

28 March 2022

Critical Minerals Discovery Opportunity driving Exploration Strategy at the Avondale Project, NSW

HIGHLIGHTS

- 20+ priority exploration targets identified with potential for discovery of high-value critical minerals such as nickel, cobalt, scandium, and platinum group elements (PGE's)
- Major exploration program underway comprising aircore drilling at the Melrose, Currajong, and Kara Kara prospects, an external prospectivity review, and expanded use of surface and downhole geochemistry
- All exploration activities fully funded by Rimfire's exploration partner – Golden Plains Resources

Rimfire Pacific Mining's (**ASX: RIM**, "Rimfire" or the "Company") advises that the opportunity to discover high value critical minerals (e.g., nickel, cobalt, scandium, and platinum group elements – PGE's) is driving the exploration strategy at its Avondale Project, which is located within the highly prospective Lachlan Orogen of central New South Wales - *Figure 1*).

At Avondale, the Company has identified 20+ priority exploration targets within a 40-kilometre-long belt of underexplored intermediate volcanoclastics, sediments and ultramafic intrusive units that lie within a geologically significant regional – scale structure called the "Steeton Ultramafic Suture Zone (SUSZ)".

The exploration targets are prospective for the discovery of nickel, cobalt, scandium, and platinum group elements (PGE's) associated with ultramafic host rocks, and range variously from untested magnetic anomalies (interpreted to represent previously unrecognised ultramafic occurrences) to confirmed ultramafic occurrences with historic drill intercepts (i.e., Melrose, Currajong, and Kara prospects - *Figure 2*).

The discovery potential of the SUSZ is further enhanced by recent drill results obtained at the Sunrise East prospect which lies next to Rimfire's Melrose prospect within the central portion of the SUSZ (*Figure 2*).



At Sunrise East, diamond drilling by Sunrise Energy Metals Limited (**ASX: SRL**) returned 5.8m @ 1,120 ppm cobalt from 7 metres with encouraging grades of nickel, scandium, and platinum in the oxide zone in SDD029.

The drill hole also intersected a thick interval of strong silica-carbonate-fuchsite-pyrite alteration on the contact of the intrusive and sedimentary country rocks. Base metal sulphides and pyrite were observed throughout this interval and the zone has characteristics typically associated with a carbonate-base metal-gold system. At the time of writing this announcement, Sunrise was awaiting assays for below the oxide zone ([SRL ASX Announcement: 20 January 2022 - Exploration Update](#)).

An opportunity exists for Rimfire to discover high-value critical minerals within the Avondale Project Area around known prospects, and within untested magnetic anomalies that may prove to be previously unrecognised ultramafic occurrences.

The emphasis of past discovery work on the Avondale Project Area has been on near surface oxide discoveries with minimal deep drilling of prospective units below 50 metres (*Figures 3 and 4*), a lack of systematic full suite assaying for all critical minerals (many key elements such as full suite of PGE's never analysed), with minimal soil cover leading to many targets not being field checked, reinforces this opportunity for the Company.

Rimfire has initiated a major exploration program to assess these identified exploration targets.

In addition to aircore drill programs currently underway at the more developed targets - Melrose, Currajong, and Kara Kara prospects ([RIM ASX Announcement: 7 February 2022 - Drilling Update - Platinum, Cobalt, Gold and Copper](#)), Rimfire has also commissioned RSC Global Limited, an international geological consulting firm to undertake a prospectivity review of the broader Lachlan Orogen for base metal sulphides in ultramafic rock types.

Rimfire is also expanding its use of surface and downhole multi-element geochemistry, as well as investigating the application of electromagnetic (EM) geophysical techniques to assist in its future exploration efforts.

In addition to the work on the Avondale Project, Rimfire is also testing the Platina Lead and Transit prospects which lie on the adjacent Fifield Project ([RIM ASX Announcement 17 February 2022 - Drilling Update - Platinum, Cobalt, Gold and Copper](#)).

All exploration work at the Avondale Project is fully funded by Rimfire's exploration partner - Golden Plains Resources (GPR) who recently confirmed their ongoing financial support with another \$1.5M committed to discovery work over the next 12 months ([RIM ASX Announcement: 14 March 2022 - Rimfire's Exploration Partner Commits to Year 2 of Avondale Earn-in](#)).

