

September 2023 Quarter - Activities Report

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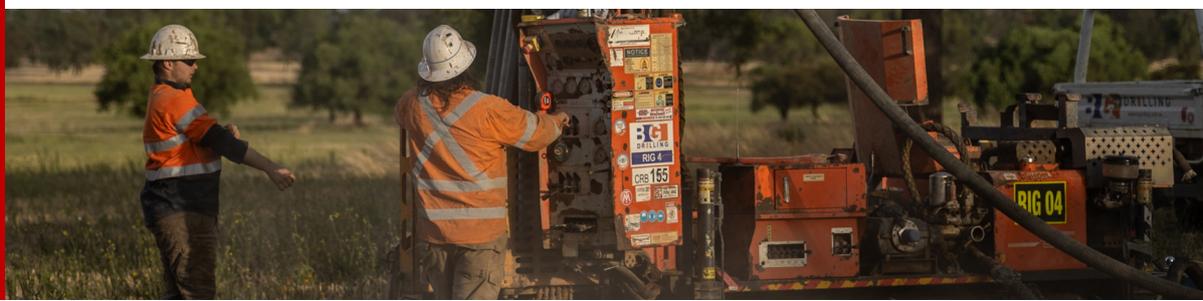
Highlights

- Multiple work programs focused on high-value critical minerals – cobalt and scandium on Rimfire’s NSW exploration projects
- Broad zones of high-grade cobalt (Co) intersected in drilling at Bald Hill Prospect at Broken Hill Cobalt (Green View) Project;
 - 125m @ 0.13% Co from 198m incl 97m @ 0.15% Co from 226m
 - 58m @ 0.13% Co from 62m incl 12m @ 0.24% Co & 17m @ 0.15% Co
- Strongly anomalous scandium (Sc) intercepts in reconnaissance aircore drilling across multiple prospects at Fifield Project which remain open in all directions;
 - 27m @ 188ppm Sc from surface incl 12m @ 224ppm Sc from 3m
 - 18m @ 164ppm Sc from surface incl 6m @ 208ppm Sc from 3m
- High-impact drilling and geophysical programs planned for next Quarter

Commenting on the Quarterly Activities report, Rimfire’s Managing Director Mr David Hutton said: *“Rimfire continues to explore for and discover the critical minerals that are associated with global decarbonisation technologies.*

Work undertaken by our exploration team during the Quarter identified broad zones of high-grade cobalt at Bald Hill, strengthened the copper-gold prospectivity of the Cowal Project with the acquisition of the neighbouring Porters Mount Project and highlighted the scandium prospectivity of the Fifield Project.

Looking ahead to the next Quarter, we plan to ramp up high-impact scandium drilling programs at Fifield along with planning for the next round of cobalt drilling at Bald Hill”.



Introduction and Operational Summary

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 (*Figure 1*).

During the September 2023 Quarter (the “Quarter”), Rimfire’s exploration activities were focused on its 100% - owned Bald Hill cobalt sulphide target at Broken Hill with multiple thick zones of high-grade cobalt mineralisation confirmed in three diamond drillholes.

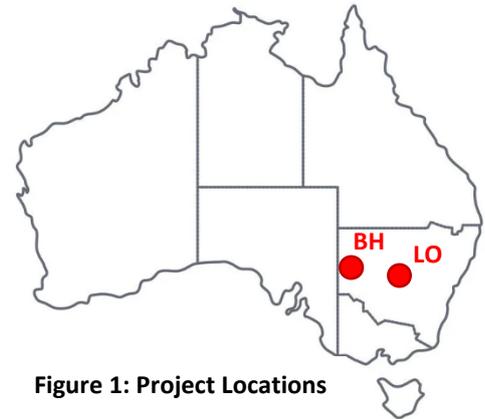


Figure 1: Project Locations

Rimfire also acquired the Porters Mount Project, which adjoins its 100% - owned Cowal Project within the Lachlan Orogen.

Lastly, assaying of aircore drill samples from the Fifield Earn In Project (Lachlan Orogen) returned strongly anomalous scandium from multiple locations throughout the Murga Intrusive Complex.

Next Quarter, with all funding supplied by our exploration partner – Golden Plains Resources (GPR), Rimfire will ramp up scandium exploration activities at Murga with further aircore drilling planned to test the significance of numerous auger scandium anomalies and scope out the extent of mineralisation identified to date at the location.

Infill aircore drilling (on likely 100-metre centres) is planned as a next step at Murga which subject to regulatory and GPR approval, is scheduled to commence during the December 2023 Quarter.

Rimfire and GPR will hold a Management Committee Meeting in mid-November 2023 to review and approve planned work programs.

In conjunction with the Fifield scandium exploration, Rimfire will continue to sole fund exploration on the 100% - owned Bald Hill cobalt prospect at Broken Hill with planning for a follow up drill program to scope out the size potential of Bald Hill underway during the December 2023 Quarter.

To assist with locating the next phase of drillholes, Rimfire commenced a high-resolution (continuous readings on 50 metre spaced lines) ground magnetic survey after the Quarter along with geological mapping and a heritage assessment of the area.

