

Hannanmetals

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NEWS RELEASE

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HANNAN COMMENCES GROUNDBREAKING 2,782 LINE KILOMETRE LiDAR SURVEY OVER THE SAN MARTIN JOGMEC JV COPPER-SILVER PROJECT IN PERU

Vancouver, Canada – **Hannan Metals Limited** (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) reports on the commencement a large-scale 2,782 line kilometre (“line km”) LiDAR survey over 64,500 hectares of the San Martin JOGMEC JV sediment-hosted copper-silver project in Peru.

Hannan is rapidly advancing the San Martin Cu-Ag project by the utilization of LiDAR, one of the newest remote sensing technologies on the market. The survey is a first in Peru to utilize LiDAR for geological mapping, fieldwork targeting along with drilling and logistics planning. [Horizons South America S.A.C.](#) (“HSA”) have been engaged to undertake the survey.

Highlights:

- 64,500 hectares or 2,782 line kms of LiDAR to be acquired during Q3 2021 at the San Martin JOGMEC JV sediment-hosted copper-silver project, commencing shortly (Figure 1);
- The groundbreaking survey will have multiple objectives:
 - Allow mapping of geology and structure, and hence, in combination with geological and geochemical field observations define geological controls on copper-silver mineralization;
 - Supply a detailed topographic ground model to facilitate efficient fieldwork to map key outcrops and access in the thick jungle terrain, provide targeted ground access and support environmental monitoring and precise drill collar location planning.

Michael Hudson, CEO, states, *“Up to now, LiDAR has been used primarily for mapping vegetation canopy and for topographic controls. Sensor technology and ability to process and interpret the vast cloud point datasets means that the technology can now be applied to mineral exploration in these highly vegetated and challenging terrains for the first time. This is truly a gamechanger for exploration in these areas and Hannan, along with HSA, is pleased to be leading the application of this technology in Peru.*”

“LiDAR allows for the dense jungle to be virtually stripped from the ground, allowing unprecedented ground detail to be observed for the first time. Our exploration teams will be able to map the geology and structure, by machine learning, in extreme detail and allow highly targeted field work to enhance the efficiency of our exploration efforts over San Martin. In addition, Hannan will use the data for drill design and planning access, and should our copper-silver exploration continue to provide successful outcomes, allow siting and design of future development facilities. Overall LiDAR is a highly cost-effective dataset that can be utilized efficiently through the entire project lifecycle.”

What is LiDAR?

LiDAR is the acronym for Light Detection And Ranging. It is a relatively new active remote sensing technology using a laser scanner, Global Positioning System (GPS), and inertial navigation. In the same way that SONAR using sound waves and reflection to detect targets and determine distance (think of the ping heard in a submarine scene from a war movie), LiDAR uses laser pulses with their timed reflectance to determine the target distance. With airborne LiDAR, the target is what lies under the aircraft – be it power lines, vegetation, or the ground. This process is illustrated in Figure 2.

The standout feature of LiDAR is its ability to see the ground through trees and heavy vegetation. While not passing through vegetation, if the laser pulse can find its way past the leaves, branches, and undergrowth to reach the ground, it can reflect back to the sensor and distance be measured. Repeat this process up to 1,000,000 times per second and you can quickly and accurately build a point cloud of target reflections in 3D space, obtaining information in areas where conventional topography, satellite images or photogrammetry cannot reach.

Processing of the point cloud allows the ground returns to be identified, from which a model of the ground surface under the forest canopy can be developed. With the relevant flight and survey planning, along with GNSS post processing, centimetre levels of precision can be derived without touching the ground.

How will Hannan utilize the LiDAR data?

Figure 3 shows a LiDAR derived ground model visualized in 3D from a survey near the San Martin JOGMEC JV sediment-hosted copper-silver project area. Texture in LiDAR surfaces can be used to differentiate rock types- limestone, sandstones, shales, and potentially weathered intrusive bodies that tend to be massive in nature and often deform the country rock. Due to LiDAR's precision and detail, terrain models can reveal structure that may not be obvious on the ground hidden under jungle canopy. Figure 3 illustrates an eroded anticline with lithology differentiated based on bedding presence. Mapping the geology and structure is essential for the sediment hosted copper-silver targets in San Martin.

With soil geochemical sampling and outcrop sampling identifying anomalous Cu-Ag mineralization, the LiDAR ground models will allow Hannan to pinpoint the sedimentary sources of these anomalies and allow the continuity and extent of the sources to be precisely mapped, further driving highly targeted and efficient sampling to promptly define drill ready targets.

