RIMFIRE PACIFIC MINING LTD

ASX: RIM

"Critical Minerals Explorer"

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Visual Sulphides Intersected at Valley Copper Target

Highlights

- **RC and diamond drilling program testing the high-priority Valley copper target well underway with 1,000 metres drilled to date**
- **Favourable Ordovician host rocks (Raggatt Volcanics) together with zones of weak disseminated, veinlet and shear zone – hosted sulphide (pyrite + coarse chalcopyrite) mineralisation intersected in the first diamond hole – FI2404**
- **The significance of the sulphides is unknown with drilling, geological logging, and sampling continuing**

Rimfire Pacific Mining (**ASX: RIM**, "**Rimfire**" or "**the Company**") is pleased to advise that a Reverse Circulation (RC) and Diamond drilling program to test a high-priority copper target on its 100% - owned Valley Project is well underway.

To date 4 RC holes (FI2404 – FI2407: 471 metres) and 1 diamond tail (FI2404: 513.5 metres) have been completed. Favourable Ordovician host rocks (Raggat Volcanics) and visible sulphides (predominantly pyrite and chalcopyrite) have been intersected in two of the holes - FI2404 and FI2407 (*Figures 1 – 3*).

Commenting on the announcement, Rimfire's Managing Director Mr David Hutton said: *"Drilling of the high-priority copper target at the Valley is well underway with holes completed to date confirming the presence of favourable rock types and sulphides. Drilling is continuing as well as geological logging and sampling of drill core, and we look forward to providing further updates when new information becomes available".*

The Valley is located 34 kilometres west of the Northparkes Copper Gold Mine which is operated by China Molybdenum Co., Ltd. and has total Measured and Indicated Resources (as at 31 December 2019) of 356Mt @ 0.55% copper, 0.20g.t gold (*1.96Mt copper and 2.33Moz gold – refer to Northparkes website*) (*Figure 4*).

Valley drilling program

Rimfire is drill testing a high-priority copper (+gold) target at the Valley which may be indicative of a buried porphyry copper gold system.

Two reconnaissance holes (FI2079 and FI2081) drilled by Rimfire in 2021 at the Valley confirmed the prospectivity of the area by intersecting a sequence of strong propylitic and epidote-chlorite altered volcanoclastic, and polymictic conglomerate rocks interpreted to be Ordovician – age Raggatt Volcanics similar to the host rocks seen at the Northparkes deposit (*Figures 5 and 6*).

FI2079 also intersected a zone of steeply dipping (near vertical) fault breccias assaying 10m @ 800ppm copper from 97 metres in a younger cover sequence above the Raggatt Volcanics bedrock that may represent later leakage (remobilisation) of copper mineralisation from a deeper source.

Subsequent reprocessing of geophysical data highlighted a cluster of magnetic features (within a broad circular magnetic anomaly) adjacent to FI2079 and FI2081 that are interpreted to be represent bodies of Ordovician – age intrusive rocks (andesites and monzonites) that could be the source of the copper anomalism seen in the drillholes (*Figure 6*).

Rimfire has now drilled three RC pre-collars (FI2404 to FI2406 - 318 metres), one RC hole (FI2407 – 153 metres) and one diamond tail (FI2404 - 531.5 metres).

As detailed in *Table 1*, the first diamond hole completed (FI2404) intersected zones of weakly disseminated sulphide (pyrite) within favourable Ordovician – aged intrusive rocks as well as multiple zones of weak disseminated, veinlet, and shear zone – hosted sulphide (pyrite + coarse grained chalcopyrite) mineralisation within the overlying Devonian rocks.

FI2407 drilled to the southeast of FI2404 intersected a sequence of altered (chlorite-magnetite-epidote-carbonate) dacite and andesite rock types (Raggatt Volcanics) with irregular zones of fine-grained sulphide (up to 5% pyrite) throughout.

Drillhole specifications are given in *Table 2* and drillhole locations are shown on *Figure 6*. Representative core photos are shown in *Figures 1 to 3*.

In January 2022, Rimfire was awarded $185,675 by the Department of Regional NSW, Mining, Exploration and Geoscience group under the competitive, peer reviewed New Frontiers Cooperative Drilling Grant program. The funding will be used to partially offset the cost of drilling at the Valley (*see Rimfire ASX Announcements dated 27th July 2021 and 12th January 2022*).

