ASX ANNOUNCEMENT



1 July 2024

ASX: EMC

Directors

Mark Caruso Robert Downey David Argyle Kim Wainwright

Capital Structure

163.3 million shares5.0 million unlisted options3.6 million performance rights

Projects

Revere (WA) Mt Edon (WA) Rover (WA) Mt Dimer Taipan (WA)

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MT EDON WORLD CLASS RUBIDIUM CRITICAL MINERAL PROJECT – UPDATE

Highlights

- Mt Edon project is emerging as one of the highest grade Rubidium deposits in the world
- Phase 1 JORC Resource drilling completed, results imminent
- ECU Research collaboration continues to work to develop commercial and environmentally friendly rubidium extraction techniques
- Rubidium extraction update will be provided in September 2024 quarter
- Rubidium is listed as a critical and strategic mineral¹ and is a key ingredient to global technology needs by a number of countries, including USA and Japan
- Rubidium products are currently traded at around US\$1,200 per kg, with demand underpinned by growing rubidium use in high tech military and industrial applications
- Rubidium is a well known replacement for caesium, which is becoming increasingly difficult to source

CEO & Executive Chairman Mark Caruso commented:

"Following the successful completion of Phase 1 of our JORC resource drilling program at the Mt Edon Critical Mineral project, EMC's geological team are now preparing to report the drilling results. Work is also progressing well at ECU as we unlock the most commercial and environmentally acceptable extraction techniques. Industry intelligence indicates that the rubidium market could be substantially grown through Everest Metals' establishment of a reliable supply of high grade rubidium product."

¹ US Geological Survey 2022 List of Critical Minerals



Everest Metals Corporation Ltd (ASX: EMC) ("**EMC**" or "**the Company**") is pleased to provide an update on development of the Mt Edon Critical Mineral Project (M59/714), located 5km southwest of Paynes Find, in the Mid-West region of Western Australia, 400km northeast of Perth.

Rubidium Overview

Applications and Importance

Rubidium (Rb) is a critical raw material for various high-tech applications, including the development of new energy conversion technologies and new communication technologies. Approximately 80% of rubidium is used in the research and development of these fields. Key applications include:

- > **Defence and Military**: Night vision imaging, special glass, radiation detectors, photoelectric tubes, radio electronic tubes, military infrared signal lights.
- > **Aerospace**: ion propulsion engines and atomic clocks.
- > **Communications**: Ion cloud communications and fiber optic communications.
- Emerging Energy Power Generation: Materials for magnetohydrodynamic power generation and thermionic power conversion.
- Medical: Sedatives, tranquilizers, and medications for treating epilepsy and synthetic alkaline solvents.
- > Special Glass: Enhancing glass conductivity, increasing lifespan, and stability.
- Industrial Catalysts: Widely used in ammonia synthesis, sulfuric acid synthesis, hydrogenation, oxidation, and polymerization reactions.
- Electronic Devices: Important materials for photovoltaic cells, photoemission tubes, TV camera tubes, and photomultiplier tubes.

Researchers have also recently proposed the use of rubidium for chemical storage within hydrogen batteries, expanding the potential market for this critical mineral².

Production and Market Trends

Rubidium and caesium and their hydrides present two additional problems. Global production of Cs and Rb is significantly lower than that of other alkali metals, and the cost is substantially higher than lithium, sodium or potassium. Due to the gradual depletion of caesium resources, but continued demand of these industries, a replacement is required, with Rb being a suitable candidate. The downstream application fields of rubidium salts are rapidly growing, enhancing the Company's market advantage in this sector. As a result, Rb has been listed as one of the 35 critical minerals by several countries around the globe.

² S. Matalucci, May 2024, Researchers propose use of caesium, rubidium for hydrogen batteries, pv-magazine.



According to the U.S. Geological Survey (2023)³, global Rb resources are relatively scarce, with most resources containing limited Rb content. With the increasing interest in Rb resources in recent years, several granite-hosted Rb deposits/resources in leucogranite pluton have been discovered in China but all of them are very low grade, ranging 0.12-0.15% Rb₂O, and rubidium in these deposits is mainly hosted by K-feldspar for which extraction and concentration are mostly cost prohibitive⁴.

Several market factors support growth in demand for rubidium and underpin the current price of ~**USD1,200/kg**⁵. Among these, there is significant global demand for newer and faster electronic products due to the rapid pace of innovation, technology advancement and R&D activities in the electronics industry.

