

# Hannanmetals

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NEWS RELEASE

NOVEMBER 04, 2021

## HANNAN RADIOMETRIC DATING CONFIRMS MIOCENE PORPHYRY BELT AT THE PREVISTO COPPER-GOLD PROJECT, PERU

Vancouver, Canada – **Hannan Metals Limited** (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) is pleased to report that U-Pb zircon dating on four porphyry intrusive centres within an area of 140 by 50 kilometres has defined a previously unrecognized Miocene metallogenic belt associated with significant BLEG, float and outcrop Cu-Au geochemical anomalism at its 100%-owned Previsto project in Peru.

### Highlights:

- Radiometric dating work by Hannan has identified a previously unrecognized Miocene copper-gold metallogenic belt in the sub-Andean zone of central Peru, with eight porphyry samples within an area of 140 by 50 kilometres yielding ages ranging from 21.5 Ma to 12.2 million years (“Ma”; early to mid-Miocene).
- This new district overlaps in age with the Miocene magmatic arc in the Western Cordillera of Peru, where some of Peru’s largest porphyry copper+/-gold and epithermal gold deposits were formed at the same time. This work ‘re-draws’ the map of where such deposits can be found and verifies Hannan’s assumptions that Previsto represents a new search space in a country thought to be mature in its exploration potential. (Figure 2).
- Hannan has continued to stake additional ground and increased its land position by 7% for a total of 113,200 ha (1,132 sq km). Fourteen mining concessions for 13,500 ha (135 sq km) are now granted (Figure 3).
- The Company is currently working with local stakeholders to plan next steps.

**Michael Hudson, CEO, states “Through boots on the ground exploration and modern scientific methods, Hannan has defined a greenfield porphyry copper exploration district in non-traditional areas of the Peruvian sub-Andean region. All dates are interpreted to represent the timing of emplacement of the porphyry intrusions and associated mineralization. The presence of Miocene magmatic rocks in the sub-Andean zone of Previsto is considered regionally unusual and a potentially significant finding for future discovery. The case for “young” porphyry deposits located in a back-arc setting, that is to say, far inboard of their volcanic arc contemporaries is best exemplified by the case of [Bajo de la Alumbrera](#) (pre-mining measured resource [695 Mt @ 0.51% Cu, 0.66 g/t Au](#)) in Argentina, which lies some 150 kilometres east of contemporaneous porphyry deposits in the Chilean Andes. We look forward to working closely with local stakeholders to advance exploration in the area”.**

The Previsto project, located 300 kilometres south of Hannan’s 100%-controlled San Martin sediment-hosted copper-silver project, defines a previously unknown mineralized belt within a 140 by 50 kilometre area (Figures 1 and 2). The area comprises shallow marine to continental sedimentary rocks of Upper Permian to Miocene age that have experienced considerable WNW-ESE-directed shortening, though folding and thrusting, during

multiple events of Andean deformation. This dating suggests that moderately oxidised, medium- to high-K calc-alkaline intrusions, rock types commonly associated with porphyry copper-gold deposits globally, intruded this deformed sedimentary package during the early to mid-Miocene, some 140 kilometres east of the coeval magmatic arc in the Peruvian Cordillera.

At Previsto, regional exploration has identified seven porphyry/skarn targets with associated coincident Cu-Au-Mo-Ag and lesser Pb-Zn-Sn-W anomalism from multiple datasets including stream sediment, outcrop and boulder geochemical sampling, geological mapping and regional airborne magnetics. The nature of the targets is at an early stage. The entire area is under thin cover, and it is estimated that <1% of the bedrock outcrops.

The most advanced of these prospects is located at Previsto Norte where a large number of copper-bearing boulders comprising a variety of porphyry intrusions occur with strong hydrothermal alteration and quartz veining. Assays up to 25.6% copper and 28 g/t silver ([previously report](#)) have been returned. Gold anomalous boulders are also present, with 0.9 g/t gold and 0.12% copper assayed from a strongly leached hydrothermal breccia with porphyritic clasts.

Hannan is working closely with local stakeholders in the area and regional government to plan the next steps on the project now that 14 mining concessions for 13,500 ha (135 sq km) have recently been granted (Figure 3).

