projects.
- Study results will assist in optimising the Company's planned soil gas sampling programs, which are anticipated to commence in early 2025, subject to completion of land access clearances.
- Once all available data and soil gas sampling results have been assessed, CSIRO will construct a prospectivity model that will map the areas of interest for natural hydrogen and helium for each basin and would help determine the logical next steps for the Natural Hydrogen Projects.

CSIRO is leading research into the understanding of natural hydrogen systems and are driving innovations for geological hydrogen exploration and commercialisation pathways, through its Natural Hydrogen Roadmap, which has a primary objective to provide a blueprint for the development of a hydrogen industry in Australia. With a number of activities already underway, the roadmap is designed to help inform the next series of investment amongst various stakeholder groups (e.g. industry, government and research) so that the industry can continue to scale in a coordinated manner.

#### EIS Drilling Grant – Fraser Range, Western Australia

The Company has also recently been awarded a grant by the State Government under the Exploration Incentive Scheme ("EIS") to drill prospective targets at the Company's Orpheus Project in the Fraser Range.

- The grant will co-fund an aircore drill program at the Transline Project ("Transline") within the Orpheus Project. The drill program which has commenced and is anticipated to be completed mid-December, will test promising nickel, copper and gold targets at Transline which have been identified by the use of Ultrafine soil sampling techniques (Figure 4).

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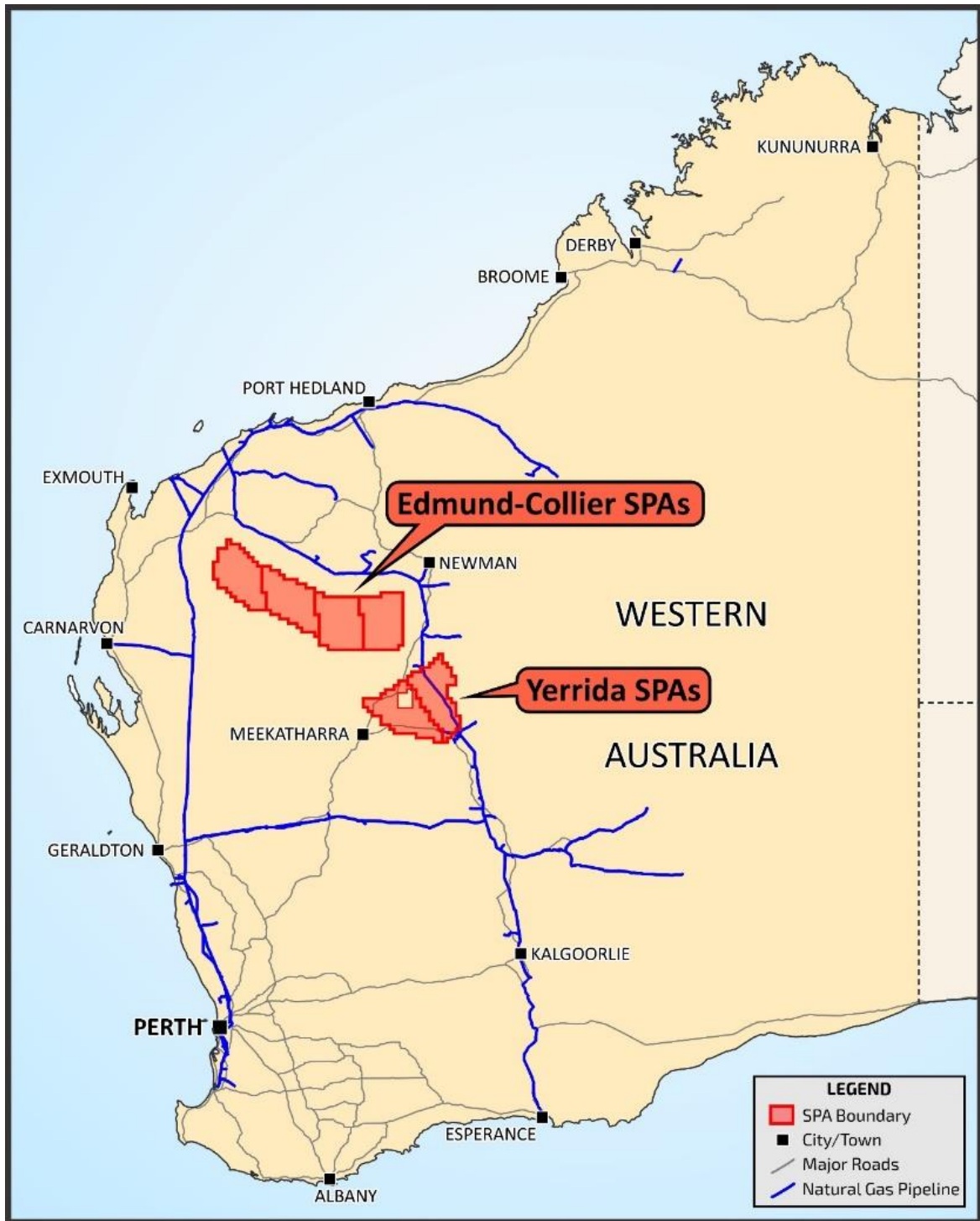
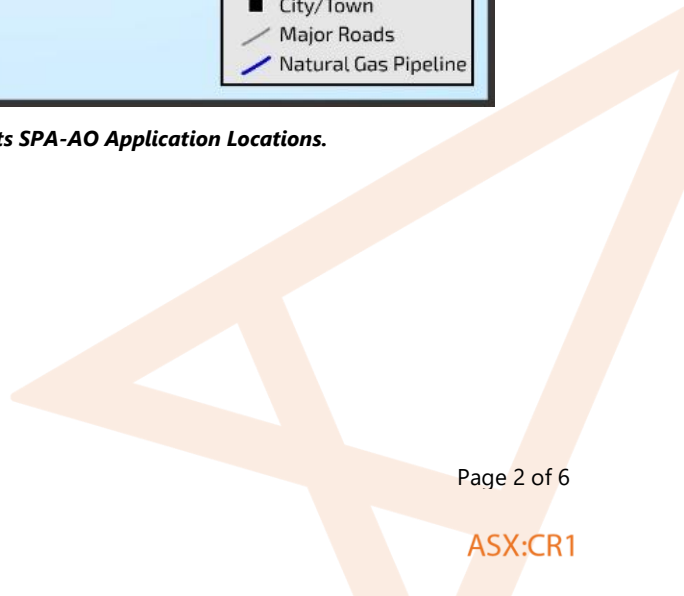


