

27th April 2022

Quarterly Activities Report

For the Quarter ended 31 March 2022

HIGHLIGHTS

- 20+ priority exploration targets identified on the Avondale Project with potential for discovery of high-value critical minerals such as nickel, cobalt, scandium, and platinum group elements (PGE's)
- Wide spaced aircore drilling at the Melrose prospect has returned strongly anomalous results which remain open along strike and to the west, including.
 - 9m @ 0.17% Ni, 0.10% Co, and 362ppm Sc from 3 metres,
 - 12m @ 0.23% Ni, 0.11% Co, and 314ppm Sc from 9 metres,
 - 18m @ 0.10% Ni, 0.04% Co, and 286ppm Sc from 3 metres.
- Drilling programs targeting critical minerals also carried out at Currajong and Kara Kara, prospects.
- Active work programs continuing on the Fifield Project at Platina Lead and Transit
- All activities at Avondale and Fifield fully funded by Rimfire's exploration partner – Golden Plain Resources Pty Ltd (GPR).

Introduction

Rimfire Pacific Mining (ASX: RIM or the "Company") is an ASX-listed Critical Minerals and Porphyry copper / gold focused exploration company which is advancing a number of projects in the highly prospective Lachlan Orogen and Broken Hill districts of New South Wales.

During the March 2022 Quarter (the "Quarter"), Rimfire announced strongly anomalous nickel, cobalt, and scandium drill results from the Melrose prospect (Avondale Project) which reinforced the Company's new critical minerals exploration strategy.

Drilling was also undertaken at the Currajong and Kara Kara prospects (Avondale Project) and the Transit gold prospect which lies on the adjacent Fifield Project. Also, at Fifield testing of bulk samples from the Platina Lead to determine the nature and potential abundance of alluvial gold and platinum group minerals also commenced.

Exploration activities at Avondale and Fifield are fully funded by Rimfire's exploration partner Golden Plains Resources Pty Ltd (GPR) who during the Quarter committed to funding the second year of the Avondale Project and the third year of the Fifield Project activities.



Operations

Avondale Project (Critical Minerals including Nickel, Cobalt, Scandium)

Key Prospects: Melrose, Currajong, Kara Kara, KARS

Shallow drilling at the Melrose prospect (see *Figure 1*) has returned strongly anomalous levels of nickel, cobalt, and scandium from multiple drill holes. Sixteen vertical aircore holes (FI2163 to FI2178 - 484 metres) were drilled every 50 to 100 metres on three 100 metre – spaced traverses to further test a “bullseye” magnetic anomaly at Melrose that previous reconnaissance drilling by Rimfire (in 2018 – FI0835 to FI0886) had shown to be coincident with an ultramafic rock unit (see *Figures 2 and 3*).

The latest drilling successfully intersected the laterised / weathered ultramafic intrusive unit which is fault - bounded against a granite to east and volcanoclastic sediments to the west (see *Figure 4*). Geochemical analysis of 3 metre composite drill samples returned strongly anomalous nickel (Ni), cobalt (Co) and scandium (Sc) from a flat lying ferruginous zone that is developed over the ultramafic unit and remains open along strike and to the west (below are highlighted results, full results included in [ASX Announcement: 4 April 2022 - Strong nickel, cobalt, scandium drill results reinforce critical minerals exploration strategy](#)).

- FI2163 – 12m @ 0.23% Ni, **0.11% Co**, and **314ppm Sc** from 9 metres,
- FI2164 – 9m @ 0.50% Ni, 0.02% Co, and **209ppm Sc** from 6 metres,
- FI2174 – 12m @ 0.32% Ni, **0.12% Co**, and **221ppm Sc** from 3 metres,
- FI2175 – 3m @ 0.24% Ni, 0.07% Co, and **220ppm Sc** from surface,
- FI2176 – 9m @ 0.17% Ni, **0.10% Co**, and **362ppm Sc** from 3 metres,
- FI2177 – 21m @ 0.38% Ni, 0.08% Co, and 45ppm Sc from surface, and
- FI2178 – 18m @ 0.10% Ni, 0.04% Co, and **286ppm Sc** from 3 metres.