Separately selected samples of mineralised drill core from Bald Hill have been submitted for mineralogical and petrological examination. The work will confirm whether the cobalt occurs as a separate sulphide species or as part of the extensive iron sulphides (pyrite and pyrrhotite) observed in the diamond drilling, the outcome of which will have implications for metallurgical extraction and understanding the commercial opportunities for the prospect.

Operational Review – 100% owned projects

Assays confirm high-grade cobalt at Bald Hill Prospect - Broken Hill Cobalt (Green View) Project

During the Quarter, assays for three diamond holes (FI2469 - FI2471) drilled at the 100% - owned Bald Hill cobalt target returned multiple thick zones of strong cobalt mineralisation.

Rimfire's 100% - owned Bald Hill cobalt target is located approximately 30 kilometres west of Broken Hill in NSW and 10 kilometres northwest of Cobalt Blue's (ASX: COB) advanced Broken Hill Cobalt Project – *Figure 2*).

The local geology is characterised by a highly deformed and metamorphosed sequence of intercalated gneiss, psammite, and minor amphibolite of the Proterozoic age Willyama Supergroup which was deposited between ~1,720 and ~1,640 million years ago and hosts the giant Broken Hill silver lead zinc orebody.

The area was last explored in 1981 when North Broken Hill Limited undertook geological mapping, IP geophysical surveys and a 5-hole (BHR1 to BHR 5 – 651 metres) reconnaissance drilling program at Bald Hill. One of the holes (BHR1/1A) intersected multiple high-grade drill intercepts (*see Rimfire ASX Announcement dated 3 November 2022*);

- **58m @ 0.10% Co from 48 metres in BHR1/1A including 7m @ 0.17% Co from 63 metres, 6m @ 0.15% Co from 81 metres, and 6m @ 0.15% Co from 95 metres.**

At the time North Broken Hill focussed on silver lead zinc exploration given Bald Hill's proximity to Broken Hill and the drill intercept was never followed up. As such, Rimfire's recent drilling represents the first cobalt – focused exploration conducted at Bald Hill in over 40 years.

Rimfire's recent 3 – hole diamond drilling program (FI2469 – FI2471 / 635.6 metres) was designed to confirm the BHR1A cobalt drill intercept.

FI2469 was drilled as an angled hole north of BHR1/1A, while FI2470 and FI2471 were drilled as angled holes either side of BHR1A. All three holes were drilled from the existing BHR1/1A drill pad to minimise environmental disturbance.

Each Rimfire drillhole intersected extensive zones of strongly disseminated to semi massive sulphide (pyrite, pyrrhotite and trace chalcopyrite + sphalerite) mineralisation hosted within a highly deformed and metamorphosed (amphibolite facies) sequence of intercalated quartz – albite – magnetite gneiss and psammopelitic composite gneiss.

The gneissic units are underlain in parts by a quartz – potassium feldspar (Kspar) – biotite gneiss unit and crosscut (in FI2470) by a fine-grained amphibolite unit which is interpreted to be a late-stage dyke. Both units are un-mineralised.

Assaying of half core samples from FI2469 returned strong cobalt (Co) mineralisation (see *Rimfire ASX Announcement dated 18 August 2023*);

- **33m @ 0.11% Co from 58 metres including;**
 - **4m @ 0.23% Co from 70 metres and 2m @ 0.21% Co from 83 metres.**

Assaying of half core samples from FI2470 and FI2471 identified broad zones of strong cobalt mineralisation in both holes (see *Rimfire ASX Announcement dated 18 September 2023*);

- **100m @ 0.08% Co from 71 metres in FI2470 including;**
 - **68m @ 0.10% Co from 71 metres,**
- **125m @ 0.13% Co from 198 metres in FI2470 including;**
 - **97m @ 0.15% Co from 226 metres, and**
- **58m @ 0.13% Co from 62 metres in FI2471 including;**
 - **12m @ 0.24% Co from 67 metres and 17m @ 0.15% Co from 86 metres.**

FI2471 also intersected a ferruginous gossanous zone immediately up hole of the cobalt mineralisation, assaying of which returned strongly anomalous copper (Cu) - **6m @ 0.51% Cu from 56 metres.**

While the significance of the copper is unknown at this stage, the intercept adds to other examples of copper anomalism in surface rock chip samples at Bald Hill (see *Rimfire ASX Announcement dated 24 May 2023*) and suggests that there may be a copper rich component to the cobalt mineralised system.

Cobalt mineralisation is associated with strongly disseminated to semi massive sulphide (pyrite, pyrrhotite and trace chalcopyrite + sphalerite) mineralisation. Higher grade cobalt typically is associated with greater abundance of sulphides with zones of coarse-grained semi-massive pyrite / pyrrhotite hosting individual 1 – metre grades of up to 0.79% Co (FI2471 – 67 to 68 metres).

Within FI2470, the upper mineralised interval (from 71 metres) is hosted by pyrite - rich quartz – albite – magnetite gneiss unit whereas the lower mineralised interval (from 198 metres) is hosted by a pyrrhotite - rich psammopelitic composite gneiss. Whether this variation in sulphide type is significant is unknown at this stage and will be the subject of planned mineralogical and petrological examination.

