

4,000 metre Scandium drill program underway at Murga prospect

Highlights

- 4,000m aircore program to determine extent and continuity of scandium mineralisation across 20km² Murga Intrusive Complex
- Previous reconnaissance drilling by Rimfire returned multiple intercepts at Murga including;
 - 27m @ 188ppm Sc from surface *including 12m @ 224ppm Sc*
 - 18m @ 164ppm Sc from surface *including 6m @ 208ppm Sc*
- pXRF scanning of historic rock chip and drill chip samples underway to build a pipeline of additional scandium targets within 50km target corridor
- JORC Resource drilling at Melrose to follow Murga drilling
- All activities fully funded by Rimfire's exploration partner - GPR

Rimfire Pacific Mining (ASX: RIM, "Rimfire" or "the Company") is pleased to advise that it has commenced a 4,000 metre aircore drilling program at the Murga Scandium Prospect which is located on the Company's Fifield Project approximately 70 kilometres northwest of Parkes within the highly prospective Lachlan Orogen of central NSW (*Figures 1 and 2*).

Commenting on the announcement, Rimfire's Managing Director Mr David Hutton said: *"Rimfire is focused on exploring for critical minerals that are associated with global decarbonisation strategies.*

Globally, western governments and advanced manufacturers are looking to secure long term supplies of critical minerals such as scandium from stable political jurisdictions, at quantities many times the current annual global production. Rimfire believes that our Fifield and Avondale Projects offer significant opportunities for these groups both in terms of deposit size and grade.

2024 is shaping up as a pivotal year for Rimfire and its shareholders with multiple programs across a range of critical minerals commencing with aggressive scandium – focussed drilling programs at Murga and Melrose".

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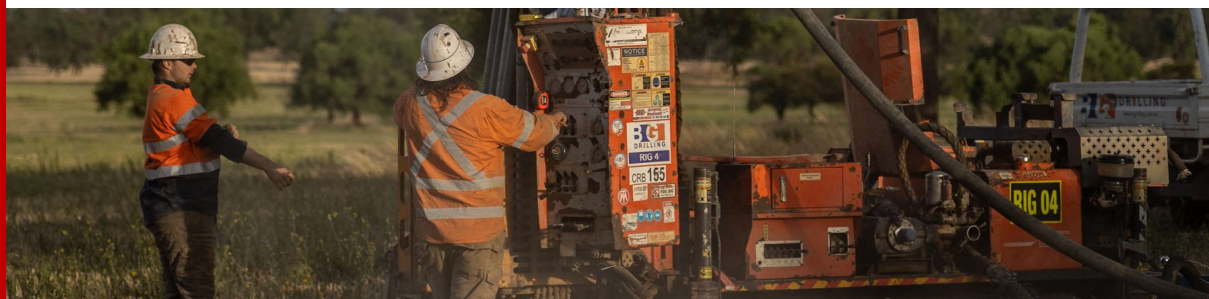
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Murga Drilling details

4,000 metres of aircore drilling will be undertaken at Murga to determine the extent and continuity of scandium mineralisation.

The new drilling program follows reconnaissance aircore drilling undertaken last year by Rimfire which successfully intersected strongly anomalous scandium in multiple drillholes (*Refer to Rimfire ASX Announcement dated 3 October 2023*);

- 3m @ 132ppm Sc from 3 metres in FI2425
- 18m @ 164ppm Sc from surface in FI2426 *including 6m @ 208ppm Sc from 3 metres*
- 15m @ 125ppm Sc from 3 metres in FI2427
- 3m @ 101ppm Sc from 15 metres in FI2428
- 6m @ 131ppm Sc from 15 metres in FI2429
- 6m @ 106ppm Sc from 3 metres in FI2430
- 27m @ 188ppm Sc from surface in FI2434 *including 12m @ 224ppm Sc from 3 metres, and*
- 6m @ 173ppm Sc from 3 metres in FI2435

At Murga scandium occurs within a strongly weathered horizon overlying magnetic ultramafic (pyroxenite) intrusive rocks of the Ordovician-age **Murga Intrusive Complex** interpreted to be part of a large scale arcuate shaped mafic – ultramafic intrusive complex that has a surface area of approximately 20km² (*Figure 3*).

