

Fifield Exploration Update

Highlights

- Multiple work programs focused on high-value critical minerals - nickel, cobalt, scandium, gold, and PGEs continuing at Fifield and Avondale Projects in NSW
- Drilling to recommence during February 2023 with holes planned for Jacks Lookout (gold and silver), Currajong (PGEs), Platina Lead (PGEs) and Melrose (nickel-cobalt-scandium)

Rimfire Pacific Mining (**ASX: RIM**, “Rimfire” or “the Company”) is pleased to provide an exploration update for its Fifield and Avondale Projects, which are located 70 kilometres northwest of Parkes within the highly prospective Lachlan Orogen of central New South Wales (*Figure 1*).

Parkes is the site of the New South Wales Government’s proposed Critical Minerals Hub which will be central point for mining and value added processing of critical minerals within the state (source - [NSW Government - critical minerals and high tech metals](#) website).

Commenting on the announcement, Rimfire’s Managing Director Mr David Hutton said: *“While heavy rainfall and localised flooding has forced the suspension of drilling activities until early next year, Rimfire’s technical team remains active and continues to advance the Fifield and Avondale projects on a number of fronts; namely developing a new targeting criteria for high grade gold and silver within the Sorpresa deposit area, evaluating and prioritising 20 conceptual targets within the Avondale project area, and assisting with leaching trials of nickel-cobalt-scandium mineralised material from the Melrose prospect.*

Rimfire remains focussed on discovering high-value critical minerals such as nickel, cobalt, scandium, and PGEs and we look forward to updating the market as new information comes to hand.”



RIMFIRE PACIFIC MINING LTD

ASX: RIM

“Critical Minerals Explorer”

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New targeting criteria for high grade gold and silver at Sorpresa

The intersection of a broad zone of strong gold (+/- silver and zinc) anomalism 1km east of the Sorpresa Gold Silver Deposit in an area of no previous drilling at Jack's Lookout (drillhole FI2401) has resulted in Rimfire's technical team developing a new geological model and targeting criteria for the formation of high-grade gold mineralisation throughout the Sorpresa area at Fifield.

Drillhole FI2401 intersected 13m @ 0.12g/t gold from 226 metres, 5m @ 3.23g/t gold and 24g/t silver from 320 metres, and 61m @ 0.14g/t gold from 355 metres within a siliceous and sulphidic carbonaceous shale unit that is the same rock unit (the "Sorpresa Beds") that hosts the Sorpresa deposit (see *Rimfire ASX Announcement dated 14 November 2022*).

Sorpresa hosts a 2012 JORC Code compliant Total Combined Resource (1g/t gold and 85g/t silver cut off) of 1.519Mt @ 1.52g/t gold and 70g/t silver (74.3Koz gold and 3.44Moz silver) and remains open in all directions (see *Rimfire ASX Announcement dated 6 November 2019*).

Detailed geological logging of diamond drill core from FI2401 has confirmed that the highest-grade gold mineralisation (i.e., 5m @ 3.23g/t gold and 24g/t silver from 320 metres) in the hole occurs at the intersection of the shallowly dipping Sorpresa Beds and a cross-cutting steeply dipping fault breccia.

The fault breccia is interpreted to be a conduit for mineralising fluids to interact with the Sorpresa Beds (which represent a chemically favourable host rock) and form high grade gold + silver mineralisation.

As such the intersection of the two geological features represents a compelling exploration target and Rimfire's technical team is currently working to identify those areas where the target position might exist at shallow depths (*Figure 3*).

The FI2401 high-grade drill intercept occurs within an area of no previous drilling so follow-up drilling is required to better understand the original intercept and to test the new targeting criteria.

Evaluating and prioritising 20+ new conceptual targets

Rimfire's technical team has been undertaking geological mapping and surface geochemical sampling using a portable XRF device (pXRF) across multiple conceptual targets throughout the project area to build a strong pipeline of prioritised opportunities for follow-up.