The mineralised units are separated by a fine-grained amphibolite which due to its undeformed nature and sheared margins is interpreted to represent a mafic unit (dyke) that has intruded the gneissic host rocks.

Market significance of the Bald Hill drilling results

As well as confirming the historic Bald Hill drill results, the latest drilling results have highlighted the potential for Bald Hill to host a significantly large cobalt mineral system at comparable or higher grades than other examples within the Broken Hill district.

Bald Hill displays some similarities to the cobalt mineralisation present at Cobalt Blue's (ASX: COB) Broken Hill Cobalt Project which is located 10 kilometres southeast of Bald Hill.

The Broken Hill Cobalt Project hosts a Total (Measured Indicated and Inferred) Resource inventory of 118Mt @ 0.086% (859ppm) cobalt equivalence (687ppm cobalt, 7.6% sulphur and 133 ppm nickel) for 81.1Kt contained cobalt (*Cobalt Blue Mineral Resource Estimate dated 16 September 2021*).

Cobalt deposits at the Broken Hill Cobalt Project are characterised by moderate to steep dipping stratabound zones of disseminated to semi-massive cobaltiferous pyrite mineralisation. This forms 3 distinct bodies known as Pyrite Hill, Big Hill, and Railway. The deposits extend over some 5 km of strike and vary in thickness from 10 to 300m. The cobalt occurs exclusively as a substitute within the pyrite crystal lattice, and consequently, there is a strong correlation between pyrite content and cobalt grade.

Cobalt Blue has developed a patented minerals processing technology for treating pyrite feedstocks targeting 85-90% recovery of cobalt from ore to product (as Mixed Hydroxide Precipitate or Cobalt Sulphate).

As recently announced, Cobalt Blue has been successful in running their Broken Hill demonstration processing plant and has delivered Mixed Hydroxide Precipitate from ore they mined from their Pyrite Hill deposit (*Cobalt Blue ASX Announcement dated 3 August 2023*).

Cobalt Blue's development of new processing technology for pyrite – hosted cobalt mineralisation is a significant development for Broken Hill and will potentially enable the development of other cobalt deposits throughout the district that were previously viewed as being non-commercial due to their metallurgy.

Acquisition of Porters Mount Project

During the Quarter, Rimfire executed a Tenement Purchase Agreement with Plutonic Limited to acquire 100% of the Porters Mount Project (EL8329) which directly adjoins Rimfire's Cowal Copper Gold Project (located 60 kilometres southwest of Parkes within the highly prospective Lachlan Orogen of New South Wales - *Figure 3*).

Under the terms of the Tenement Purchase Agreement Rimfire will acquire 100% of Plutonic's Porters Mount Project (EL8329) for \$25,000 (\$25K) cash consideration. A 2% Net Smelter Royalty (NSR) remains payable to Sandfire Resources Limited in the event of any mineral production from the tenement.

Rimfire's 100% - owned Cowal Copper Gold Project covers a portion of the Ordovician - age Currumburra Volcanic Complex which is interpreted to represent the eastern margin of the Lake Cowal Volcanic Complex, hosting the Cowal Gold Deposit and adjacent Marsden Copper Gold Deposit.

The addition of the Porters Mount Project (EL8329 – 72km²) increases the total area of Cowal Copper Gold Project to 450km² (see *Rimfire ASX Announcement dated 11 September 2023*).

The Cowal Copper Gold Project lies 25 kilometres southeast of the Cowal Gold Deposit (*Figure 2*). Both Cowal and Marsden are owned by Evolution Mining (EVN.ASX) and host Total Mineral Resources of 305.3Mt @ 0.98g/t gold (**9.7Moz gold**), and 123Mt @ 0.27g/t gold, 0.46% copper (**1.05Moz gold** and **560Kt copper**) respectively. (*Evolution Mining Resource and Reserve Statement as at December 2021*).

The Currumburra Volcanic Complex comprises a north-south trending zone of andesitic volcanics, sediments, diorite to monzonite plugs and dykes which can be readily mapped (for over 27 kilometres within the Cowal Project) using magnetic and gravity geophysical data as well as drillhole geological information.

The Currumburra Volcanics host several gold and copper occurrences (i.e., Porters Mount, Imola and Silverstone) that lie both within, and along strike from the project.

At the Porters Mount prospect (which now lies inside the northern end of the Cowal Project), a mineralised complex of hydrothermal breccias and subvolcanic intrusions is present in outcrop.

The breccias which are rich in tourmaline and arsenic, and to a lesser extent antimony, silver, and gold are interpreted to have formed in the upper parts of a copper – gold porphyry system.

Drilling by Capital Mining in 2008 at Porters Mount intersected multiple gold intercepts at shallow depths;

- 12.0m @ 0.5 g/t gold from 22 metres in PMRC002 *including 2m @ 2.5 g/t gold from 22 metres*
- 8.0m @ 0.5 g/t gold from 60 metres in PMRC002 *including 4m @ 0.8 g/t gold from 62 metres*
- 10.0m @ 0.5g/t gold from 8 metres in PMRC004 *including 2m @ 1.5g/t gold from 12 metres*
- 6.0m @ 1.0g/t gold from 36 metres in PMRC005 *including 2m @ 1.5g/t gold from 38 metres*

Porters Mount remains largely unexplored at depth (below the oxide zone) with only one deep hole (PMD001) drilled to a depth of 801 metres.