The results from Rimfire’s drilling at Melrose compare favorably to (with scandium grades exceeding) recent drill results announced by Sunrise Energy Metals Limited (**ASX: SRL**) at their nearby Sunrise East prospect. (i.e., diamond drillhole SDD029 intersected 5.8m @ 0.31% Ni, 0.11% Co and 174 ppm Sc from 7 metres within a lateritised (weathered) ultramafic (see *Figure 5*). ([SRL ASX Announcement: 20 January 2022 - Exploration Update](#)).

Based on the strength of the results, Rimfire will be drilling further aircore holes at Melrose to define the lateral extents of the anomalous zone as well undertaking deeper drilling (i.e., Reverse Circulation and / or diamond drilling) to test for primary (sulphide) mineralisation within the underlying host rocks. Rimfire will also re-analyse a number of the aircore samples for Platinum Group Elements (PGE’s) given that anomalous levels of PGE’s were also noted in drillhole SDD029 at Sunrise East.

Melrose is one of 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)" ([ASX Announcement: 28 March 2022 - Critical Minerals Discovery Opportunity driving Exploration Strategy at the Avondale Project, NSW](#)).

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, Kara, Kara and Kars prospects - *Figure 2*).

During the Quarter 62 aircore holes (1,689 metres) were drilled at the Currajong Prospect and 666 drill samples have been submitted to ALS Orange for multi- element analysis with results expected in the coming weeks.

At the Kara Kara Prospect 59 holes of a 100 – hole aircore program have been drilled to date with the remaining holes being completed at time of writing, following which all drill samples will be submitted for analysis. In addition, the Company will be shortly commencing geological mapping and soil sampling over the remaining exploration targets.

Fifield Project (Gold / Platinum)

Key Prospects: Sorpresa, Transit, Platina Lead

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](#)).

Testing of bulk samples (of potentially mineralised material) from the Platina Lead in December 2021 to determine the nature and potential abundance of alluvial gold and platinum group minerals is currently being undertaken by specialist metallurgical consultants with results expected over the coming months.

At the Transit gold prospect 6 Reverse Circulation holes (984 metres) and 77 aircore holes (2,610 metres) have been completed, with 4 more Reverse Circulation holes (circa 600m) being planned for May to enable evaluation of the Prospect.

Valley Project (Copper / Gold)

Key Prospects: Valley

During the Quarter Rimfire received a grant of \$185,675 through the competitive, peer reviewed Department of Regional NSW - New Frontiers Cooperative Drilling Grant program. The funds will be applied to a drill program to test a high priority porphyry copper-gold target later in the year.

Broken Hill Project (Critical Minerals including Cobalt)

Key Prospects: Railway Extension

Rimfire's Broken Hill Project lies immediately along strike in the same geological setting as Cobalt Blue's (COB.ASX) Railway deposit which contains over 40,000t of Cobalt and is an integral part of the Cobalt Blue's Broken Hill Cobalt Project ([Cobalt Blue Holdings \(ASX:COB\) - Broken Hill Cobalt Project](#)).

During the Quarter the Company completed a desktop study of available information for its tenure at Broken Hill and conducted a site visit to initiate landholder access negotiations and secure technical consultants to enable commencement of exploration activities.

Cowal Project (Gold / Copper)

During the Quarter the Company expanded the size of its New South Wales tenement portfolio following the successful application for a new Exploration Licence (ELA 6426) which abuts the southern boundary of the Company's 100% – owned Cowal Copper - Gold Project and surrounding acreage held by Sandfire Resources Limited and Newmont Exploration Pty Ltd (Figure 1) ([ASX Announcement: 7 March 2022 - Rimfire expands its tenement portfolio in Lachlan Fold Belt, NSW](#)).

Rimfire has commenced a detailed technical review of the Cowal Project to determine next steps and looks forward to updating the market as new information becomes available.