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

The exploration targets are prospective for the discovery of nickel, cobalt, scandium, and platinum group elements (PGE's) associated with ultramafic host rocks, and typically comprise untested magnetic anomalies (interpreted to represent previously unrecognised ultramafic occurrences).

Drilling of one of these magnetic anomalies in early 2022 resulted in the identification of the new Melrose prospect. At Melrose nickel-cobalt-scandium mineralisation is present within a flat lying oxide blanket which overlies a sequence of magnetic mafic – ultramafic lithologies (gabbro – wehrlite – dunite).

To date approximately 7 of the 20 magnetic anomalies have been mapped and sampled with the remaining anomalies to be completed by mid-February 2023. Information obtained from the work will be used to prioritise the targets for follow up aircore drilling.

Nickel, cobalt & scandium leaching trials

Aircore and diamond drilling undertaken by Rimfire during the First Half of 2022 has identified significant nickel (Ni), cobalt (Co, and scandium (Sc) mineralisation within laterised (weathered) ultramafic rock types at the Melrose and Currajong targets (both on Avondale Project; (see *Rimfire's ASX Announcements dated 4th April and 8th June 2022*).

Of particular interest are the high scandium grades (e.g., 21m @ 0.11% Ni, 0.07% Co, and **529 Sc**, from 3 metres in FI2397 including 9m @ 0.17% Ni, 0.15% Co and **688 Sc** from 14 metres) at Melrose and the high cobalt grades at Currajong (e.g., FI2285 – 34m @ 0.29% Ni, **0.15% Co**, and 101ppm Sc from 6 metres including 16m @ 0.27% Ni, **0.22% Co**, and 120ppm Sc from 8 metres.

To better understand the potential commercial significance of the material and to assist in determining next steps for both locations, Rimfire has submitted two samples from each locality to ALS Metallurgy in Perth for preliminary test work and analysis. Specifically, the test work will investigate the feasibility of recovering cobalt and scandium from the laterite host rock using acid leaching at atmospheric pressure and process.

A 10 kg sample of PQ diamond drill core from FI2398 (9-20m) at Melrose was submitted and a 10 kg sample of aircore chips from FI2285 (8-24m) at Currajong was submitted.

Exploration Partner

All exploration activities at Fifield and Avondale are funded by Rimfire's exploration partner – Golden Plains Resources Pty Ltd (GPR). While GPR continues to make payments under the terms of the Fifield Earn In agreement as varied (see *Rimfire ASX Announcement dated 4th August 2022*), at the date of this announcement, the full amount is yet to be received. Rimfire has reserved its rights under the Fifield Earn In agreement and the unpaid amount is accruing interest. Rimfire is continuing to work with GPR regarding the timing of the payment of the outstanding amount and will keep shareholders informed of material developments.

Next Steps

In addition to the ongoing target valuation work at Avondale and leaching trials at Melrose, the Company is planning to recommence drilling activities once ground conditions have improved and cropping activities has finished most likely during February 2023.

Further drilling is planned at Jacks Lookout (gold and silver), Melrose (nickel-cobalt-scandium), Currajong (PGEs), and Platina Lead (PGEs). Details of the Currajong and Platina Lead prospects is included in Rimfire's ASX Announcements dated 8th June 2022 and 27th June 2022 respectively.

Rimfire looks forward to providing a further update to shareholders as new information comes to hand.