There is little or no nickel and / or cobalt anomalism associated with the scandium, which is curious given that other scandium occurrences within the area (i.e., Rimfire's Melrose prospect and Sunrise Energy Metals' adjacent Sunrise nickel cobalt scandium deposit) are all associated with elevated levels of nickel and cobalt (*see Rimfire's ASX Announcement dated 19 September 2022*).

Murga remains largely unexplored for scandium, with most of the previous exploration in the area focussed on testing for gold and platinum mineralisation centred on the Sorpresa Gold Deposit which lies on the eastern margin of the Murga Intrusive Complex.

Shallow auger geochemical sampling undertaken by Rimfire and its then exploration partner - NewGold in 2017 on nominal 500 x 250 metre centres over most of Murga, defined multiple scandium auger geochemical anomalies (defined by a + 50ppm Sc contour), some of which were subject to the 2023 Rimfire reconnaissance aircore drilling.

As shown on *Figures 3 and 4*, the FI2426 to FI2429 intercepts drilled by Rimfire in 2023 (i.e., 18m @ 164ppm Sc from surface in FI2426 *including 6m @ 208ppm Sc*) lie within a 1,000-metre x 300-metre east west striking auger anomaly that overlies a linear magnetic feature within the northern portion of the Murga Intrusive Complex ("**Murga North**").

As part of the current program, aircore holes on 100 x 100 metre centres will be drilled to test Murga North with aircore holes on 400 x 400 metre centres to be drilled over the remainder of the Murga Intrusive Complex.

Building a pipeline of scandium targets

Regionally Murga is one of several critical minerals prospects (i.e. Melrose, Currajong, Forrest View, and Kars) that lie within a +50-kilometre-long belt of volcanoclastics, sediments and mafic - ultramafic intrusive units that form a geologically significant large – scale structure called the “Fifield Ultramafic Zone” (*Figure 2*).

The majority of the Fifield Ultramafic Zone has not been explored for scandium despite regional magnetic data suggesting that potentially scandium-prospective host rocks occur in multiple locations along the structure.

To assist in building a pipeline of additional scandium targets which will underpin scandium exploration in the longer term, Rimfire has also commenced pXRF scanning of historic rock chip and drill chip samples from within the Fifield Ultramafic Zone. Historic samples that are relatively anomalous in scandium will then be submitted to a commercial laboratory for analysis and confirmation.

Scandium Market Significance

The recent purchase of the Owendale Scandium Project (which lies 10 kilometres north of Murga and Melrose) by a wholly owned subsidiary of Rio Tinto Ltd for up to \$US14M highlights growing market interest in Australian scandium projects (see *Platina Resources’ ASX Announcement dated 28 April 2023*).

Renamed the “Burra Project” the acquisition aligns with Rio Tinto’s strategic goal to grow in materials essential for the low-carbon transition and as the demand for cleaner, lighter, and more durable materials continues to rise, Rio expect the use of scandium to continue to grow along with this demand (<https://www.riotinto.com/en/news/releases/2023/rio-tinto-acquires-high-grade-scandium-project-in-australia>).

The Owendale acquisition also follows the establishment of a dedicated Rio Tinto scandium business unit called Element 21 North (<https://www.elementnorth21.com>).

The location of Rio Tinto’s Burra Project in relation to Rimfire’s Fifield and Avondale Projects is shown in *Figure 2*.

The global demand for Scandium is increasing with its usage as one of the primary materials in Hydrogen electrolysis solid oxide fuel cell technology as well as being used in the manufacture of high-strength aluminium alloys.

Scandium is included in both Australia's 2023 Critical Minerals List and the United States Geological Survey's (USGS) 2022 List of 50 mineral commodities critical to the economy and national security of both countries. (<https://www.industry.gov.au/publications/australias-critical-minerals-list> and <https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals>).

Incorporation of scandium in materials has environmental benefits across multiple industrial sectors, particularly in decarbonisation of energy. One pathway to mitigate greenhouse gas emissions is to generate electricity using hydrogen or synthetic liquid fuels, which are more efficient than combustion engines. This application currently represents the single largest use for scandium (<https://straitsresearch.com/report/scandium-market>).