Management Comment

Commenting on the announcement, Rimfire's Executive Director Mr David Hutton said the recognition of the new exploration opportunity at Avondale was an exciting development for the Company and its shareholders.

"With multiple priority targets, ongoing work programs and a supportive exploration partner, Rimfire is well positioned to take advantage of this critical minerals discovery opportunity. Initial assay results from current drill programs are expected in the coming weeks and the Company and looks forward to updating the market as the new information comes to hand".

Critical Minerals

The Australian and United States Governments identify critical minerals as metals, non-metals and minerals that are considered vital for the economic well-being of the world's major and emerging economies, yet whose supply may be at risk due to geological scarcity, geopolitical issues, trade policy or other factors.

The critical minerals include Antimony, Beryllium, Bismuth, Chromium, Cobalt, Graphite, Lithium, Magnesium, Manganese, Nickel Niobium, Platinum Group Elements, Rare Earth Elements, Rhenium, Scandium, Titanium/Zirconium, Tungsten, Vanadium and Zirconium

The Platinum Group Elements (PGE's) comprise iridium, osmium, palladium, platinum, rhodium, and ruthenium.

Critical minerals are required for the manufacture of solar PV plants, wind farms, electric vehicles, and battery storage. Additionally advanced manufacturing, defence, renewable energy, and medical devices has increased demand for critical minerals as building blocks for new products. For further information, refer to the Australian Government's Australian Critical Minerals Prospectus 2021, ([December 2021: Australian Critical Minerals Prospectus](#)).