North America holds a significant share of the rubidium market in terms of both market share and revenue. However, similar to most critical minerals, China maintains control of the market. Commodity analysts believe if more rubidium were produced, the market could grow rapidly and therefore its very small market size could be a function of supply constraints, rather than a lack of demand.

World Class Grade

Comparing the rubidium grade of the Mt Edon Exploration Target with reported worldwide rubidium hard rock deposits and resources reveals that Mt Edon boasts one of the highest grades of rubidium mineralisation systems. The rubidium deposits being compared are located in Namibia, China, Thailand and Western Australia (Figure 1). The source of data is configured as a footnote. Notably, the rubidium grade of brine resources, ranging from 5-25 mg/l⁶, is significantly lower than that of hard rock resources and is not included in the comparison.

³ U.S. Geological Survey, 2023, Mineral Commodity Summaries 2023

⁴ Ore Geology reviews, Volume 141, February 2022, 104636

⁵ www.metal.com/Other-Minor-Metals/202012250004

⁶ Desalination, Recovery of rubidium from brine sources utilizing diverse separation technologies, June 2023.





Mt Edon, Western Australia, 3.2-4.5Mt @ 0.23-0.35%Rb₂O Exploration Target⁷

• Cautionary Statement: Note that the potential quantity and grade of the Mt Edon Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource

Niobe, Western Australia; 4.6Mt @ 0.17% Rb₂O (Inferred Resource), Aldoro Resources (ASX: ARN)⁸

- Karibib, Namibia; 8.9Mt @ 0.22% Rb₂O (Inferred & Indicated Resource), Lepidico (ASX: LPD)⁹
- King Tamba, Western Australia; 5Mt @ 0.14%Rb₂O (Inferred Resource), Krakatoa Resources (ASX: KTA)¹⁰
- Reung Kiet, Thailand; 14.8Mt @ 0.2% Rb₂O (Inferred, Indicated & Measured Resource), Pan Asia Minerals (ASX: PAM)¹¹
- Guobaoshan, China, 234Mt @ 0.12% Rb₂O (Chinese Unclassified Resource)¹²
- Most peer resources have lithium, caesium, and tantalum (LCT) grades as a credit, similar to Mt Edon.

Figure 1: Conceptual comparison of global Rubidium deposits grade (Rb₂O) with Mt Edon Exploration Target

Mt Edon Resource Potential

In December 2023, the Company delivered a maiden Exploration Target at Mt Edon, based on the results of exploration activities undertaken to date and supported by the drill hole database containing over 600m of reverse circulation drilling in the northeast corner of the Mt Edon mining lease, geological mapping, and estimation in accordance with the JORC Code (2012)¹³. The reported Exploration Target is exclusively defined by wide spaced drilling which is insufficient to support either indicated or inferred resource classification. Importantly, the Exploration Target does not include any untested targets along strike or at depth extensions as the absence of any material geological information is considered

⁷ ASX: EMC announcement <u>Mt Edon Exploration Target defined, supporting resource drilling commencement, Continued high grade</u> rubidium-lithium assays from surface, dated 14 December 2023 ⁸ ASX: ARN; Niobe's Rubidium & Lithium Maiden Resource Achieved, dated 12 October 2022.

⁹ ASX: LPD; Karibib Mineral Resources Expanded, dated 12 March 2021

¹⁰ ASX: KTA; Impressive Maiden Mineral Resource Estimate Delivered at King Tamba, dated 9 March 2023.

¹¹ ASX: PAM; Mineral Resource Estimate Upgrade RK Lithium Prospect-42% Increase to 14.8 Million Tonnes, dated 2 November 2023. ¹² Ore Geology Reviews, Geochronology and tectonic setting of the giant Guobaoshan Rb deposit, Central Tianshan, NW China,

December 2021.

¹³ ASX: EMC announcement <u>Mt Edon Exploration Target defined, supporting resource drilling commencement, Continued high grade</u> rubidium-lithium assays from surface, dated 14 December 2023



insufficient to estimate an Exploration Target over these areas at this time. However, these areas provide excellent exploration potential given the pegmatite zones, being the principal control on mineralisation, have been mapped over the entire Mt Edon project and will be drill tested in the next phases of the planned exploration program.