Importance of 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](#)).

Health, Safety, Environment and Community

Health and Safety

There were no Health or Safety related incidents on the Company's tenements during the last Quarter. The Total Year to Date performance for Minor Injuries, Medical Treatment Injuries and Lost Time Injuries remains zero.

The company continues to monitor NSW Government COVID directives and modify site safety management plans as appropriate.

Environment

The Company continues to collaborate with local landowners to ensure its field activities have minimal impact on farming activities and rehabilitation is completed to a high standard.

Community

There have been no significant community events during the past Quarter.

CORPORATE ACTIVITY

Cash, Capital Structure, Funding, Facilities, and Investments

At 31 March 2022, Rimfire had access to \$0.72M of funding, with \$0.45M held directly in Rimfire's account and \$0.27M held in the Earn-in accounts for funding the Fifield and Avondale project activity.

In addition, Rimfire's exploration partner, GPR (who sole funds the Fifield and Avondale Earn-in Projects) committed to the third year of the Fifield Project Earn-in with the payment of the \$0.3M Administration Fee directly to Rimfire's account, subsequent to the end of the Quarter. The payment is in addition to the \$0.45M Rimfire account balance at the end of March 2022.

During March and April 2022, GPR committed to an additional \$3.0M of exploration expenditure (which includes the \$0.3M Administration Fee already received) with commitment to proceed to Year 3 of the Fifield Earn-in Project and Year 2 of the Avondale Earn-in Project ([ASX Announcement: 11 April 2022 - Rimfire's exploration partner commits to Year 3 of the Fifield Earn-in Project, NSW](#) and [ASX Announcement: 14 March 2022 - Rimfire's exploration partner commits to Year 2 of the Avondale Earn-in Project, NSW](#))

During the Quarter 40M unlisted options were issued to senior employees under the company's shareholder approved Employee Share Scheme, expiring at various dates ([ASX Announcement: 11 March 2022 - Notification regarding unquoted securities - RIM](#)).

Related party transactions of \$139K (section 6.1 and 6.2 of the March 2022 Quarter Appendix 5B) are payments for salary (including statutory superannuation / STI) to Craig Riley (MD and CEO) and Non-Executive and Executive Director fees for the March 2022 Quarter.

The continuing strength of commodity prices and increased focus on Critical Minerals by National Governments to secure future supply, has generated increased focus on exploration companies that hold ground positions in highly prospective areas such as the Lachlan Fold Belt and Broken Hill in NSW. As previously advised to the market the Company will continue to evaluate opportunities that may support the growth and funding activity of the Company.

Management Team Update

During the Quarter Rimfire's MD and CEO, Mr Craig Riley resigned from the Company to pursue new opportunities. Craig will be assisting the Company in the transition to new Leadership and will depart on 29 April 2022 or such earlier date as mutually agreed.

During this transition period Craig will also be assisted by Non-Executive Director Mr David Hutton who in the interim will take on a part time executive role. This arrangement will enable a seamless transition for the technical team and ensure that the drilling and exploration programs remain on schedule.

Tenement Position

Apart from the application for a new Exploration Licence (ELA 6426) in the Lachlan Fold Belt, there have been no other change to existing holdings.

Appendix A - Rimfire Exploration Licenses

Below is a listing of the exploration licenses held by Rimfire Pacific Mining NL as at 31 March 2022.

Project	Lic No.	Units	RIM Int.	Interest Aquired During Qtr (units)	Interest Reduced During Qtr (units)
The Valley	EL8542	5	100%	-	-
	EL8401	2	100%	-	-
Cowal	EL8804	42	100%	-	-
	EL8805	39	100%	-	-
	ELA6426****	91	100%	100%	-
Fifield**	EL8935	21	100%	-	-
	M(C)L305	1.9ha	100%	-	-
	EL6241	15	100%	-	-
Avondale***	EL5565	4	100%	-	-
	EL7058	35	100%	-	-
	EL7959	7	100%	-	-
	EL8401	98	100%	-	-
	EL8542	27	100%	-	-
	EL8543	1	100%	-	-
	EL8935	19	100%	-	-
Green View	EL5958	25	100%	-	-
Windy Ridge	EL 5958*	2	10%	-	-