About [Horizons South America S.A.C. \("HSA"\)](#)

HSA is a Aerial Survey Company based in Lima, Peru which have been operating throughout South America since 1996 supplying survey services to engineering, mining and petroleum clients. HSA has flown in excess of 75,000 km² of LiDAR over the South American Jungle plus 150,000 km² over the Andes and are highly experienced in operating over complex jungle covered terrain. HSA operate top of the range Leica LiDAR sensors and maintain their own aviation fleet.

All relevant permits and authorizations have been received to fly the survey. The survey is benign and low impact. The aircraft will not generate visual or noise disturbance at ground level, as the flight height will be greater than 1,300 metres from the ground surface. The survey will commence within the next weeks when climatic conditions are favourable, including low cloud cover and low precipitation.

About the San Martin JOGMEC JV Project (Copper-Silver, Peru, 88 mining concessions for 660 sq km)

On November 30, 2020 Hannan announced that it had signed a binding letter agreement for a significant Option and Joint Venture Agreement (the "Agreement") with JOGMEC. Under the Agreement, 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.

The Agreement grants JOGMEC the option to earn an initial 51% ownership interest by funding US\$8,000,000 in project expenditures at San Martin over a four-year period, subject to acceleration at JOGMEC's discretion.

JOGMEC, at its election, can then earn:

- an additional 16% interest for a total 67% ownership interest by achieving either a prefeasibility study or funding a further US\$12,000,000 in project expenditures in amounts of at least US\$1,000,000 per annum (for a US\$20,000,000 total expenditure); and,
- subject to owning a 67% interest, a further 8% interest for a total 75% ownership interest by achieving either a feasibility study or funding a further US\$15,000,000 in project expenditures in amounts of at least US\$1,000,000 per annum (for a US\$35,000,000 total expenditure).

Should JOGMEC not proceed to a prefeasibility study or spend US\$20,000,000 in total, Hannan shall have the right to purchase from JOGMEC for the sum of US\$1, a two percent (2%) Participating Interest, whereby Hannan's Participating

Interest will be increased to fifty-one percent (51%) and JOGMEC's Participating Interest will be reduced to forty-nine percent (49%).

At the completion of a feasibility study, JOGMEC has the right to either:

- purchase up to an additional ten percent (10%) Participating Interest from Hannan Metals (for a total 85% maximum capped Participating Interest) at fair value as determined in accordance with internationally recognized professional standards by an agreed upon independent third-party valuator; or
- receive up to an additional ten percent (10%) Participating Interest from Hannan (for a total 85% maximum capped Participating Interest) in consideration of JOGMEC's agreement to fund development of the project, by loan carrying Hannan until the San Martin Project generates positive cash flow.

After US\$35,000,000 has been spent by JOGMEC and before a feasibility study has been achieved, both parties will fund expenditures pro rata or dilute via a standard industry dilution formula. If the Participating Interest in the Joint Venture of any party is diluted to less than 5% then that party's Participating Interest will be automatically converted to a 2.0% net smelter royalty ("NSR"), and the other party may at any time purchase 1.0% of the 2.0% NSR for a cash payment of US\$1,000,000. Hannan will manage exploration at least until JOGMEC earns a 51% interest, after which the majority participant interest holder will be entitled to act as the operator of the joint venture. Initial exploration activities will focus on the collection of the geological, geophysical, and geochemical datasets in the JV project areas.

Sediment-hosted stratiform copper-silver deposits are among the two most important copper sources in the world, the other being copper porphyries. They are also a major producer of silver. According to the World Silver Survey 2020 KGHM Polska Miedz's ("KGHM") three copper-silver sediment-hosted mines in Poland are the leading silver producer in the world with 40.2Moz produced in 2019. This is almost twice the production of the second largest producing mine. The Polish mines are also the sixth largest global copper miner and in 2018, KGHM produced 30.3 Mt of ore at a grade of 1.49% copper and 48.6 g/t silver from a mineralized zone that averages 0.4 to 5.5 metres thickness.

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,

"Michael Hudson"