At the time of writing, geological logging and sampling of the drillholes was continuing and as such the potential significance of the alteration and sulphides is unknown.

The drilling program and receipt of assays will take approximately 2 months to complete with Rimfire to provide further updates as and when new information comes to hand.

Figure 1: Coarse-grained blebby sulphide (chalcopyrite) in calcite vein – FI2404 at 469.4 metres.

Figure 2: Stringer sulphide (chalcopyrite) in chlorite altered shear zone – FI2404 at 511 metres.

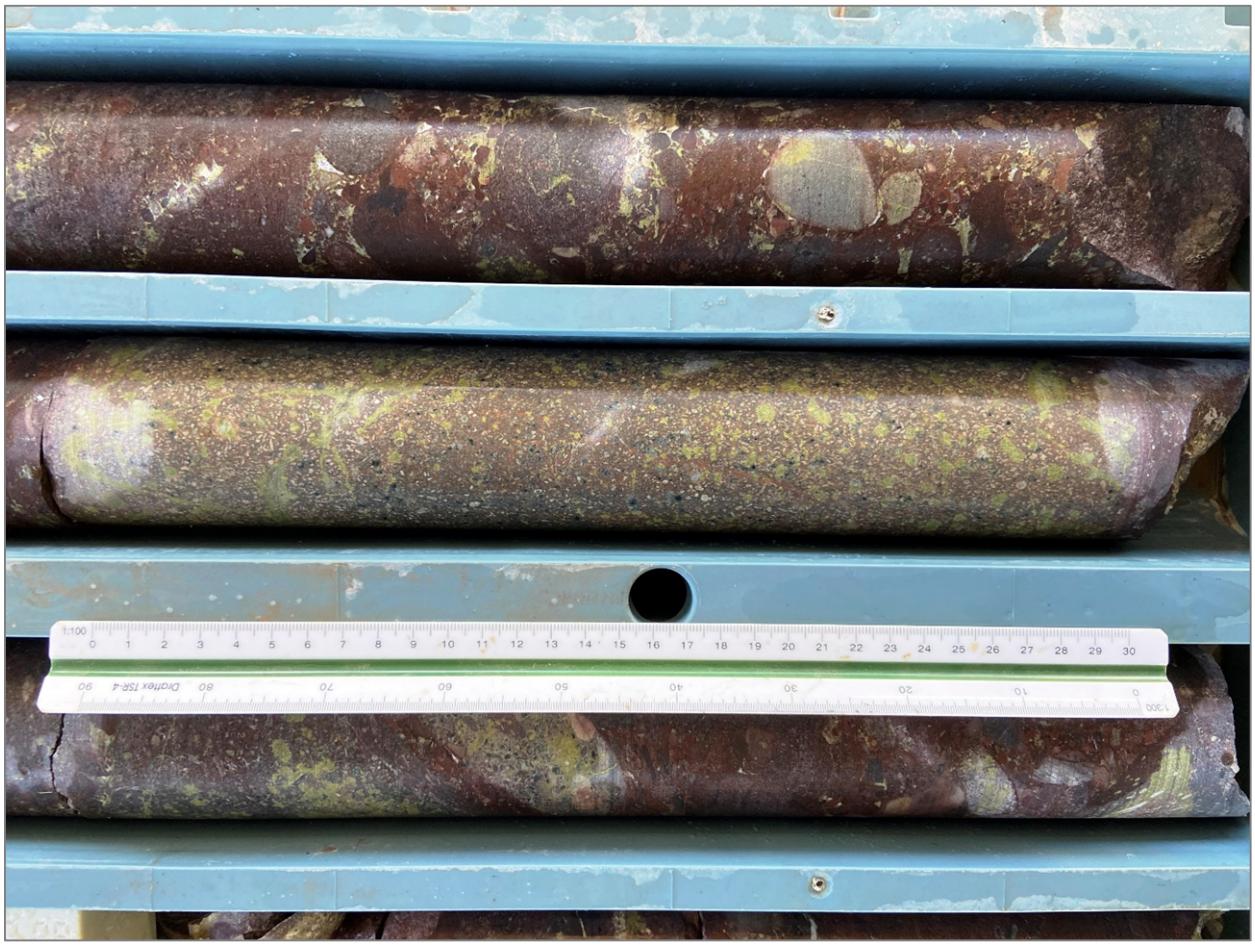

Figure 3: Epidote (green) and hematite (red) altered andesitic volcanic rock of the Raggatt Volcanics – FI2404 at 600 metres.