The initial Exploration Target comprises only the north-eastern corner of the Mt Edon mining lease, the surrounding mineralised area measuring approximately $450m \times 100m$. The estimate was limited to a vertical depth of approximately 100m below surface and highlights that Mt Edon may have the scale, grade, and other attributes to justify its continuing evaluation as a possible producer of rubidium concentrate that could then be processed for application in high technology manufacturing industries. The current Exploration Target (JORC 2012) ranges from **3.2 to 4.5 million tonnes with a grade of 0.23 to 0.35% Rb₂O and 0.08 to 0.12% Li₂O (Table 1 and Figure 2).**

Category	Lower Limit	Upper Limit	Grade Range	Grade Range
	(Mt)	(Mt)	Rb₂O (%)	Li₂O (%)
Exploration Target	3.2	4.5	0.23 - 0.35	0.08 - 0.12

Table 1: Mt Edon Exploration Target estimate summary

• All tabulated data have been rounded

• The potential quantity and grade of mineralisation is conceptual in nature

• The Exploration Target is reported as a range of grade and tonnages for the project based on drillhole data statistical confidence limits and various assumptions of continuity

Cautionary Statement:

The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code. The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.





Figure 2: Wireframe encompassing the mineralised holes at the Mt Edon tenement

Project Development

EMC has established a phased approach to advance the development of rubidium (Rb) production from its Mt Edon Critical Mineral Project¹⁴. The Company recently completed Phase 1 of its Resource Drilling program comprising 14 x RC holes (1,266m). Initial analysis indicated that the program was very successful, with assays expected by early July 2024, with pegmatite intersections including ¹⁵:

- MD 50 125m from surface to 125m •
- MD 45 89m from 34m to 123m, plus 10m intercepted from 5m to 15m
- MD 35 89m from 37m to EOH at 126m open
- MD 25 50m from 46m to 96m
- MD 24 40m from 8m to 48m
- MD 27 35m from 34m to 69m

The Company expects to release a maiden JORC Mineral Resource at Mt Edon in August 2024. Moreover, metallurgical test work for Rb extraction is ongoing at ECU's Mineral Recovery Research Centre ("MRRC").

EMC is planning environmental studies, including Flora and Fauna assessments, and is preparing the necessary documentation for the Mining Proposal. The Company aims to obtain all required approvals by the end of 2025.

¹⁴ ASX: EMC announcement; EMC to Advance Mt Edon Critical Mineral Project Trough Rubidium and Industrial Mica Product

Development, dated 27 February 2024 ¹⁵ ASX: EMC announcement; Phase 1 Resource Drilling Successfully Concludes At Mt Edon Critical Mineral Project, dated 28 May 2024





Figure 3: Mt Edon Critical Mineral Project Milestone

Edith Cowan University Research Project Update

On 26 February 2024, Edith Cowan University ("**ECU**") and EMC executed a Research Agreement ("Agreement") for studies in relation to the extraction of rubidium and mica from Mt Edon ore¹⁶. The research activities will be undertaken at ECU's Mineral Recovery Research Centre ("**MRRC**") for a period of 12 months.

This project focuses on extracting rubidium and mica from ore by using Direct Rubidium Extraction technology. Due to the increasing need for sustainable and environmentally friendly extraction processes, these studies aim to develop a state-of-the-art, cost effective, environmentally friendly and profitable extraction technique that maximises recovery. This approach will leverage cutting-edge technologies, innovative methodologies, and industry best practices to ensure a sustainable and profitable extraction process. The process encompasses purification and refining, ultimately leading to the conversion into a final product such as Rubidium salt and metal, and Mica. Under the Research agreement any intellectual property rights derived from the project will be owned by EMC.

As part of this study, critical assessment of the feasibility and potential enhancements of the Direct Rubidium Extraction method will be done. This will allow EMC and ECU to jointly apply for the Cooperative Research Centres Projects ("CRC-P") Grants to scale up the process technology. The Company's expenditure for this project will be eligible for the Federal Government Research and Development ("**R&D**") Tax Incentive thereby having a nil cash impost to EMC.

MRRC is currently conducting experimental studies in the lab for proposition of a sustainable and profitable Rb extraction process while considering environmental concerns. Initial experimentation has shown that magnesium nitrate with 15% w/w concentration and 15% w/w sulfuric acid concentration at 70°C shows the highest extraction efficiency. The Company expects to report results of Rb recovery from the first batch leaching in the September 2024 quarter.