Michael Hudson, Chairman & CEO

Further Information

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Forward Looking Statements. Certain disclosure contained in this news release, including the Company's expectations regarding the Agreement and the payments and earn-in upon the successful completion of certain milestones, 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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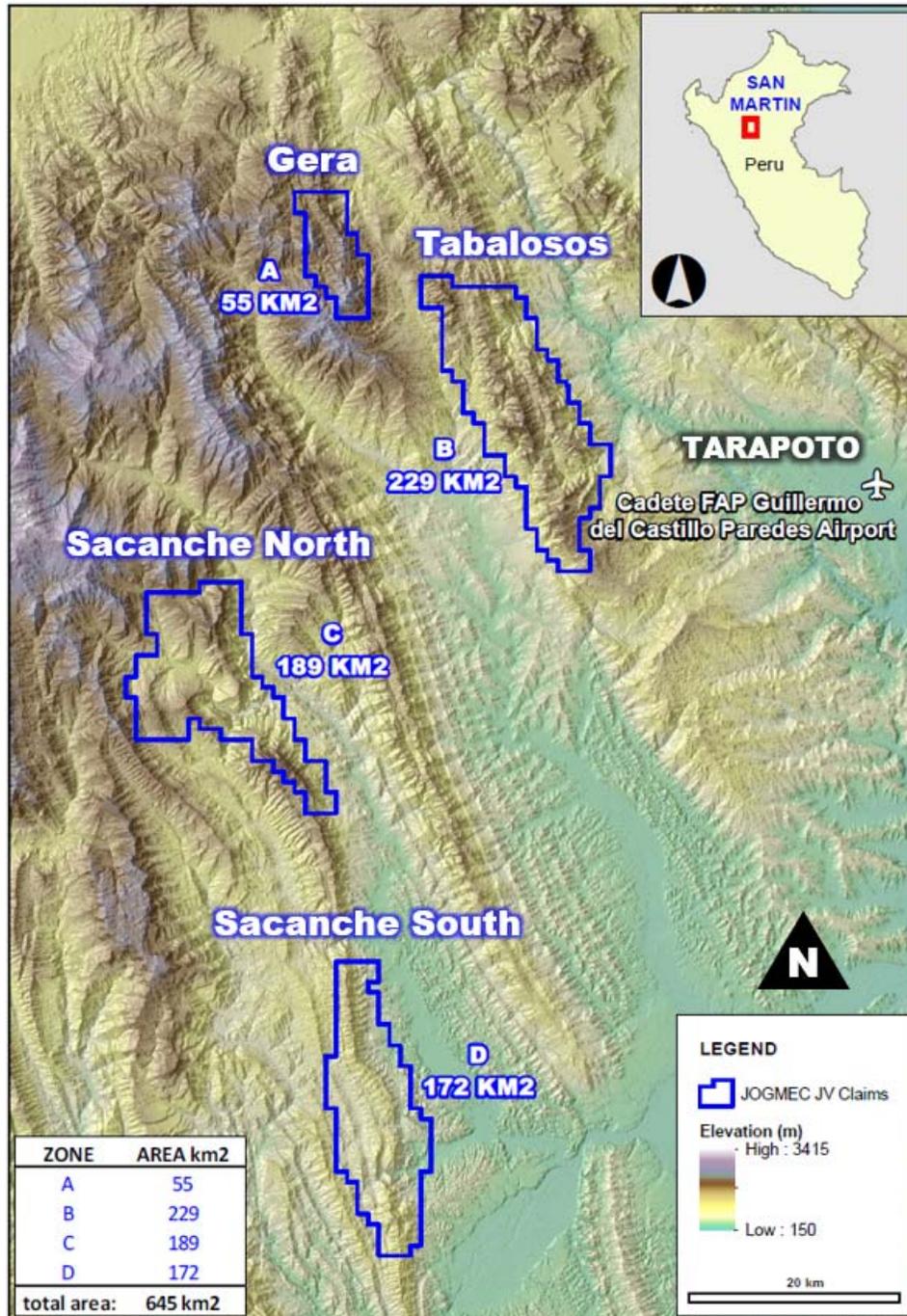