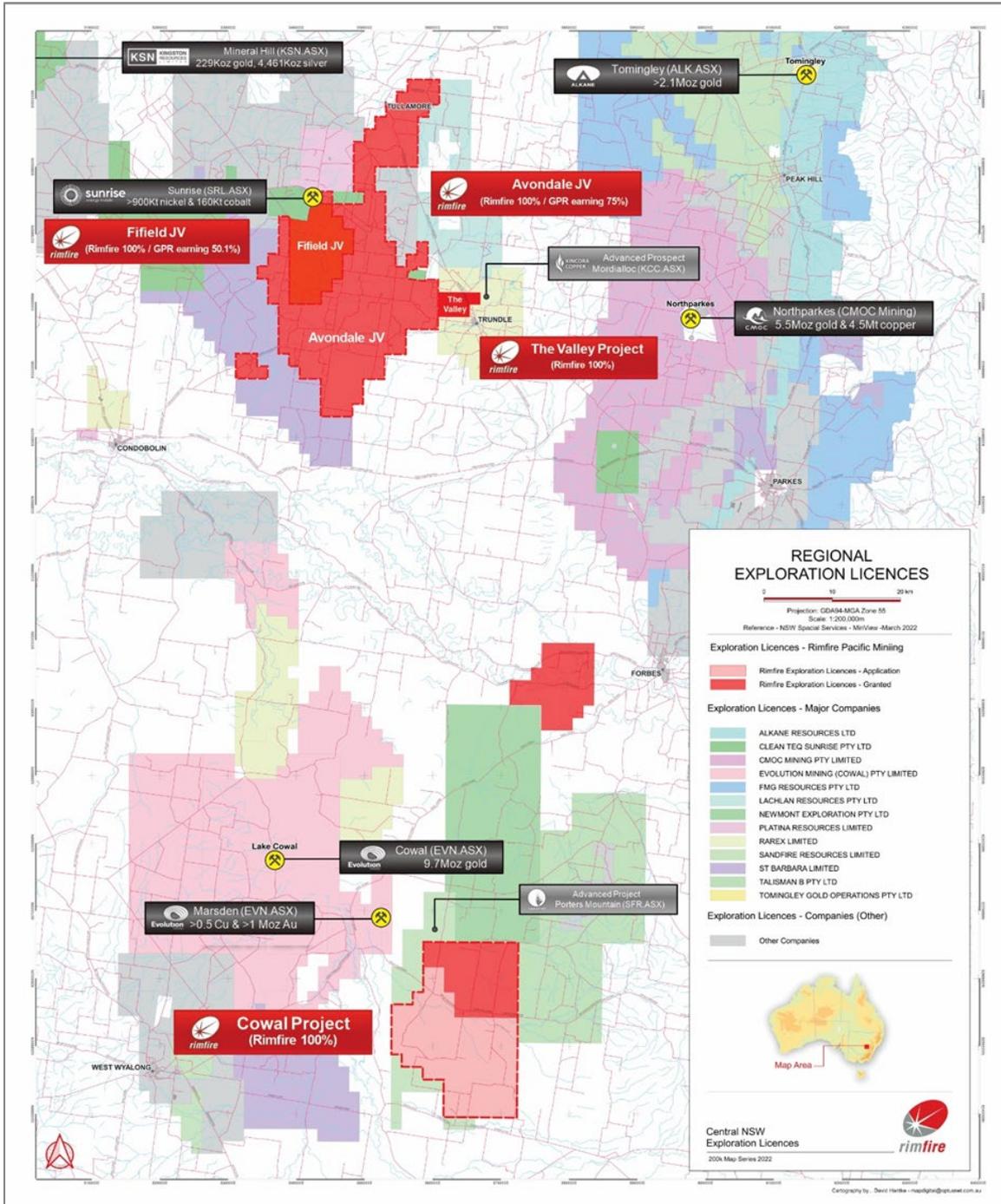


Figure 1: Rimfire Project Locations showing competitors' granted tenure, active mines, and key prospects