Table 1: Valley – Drillhole Geological Summaries

Hole ID	From	To	Geology Summary
FI2404	0	75	Thin soil layer overlaying weathered / oxidised haematitic fine-grained siltstone and sandstone.
	75	460	Light to dark grey, fine grained calcareous thinly interbedded siltstone and sandstone with variable calcite veining, disseminated pyrite and occasional fossiliferous zones (Devonian Derriwong sedimentary unit). 210 - 230.9 metres: minor calcite throughout with trace pyrite and chalcopyrite. 300 - 317 metres: calcite veinlets throughout with trace pyrite - sphalerite. 372 - 376.3 metres: minor blebby pyrite + chalcopyrite in calcite veins
	460	555	Well-rounded quartz pebbles and various other clasts of sedimentary rocks including calc-arenites (Devonian Edols Conglomerate). 458 - 472 metres: irregularly spaced quartz-calcite veins up to 2 centimetres wide with 2 - 5% coarse grained blebby pyrite and chalcopyrite throughout. 510 - 515 metres: shear zone containing (3– 7% stringer and vein chalcopyrite and pyrite throughout).
	555	600	Between 555m and 600m there is a gradual transition between the Edols Conglomerate and the underlying Raggats Volcanics where a mixture of darker volcanic clasts and green epidote and chlorite become more prevalent.
	600	615.5	From 600m to EOH at 615.5m The unit is breccia/conglomerate dominated with various volcanic - intrusive clasts with a pervasive green alteration of epidote and chlorite with dark red-brown hematite dusting becoming more prevalent with depth. (Ordovician Raggatt volcanics). There is also pink alteration which could be K-feldspar or albite. Fine grained disseminated pyrite (up to 3%) observed through this unit.
FI2405	0	117	Hematitic zone of oxide down to 75m - unit consists of light to grey interbedded calcareous fine-grained siltstone and sandstone with zones of minor disseminated pyrite (Derriwong sedimentary unit)
FI2406	0	69	Hematitic zone of oxide down to 69m - unit consists of light to grey interbedded calcareous very fine to fine grained siltstone and sandstone. (Derriwong sedimentary unit - hematite zone of oxide down to 69m - unit consists of light to grey interbedded calcareous very fine to fine grained siltstone and sandstone).
FI2407	0	153	2m soil cover and then saprolitic volcanics to 55m with quartz-calcite-hematite veining. Below 55m is fresher dacitic to andesitic lithologies with chlorite-magnetite-epidote-carbonate alteration with irregular zones of fine-grained pyrite (up to 5%). Raggat Volcanics.

Table 2: Valley Drill hole collar details and specifications

Drillhole ID	Hole Type	Easting	Northing	Azi°	Dip°	Depth (m) - RC	Depth (m) - Diamond Tails
FI2404	RC-DDH	562,285	6,358,800	160	-60	84	615.5 (EOH)
FI2405	RC-DDH	563,480	6,358,800	160	-60	117	in progress
FI2406	RC-DDH	563,560	6,359,180		-90	48	Diamond tail only if needed
FI2407	RC-DDH	565,260	6,358,200	130	-60	153	RC only