### Technical Background

Uranium–lead (“U–Pb”) dating is a well-established and accurate radiometric dating method used to determine the age of rock formation. The method is usually applied to zircon as this mineral incorporates uranium and thorium atoms into its crystal structure, elements that then produce lead by radiogenic decay at a rate that is well established. As zircon strongly rejects lead when forming during magmatic processes, measurement of the ratio of lead to uranium in a rock sample can be used to determine its accurately and precisely determine its age.

Hannan contracted Zirchron LLC, Tucson AZ, USA to perform the dating work at Previsto. Zircons were separated from the rock matrix using an Electro Pulse Disaggregator, sieving and Wilfley water table, Frantz paramagnetic separator and heavy liquid MEI separation, before being mounted in epoxy resin discs and polished. Zircon U-Pb ages were measured at the Radiogenic Isotope and Geochronology Lab (RIGL) at WSU using an Analyte G2 193 excimer laser ablation system coupled with a Thermo-Finnigan Element 2 single-collector, inductively coupled, plasma mass spectrometer.

Of the ten samples dated, eight yielded dates ranging from 21.5 Ma to 12.2 Ma (early to mid-Miocene), while two samples recorded dates of older intrusions, being 119.5Ma  $\pm$  1.4Ma (Early Cretaceous) and 298.3Ma  $\pm$  3.3Ma (Early Permian).

All mineralized samples from Previsto were collected by Hannan geologists. Samples were transported to ALS in Lima via third party services using traceable parcels. At the laboratory, rock samples were prepared and analyzed by standard methods. The sample preparation involved crushing 70% to less than 2mm, riffle split off 250g, pulverize split to better than 85% passing 75 microns. The crushers and pulverizers were cleaned with barren material after every sample. Samples were analyzed by method ME-MS61, a four acid digest performed on 0.25g of the sample to quantitatively dissolve most geological materials. Analysis is via ICP-MS. Channel samples are considered representative of the in-situ mineralization samples and sample widths quoted approximate the true width of mineralization, while grab samples are selective by nature and are unlikely to represent average grades on the property.

**About Hannan Metals Limited (TSXV:HAN) (OTCPK: HANNF)**  

[Hannan Metals Limited](#) is a natural resources and exploration company developing sustainable resources of metal needed to meet the transition to a low carbon economy. Over the last decade, the team behind Hannan has forged a long and successful record of discovering, financing, and advancing mineral projects in Europe and Peru. Hannan is a top ten in-country explorer by area in Peru.

Mr. Michael Hudson FAusIMM, Hannan’s Chairman and CEO, a Qualified Person as defined in National Instrument 43-101, has reviewed and approved the technical disclosure contained in this news release.

On behalf of the Board,

**Further Information**

[www.hannanmetals.com](http://www.hannanmetals.com)

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***"Michael Hudson"***

Michael Hudson, Chairman & CEO

**Forward Looking Statements.** Certain disclosure contained in this news release may constitute forward-looking information or forward-looking statements, within the meaning of Canadian securities laws. These statements may relate to this news release and other matters identified in the Company's public filings. In making the forward-looking statements the Company has applied certain factors and assumptions that are based on the Company's current beliefs as well as assumptions made by and information currently available to the Company. These statements address future events and conditions and, as such, involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the statements. These risks and uncertainties include but are not limited to: the political environment in which the Company operates continuing to support the development and operation of mining projects; the threat associated with outbreaks of viruses and infectious diseases, including the novel COVID-19 virus; risks related to negative publicity with respect to the Company or the mining industry in general; planned work programs; permitting; and community relations. Readers are cautioned not to place undue reliance on forward-looking statements. The Company does not intend, and expressly disclaims any intention or obligation to, update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as required by law.