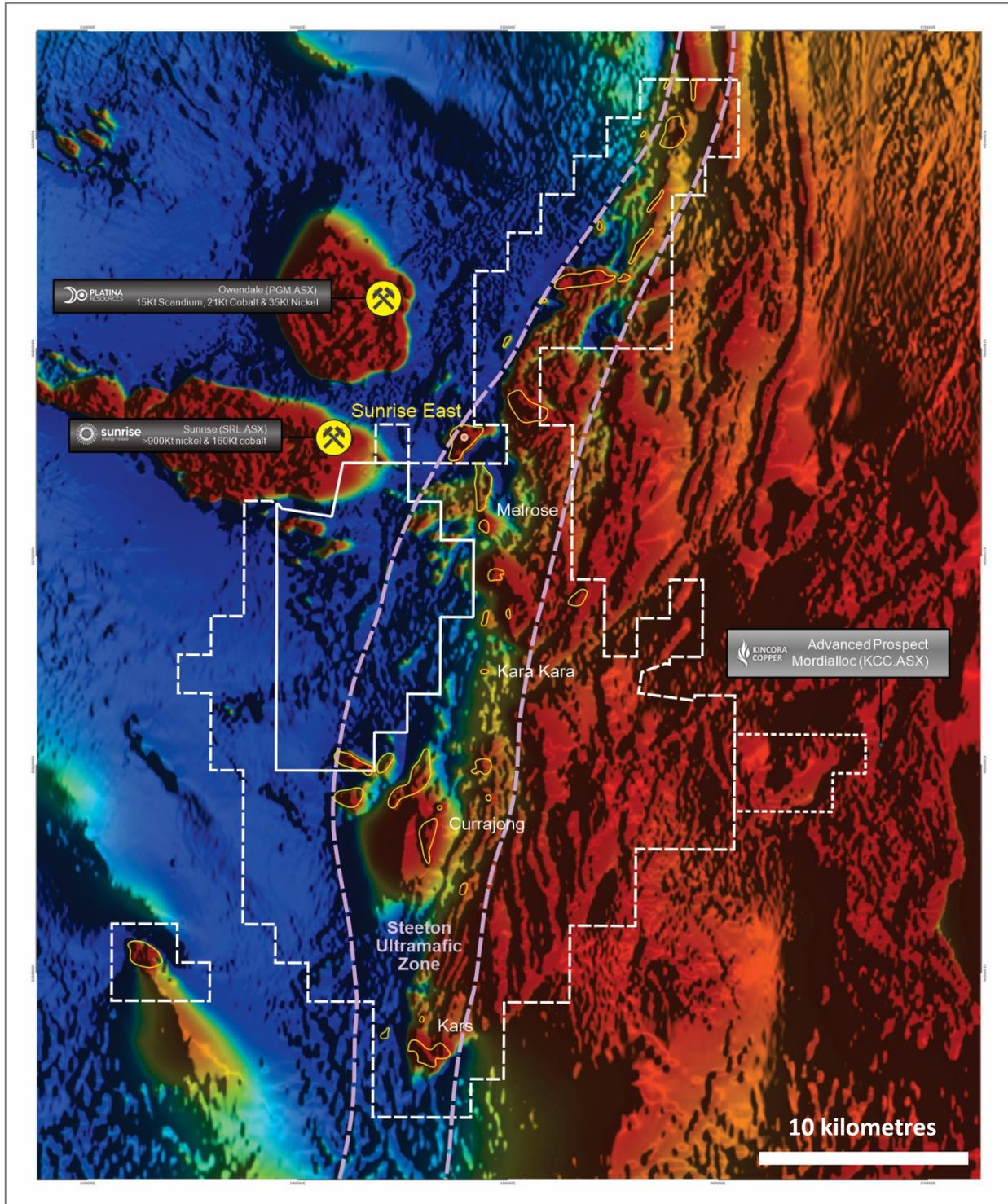


Figure 2: Rimfire's Avondale and Fifield Projects on RTP TMI background image showing Steeton Ultramafic Suture Zone, and critical minerals targets (yellow polygons).