*Peritija manage the Windy Ridge JV, RIM free carried for 10%

**Subject to Fifield Project Earn-in entered into during the June 2020 Quarter, however no interest in tenements to be ceded until earn-in conditions met in full

***Subject to Avondale Project Earn-in entered into during the June 2021 Quarter, however no interest in tenements to be ceded until earn-in conditions met in full

**** ELA6426, currently an application, yet to be granted

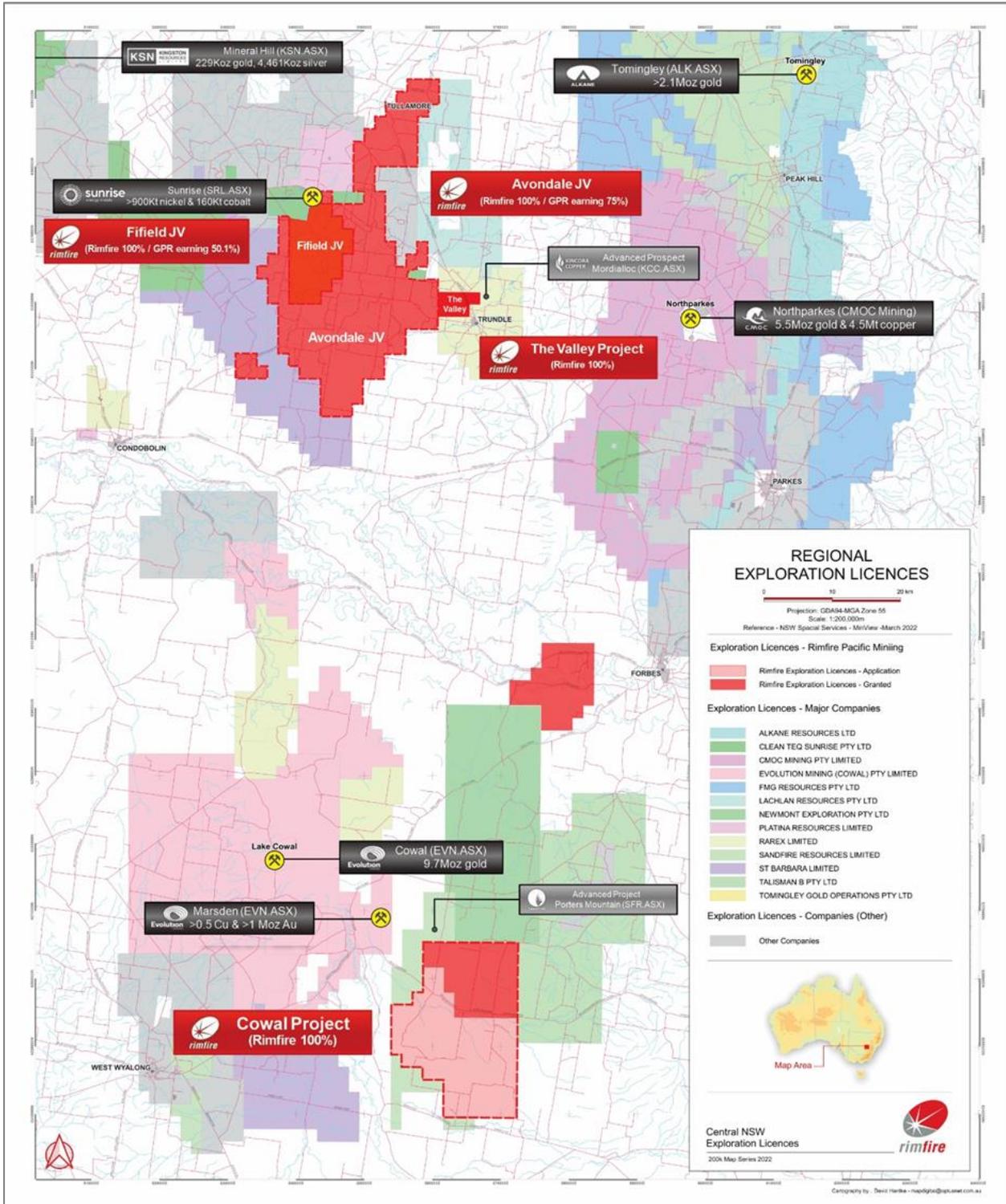


Figure 1: Rimfire Project Locations showing competitors' granted tenure, active mines, and key prospects