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## HANNAN IN PERU

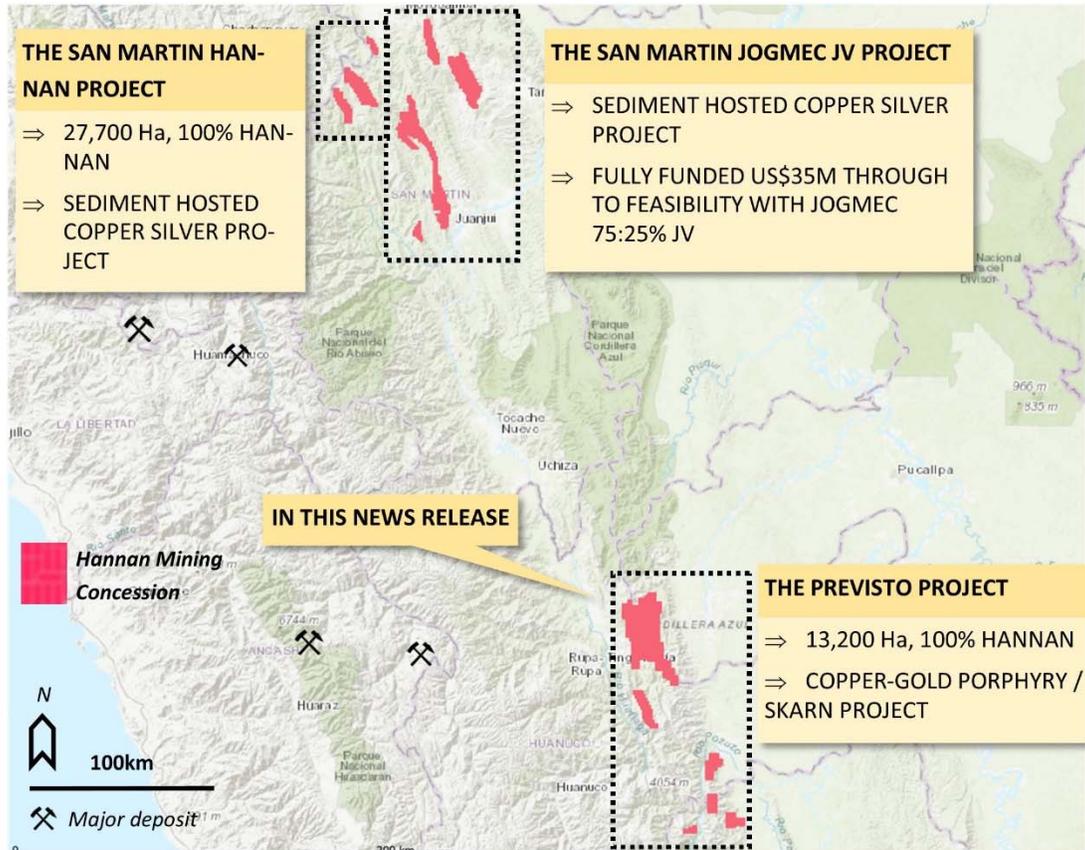


Figure 1. Overview of Hannan's project areas in Peru.