A competing demand for scandium (that is increasing) is its usage in the manufacture of high-strength aluminium alloys. When applied as an addition to aluminium alloys, scandium can produce stronger, more corrosion resistant, and more heat tolerant, weldable and 3D printable aluminium products.

Aluminium alloys are used extensively in the global transportation industry. Aircraft manufacturers are particularly interested, with the two leading global aircraft manufacturers increasingly working to incorporate scandium aluminium alloys into their future designs and manufacturing processes. Aircraft designers believe use of these alloys can reduce aircraft weights by 15 to 20%. Additionally, the ability to employ weldable structures promises similar cost reduction potential.

It's also important to note that the United States is totally dependent on imports of scandium primarily from Europe, China, Japan, and Russia to meet its domestic needs (*USGS Scandium Fact Sheet 2022*) and as such rising demand for scandium is supply constrained.

Rimfire believes that advanced manufacturers are looking to secure long-term supplies of scandium within favourable jurisdictions like Australia before committing to the greater use scandium-alloyed aluminium materials in their products.

Rimfire's Fifield and Avondale Projects are ideally positioned to take advantage of the growing demand for scandium and offer significant opportunities both in terms of deposit size and grade.

Next Steps

The Murga aircore drilling will take approximately 3 weeks to complete with analytical results expected 4 – 6 weeks after drilling completion.

Rimfire is currently awaiting regulatory approval to undertake a drilling program at the adjacent Melrose Prospect (to underpin the estimate of a JORC Mineral Resource Estimate). Rimfire anticipates commencement of drilling by mid-March 2024.

Rimfire will provide the market with further updates as further information comes to hand.