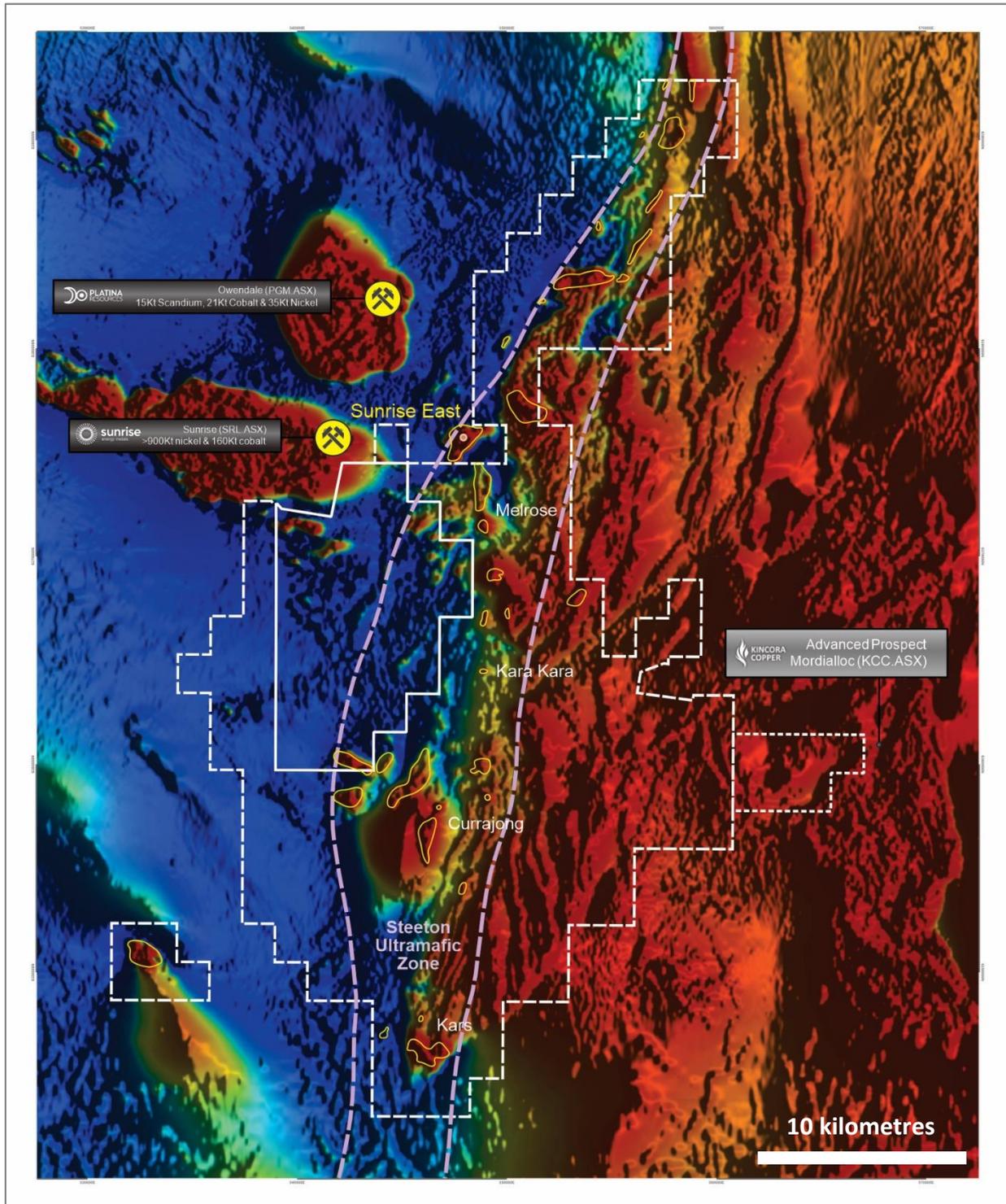


Figure 2: Rimfire's Avondale and Fifield Projects on RTP TMI background image showing Steeton Ultramafic Suture Zone, and critical minerals targets (yellow polygons). Melrose and Sunrise East locations shown.