Figure 1: Edmund-Collier and Yerrida Basin Projects SPA-AO Application Locations.

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## KICK START RESEARCH PROJECT – CSIRO

The Company has signed a research agreement with the CSIRO to collaborate on the exploration for natural hydrogen in Western Australia. The Company's technical team will assist and co-fund the CSIRO in relation to prospectivity studies for natural hydrogen and helium, with a focus on the Company's two basin scale Edmund Collier and Yerrida Projects. CSIRO is leading research into the understanding of natural hydrogen systems and are driving innovations for geological hydrogen exploration and commercialisation pathways.

Initial research by CSIRO has identified that the opportunity for hydrogen to compete favourably on a cost basis in local applications such as transport and remote area power systems is within reach based on potential cost reductions in the coming years. Further, the development of a hydrogen export industry represents a significant opportunity for Australia and a potential 'game changer' for the local industry and the broader energy sector due to associated increases in scale.

The Kick-Start Program will consist of two modules that are planned to run throughout 2025. Working collaboratively with Constellation, the funding for the year-long project is to be split with a \$95,000 contribution by the Company and a \$50,000 contribution by CSIRO. Initial activities will focus on CSIRO research scientists evaluating the multiple available datasets (satellite imagery, remote sensing and various geophysics techniques) which could identify the presence of gas seepages at surface within the Company's Natural Hydrogen Projects. Any indications of gas seepage that can be identified either via gas soil sampling programs or the CSIRO research would be extremely beneficial to underpin the prospectivity of the area - and potentially a new gas field.

### Module 1 – Prospectivity study building and soil-gas sampling targeting

The desktop study aims at identifying potential seeps and migration pathways with a multi-geophysical approach including review of the existing geological, magnetic, gravimetry and electromagnetic datasets. This stage includes:

- Collection and filtering of relevant geophysical, geological, historic seismicity and near surface ground water from existing publication and open file data (Figure 2);
- Data review;
- Construction of an ArcGIS database that can be updated with new data; and
- Optimisation of targets for soil-gas sampling.