¹⁶ ASX: EMC;EMC TO ADVANCE MT EDON CRITICAL MINERAL PROJECT THROUGH RUBIDIUM AND INDUSTRIAL MICA PRODUCT DEVELOPMENT, dated 27 February 2024



Mineralogical Studies

The Company has sent two samples (EMC0835 and EMC0836) from RC hole ME23-19¹⁷ at a depth of 84-86m to CODES Analytical Laboratories, University of Tasmania to identify Rb and Li-bearing minerals and their distributions with SEM-based modal mineralogy (AMICS) and Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS). Grains of various minerals were analysed for trace elements using a RESOlution 193 nm excimer laser ablation system coupled with an Agilent 7900 ICP-MS and a range of elements and isotopes were analysed.

The study indicates that muscovite (White Mica) is the mineral with the highest average Rb contents in the samples EMC0835 and EMC0836, averaging ~7,600ppm Rb. The next highest average Rb contents are from K-feldspar with ~5,267ppm in EMC0835 and ~4,896 ppm Rb in EMC0836, followed by cookeite with ~2,000 ppm in EMC0835 and ~1,749 ppm Rb in EMC0836.

Petalite in EMC0836 has the lowest average Rb contents, ~331ppm Rb. Moreover, Rb is not correlated with Li in almost all the phases, however, there is a weak negative correlation between Rb and Li in petalite, cookeite, and grains of cookeite mixed with K-feldspar (Figure 4).



Figure 4: Covariation diagram between Rb and Li in Mt Edon samples

¹⁷ ASX: EMC announcement <u>Mt Edon Drilling Program Continues to Deliver, 80m High Grade Rubidium Intersection with Associated Lithium</u>, dated 21 September 2023



The Company continues geometallurgical test work and mineralogical studies to characterise the mineral assemblage of rubidium bearing minerals in Mt Edon pegmatite.

BACKGROUND

Mt Edon Pegmatite Project sits on mining lease M59/714 and covers the southern portion of the Paynes Find greenstone belt in the southern Murchison which hosts an extensive pegmatite field (Figure 5). There are several large irregular shaped felsic pegmatites which have intruded into the Paynes Find Greenstone Belt, a northeast trending sequence of mafic, ultramafic, and sedimentary rocks, with eastwest structures cutting these metasediments. Pegmatites appear to be folded sills dipping in variable directions and angles and are connected at depth representing both sill and dyke structures. These prospective pegmatites have a northeast-southwest strike of up to 350m and occur along a 1.2km interval of the LCT Pegmatite corridor. Larger pegmatitic bodies appear less influenced by the underlying structural trends and fabrics, with many of these bodies cutting both structural fabrics. The larger pegmatitic bodies are interpreted as blowouts related to structural intersections.



Figure 5: Mt Edon mining lease location map

Two stages of RC drilling were completed at the Mt Edon mining lease in late May and early August 2023. During Stage-1 drilling in late May 2023, drill hole ME23-07 intersected a mixed zone of altered mafic host rock and 62m of pegmatite up to a depth of 111m and remained open (Figure 6). Geological logging of the chip samples highlighted well-developed muscovite-rich zones. Hole ME23-007 intersected over **40 metres grading 0.26% Rb₂O** from 49m, including **19m at 0.33% Rb₂O** (0.43% Rb₂O + Li₂O), in addition to three higher grade zones of 2m @ 0.53% Rb₂O + Li₂O (14-16m), 2m @ 0.53% Rb₂O + Li₂O (20-22m) and 2m @ 0.53% Rb₂O + Li₂O (30-32m)¹⁸. The entire mineralised intersection within ME23-007 indicates the highly fractionated and fertility of the pegmatite in the northeast corner of Mt Edon. The pegmatite body in this hole remained open at a depth of 111m (dip 60 degree) and shows there is high potential for lateral extensions particularly toward the northeast.