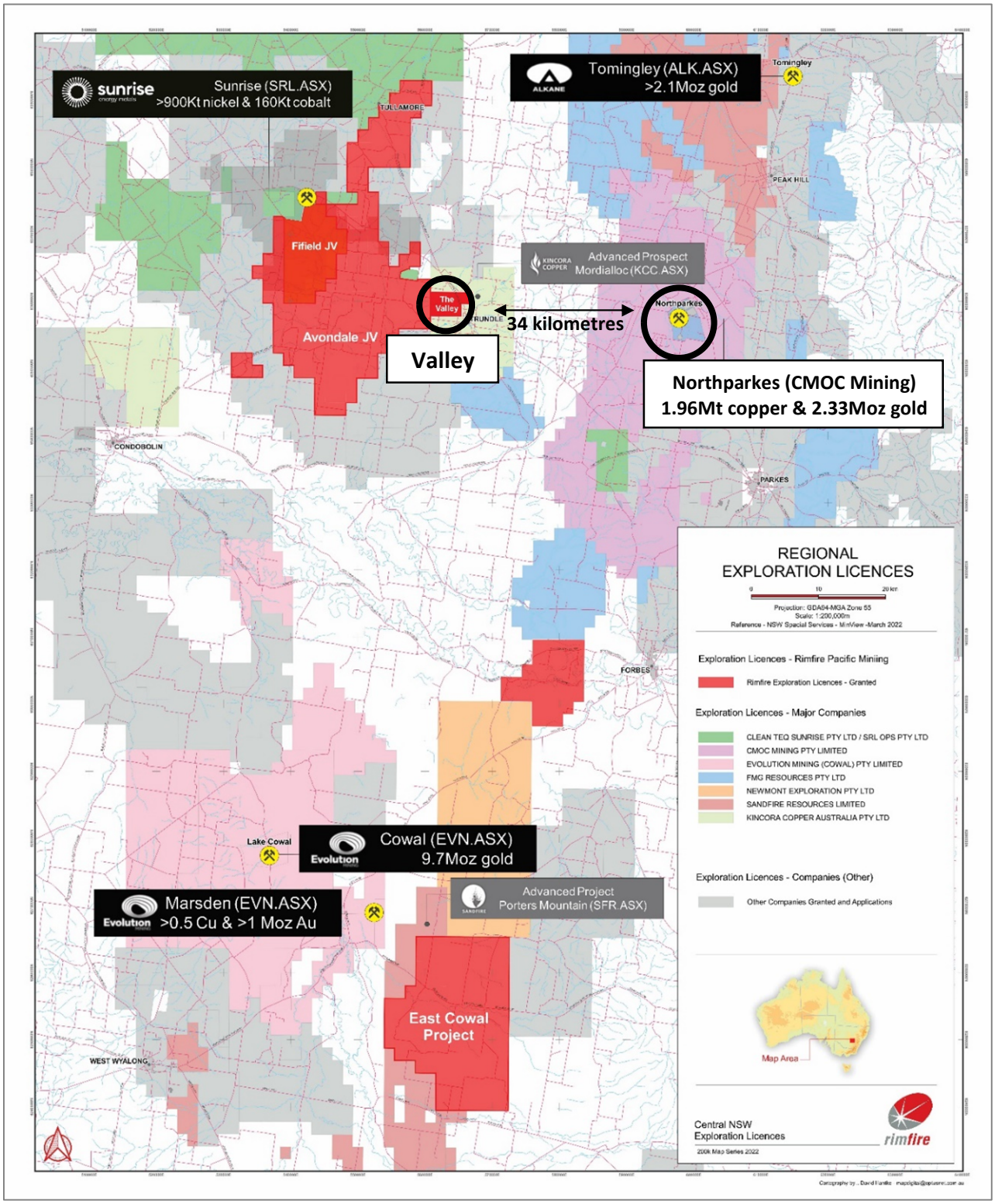

Figure 4: Rimfire Project Locations (in red) showing major competitors' active mines and key prospects.