### Module 2 – Testing of the prospectivity model and generation of prospectivity maps

Module 1 data will be built into an ArcGIS prospectivity project along with the new remote sensing imaging outcomes to evaluate the quality of each element of the hydrogen and/or helium system(s) and to test different hypothesis on the hydrogen and helium systems such as the influence of different sources on the prospectivity.

The research project will also benefit from the large amount of Proterozoic outcrop that exists in both of the Company's Natural Hydrogen Projects. Within the Edmund Collier Basin, numerous antiformal structures have been mapped from regional surveys by the Geological Survey of Western Australia ("GSWA"). These mapped fold closures are also recognisable from aerial and/or satellite imagery. Many of the Edmund Collier Basin antiformal structures have a longitudinal axis that can be mapped over tens of kilometres and in separate repeated positions along the entire basin which spans 300kms (Figure 3).

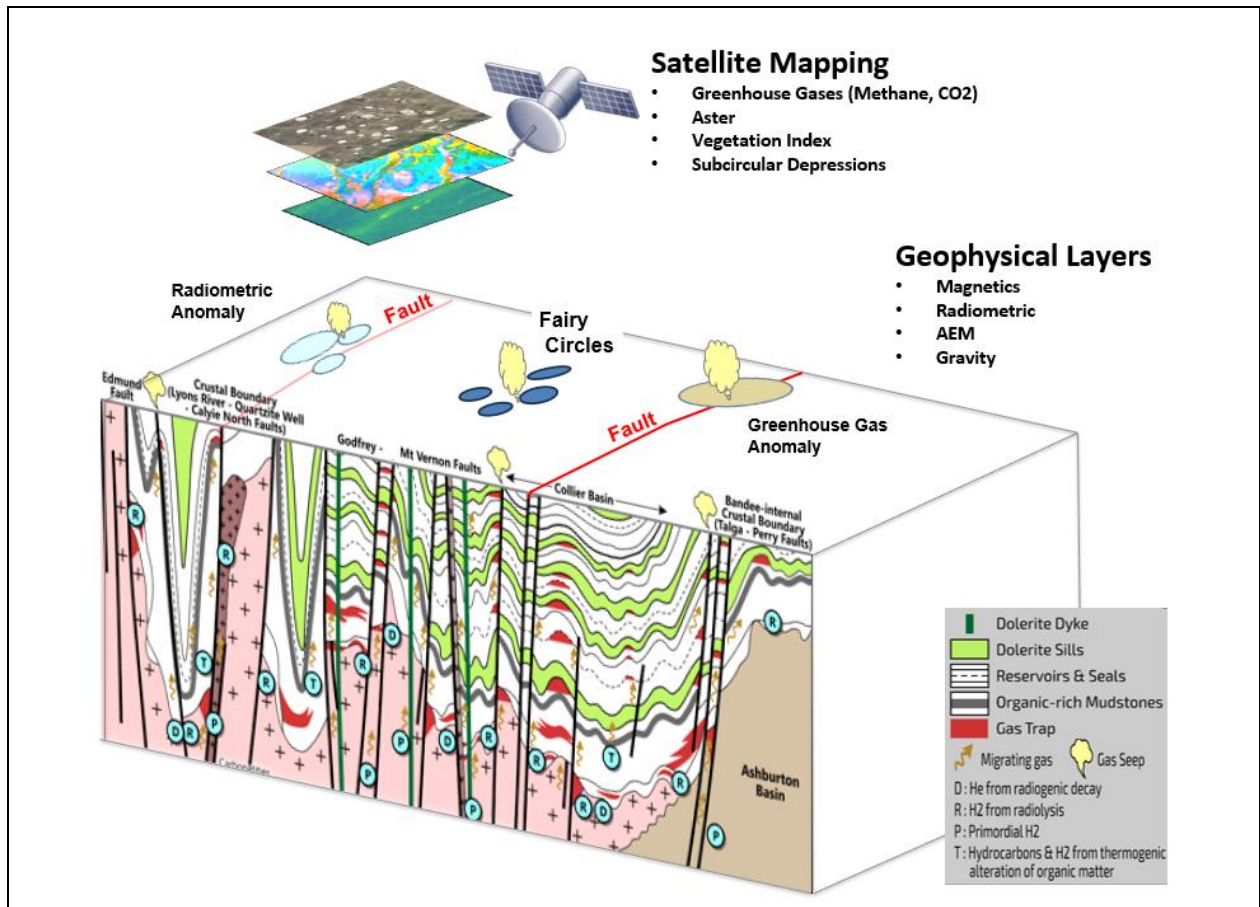


Figure 2: Edmund-Collier Basin Conceptual Hydrogen System and Research project workflow.