Figure 1. Overview of the San Martin / JOGMEC JV claims totalling 645km²

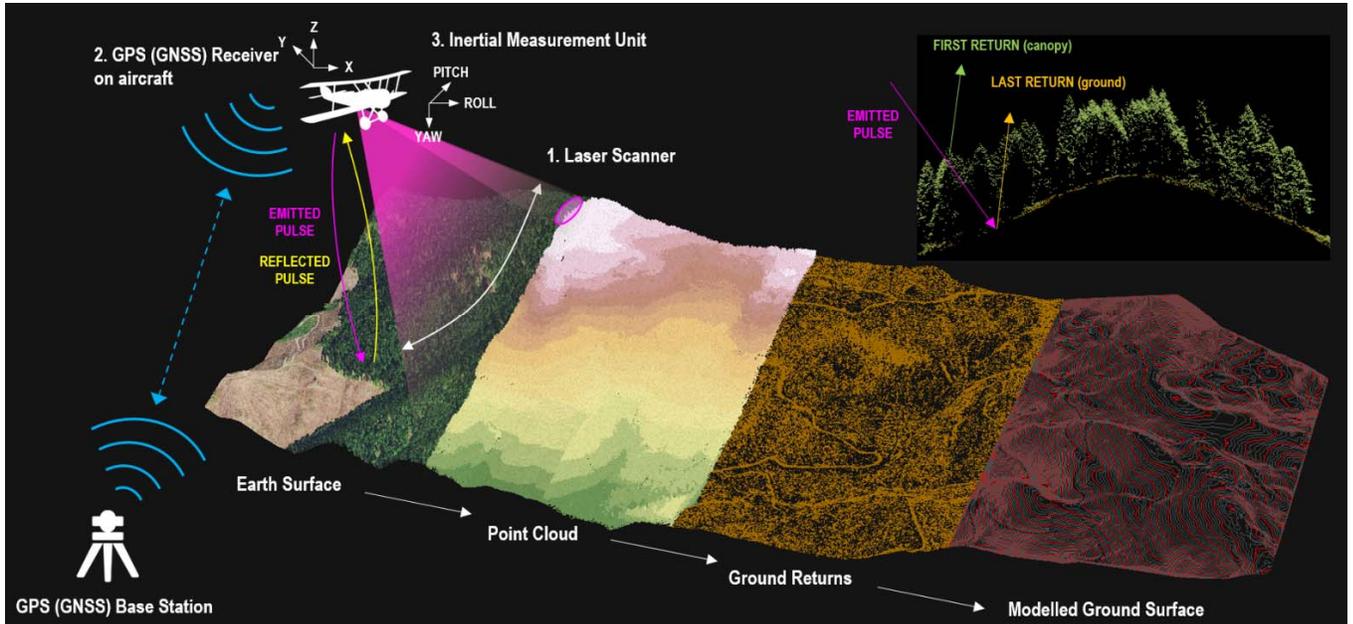


Figure 2. Concept of LiDAR theory and how the ground surface is modelled.

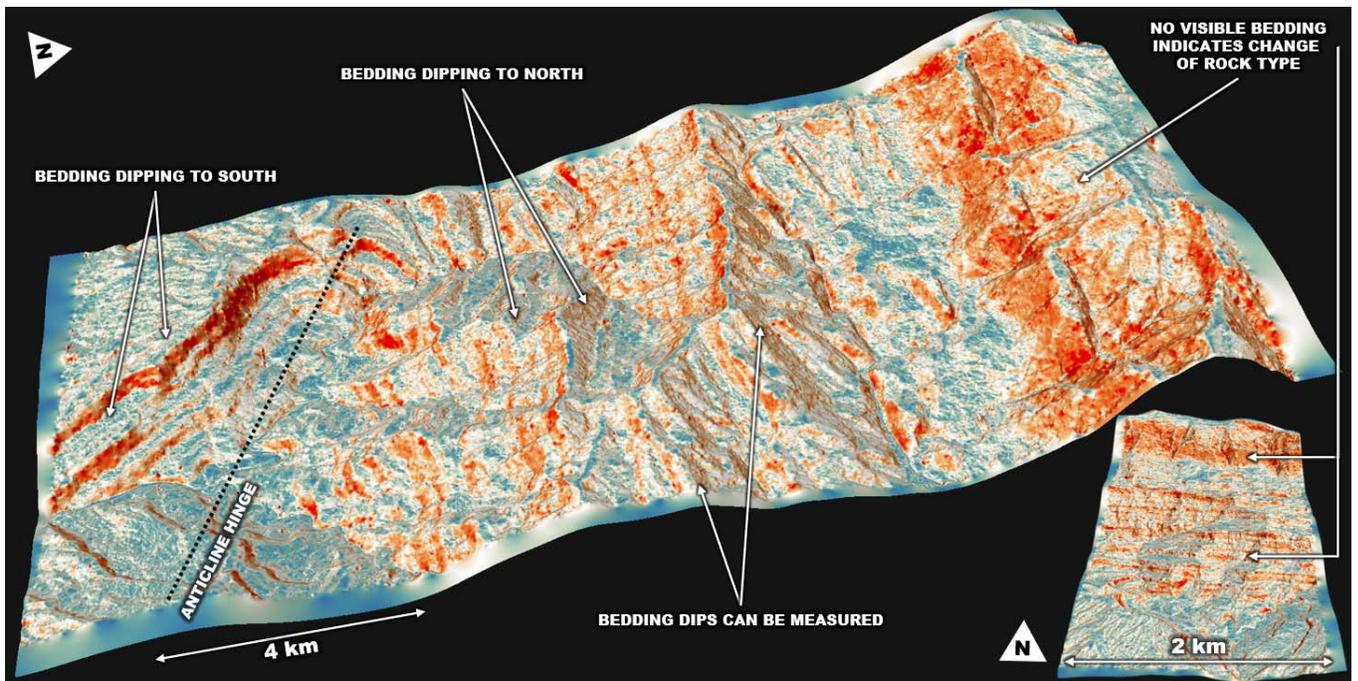


Figure 3. Highly detailed LiDAR ground model allows structure and geology to be accurately mapped, this an example dataset from the Peruvian jungle close to the San Martin JOGMEC JV sediment-hosted copper-silver project.