¹⁸ ASX: EMC announcement; <u>Mt Edon Drilling Results Confirms High Grade Rubidium</u>, dated 13 July 2023





Figure 6: A schematic cross section looking northwest – Shows significant mineralised intersections in hole MD23-07, 15-16 and 18-19 located in the northwest area of the Mt Edon tenement

Stage-2 drilling was designed to unlock the potential of a 600m pegmatite sitting along a northeastsouthwest strike. This zone is interpreted to be a mineralised alteration zone located between the intrusive pegmatites and the mafic country rock. 10 x RC holes were drilled along this trend and all intercepted significant rubidium-lithium results. Some of the thickest and highest grade intersections are outlined below¹⁹:

- Hole ME23-019 intersected over 80 metres grading 0.32% Rb₂O and 0.11% Li₂O from 25m, including 9m at 0.47% Rb₂O from 87m.
- Hole ME23-018 intersected 31 metres grading 0.21% Rb₂O and 0.12% Li₂O from 35m, including 7m at 0.34% Rb₂O from 39m.
- Hole ME23-016 intersected 2 metres grading 0.34% Rb₂O and 0.42% Li₂O from surface and 8 metres grading 0.13% Rb₂O from 19m.
- Hole ME23-015 intersected 15 metres grading 0.22% Rb₂O and 0.27% Li₂O from 14m, including 5 meters at 0.27% Rb₂O and 0.6% Li₂O from 22m.

¹⁹ ASX: EMC announcement <u>Mt Edon Drilling Program Continues to Deliver, 80m High Grade Rubidium Intersection with Associated Lithium,</u> dated 21 September 2023



The Board of Everest Metals Corporation Limited authorised the release of this announcement to the ASX.

For further information, please contact:

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Competent Person Statement

The information in this report related to Exploration Results and Exploration Target that previously reported is based on information compiled and approved for release by Mr Bahman Rashidi, who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM) and a Registered Professional Geoscientist (RPGeo) in the field of Mineral Exploration and Industrial Minerals with the Australian Institute of Geoscientists (AIG). Mr Rashidi is chief geologist and a full-time employee of the Company. He is also a shareholder of Everest Metals Corporation. He has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity, he is undertaking to qualify as a Competent Person in accordance with the JORC Code (2012). The information from Mr Rashidi was prepared under the JORC Code (2012). Mr Rashidi consents to the inclusion in this ASX release in the form and context in which it appears.

This announcement includes information related to Exploration Results and Exploration Target prepared and disclosed under the JORC Code (2012) and extracted from the Company's Mt Edon, which were released on the ASX on 13 July 2023, 21 September 2023, 14 December 2023, 27 February 2024 and 27 February 2024.

Forward Looking and Cautionary Statement

This report may contain forward-looking statements. Any forward-looking statements reflect management's current beliefs based on information currently available to management and are based on what management believes to be reasonable assumptions. It should be noted that a number of factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward-looking statements.

The interpretations and conclusions reached in this report are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken based on interpretations or conclusions contained in this report will therefore carry an element of risk. This report contains forward-looking statements that involve several risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information.

Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this report. No obligation is assumed to update forward-looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

The potential quantity and grade of the Exploration Target is conceptual in nature and as such there has been insufficient exploration drilling conducted to estimate a Mineral Resource. At this stage it is uncertain if further exploration will result in the estimation of a Mineral Resource.



About Everest Metals Corporation

Everest Metals Corporation Ltd (EMC) is an ASX listed Western Australian resource company focused on discoveries of Gold, Silver, Base Metals and Critical Minerals in Tier-1 jurisdictions. The Company has high quality Precious Metal, Battery Metal, Critical Mineral Projects in Australia and the experienced management team with strong track record of success are dedicated to the mineral discoveries and advancement of these company's highly rated projects.

REVERE GOLD PROJECT: is located in a proven prolific gold producing region of Western Australia along an inferred extension of the Andy Well Greenstone Shear System with known gold occurrences and strong Coper/Gold potential at depth. (JV – EMC at 51% earning up to 100%²⁰)

MT EDON PROJECT: is located in the Southern portion of the Paynes Find Greenstone Belt – area known to host swarms of Pegmatites and highly prospective for Critical Metals. The project sits on granted Mining Lease. (JV – EMC at 51% earning up to 100%)

ROVER PROJECT: is located in a Base Metals and Gold rich area of Western Australia' Goldfields, associated with Archean Greenstone belts.

MT DIMER GOLD PROJECT: is located around 125km north-east of Southern Cross, the Mt Dimer Gold & Silver Project comprises a mining lease, with historic production and known mineralisation, and adjacent exploration license.

²⁰ASX:EMC announcement EMC to Acquire up to 100% of Revere Gold Project, dated 11 January 2023