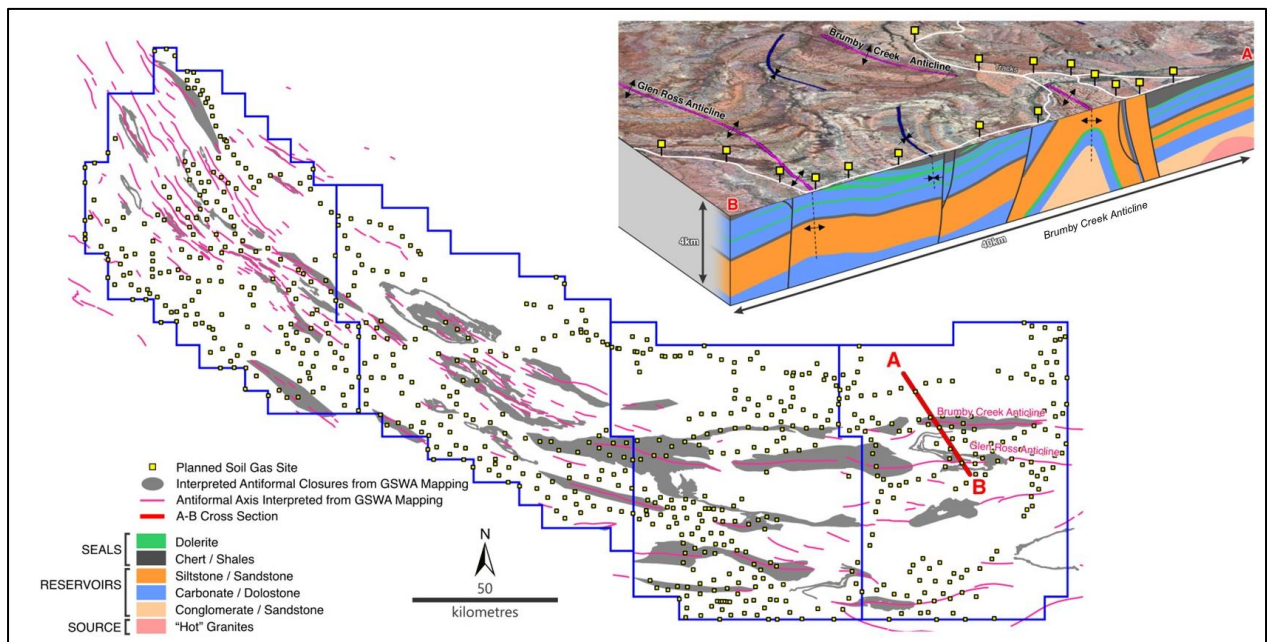


Figure 3: Edmund-Collier Project - Note the numerous large scale antiformal closures that were mapped by the GSWA (Cross Section Interpretation sourced from 1: 100 000 GSWA Tanagdee Geological Series Map) - mapping Information sourced from open file datasets and public reports.