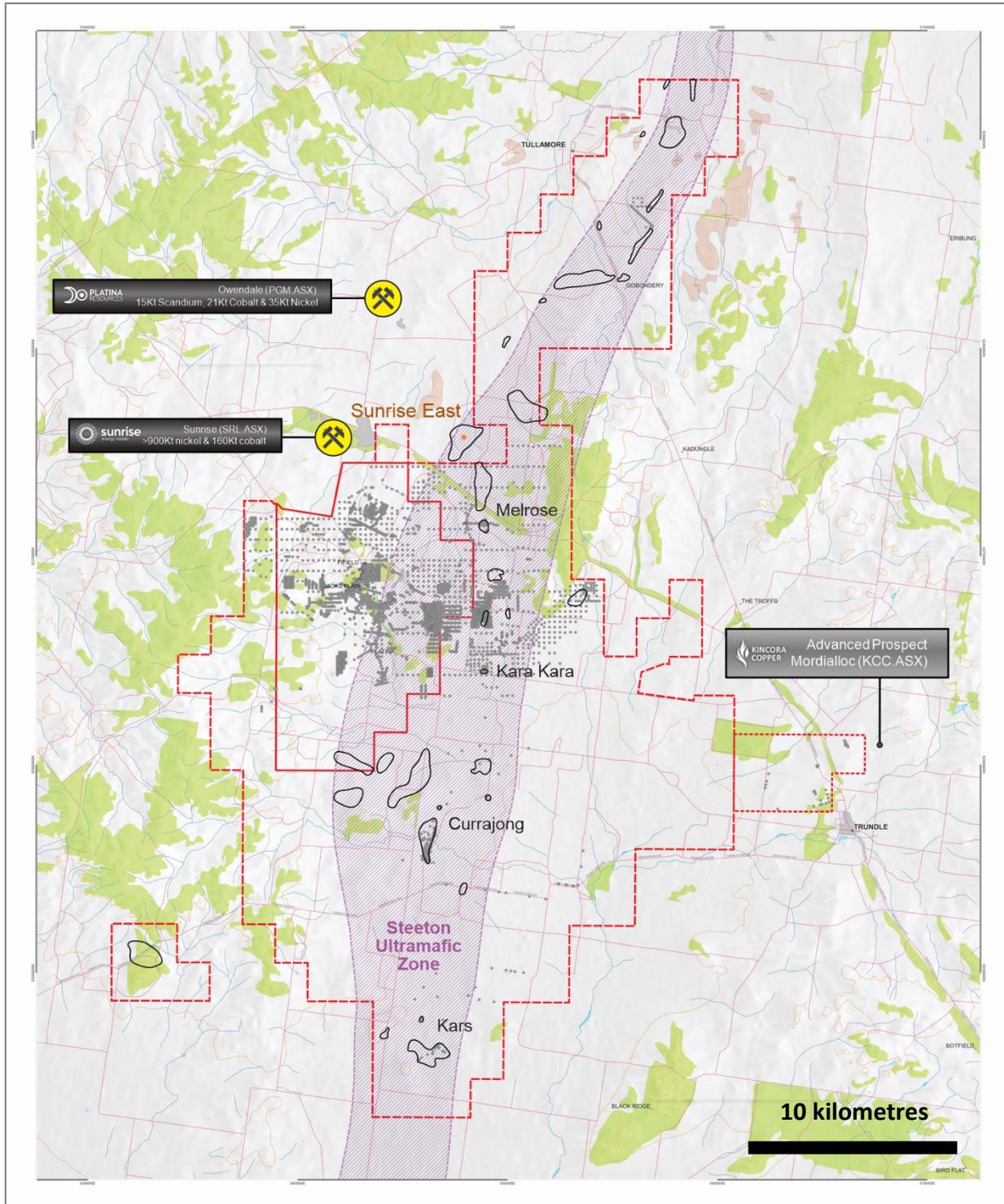


Figure 3: Steeton Ultramafic Suture Zone (SUSZ) showing targets (black polygons) and all drill holes (black dots) on a topography background image.

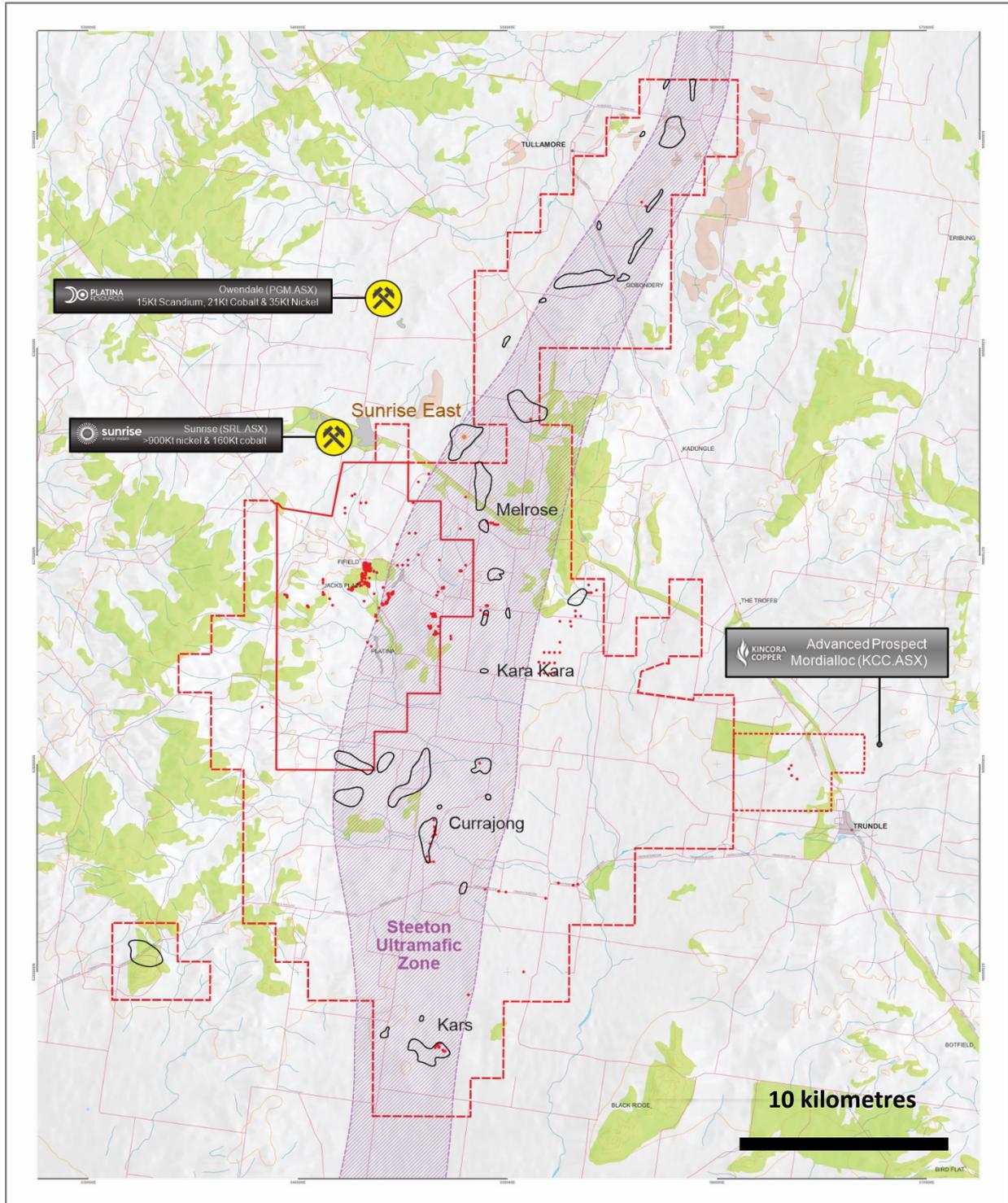


Figure 4: Steeton Ultramafic Suture Zone (SUSZ) showing targets (black polygons) and all drill holes greater than 50m metres depth (red dots) on a topography background image.