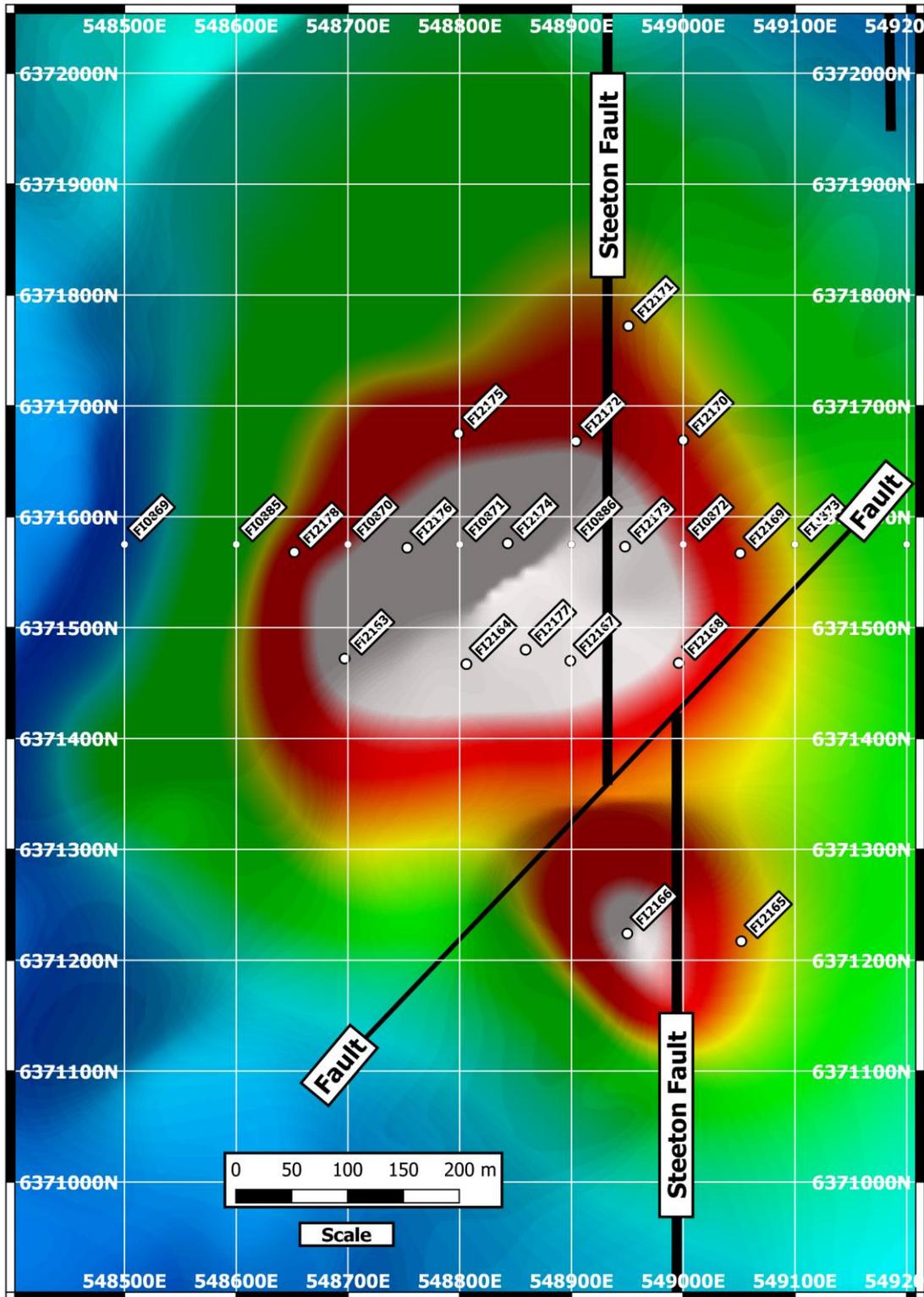


Figure 3: Melrose magnetic anomaly showing Rimfire aircore drill hole collar positions on a RTP TMI background image.