### THE SAN MARTIN JOGMEC JV PROJECT

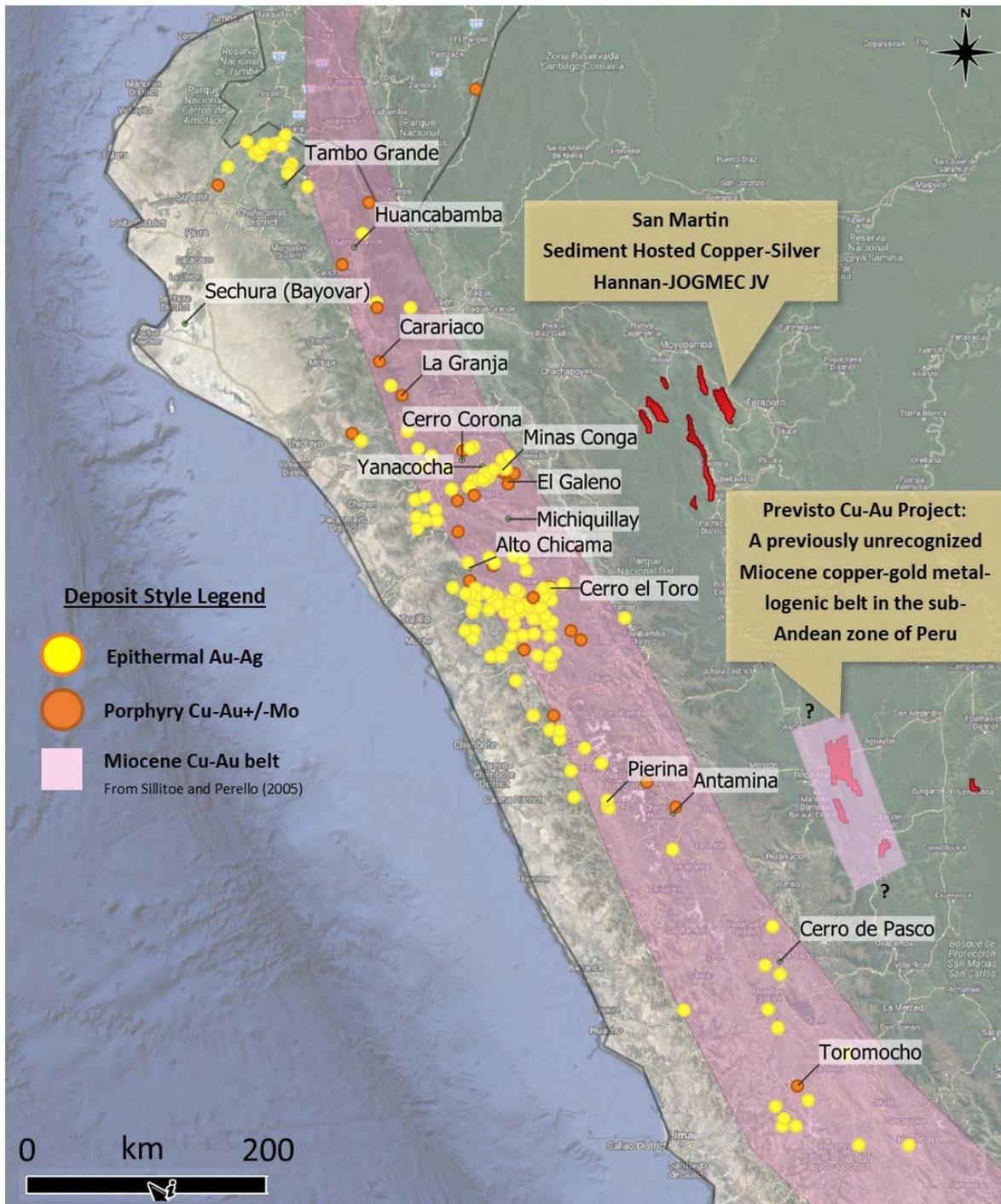
- ⇒ Fully funded Option and Joint Venture Agreement with Japan Oil, Gas and Metals National Corporation ("JOGMEC"). JOGMEC has the option to earn up to a 75% beneficial interest in the San Martin Project by spending up to US\$35,000,000 to deliver to the joint venture ("JV") a feasibility study. 87 mineral concessions for a total of 660 sq kms.
- ⇒ On a basin scale, the project exhibits district wide mineralization hosted in reduced sedimentary rocks covering at least 120 kilometres of strike and 50 kilometres

### THE SAN MARTIN HANNAN PROJECT

- ⇒ Sediment hosted copper silver project (same as the JOGMEC JV project) but 100 %-controlled by Hannan.