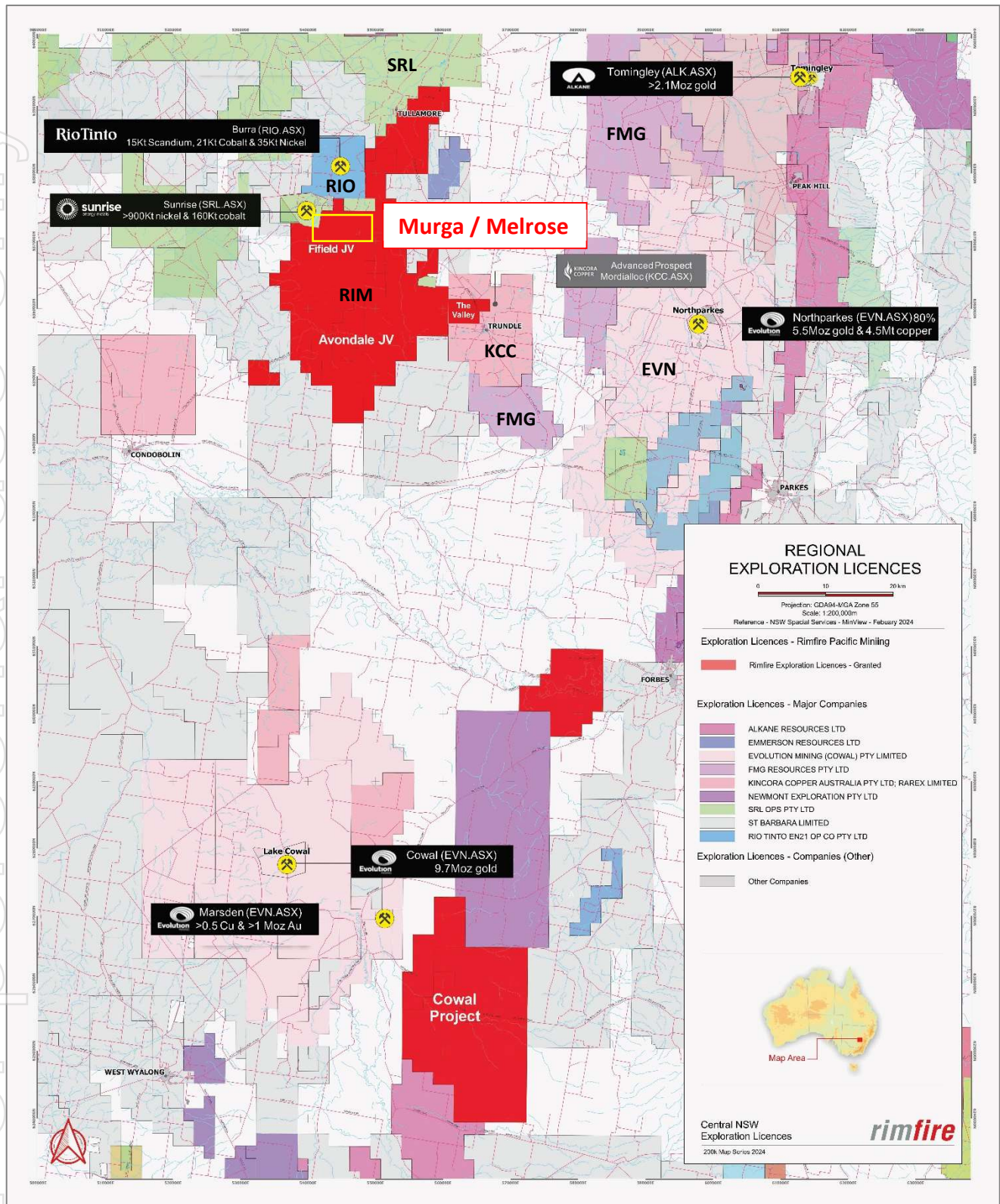


Figure 1: Rimfire Project Locations and key prospects.

