Quantum Critical Metals Reports 150 m of 38gpt Gallium, 694gpt Rubidium, 72gpt Niobium, 8gpt Cesium, and 9gpt Tantalum from Diamond Drilling at Discovery Project

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Quantum Critical Metals Corp. (TSX.V: LEAP) (OTCQB: ATOXF) (Frankfurt: 86A1) ("Quantum" or the "Company") is pleased to announce that it has re-examined its drill core assays at its 100% owned Discovery project, located in the Eeyou Istchee (James Bay) region of Québec, and has discovered elevated and consistent intervals of gallium, rubidium, cesium, niobium, and tantalum. Notably, the Company intersected:

- 37gpt gallium, 936gpt rubidium, 72gpt niobium, 8gpt cesium, and 10gpt tantalum over 30 meters from 9m to 39m.
- 38gpt gallium, 694gpt rubidium, 72gpt niobium, 8gpt cesium, 9gpt tantalum over 150 meters from 44 to 194 meters.
- 37gpt gallium, 651gpt rubidium, 57gpt niobium, 15gpt cesium, 11gpt tantalum over 73 meters from 17 to 90 meters.
- 44gpt gallium, 801gpt rubidium, 66gpt niobium, 16gpt cesium, 36gpt tantalum over 43 meters from 16 to 59 meters.

The Company's 2018 and 2022 drill programs totalled approximately 2,432 meters, and 1,696 meters respectively, for a total of 4,128 meters across 22 holes (Figure 1). These programs were originally initiated for gold exploration, but given recent geopolitical developments regarding critical metals, the Company revisited these results to investigate any further potential that may exist than what was originally considered in the past.

As a function of this review, management believes it has uncovered its second gallium-rubidium-cesium discovery, joining the NMX East gallium-rubidium-cesium project in the Company's portfolio https://www.quantumcriticalmetals.com/blogs/news/durango-reports-107-68-meters-of-38-85-gpt-gallium-701-gpt-rubidi The zones containing anomalous gallium, rubidium, cesium, tantalum and niobium were mostly pegmatite dykes, however several intercepts contained metasediments, granite and granophyre rock types. Meanwhile the Company has also identified indicators of a potential VMS system intersecting these results, including anomalous lead-copper-zinc, which management believes also warrant further attention and investigation. The Company is encouraged by these results and will provide more detail once this additional review has been completed.

Summaries of both these drill program results and the Discovery project are below. Access to the full results are available on the Company's website at https://www.quantumcriticalmetals.com/pages/discovery-polymetallic-project-quebec

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Summary of Discovery Drill Results

Table 1. 2018 Drill hole intervals with gallium, rubidium, niobium, cesium and tantalum.

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Table 2. 2022 Drill hole intervals with gallium, rubidium, niobium, cesium and tantalum.

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Table 3. Discovery Property drill hole coordinates, lengths, and orientation.

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Figure 2. Discovery property 2018 and 2022 drill program locations and claim area map.

Assay QA/QC

Drill core was sawed in half and core samples were collected every 1 metre. Samples were not collected across lithology types. Geological plastic bags were used with sample tags placed inside the bag and the sample ID was written on the outside of the bag using waterproof marker.

In 2018 the samples were shipped to ALS Canada Ltd in Val D'Or for gold and multi-element analysis. Gold was analysed by fire assay with an ICP-AES finish. Multi elements were analysed by Aqua Regia digestion and ICP-AES.

In 2022 the samples were sent to Northern Mining Analytical Laboratory (NMAL) in Timmins, Ontario for gold fire assay - atomic absorption spectrometry and gravimetric analysis. The samples were then sent on to Activation Laboratories in Ancaster, Ontario. Samples were digested using sodium peroxide fusion and analysed for trace elements using ICP-OES/MS. For the drilling campaign, a blank, standard and duplicate were inserted every 30 samples.

A review of the QAQC samples submitted during the drilling campaigns was completed. QAQC samples were submitted every 30 samples in the sample series, alternating between standards, blanks and duplicate order. Review of the results indicates that acceptable levels of error were received from Act Labs for the sets of QAQC samples.