This announcement is authorised for release to the market by the Board of Directors of Rimfire Pacific Mining Limited.

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About Rimfire

Rimfire Pacific Mining Ltd (ASX: RIM) is an ASX-listed exploration company focused on projects in the Lachlan Fold Belt in central NSW and Broken Hill NSW. The company has a track record of successful exploration and asset monetisation through partnership agreements.

Rimfire currently has four projects in the Lachlan Fold Belt:

1. The Valley – Porphyry Copper / Gold (RIM 100%)
 - ✓ Located 5km west of Kincora Copper / RareX's Mordialloc porphyry copper-gold target.
 - ✓ Reverse Circulation and Aircore drilling planned to test near surface IP targets and interpreted Ordovician basement rocks that are potentially similar to the host rocks at Northparkes, Cadia and Cowal deposits
2. Cowal Project - Copper / Gold (RIM 100%).
 - ✓ Located to the east of Evolution's Lake Cowal Copper / Gold mine
 - ✓ Little exploration has occurred on these tenements and prospective for Copper / Gold
3. Fifield Project - Gold / PGE's (GPR earning up to 50.1%, RIM free carried for development)
 - ✓ Maiden JORC 2012 resource of 125Koz gold + 7.9Moz silver.
 - ✓ Recent drilling at the Transit Prospect returned 55m @ 0.94g/t gold with the final 1m intersection increasing to 9.98g/t gold.
4. Avondale Project – Cobalt, PGE's and Gold (GPR earning up to 75%)
 - ✓ Currajong and KARS prospects located in the southern area of the project area and prospective for Cobalt and PGE's respectively.

Rimfire's exploration partner at Fifield - Golden Plains Resources (GPR) can earn a 50.1% interest in the Fifield Project Earn-in ([ASX Announcement: 4 May 2020 - Rimfire enters into \\$4.5m Earn-in Agreement](#)) and up to a 75% interest in the Avondale Project Earn-in ([ASX Announcement: 25 June 2021 - RIM Secures \\$7.5m Avondale Farm Out](#)). If these earn-ins are completed to maximum Joint Venture stage, Rimfire will still hold a significant equity position of 49.9% and 25.0% respectively in the Joint Ventures.

Rimfire also has a key project located at Broken Hill:

1. Green View – Cobalt, RIM 100%
 - ✓ Located 15km from Broken Hill
 - ✓ Covers the interpreted along strike extension to Cobalt Blue Holdings' Railway Cobalt Deposit.

Competent Persons Declaration

The information in the report to which this statement is attached that relates to Exploration and Resource Results is based on information reviewed and/or compiled by David Hutton who is deemed to be a Competent Person and is a Fellow of The Australasian Institute of Mining and Metallurgy.

Mr Hutton has over 30 years' experience in the mineral and mining industry. Mr Hutton is employed by Rimfire Pacific Mining (RIM) and is an employee of the Company. David Hutton has sufficient experience that is relevant to the style of mineralisation and type of deposits 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'. David Hutton consents to the inclusion of the matters based on the information in the form and context in which it appears.

Forward looking statements Disclaimer

This document contains "forward looking statements" as defined or implied in common law and within the meaning of the Corporations Law. Such forward looking statements may include, without limitation, (1) estimates of future capital expenditure; (2) estimates of future cash costs; (3) statements regarding future exploration results and goals.

Where the Company or any of its officers or Directors or representatives expresses an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and the Company or its officers or Directors or representatives as the case may be, believe to have a reasonable basis for implying such an expectation or belief.

However, forward looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward looking statements. Such risks include, but are not limited to, commodity price fluctuation, currency fluctuation, political and operational risks, governmental regulations and judicial outcomes, financial markets and availability of key personnel. The Company does not undertake any obligation to publicly release revisions to any "forward looking statement",