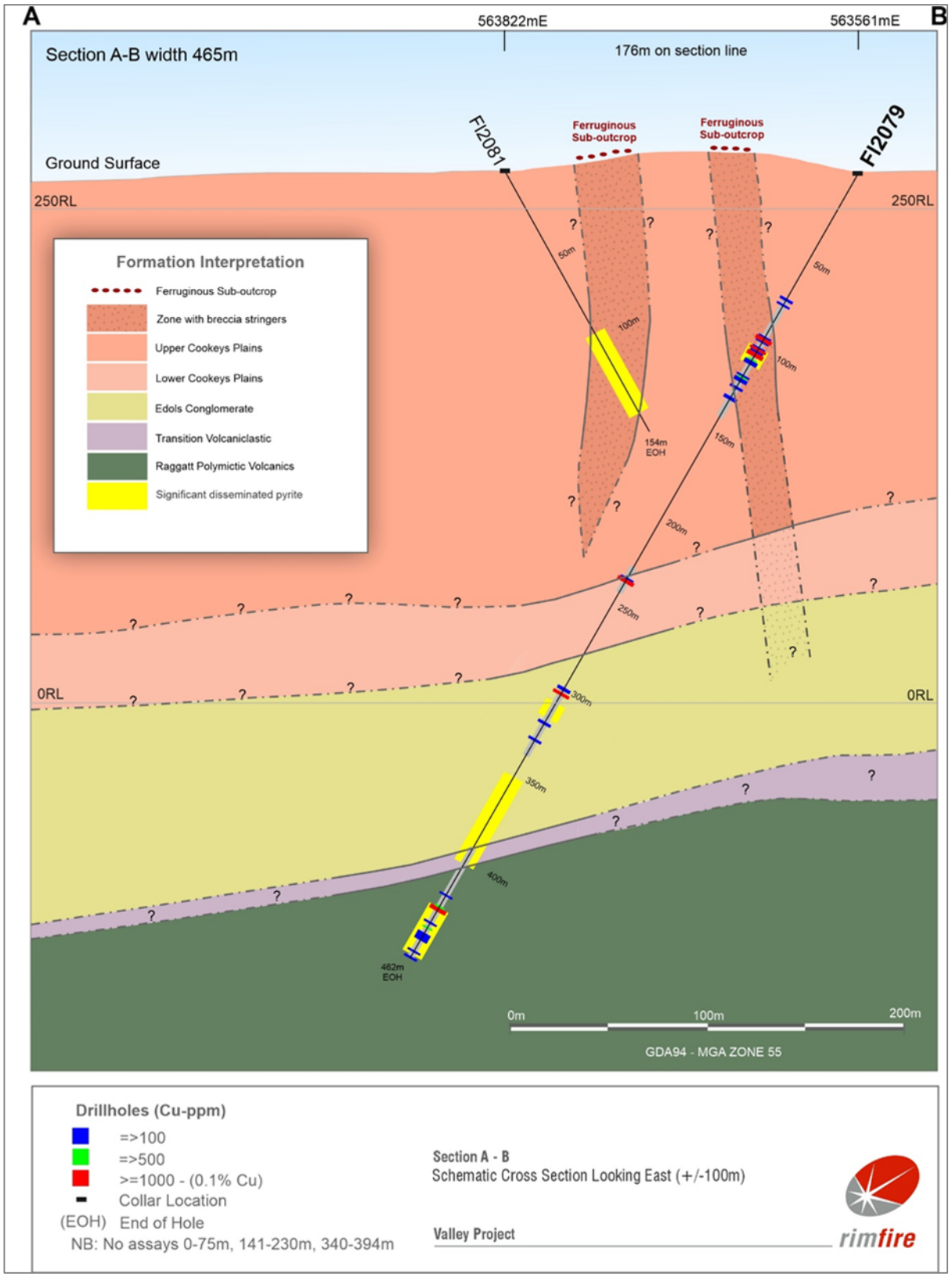

Figure 5: FI2079 and FI2081 Cross section showing Ordovician Raggatt Volcanics and copper – anomalous breccia zones.