The hole successfully intersected gold mineralisation within a vein breccia system;

- 28m @ 0.52 g/t gold and 10.50m @ 0.81 g/t gold in PMD001 from 740 metres and 779.5 metres respectively

Immediately south of the Cowal Project, on ground held by Alkane Resources Ltd (ALK.ASX), drilling by Goldminco Corporation in 2004 intersected broad zones of porphyry – style copper and gold mineralisation at the Imola and Silverstone prospects.

Diamond drilling at Imola returned 96m @ 0.7g/t gold in CBD01 and 74m @ 0.15% copper in CBD008 at Silverstone. Both prospects also lie within the north south Currumburra Volcanic Complex gravity ridge and are associated with small monzonite plugs that are reported to be Ordovician in age and K feldspar alteration.

The Silverstone intercept is described as associated specifically with hematite, biotite, magnetite, and K-feldspar altered intrusives and volcanics, chalcopyrite and bornite disseminations and veinlets. (*Information sourced from the NSW Government Minview website – Imola mineral occurrence 185390 and Silverstone mineral occurrence 185391*).

South of the Porters Mount prospect within the central portion of the Cowal Project lies the LFB022 copper target which also requires drill testing,

At the LFB022 target, reconnaissance aircore drilling by Clancy Exploration Limited in late 2008, defined a 3 x 1.5 km copper in saprolite anomaly (using a +400ppm copper contour) with a maximum individual (2 metre composite) aircore sample value of 0.14% copper in CBAC044.

The anomaly overlies the intersection of the north south Currumburra Volcanic Complex gravity ridge and the northwest trending Marsden Lineament, which is an important local structural control on mineralisation at the Cowal and Marsden Deposits.

While historic diamond drilling has failed to find the source of the copper anomaly, a large area to south remains untested due to thin veneer of post Ordovician cover (the early Silurian Jingerangle Formation). Significantly the untested southern area coincides with a magnetic low feature which is interpreted by Rimfire to be an intrusive unit and possible source of the copper in saprolite anomaly. (*Information sourced from Clancy Exploration Limited's Annual Report for the period ending 21 May 2009 on EL6784 "Currumburrama" and Rimfire ASX Announcement dated 7 December 2022*).

In addition to Porters Mount and LFB022, there are a further 7 discrete magnetic features that have been identified by Plutonic within the immediate vicinity of Porters Mount (and within the Cowal Project) that require further investigation.

Operational Review – Earn In projects

Multiple Scandium drill intercepts at Fifield

Assays received during the Quarter for wide-spaced reconnaissance aircore drilling undertaken during the preceding Quarter has returned multiple strongly anomalous intercepts confirming the scandium prospectivity of the Company's Fifield Project which is located approximately 70 kilometres northwest of Parkes within the highly prospective Lachlan Orogen of central NSW (*Figure 3*).

Wide-spaced reconnaissance aircore drilling (25 holes / 687 metres: FI2425 to FI2439 and FI2444 to FI2453) was undertaken to determine the geological significance of several discrete magnetic features within the project. The drilling aimed to identify zones of laterite development prospective for hosting nickel, cobalt, and scandium mineralisation such as that observed at Rimfire's Melrose prospect.

The magnetic anomalies were interpreted to represent soil covered mafic – ultramafic intrusives.

Multiple strongly anomalous scandium (Sc) drill intercepts were returned from three magnetic anomalies which lie approximately 4 kilometres apart at the **Murga Intrusive Complex target** (*See 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 the Murga target, anomalous scandium typically occurs within a strongly weathered saprolite horizon overlying magnetic ultramafic (pyroxenite) intrusive rocks. 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*).

Regionally the ultramafic rocks at Murga are interpreted to be part of a large scale arcuate shaped mafic – ultramafic intrusive complex that extends over a strike length of 7 kilometres with a maximum width of 2 kilometres.

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 Rimfire's Fifield Project immediately to the east.

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) which require immediate follow-up.

The FI2426 to FI2429 intercepts (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**").

The 4 recent aircore holes are the only holes to have specifically tested Murga North for scandium and the new intercepts remain open in all directions.

Given the size of the auger anomaly and limited drilling, further drilling is required to determine the lateral extent of scandium anomalism.

A second 2,000-metre x 1,000-metre northeast striking scandium auger anomaly lies 1.5 kilometres southeast of Murga North. The anomaly which overlies a coincident magnetic feature within the eastern portion of the Murga Intrusive Complex ("**Murga East**"), has only been tested by one aircore hole – FI2425 which intersected; 3m @ 132ppm Sc from 3 metres.

Given the size of the scandium auger anomaly and the absence of drilling, Murga East requires drill testing to determine the significance of the auger anomaly and determine the extent of scandium anomalism encountered in FI2425.

Strongly anomalous scandium was also intersected on the southern margin of the Murga Intrusive Complex ("**Murga South**") in several holes (i.e.; 27m @ 188ppm Sc from surface in FI2434 *including 12m @ 224ppm Sc*).