About the Discovery Project

The 100% owned Discovery Project spans 6,082 hectares and is located southwest of the past producing Troilus gold and copper mine (TSX-TLG), as well as the Moblan lithium deposit. The Discovery property is situated in the Frotet-Evans Greenstone belt, a volcanic-sedimentary assemblage which contains a central sedimentary basin. The Discovery property is located in the eastern region of the belt (Simard,1987; Brisson et al.,1997; Brisson et al.,1998 a,b,c). Multiple stages of deformation affected the rocks at Discovery and produced folds with axes of ENE-WSW to EW in orientation and destroy strike slip faults with an E-W trend.

Several rounds of geophysical surveys (EM and Mag, AMT, Gravity) and soil geochemistry lines were completed on the Discovery property from 2013 to 2017. Exploratory drilling was completed in 2018 and 2022 to try to locate the source of the gold occurrences at surface. In 2014, an exploration campaign was conducted and returned up to 41.6 and 46.6 gpt gold in channels samples located 36 metres apart. Field mapping was completed in 2022, 2023, and 2024.

The Discovery Property Polymetallic Potential

The Discovery Project covers an important geological NE-SW regional structure and the Company recognizes this property for its polymetallic potential.

Gold: found within quartz veins hosted within a metabasalt, up to 46.6 g/pt. Historically, elevated gold contents have been found in veins which appear to have an orange, brown iron-stained appearance and are typically deformed, sheared and locally folded. These veins vary from <1 cm in size up to 1m+ scales. The mineralized veins are known to have a West-East orientation and have a steep dip.

Critical Metals: While reviewing the historical drill data and assays of the Discovery Property, the geological team noticed anomalous gallium, rubidium, niobium, cesium and tantalum values in the drill core assays. Gallium, rubidium, cesium, tantalum, niobium have been found in 2018 and 2022 drill holes, hosted mostly in pegmatites. Over 50 pegmatites outcrops have been mapped to date on the property. The pegmatites of the property occur in multiple orientations but the majority of large outcrops are found in a NE/SW orientation and NW/SE orientation. Contacts of pegmatites are typically bulbous indicating a deep and relatively hot emplacement setting but are typically sharp and show little evidence of extensive host rock contamination of melt from the pristine pegmatite compositions. Pegmatites are heavily deformed leading to internal flow-like structures which surround large phenocrysts of microclines. Pegmatite emplacement predates quartz vein formation of the region as quartz veins can be seen cross cutting pegmatites at several locations.

Base Metals (Zn, Cu, Ni, Pb): several zinc soil anomalies, banded magnetite in outcrop, outcrops containing massive and breccia in-fill pyrite and pyrrhotite, and possible Cu, Pb, Ni, Zn anomalies in drill core are also present and require further investigation.

Sources:

Simard, A. 1987. Stratigraphie et volcanisme dans la partie orientale de la bande volcanosédimentaire archéenne de Frotet-Evans. Ministère des Ressources Naturelles du Québec.MB 87-17, 300 pp

Brisson H., Gaulin, R., Lefebvre, D., Dion, D-J., Gosselin, C. and Beaumier, M. 1997. Géologie dela région du lac Assinica, Ministère des Ressources Naturelles. RG 96-11, 28pp.

Brisson, H., Gosselin, C., Fallara, F., Gaulin, R., and Dion, D.J. 1998a. Géologie de la région dulac Théodat (SNRC 32K/16). Ministère des Ressources naturelles du Quebec. RG 98-07, 24pp.

Brisson, H., Gosselin, C., Fallara, F., Gaulin, R., and Dion, D.J. 1998b. Géologie de la région dulac Evans (SNRC 32K/15). Ministère des Ressources naturelles du Quebec. RG 98-06, 23pp.

Brisson, H., Gosselin, C., Fallara, F., Gaulin, R., and Dion, D.J. 1998c. Géologie de la région du lac Rocher (SNRC 32K/09). Ministère des Ressources naturelles du Québec. RG 98-05, 22pp.

Discovery Project Gallium Comparable

The Cordero Deposit in Nevada is possibly the only primary gallium project with a well-defined resource (15 Mt at 47.7 ppm gallium). Gallium mineralization here is associated with low-sulfidation epithermal silver-mercury deposits, with Ga hosted in alunite (KAl(SO4)2(OH)6) and other aluminous phosphate minerals.