**Orpheus Project - Fraser Range**

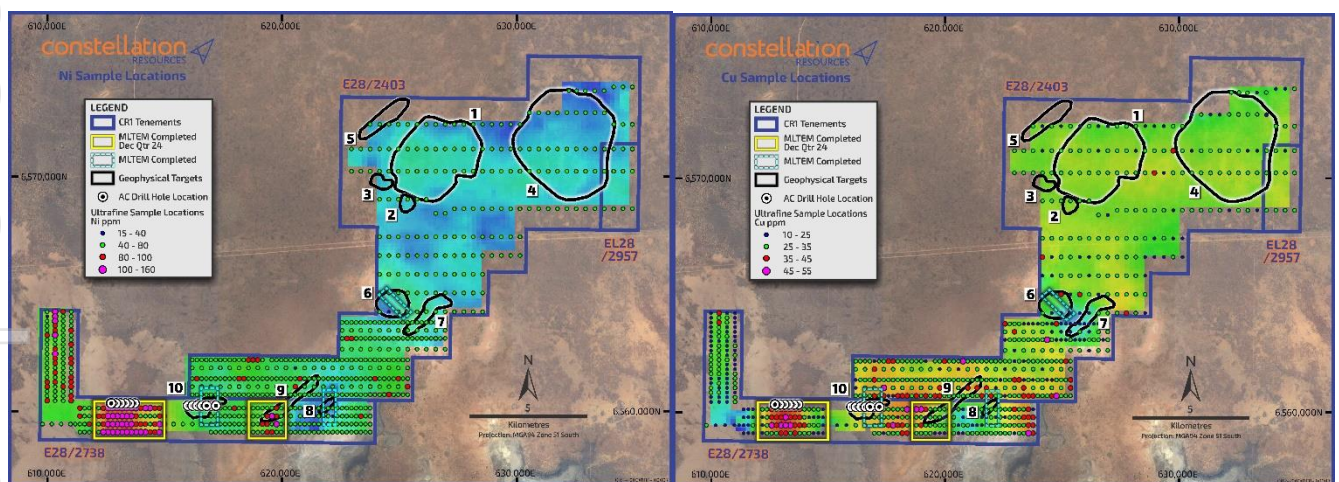
The Company previously carried out follow up programs to progress the positive results returned from ultrafine soil sampling programs completed within the Transline (“Transline”) tenement portfolio of the wider Orpheus Project in the Fraser Range of Western Australia. The Transline tenements include E28/2738, E28/2957 (100% Constellation) and E28/2403 (70% Constellation, 30% Enterprise Metals Limited (ASX: ENT)).

The results of the ultrafine program identified promising areas of elevated coincident nickel, copper and gold soil anomalism, along with other pathfinder elements, cobalt, silver, tellurium, selenium and chromite in the Eucla Basin cover sequence. The Eucla Basin thickness is interpreted to be 60-100m over the Proterozoic Basement units, based on a previous passive seismic survey undertaken by the Company.

The Company had previously interpreted priority Geophysical Targets south of the Transline from completed gravity and aeromagnetic surveys that could represent Proterozoic mafic intrusions that are concealed beneath the Eucla Basin cover sequence. Mafic intrusions in the Fraser Range are the key host unit for nickel sulphides deposits as displayed at the IGO Nova nickel mine.

The Company has also recently been awarded a grant by the Western Australia State Government under the Exploration Incentive Scheme (“EIS”) to co-fund an aircore drill program at the Transline. The drill program will test the promising nickel, copper and gold targets at Transline which have been identified by the use of Ultrafine soil sampling techniques noted above.

The fifteen hole drill program has commenced and is anticipated to be completed by mid December (Figure 4). The drillholes are all located within E28/2738 which is 100% owned by the Company.



**Figure 4a and 4b: Ultrafine soil sampling nickel (Ni) and copper (Cu) points with magnetics base image, MLTEM and proposed drill hole locations.**

## COMPETENT PERSONS STATEMENT

The information in this report that relates to Exploration Results is extracted from the following ASX announcements:

- "Ultrafine Soil Sample Results at Transline" – dated 26 October 2023; and
- "Transline Ultrafine Soil Sampling Survey Results" – dated 27 July 2023.

These announcements are available to view at the Company's website on [www.constellationresources.com.au](http://www.constellationresources.com.au). The information in the original ASX Announcements that related to Exploration Results was based on, and fairly represents information compiled by Peter Muccilli, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Muccilli is a Technical Director of Constellation Resources Limited and a holder of shares and options in Constellation Resources Limited. Mr Muccilli has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). The Company confirms that it is not aware of any information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## FORWARD LOOKING STATEMENTS

Statements regarding plans with respect to Constellation's projects are forward-looking statements. There can be no assurance that the Company's plans for development of its projects will proceed as currently expected. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of the Company, which could cause actual results to differ materially from such statements. The Company makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.

*This ASX Announcement has been approved in accordance with the Company's published continuous disclosure policy and authorised for release by the Company's Managing Director, Peter Woodman.*

## REFERENCES

<https://www.csiro.au/en/research/environmental-impacts/fuels/hydrogen/hydrogen-roadmap>