Murga South has not been covered by auger sampling and the new intercepts remain open in all directions. Further drilling is required to determine the lateral extent of the scandium anomalism.

FI2436 to FI2439 were drilled to test a strong magnetic feature approximately 11 kilometres south of the Murga Intrusive Complex target at **Forest View**. Drilling intersected a weathered sequence of magnetic and heavily altered (quartz – epidote) mafic and sedimentary rocks with strongly anomalous scandium intercepts returned from two holes;

- 6m @ 148ppm Sc from 6 metres in FI2438, and
- 33m @ 127ppm Sc from 6 metres in FI2439.

Like Murga, anomalous scandium at Forest View typically occurs within a strongly weathered saprolite horizon overlying the magnetic mafic and sedimentary rocks. Like the Murga occurrences there is no anomalous nickel and / or cobalt associated with the scandium at Forest View.

Forest View remains open in all directions and further drilling is required to determine the extent of scandium anomalism encountered in the recent aircore drilling.

Market significance of the Murga aircore drilling results

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 certain standard aluminium alloys, scandium can produce stronger, more corrosion resistant, and more heat tolerant 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.

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*).

With rising geopolitical risk associated with a number of these supply jurisdictions, Rimfire believes the United States and its allies will increasingly look to favourable jurisdictions like Australia for supply of scandium and other critical minerals.

Rimfire believes that Fifield together with its Avondale Project (Melrose and Currajong nickel cobalt scandium prospects) strongly positions the Company to take advantage of the growing demand for critical minerals such as scandium (as well as nickel, cobalt, and PGEs).

The latest aircore drill results confirm the scandium prospectivity of Murga Intrusive Complex and Forest View with drill intercepts at both locations remaining open in all directions.

Further drilling is required to determine the extent of scandium anomalism drilled so far, as well as determining the significance of auger geochemical anomalies.

Melrose metallurgical test work

Perth specialist metallurgical services group - Independent Metallurgical Operations Pty Ltd (IMO) is currently developing a conceptual processing flowsheet with the aim of optimising recoveries and production of a nickel – cobalt – scandium product from high - grade mineralised material from the Melrose nickel cobalt scandium prospect.

To underpin the studies, a bulk composite sample (260 kg) of high-grade nickel cobalt scandium mineralisation from Melrose (PQ quarter diamond drill core) was previously dispatched to IMO.

As previously reported, a representative sub-sample of the bulk composite sample was pulverised and analysed with the assaying of various size fractions returning grades ranging from 0.218% to 0.437% nickel (head assay grade of 0.33% nickel), 0.08% to 0.15% cobalt (head assay grade of 0.12% cobalt), and 290ppm to 470ppm scandium (head assay grade of 380ppm scandium). These results support previously obtained drill assay intercepts and reinforces Rimfire's belief that Melrose represents a potentially significant high grade nickel cobalt scandium mineral opportunity.

At the time of writing, IMO atmospheric leaching had been completed and final results are expected within the coming weeks.

Fifield and Avondale Earn In Projects Exploration Partner

All exploration activities at the Fifield and Avondale are funded by Rimfire's exploration partner - Golden Plains Resources (GPR), the ownership of which is currently subject to a legal dispute. Rimfire has taken independent legal advice as to its obligations and rights with respect to this matter and continues to operate in accordance with that advice.

Under the terms of the respective Earn In Agreements, GPR is required to pay a further \$0.65M at Fifield to earn 50.1%, and at Avondale GPR is required to pay a further \$5.9M to earn 75%. To date GPR has spent \$3.85M at Fifield and \$1.6M at Avondale to date.

Further payments will be made in response to future cash calls that are issued periodically once work programs are approved by the Rimfire – GPR Management Committee.

Corporate Activities

Successful Placement

During the Quarter, Rimfire raised \$0.8 million through a share placement pursuant to Section 708 of the Corporations Act (Cth).

The proceeds of the share placement will advance exploration of the Company's 100% - owned cobalt and copper projects in New South Wales and provide general working capital.

The placement comprised the issue of a total of 100,000,000 fully paid ordinary shares at an issue price of \$0.008 (0.8 cents) per share, raising \$0.8M, to sophisticated investors eligible under section 708 of the Corporations Act (Cth).

The issue price represents a 26% premium to the 5 - trading day VWAP to 28 July 2023.

In addition, 100,000,000 free attaching unlisted options were issued on a one (1) for one (1) basis for every new share subscribed for and issued under the placement with an exercise price of \$0.02 (2 cents) each, and an expiry date of 28 February 2025.

The 100,000,000 placement shares were issued under Rimfire's existing ASX Listing Rule 7.1A placement capacity and the 100,000,000 unlisted options were issued under Rimfire's existing ASX Listing Rule 7.1 placement capacity.

The new shares rank equally with existing Rimfire fully paid ordinary shares quoted on the ASX.

As previously announced, the Company has also been awarded exploration credits of \$500,000 under the Federal Government's Junior Minerals Exploration Incentive (JMEI) program for distribution during the 2023 / 2024 Financial Year to eligible shareholders including participants in this Placement and any other capital raised during the current Financial Year.