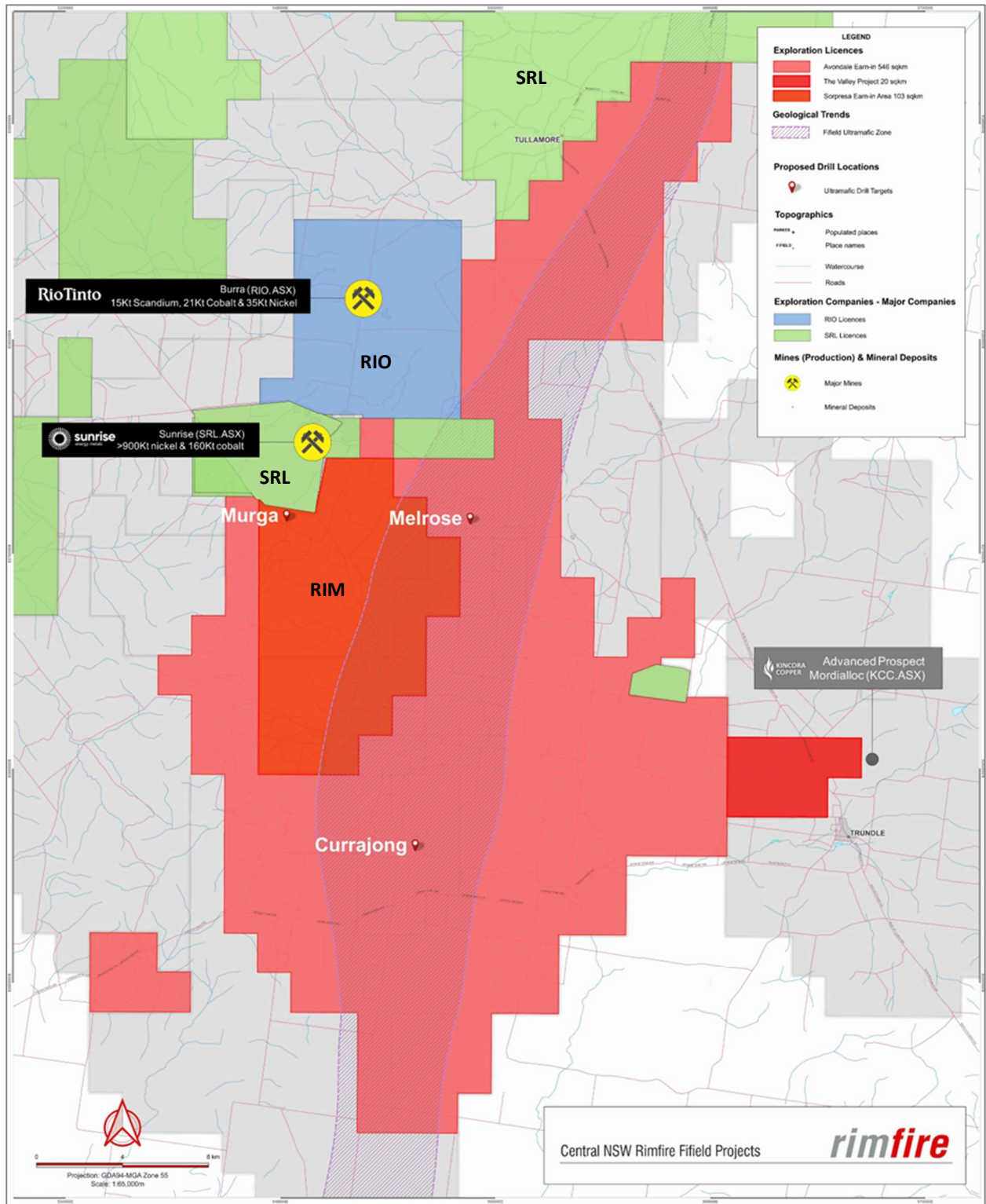


Figure 2: Rimfire Fifeeld and Avondale Project Locations and competitors (Rio Tinto – blue and Sunrise Energy Metals – green).



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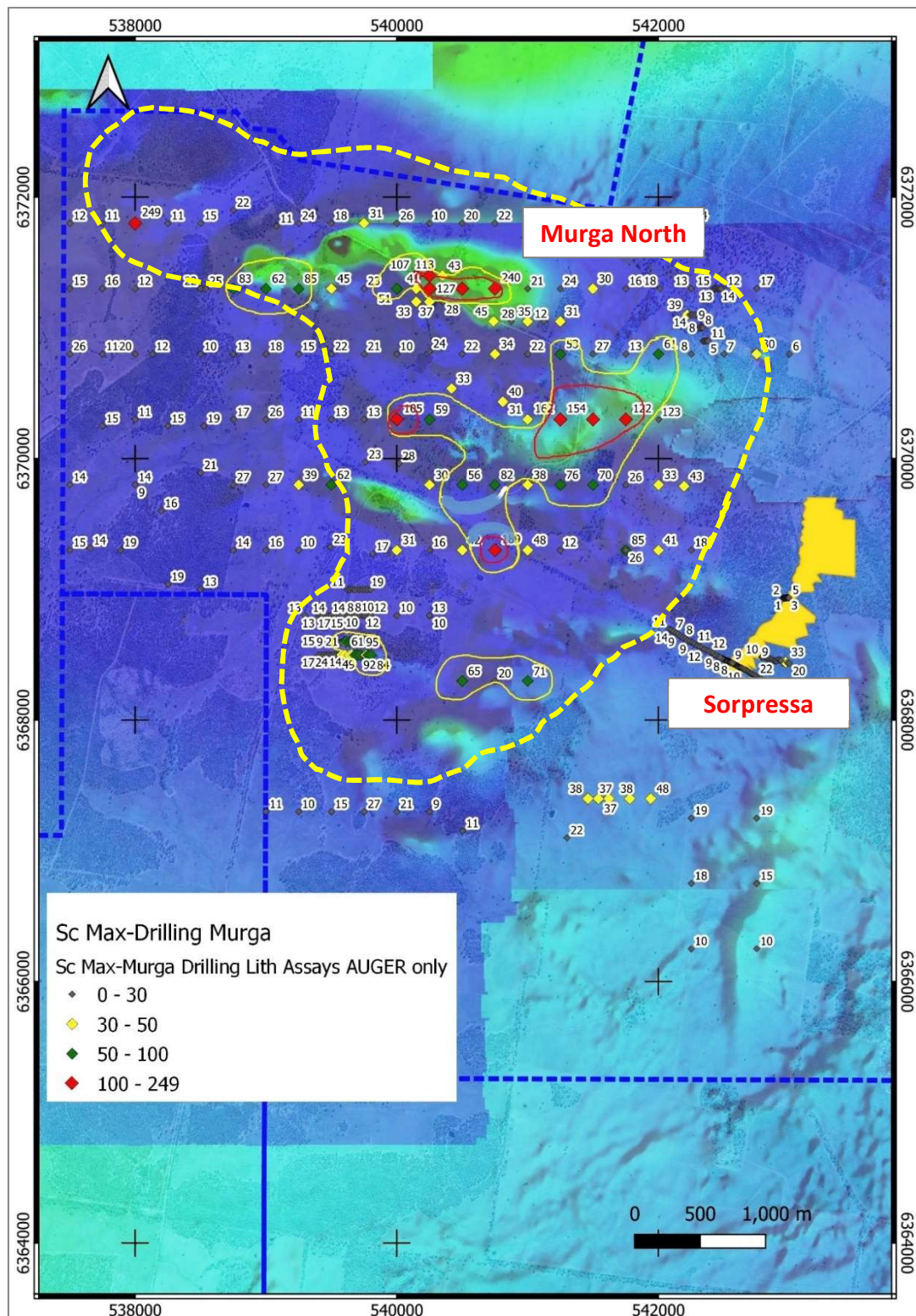