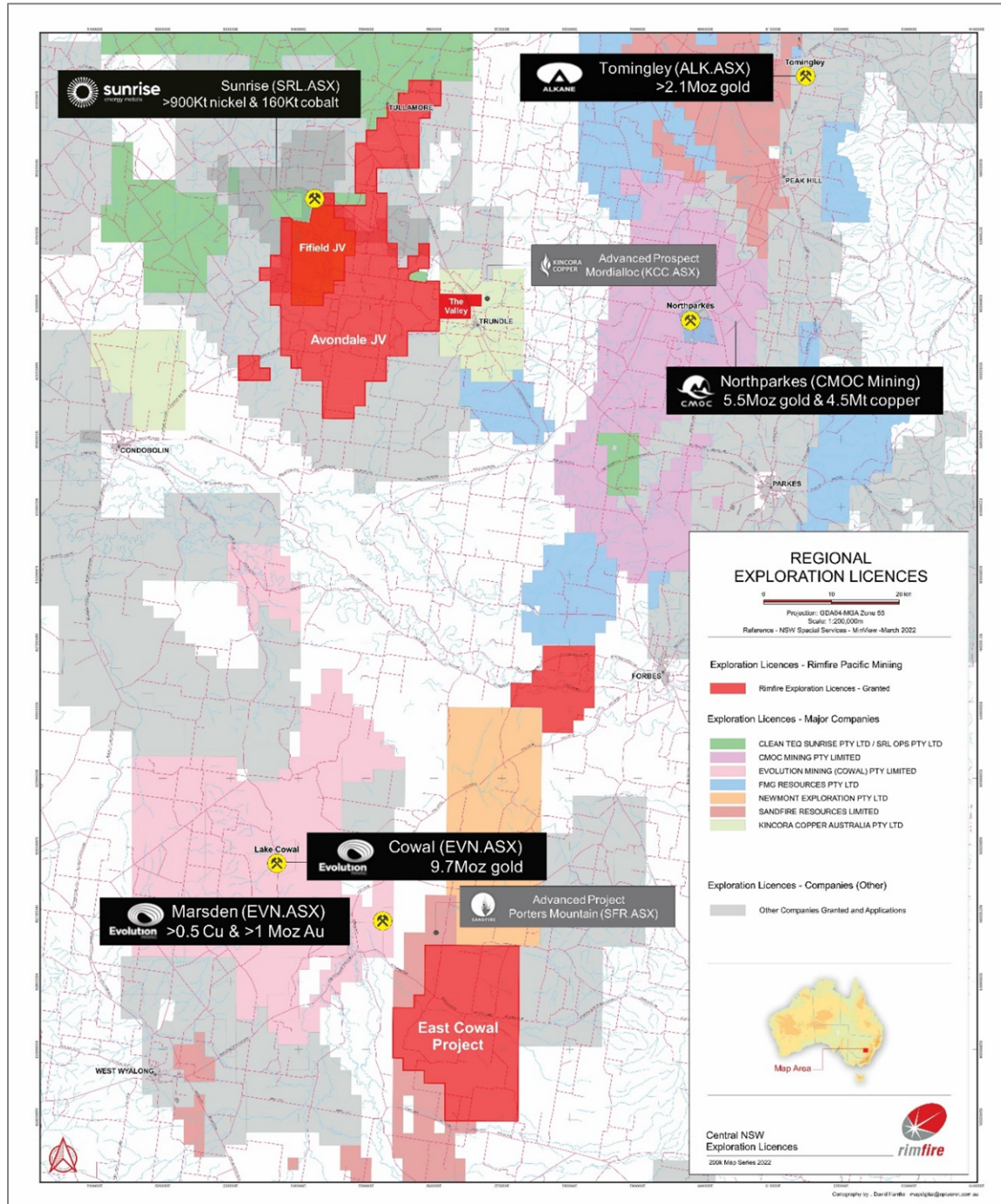


Figure 1: Rimfire Project Locations (in red) showing major competitors' active mines and key prospects.