Source: https://www.geologyforinvestors.com/gallium-the-unicorn-of-critical-mineral-deposits/

Why This Project Matters:

- Breakthrough Discovery in Critical Metals: The Discovery Project now hosts confirmed intervals of gallium, rubidium, cesium, niobium, and tantalum-strategic critical metals essential to global supply chains and energy transition technologies.
- Strengthening North American Critical Mineral Security: With China's recent export restrictions on several critical elements, discoveries like this in Canada are vital to national and allied efforts to localize and secure supply chains.
- High-Grade and Long Intervals: Assays returned consistent, elevated grades across long intercepts-up to 150 meters-with particularly impressive grades of rubidium, gallium, and niobium, underscoring the scale and potential of the system.
- Supports to Existing Portfolio: This second discovery of gallium-rubidium-cesium mineralization further validates Quantum's exploration model and enhances the Company's reputation as a key emerging player in the critical metals space.
- Emerging VMS Signatures: The presence of base metals such as copper, zinc, and lead-coinciding with high-value critical metals-suggests broader potential for a multi-metal system worthy of further exploration.

Marcy Kiesman, CEO of Quantum Critical Metals, commented:

"The Discovery Project has lived up to its name. What began as a gold-focused exploration campaign has now yielded a new discovery of critical metals at a time when the world needs them most. Gallium remains essential for future technologies, including telecommunications, and defense while global supply chains remain heavily dependent on China. These results not only solidify our position in the gallium-rubidium-cesium space but also expand the strategic relevance of our portfolio. With the geopolitical landscape shifting rapidly, our commitment to uncovering and securing domestic sources of these high-value metals is stronger than ever."

Next Steps

Quantum Critical Metals will now prioritize mineralogy and metallurgy of this discovery to better assess recovery potential, as well as closer geological and geophysical reviews to help plan future drill programs. More information about the Company's work at the Discovery project will be provided in due course.

About Gallium

Gallium, a critical component in semiconductors, telecommunications, renewable energy sectors and may also be considered as a possible heat exchange medium in nuclear reactors. Canada and the USA rely on gallium for telecommunications, defense, and green energy. Gallium is also used in semiconductors, AI circuitry, radar and microchips and could be more critical than previously realized.

Source:
https://www.metaltechnews.com/story/2022/09/12/critical-minerals-alliances-2022/gallium-may-be-more-critical-than-re

Gallium Market Size and Growth:

1. Market Size

In 2023, global high-purity gallium production was estimated at 320 tonnes, with total primary production capacity reaching 1,100 tonnes per year. Demand for gallium is projected to grow due to its role in semiconductors, 5G technology, and renewable energy applications.

2. Key Applications:

- Semiconductors: Gallium arsenide (GaAs) and gallium nitride (GaN) are critical in chips for smartphones, satellite communications, and defense systems.
- Renewable Energy: GaN is used in solar cells and LEDs.
- Emerging Technologies: Gallium is a key component in next-generation technologies such as quantum computing, 5G networks, and advanced radars.

3. Geopolitical Considerations:

China has imposed export controls on gallium, exacerbating supply chain challenges for the U.S. and its allies. These restrictions are part of a broader trade conflict over critical technologies. Countries like the USA are ramping up efforts to develop domestic gallium sources and processing capabilities to reduce reliance on China.

Sources:

https://pubs.usgs.gov/periodicals/mcs2024/mcs2024-gallium.pdf

https://www.usgs.gov/news/national-news-release/usgs-critical-minerals-study-bans-gallium-and-germanium-exports-c

https://www.metaltechnews.com/story/2024/11/20/tech-metals/tech-metals-bans-could-cost-us-billions/2040.html

About Rubidium

Today most rubidium is obtained as a byproduct of lithium and since it is easily ionized it can be used to propel spacecraft engines (ion). Rubidium's critical role in emerging technologies and its limited supply make it a valuable strategic resource.

1. Market Size and Growth:

Rubidium is a niche market, with an estimated global annual consumption of less than 2,000 kilograms, primarily for high-tech applications. Prices for high-purity rubidium compounds are significant, often exceeding $1 million per tonne for rubidium oxide, driven by its rarity and specialized uses.

2. Applications:

- Specialty Glass: Used in fiber optics and night-vision technology.
- Telecommunications: Serves as an atomic frequency standard in GPS systems.
- Quantum Computing: Ultra-cold rubidium atoms play a key role in quantum research.
- Batteries: Potential use in sodium-ion batteries, an emerging alternative to lithium-ion technology.

3. Growth Drivers:

Advances in quantum computing and demand for robust, low-temperature battery technologies are expected to boost rubidium consumption. The inclusion of rubidium on critical minerals lists highlights its strategic importance, especially as global reliance on China's supply raises supply chain concerns.