Figure 4: Murga Intrusive Complex auger (maximum Scandium) geochemistry with +50ppm Sc (yellow) and +100ppm Sc (red) contours shown. Approximate boundaries of the Murga Intrusive Complex shown as yellow dashed line on TMI background image.

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

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JORC Statement

All drilling results included in this ASX Announcement have been previously released along with relevant JORC Information by Rimfire in its ASX Announcement dated 3 October 2023. Rimfire confirms that no new information has been included in this ASX Announcement.

About Rimfire

Rimfire Pacific Mining (**ASX: RIM**, “Rimfire” or the “Company”) is an ASX-listed Critical Minerals exploration company which is advancing a portfolio of projects within the highly prospective Lachlan Orogen and Broken Hill districts of New South Wales, comprising;

The 100% - owned Broken Hill Cobalt Project located immediately west of Broken Hill, NSW and includes;

- Bald Hill, where Rimfire’s recent drilling successfully intersected high-grade cobalt (Co) in sulphide mineralisation - see *Rimfire ASX Announcement dated 18 September 2023 [Broad zones of high-grade cobalt at Bald Hill](#)*, and
- Railway Extension, which is the interpreted along strike extension to Cobalt Blue Holdings’ Railway Cobalt Deposit (COB: ASX).

The 100% - owned Valley and Cowal Projects located west of Parkes and Orange in central NSW:

- The Valley Project - located 35km west of the Northparkes Copper Gold Mine where Evolution Mining (EVN: ASX) has just acquired an 80% interest in the mining operation for up to US\$475M – see *Evolution Mining ASX Announcement dated 5 December 2023 [Acquisition of an 80% interest in Northparkes Copper Gold Mine](#)*, and
- The Cowal Project - located to the east of Evolution’s Lake Cowal Copper / Gold mine (EVN: ASX), which includes the newly acquired Porters Mount Project - see *Rimfire ASX Announcement dated 11 September 2023 [Acquisition of Porters Mount Project](#)*

Rimfire has two additional projects in the Lachlan Orogen which are being funded by Rimfire’s exploration partner - Golden Plains Resources (GPR):

- Avondale Project (GPR earning up to 75%) & Fifield Project (GPR earning up to 50.1%)
- ✓ Both projects are prospective for high-value critical minerals – scandium, cobalt, nickel, gold, and PGEs - which are essential for renewable energy, electrification, and green technologies.
- ✓ Adjacent to both projects is the;
 - development ready Sunrise Energy Metals Nickel Cobalt Scandium Project (ASX:SRL), and
 - Platina Scandium Project (Owendale Scandium Deposit), which was acquired by Rio Tinto (ASX:RIO) – see *RIO News Release dated 28 April 2023 [Rio Tinto acquires high-grade scandium project in Australia](#)*
- ✓ The Fifield Project hosts the historic Platina Lead mine, the largest historic producer of Platinum in Australia.

For more information on the Avondale and Fifield Earn In and Joint Venture Agreements see:

[ASX Announcement: 4 May 2020 - Rimfire enters \\$4.5m Earn-in Agreement](#)

[ASX Announcement: 25 June 2021 - RIM Secures \\$7.5m Avondale Farm Out](#)

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 minerals industry and is the Managing Director and CEO of Rimfire Pacific Mining. Mr 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'.

Mr 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, 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".