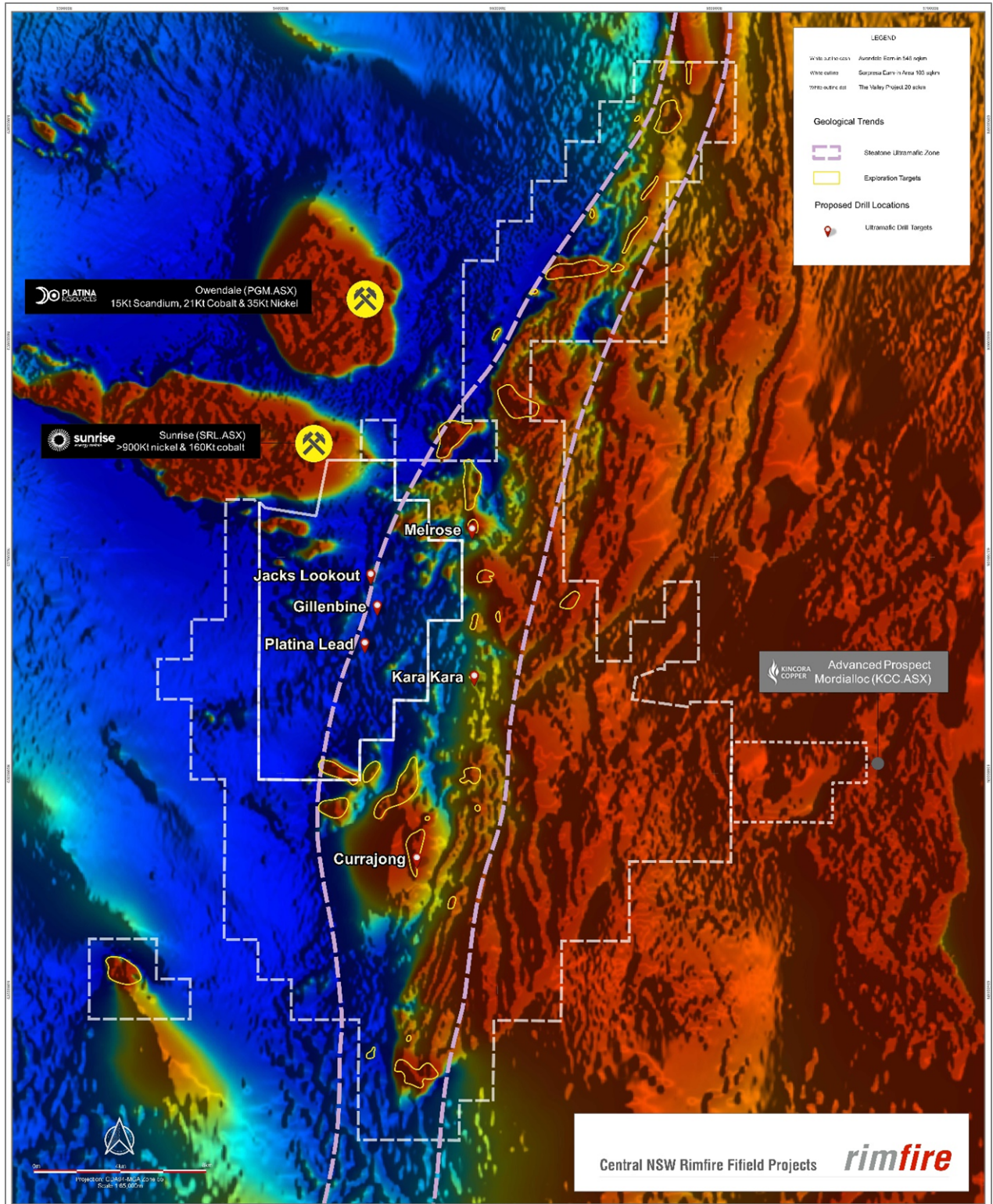


Figure 2: Rimfire’s Avondale and Fifield Projects on RTP TMI background image showing the Steeton Ultramafic Suture Zone (white dashed lines), critical minerals targets (yellow polygons) and drill locations