4. Geopolitical Factors:

China's dominance in rubidium production and recent export restrictions have prompted countries like the U.S. and Australia to accelerate exploration and development of domestic resources.

Sources:

https://www.mordorintelligence.com/industry-reports/rubidium-market

https://www.imarcgroup.com/rubidium-market

https://www.marketresearch.com/OG-Analysis-v3922/Rubidium-Outlook-Size-Shares-Data-36046807/

About Cesium

Cesium is a rare, silvery-gold alkali metal known for its high reactivity and unique properties. It plays a critical role in various high-tech applications, including atomic clocks, medical imaging, and oil and gas drilling operations. The global cesium market is experiencing steady growth, driven by its expanding use in these and other advanced technological fields.

1. Market Size and Growth:

The global cesium market was valued at approximately USD 363.58 million in 2024 and is projected to reach nearly USD 601.72 million by 2032, growing at a compound annual growth rate (CAGR) of 6.5% during the forecast period. This growth is driven by increasing demand in various high-tech applications and the element's strategic importance.

2. Applications:

- Medical Industry: Cesium isotopes are utilized in cancer treatment, particularly in brachytherapy for targeting specific areas with radiation.
- Oil and Gas Industry: Cesium formate is employed as a high-density, low-viscosity drilling fluid, enhancing the efficiency of drilling operations.
- Electronics: Cesium compounds are used in photoelectric cells, enhancing their efficiency and performance.
- Atomic Clocks: Cesium's precise frequency standards are fundamental in the operation of atomic clocks, which are critical for GPS systems and telecommunications.
- Quantum Computing: Cesium atoms are explored for their potential in quantum computing applications, contributing to advancements in this emerging technology.

3 Growth Drivers:

The increasing importance of cesium in cancer treatments and its diversified applications across various industries are significant growth drivers. Additionally, the rising demand for cesium in petroleum extraction and advancements in quantum computing technologies contribute to market expansion.

4. Geopolitical Factors:

China's dominance in the production and supply of cesium has raised concerns about supply chain vulnerabilities. Recent export restrictions by China on critical minerals have prompted other countries to seek alternative sources and develop domestic resources to ensure a stable supply.

Sources:

"Cesium Market Poised for Growth at 6.5% CAGR, Reaching USD 601.72 Million by 2032" - openpr.com

"Cesium Market to Expand by USD 3.57 Billion from 2024-2028, Driven by Growing Role in Cancer Treatment" - prnewswire.com

"China Imposes Export Controls on Medium and Heavy Rare Earth Materials" - hklaw.com

About Critical Metals

Critical metals are essential components in modern technologies, including renewable energy systems, defense applications, and advanced electronics. Both the United States and Canada have identified specific lists of critical minerals vital to their economic and national security. The U.S. Geological Survey's 2022 list includes 50 critical minerals, while Canada in 2024 has designated 34 minerals as critical.

Recent geopolitical developments have heightened concerns over the supply chain security of these critical metals. China, which holds a dominant position in the production and processing of several critical minerals, has implemented export bans affecting the West. These actions underscore the strategic importance of diversifying supply chains and developing domestic sources for critical metals to mitigate geo-political risks and ensure the stability of essential industries.

About Quantum Critical Metals Corp.

Quantum Critical Metals Corp. (TSX.V: LEAP) (OTCQB: ATOXF) (FRANKFURT: 86A1) is a Canadian mineral exploration company focused on advancing critical metals projects that power next-generation technologies. With a growing portfolio of promising assets-including the NMX East Gallium-Rubidium-Cesium Project in Québec, the Discovery Gallium-Rubidium-Cesium and polymetallic project in Québec, the Victory Antimony Project in British Columbia, and the newly acquired Prophecy Germanium-Gallium-Zinc Project in British Columbia, among others, the Company is strategically positioned to support the West's transition to a secure and sustainable critical metals supply.

George M. Yordanov, P.Geo., a consultant to the Company, is the Qualified Person (as such term is defined in National Instrument 43-101), who has reviewed and approved the scientific and technical disclosure contained in this news release.

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Marcy Kiesman, CEO

Telephone: 604.428.2900 or 604.339.2243

Email: info@quantumcriticalmetals.com

Website: www.quantumcriticalmetals.com

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