Cash, Capital Structure, and Funding

At 30th September 2023, Rimfire had cash of \$0.54M (plus an additional \$18K held in the Fifield and Avondale Earn In Project accounts for exploration activity on those Projects).

Subsequent to the Quarter Rimfire received a \$100K Cash Call payment from GPR for exploration programs conducted on the Fifield and Avondale Earn Ins.

Related party transactions of \$76K (section 6.1 and 6.2 of the September 2023 Quarter Appendix 5B) are payments for salary (including statutory superannuation) to David Hutton (MD and CEO) and Non-Executive Director fees paid during the September 2023 Quarter.

Annual General Meeting

Rimfire will hold its Annual General Meeting of Shareholders at the Conference Rooms, SW Accountants & Advisors Pty Ltd, Level 10, 530 Collins Street, Melbourne VIC 3000 on Monday, 20 November 2023 at 11:00am (AEDT) (“AGM”).

The Company’s Annual Report for the year ended 30 June 2023 (“Annual Report”) is available online at [Rimfire 2023 Annual Report](#).

Recent legislative changes to the Corporations Act 2001 (Cth) mean there are new options available to shareholders as to how the communication from the Company can be received. The Company will not be dispatching physical copies of meeting documents and notices, including the Notice of Meeting for the AGM, unless you request a physical copy to be posted to you.

Rimfire Tenement Schedule

Below is a listing of the exploration licenses held by Rimfire at the 30th of September 2023.

Project	Location	Licence	Interest	Interest Acquired / Farmed in during Qtr.	Interest Reduced / Farmed out during Qtr.
The Valley	Fifield	EL8542	100%	-	-
		EL8401	100%	-	-
Cowal	Cowal	EL8804	100%	-	-
		EL8805	100%	-	-
		EL9397	100%	-	-
		EL8329 ¹	100%	100%	
Fifield ²	Fifield	EL8935	100%	-	-
		M(C)L305	100%	-	-
		EL6241	100%	-	-
Avondale ³	Fifield	EL5565	100%	-	-
		EL7058	100%	-	-
		EL7959	100%	-	-
		EL8401	100%	-	-
		EL8542	100%	-	-
		EL8543	100%	-	-
		EL8935	100%	-	-
Green View	Broken Hill	EL5958	100%	-	-
¹ Subject to the Tenement Purchase Agreement [Porters Mount] between Rimfire Pacific Mining and Plutonic Limited dated 15 August 2023 and for which Ministerial Consent is awaited.					
² Subject to Fifield Project Earn-in entered during the June 2020 Quarter, however no interest in tenements to be ceded until earn-in conditions met in full.					
³ Subject to Avondale Project Earn-in entered during the June 2021 Quarter, however no interest in tenements to be ceded until earn-in conditions met in full					