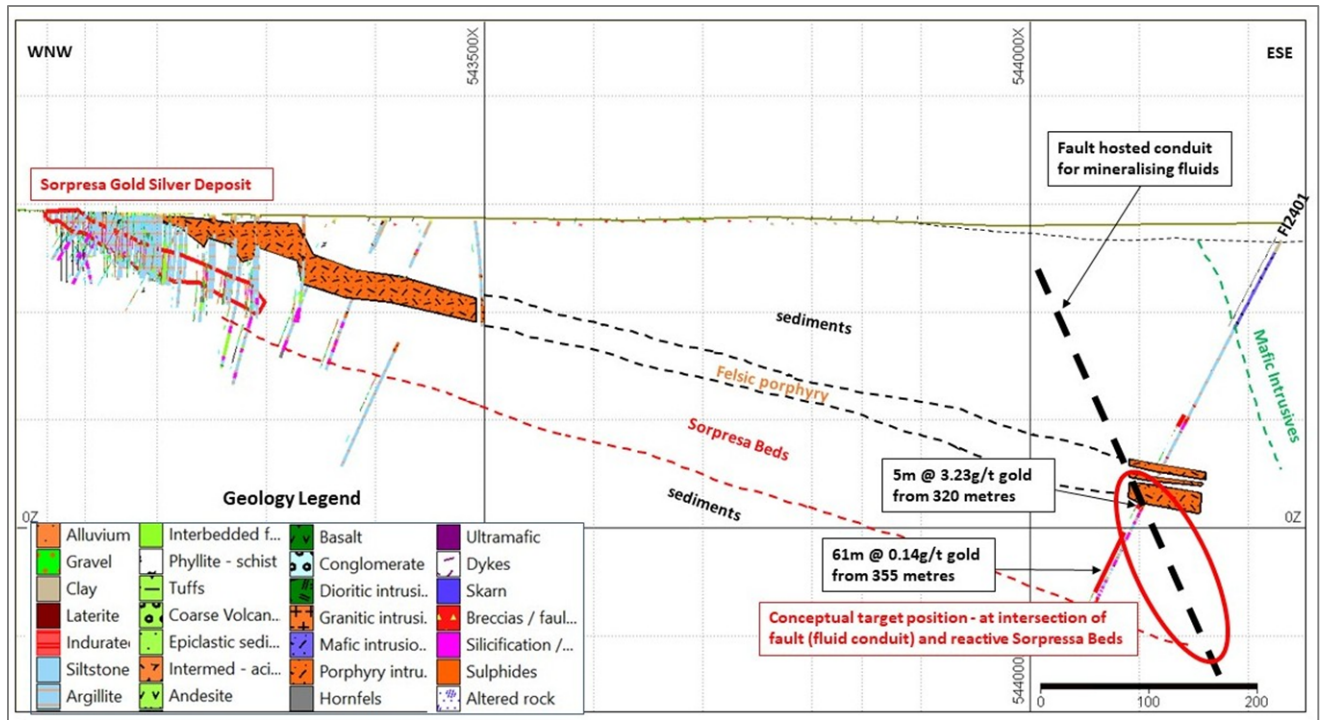


Figure 3: Sorpresa to Jack's Lookout cross section (showing Sorpresa Gold Silver Deposit in red outline, interpreted geology, gold intercepts and conceptual target position)

This announcement is authorised for release to the market by the Managing Director and Chairman of Rimfire Pacific Mining Limited.

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About Rimfire

Rimfire Pacific Mining Ltd (ASX: RIM) is an ASX-listed exploration company focused on exploring for critical minerals (nickel, cobalt, scandium, copper, gold, and PGEs) within the Lachlan Orogen and Broken Hill districts of NSW.

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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 Project which is located immediately west and northwest of Broken Hill and covers a number of 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 Critical Materials (PGEs, Nickel, Copper & Cobalt) - which are essential for renewable energy, electrification, and green technologies.
 - ✓ The development ready Sunrise Energy Metals Ni-Co-Sc 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.

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