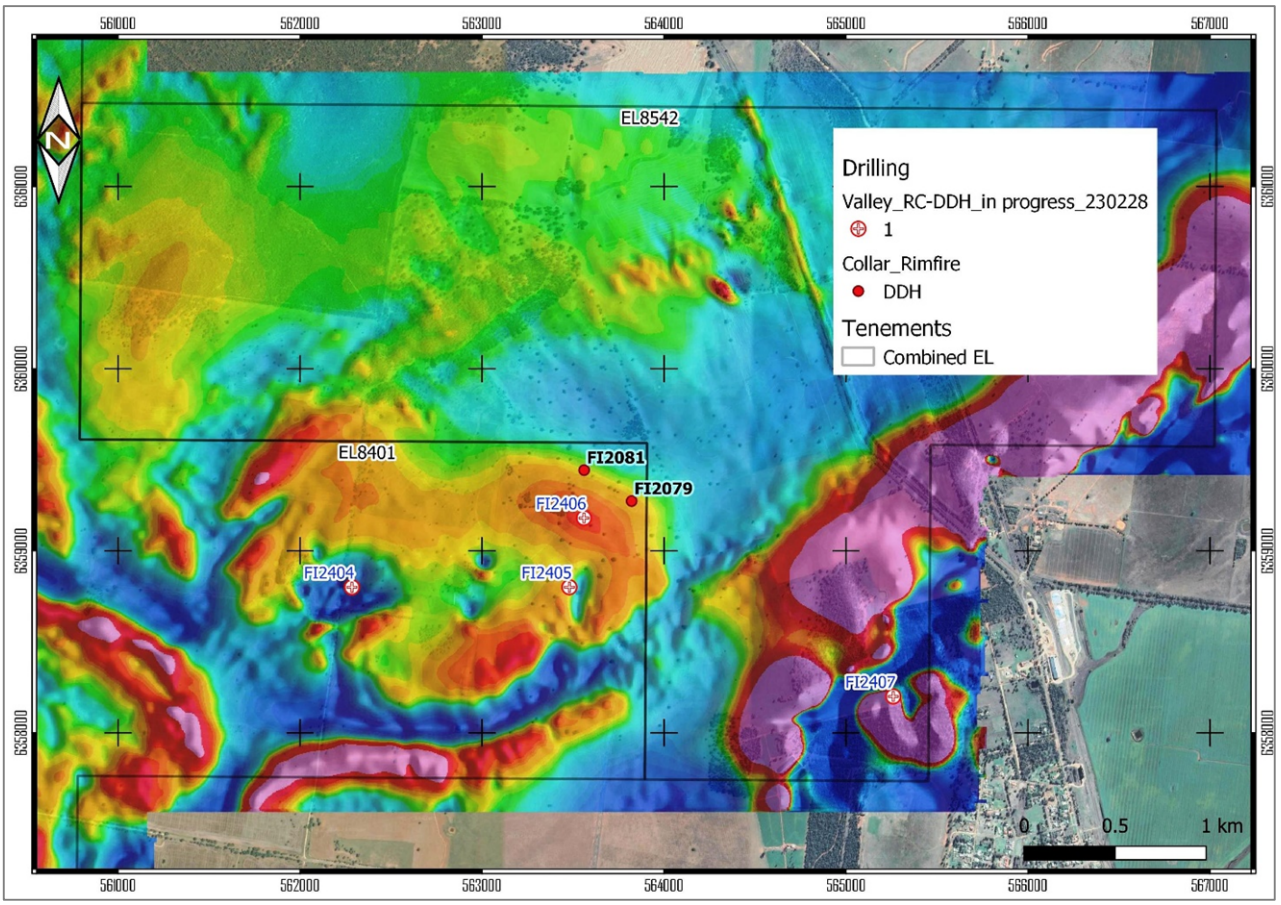

Figure 6: Valley magnetic image showing drill hole locations, and target features potentially indicative of buried intrusive rock complexes.

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

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JORC Reporting

Table 2: JORC Code Reporting Criteria

Section 1 Sampling Techniques and Data – Diamond Drilling

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	This ASX Announcement details Reverse Circulation and diamond drilling currently being undertaken by Rimfire Pacific Mining Limited at the company's 100% - owned Valley Project located at Trundle NSW. Geological logging and sampling are currently underway and no assay results have been received. This ASX Announcement provides a drilling update and descriptions of geological rock types encountered by the drilling so far. . Each drillhole will geologically logged, and all diamond drill core will be photographed. Drill samples will be collected and submitted to ALS Orange for analysis for precious metals (Au, Pt, Pd) using ALS method PGM MS23L and base metals (Ni, Co, Sc) using ALS methods ME-XRF12n and ME-ICP61.
	Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.	N/A as no assay results are being reported at this stage.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.	N/A as no assay results are being reported at this stage.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	All new drillholes reported in this ASX Announcement are diamond drill holes, the specifications of which are included in Table 1.
Drill sample	Method of recording and assessing core and	For the diamond drilling reported in this ASX