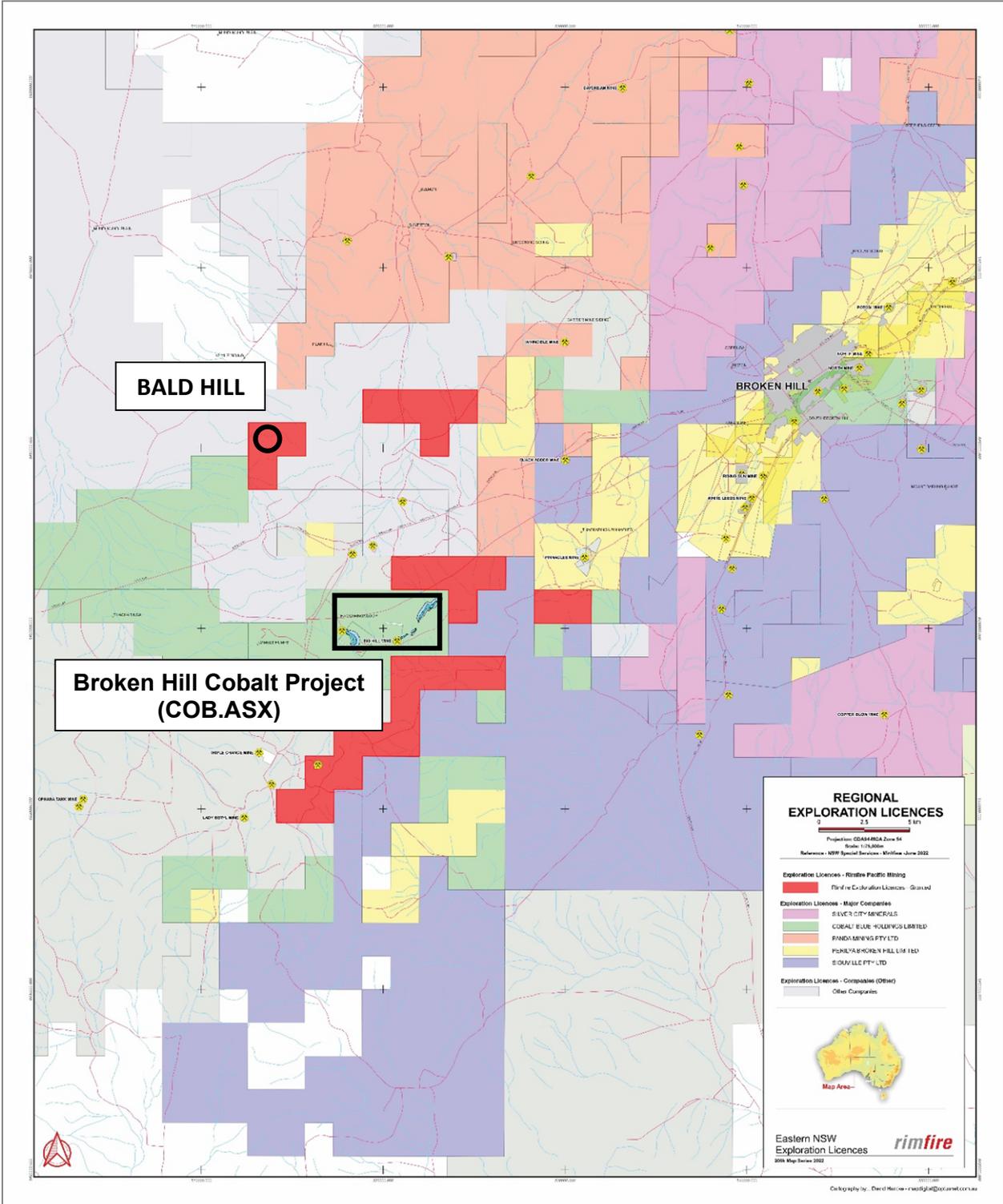


Figure 2: Rimfire’s Broken Hill tenement blocks (red blocks) and Cobalt Blue’s Broken Hill Cobalt Project (green blocks).

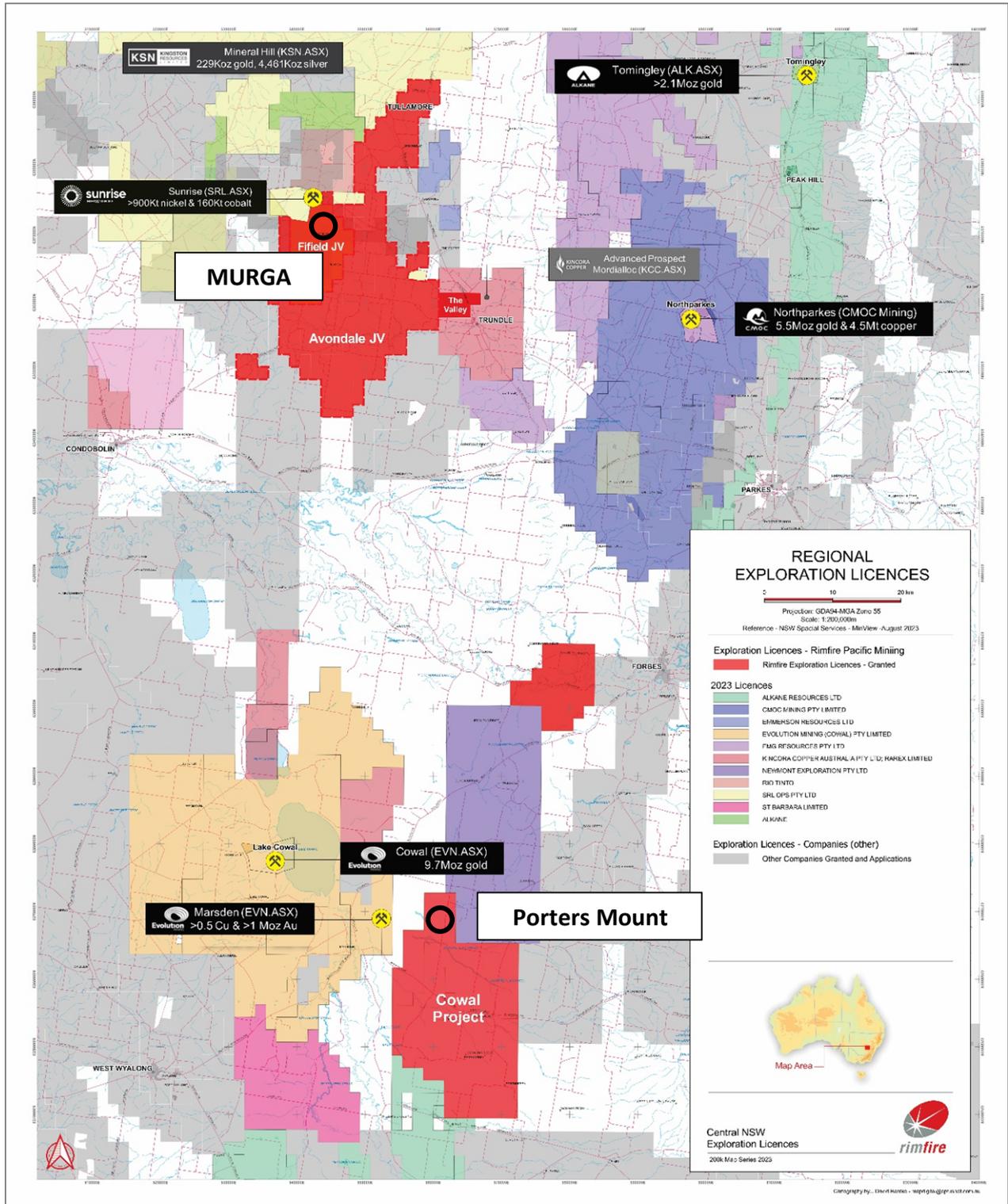


Figure 3: Rimfire Project Locations (in red) showing major competitors' active mines and key prospects.