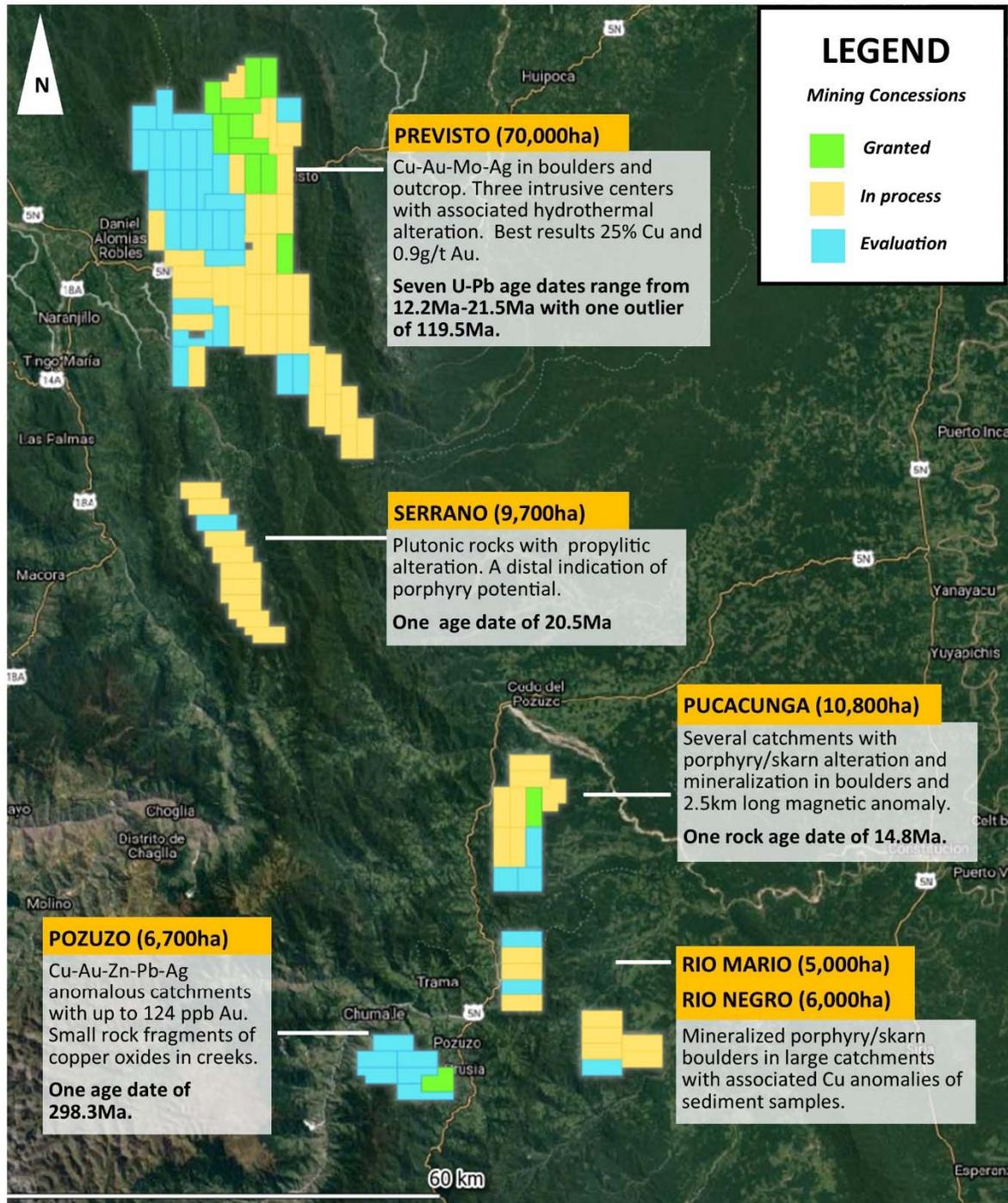
### THE PREVISTO PROJECT

- ⇒ Copper gold porphyry /skarn project. Initial results have outlined well defined targets with copper and gold mineralization in boulders and coincident stream sediment anomalies.
- ⇒ 100 %-controlled by Hannan



**Figure 2.** Peru Miocene aged belt with epithermal and porphyry deposits. The Miocene ages of the Previsto porphyry intrusions are considered regionally unusual as the project is located remote to the conventional Miocene age porphyry belt in Peru. These “young” porphyry deposits located in the back-arc setting, far inboard of their volcanic arc contemporaries, is best exemplified by the case of [Bajo de la Alumbrera](#) (pre-mining measured resource 695 Mt @ 0.51% Cu, 0.66 g/t Au) in Argentina which is located south of this map.

## PREVISTO PROJECT: CONCESSIONS AND AGE DATES



**Figure 3.** Permitting status at the Previsto project with key exploration results and summary of radiometric dates recently performed by Hannan.