Criteria	JORC Code explanation	Commentary
recovery	chip sample recoveries and results assessed.	Announcement, rock quality and core recovery details will be included in the geological logging procedure. All diamond drill core will be photographed as well.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	N/A as no assay results are being reported at this stage.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	N/A as no assay results are being reported at this stage.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	RC and diamond drill core samples will be geologically logged to a level of detail sufficient to support appropriate Mineral Resource estimation, although that is not the objective of the diamond drilling outlined in this ASX Announcement.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Geological logging of diamond drill core is largely qualitative by nature.
	The total length and percentage of the relevant intersections logged.	Relevant intersections have been geologically logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	N/A as no assay results are being reported at this stage.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	N/A as no assay results are being reported at this stage.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	N/A as no assay results are being reported at this stage.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	N/A as no assay results are being reported at this stage.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.	N/A as no assay results are being reported at this stage.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	N/A as no assay results are being reported at this stage.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	N/A as no assay results are being reported at this stage.
	For geophysical tools, spectrometers, handheld XRF instruments (pXRF), etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	N/A as no geophysical tools were used or results of using geophysical tools were included in this Report.
	Nature of quality control procedures adopted	N/A as no assay results are being reported at this

Criteria	JORC Code explanation	Commentary
	(e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	stage.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	N/A as no assay results are being reported at this stage.
	The use of twinned holes.	Not applicable as no twinned holes drilled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	N/A as no assay results are being reported at this stage.
	Discuss any adjustment to assay data.	N/A as no assay results are being reported at this stage.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down- hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Sample locations are recorded using handheld Garmin GPS with a nominal accuracy +/- 3m.
	Specification of the grid system used.	GDA94 Zone 55.
	Quality and adequacy of topographic control.	Handheld GPS, which is suitable for the early stage and broad spacing of this exploration.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The location and spacing of diamond drillholes discussed in this Report are given in Table 1 and various figures of this Report
	Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing and distribution of diamond drilling referred to in this Report is not sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s).
	Whether sample compositing has been applied.	N/A as no assay results are being reported at this stage.
Orientation of data in relation to geological structure	·Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	N/A as no assay results are being reported at this stage.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The relationship between the drilling orientation and the orientation of key mineralised structures is considered not to have introduced a sampling bias.
Sample security	The measures taken to ensure sample security.	N/A as no assay results are being reported at this stage.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The sampling techniques and data has been reviewed by senior company personnel including the Exploration Manager and Managing Director with no issues identified.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	Reported results all from Exploration Licence EL8401 at Trundle, NSW which is held 100% by Rimfire Pacific Mining Limited. All samples were taken on Private Freehold Land. No native title claims exist. The land is used primarily for grazing and cropping.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	The tenement is in good standing, and all work is conducted under specific approvals from NSW Department of Planning and Energy, Resources and Geoscience.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No results are relied on from other parties in this report.
Geology	Deposit type, geological setting and style of mineralisation.	The holes were drilled at the target called "The Valley" for dual purpose of testing the depth extent of surface geochemistry anomalism and a deeper magnetic zone. The deeper magnetic target is a porphyry style hosted in Raggatt Volcanics similar setting to the host rocks at North Parkes mine ~35km to the east.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth.	All drillhole specifications are included within Table 2 of this ASX Announcement. All collar locations are shown on the figures included with this ASX Announcement.
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the Report, the Competent Person should clearly explain why this is the case.	Not applicable as no drill hole information has been excluded.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	N/A as no assay results are being reported at this stage.
	Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	N/A as no assay results are being reported at this stage.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	N/A as no assay results are being reported at this stage.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the Reporting of Exploration Results.	N/A as no assay results are being reported at this stage.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Included within the ASX Announcement
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.	N/A as no assay results are being reported at this stage.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	There is currently no other substantive exploration data that is meaningful and material to report.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	The drilling is currently ongoing so the nature and scale of planned further work is yet to be determined.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not applicable at this stage

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 into $4.5m Earn-in Agreement
ASX Announcement: 25 June 2021 - RIM Secures $7.5m Avondale Farm Out
ASX Announcement: 30 June 2022 - Rimfire to receive $1.5M cash to vary Fifield Project Earn In
ASX Announcement: 4 August 2022 – Exploration Partner funding update

ENDS

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".