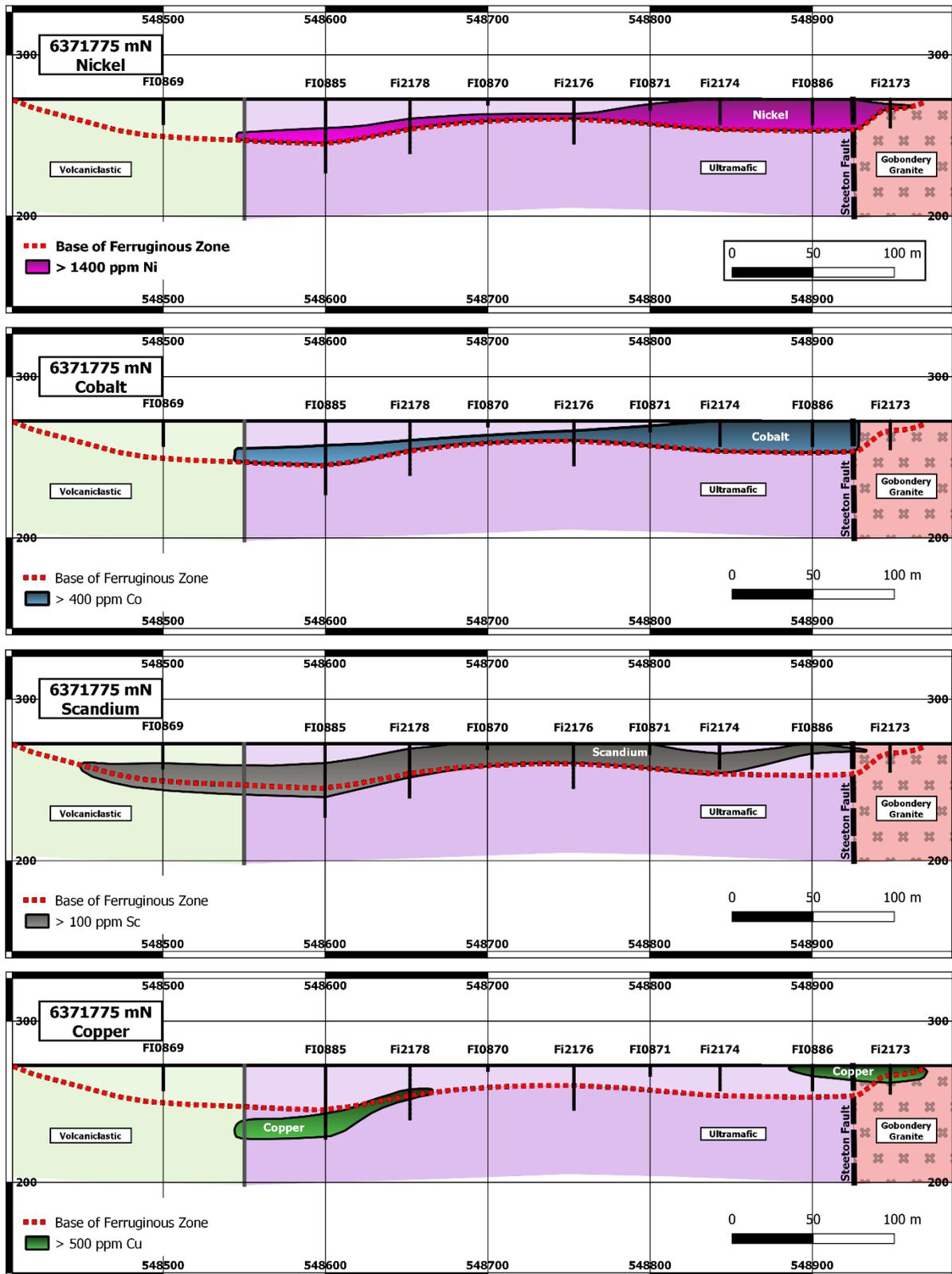


Figure 4: Stacked profile sections (looking north) of the 6,371,775N traverse showing geology, nickel, cobalt, scandium, copper anomalous zones, and base of ferruginous zone.

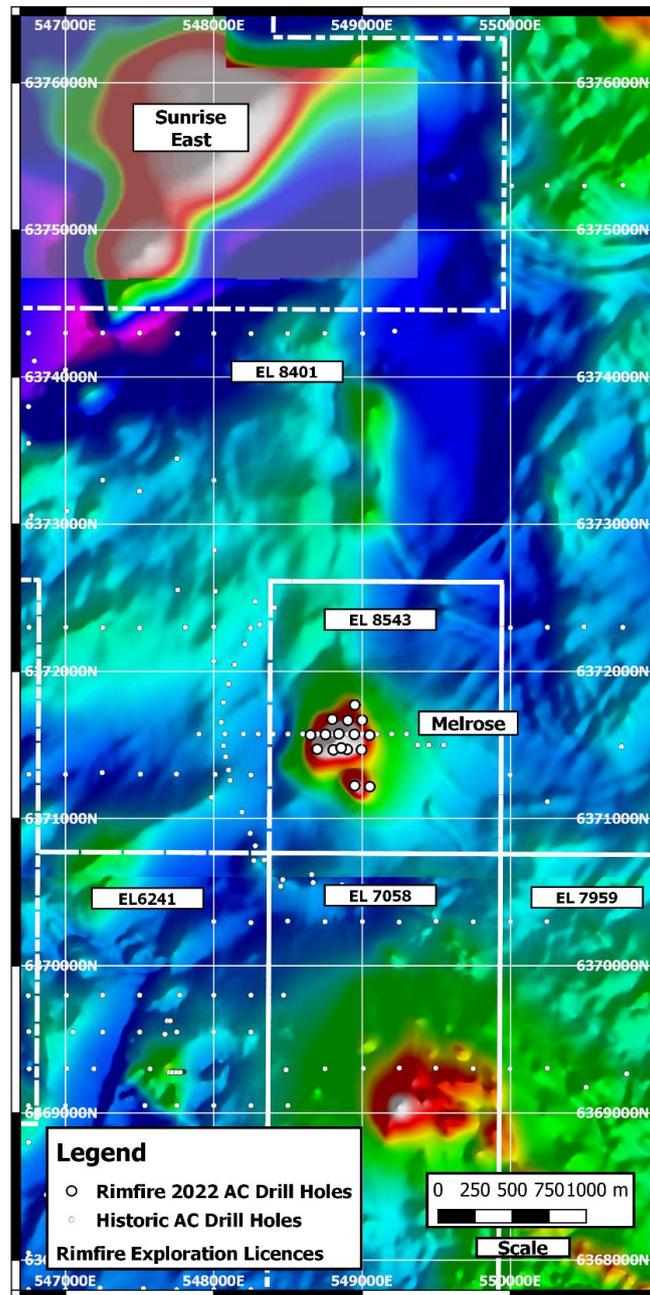


Figure 5: Regional magnetic image showing location of Melrose and Sunrise Energy Metals' Sunrise East prospect.

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

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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”.