ENDS

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

For further information please contact:

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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.

The Company has two 100% - owned copper – gold prospective projects that are located west of Parkes and Orange in central New South Wales:

- The Valley Project - located 5km west of Kincora Copper’s Mordialloc porphyry copper gold discovery (KCC.ASX), and
- The Cowal Project - located to the east of Evolution’s Lake Cowal Copper / Gold mine (EVN: ASX).

Rimfire also has the 100% - owned Broken Hill Cobalt (Green View) Project which is located immediately west and northwest of Broken Hill and covers several targets including the interpreted along strike extension to Cobalt Blue Holdings’ Railway Cobalt Deposit (COB: ASX).

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 60%)
- ✓ Both projects are prospective for high-value critical minerals – nickel, cobalt, scandium, gold and PGEs - which are essential for renewable energy, electrification, and green technologies.
- ✓ The development ready Sunrise Energy Metals Nickel Cobalt Scandium Project (ASX: SRL) is adjacent to both projects.
- ✓ The Fifield Project hosts the historical Platina Lead mine, the largest 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 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".

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Rimfire Pacific Mining Limited

ABN

59 006 911 744

Quarter ended ("current quarter")

30 September 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	-	-
(b) development	-	-
(c) production	-	-
(d) staff costs	(111)	(111)
(e) administration and corporate costs	(254)	(254)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	2	2
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (GST Received)	41	41
Other (Earn-In Administration Fee, transfer of funds from Earn-in Account for payment of Earn-in area expenditure)	188	188
1.9 Net cash from / (used in) operating activities	(134)	(134)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) exploration & evaluation	(500)	(500)
(e) investments	-	-

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
(f) other non-current assets	-	-
2.2 Proceeds from the disposal of:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) investments	-	-
(e) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
2.6 Net cash from / (used in) investing activities	(500)	(500)

3. Cash flows from financing activities	-	-
3.1 Proceeds from issues of equity securities (excluding convertible debt securities)	800	800
3.2 Proceeds from issue of convertible debt securities	-	-
3.3 Proceeds from exercise of options	-	-
3.4 Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (Lease Liabilities)	-	-
3.10 Net cash from / (used in) financing activities	800	800

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	377	377
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(134)	(134)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(500)	(500)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	800	800

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period*	543	543

*Note in addition to the cash balance above, at the end of September 2023 the Earn-in Project accounts had a total balance of \$18k, of which the Fifield Project Earn-in account had a balance of \$9k and the Avondale Project Earn-in account had a balance of \$9k which is held in trust separately to Rimfire's operating bank accounts and used to pay expenditure for activity conducted within the respective project areas as it occurs.

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	543	377
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)*	543	377

*Note in addition to the cash balance above, at the end of September 2023 the Earn-in Project accounts had a total balance of \$18k, of which the Fifield Project Earn-in account had a balance of \$9k and the Avondale Project Earn-in account had a balance of \$9k which is held in trust separately to Rimfire's operating bank accounts and used to pay expenditure for activity conducted within the respective project areas as it occurs.

6. Payments to related parties of the entity and their associates

6.1	Aggregate amount of payments to related parties and their associates included in item 1	61
6.2	Aggregate amount of payments to related parties and their associates included in item 2	15

**Current quarter
\$A'000**

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
Not Applicable		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(134)
8.2 (Payments for exploration & evaluation (classified as investing activities) (item 2.1(d))	(500)
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(634)
8.4 Cash and cash equivalents at quarter end (item 4.6)	543
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	543
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	0.86
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	

8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:

8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

No, as the Company intends to increase its level of activity on the Fifield and Avondale Earn In Projects (with all funding requirements being met by Rimfire's exploration partner – Golden Plains Resources - GPR) whilst reducing expenditure on its 100% - owned projects as it works to develop the next round of drilling at the Bald Hill Cobalt Prospect following completion of the inaugural drilling program conducted at Broken Hill on Bald Hill during the Sep 23 Qtr (100% funded by the Company).

8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

As described above, the Company in the near term will be focussing exploration activity on Earn-in work programs that is funded by its exploration partner GPR, whilst planning for the next drilling programs on its 100% owned projects. If exploration activity on the companies 100% owned projects was removed from the Sep 23 calculation (8.1 to 8.7), there would be 1.6 Qtrs of funding available.

The Company is monitoring the situation closely as part of its normal course of business.

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Yes, due to the action being taken under 8.8.1 and 8.8.2 and the Company has the ability to defer other operating activities / costs, also we consider it likely that the Company would be successful in raising further funds if and when required as the Company has a history of successfully undertaking capital raisings during the last 15 years with a supportive shareholder base. The Company also has placement capacity under ASX Listing Rule 7.1 and 7.1A.

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 31 October 2023.....

Authorised by: The Board.....
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.