

# Hannanmetals

1305 – 1090 West Georgia Street, Vancouver, BC, V6E 3V7  
Phone: +1 604 685 9316 / Fax: +1 604 683 1585

---

NEWS RELEASE

FEBRUARY 16, 2023

## HANNAN EXPANDS THE BELEN CU-AU PORPHYRY DISCOVERY IN PERU

Vancouver, Canada – **Hannan Metals Limited** (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) is pleased to provide an update on the Belen copper-gold (“Cu-Au”) target at the 100% owned Valiente project in Peru (Figure 1) where a large field team has continued to be active over the last months.

The Belen Cu-Au porphyry is located 19 km east from the township of Tingo Maria in central Peru, within a previously unknown [Miocene-age](#) porphyry-epithermal copper-gold mineralized belt. The Belen project is contained within a 140 km by 50 km area, named the Valiente Project, where Hannan’s exploration team has identified at least seven intrusion related porphyry/epithermal/skarn targets, of which Belen is the most advanced and described here in more detail (Figure 1).

---

### Highlights:

- **Geology:** Field teams have been active over last quarter with a 10-person exploration team continuing to build and strengthen the exploration targets at Belen.
  - Mineralization has been defined over an expanded footprint from 8 km to 10 km strike.
  - Initial indications of high-grade system developing at Sortilegio with assays up to 16.0% Cu and 4.4 g/t Au from a porphyry boulder grab sample.
- **Geophysics:** After completing a 4,880 line km aeromagnetic survey across all of its 100% owned mining concessions at Valiente late in 2022, the Company has recently undertaken and completed a 19.4 line km pole-dipole induced polarization (“IP”) geophysical survey at the Ricardo Herrera porphyry and Vista Alegre epithermal gold target. Results will be released after all data has been processed and interpreted.
- **Permitting:** Permissions to start the Declaracion de Impacto Ambiental (“DIA”) or Environmental Impact Statement at Belen been received from authorities. The DIA is the primary environmental certification required to allow low impact mineral exploration programs, that includes drilling programs, to proceed in Peru. A multi-disciplinary team will be mobilized in the coming weeks. Work will involve archaeological investigations, community workshops and liaison activities to collect appropriate information necessary to make the submittal for approval to the General Directorate of Mining Environmental Affairs of the Ministry of Energy and Mines, Peru.
- **Further results** from the IP geophysical surveys, mapping and channel sampling will be released soon.

---

**Michael Hudson, CEO, states:** *“Despite the political challenges Peru has seen over the last months, Hannan’s teams have remained very active in the field with positive interactions with local stakeholders continuing. Momentum at Valiente remains high. The work by our field team continues to successfully expand and refine the mineral system at Belen. The high-grade copper gold boulders at Sortilegio, within the Belen trend, demonstrate the potential of a new high-grade target at Sortilegio and importantly, we are now mapping mineralization over a large footprint. This is highlighted by the development of the 4 km long base metal gold skarn target east of Sortilegio within the 10 km long linked porphyry copper-gold and epithermal gold mineral system. With permissions received to commence our detailed drill permitting, we look forward to 2023 with great enthusiasm.”*

## Geological Discussion

At the **Sortilegio** porphyry target, detailed geological mapping has now commenced (Figure 2) with 70% of the area mapped (5 sq km) . A total of 22 channel samples have been taken for 130.7 m. Assays are pending. In addition, 450 soil samples have been collected demonstrating moderate to strong copper (gold) values over 1,800 m by 900 m (Figure 2). Two zones of interests have emerged:

- Hornblende felspar porphyry of diorite composition overprinted by phyllic alteration and secondary copper oxides (Figure 3) seen within multiple boulders in creeks. Assays are pending.
- Board supergene mineralization marked by fine grains of native copper hosted by a lamprophyre intrusive that is broadly coinciding with the soil copper anomaly covering 1,800 m of strike.

The potential for high-grade mineralization at **Sortilegio** has been highlighted by the discovery of high-grade copper-gold bearing massive goethite boulders with remnants of secondary biotite with **one boulder assaying 16.0% Cu and 4.4 g/t Au** (Figure 3). In total 147 boulders ranged from <0.001 % Cu to 16.0% Cu to and averaged 0.15% Cu and <0.001 g/t Au to 4.4 g/t Au and averaged 0.03 g/t Au.

Strong indications are also emerging of a **4 km long skarn hosted gold-base** metal target (the Belen Skarn zone) north and east of Sortilegio, expanding the footprint of the mineral system to cover 10 km (Figure 2). The soil anomalous trend is parallel to an Andean thrust fault and initial soil data suggest a strike >4km. 190 soil samples have been analyzed with pXRF and 90 samples with fire assay from the area with results ranging from 6 ppm Zn to 2,031 ppm Zn and averaging 109 ppm Zn, 2 ppm Pb to 266 ppm Pb and averaging 18 ppm Pb and <0.001 g/t Au to 0.103 /t Au and averaging 0.008 g/t Au.

At the **Riccardo Herrera** porphyry target (Figure 2), detailed mapping over 9 sq km has been completed. A 850 m x 250 m copper-gold target has been identified (as [reported here](#)). An updated geological interpretation is now being completed combining the information from the surface geology, airborne magnetic data and the recently collected pole-dipole IP geophysical data.

## Valiente History

The 100% owned Valiente project is located in central eastern Peru, east of the city of Tingo Maria (Figure 1). The area is characterized by steep topography on the eastern flank of the Central Cordillera with elevations between 800 m and 2,000 m above sea level (a.s.l.). The project was discovered in 2021 during an extensive greenfields exploration program initiated by Hannan.

Peru has been a major copper and gold producer since precolonial times. Currently known gold deposits include orogenic gold, porphyry Cu-Au, porphyry Au, transitional porphyry-epithermal, epithermal, and placer gold. The Valiente project is a new a porphyry-epithermal metallogenic belt in the central eastern Andes. The Valiente project is located further east than most of the conventional Andean porphyry settings and shows regional similarities to deposits such as the large Bajo de Alumbrera copper-gold porphyry in Argentina. It is interpreted that Valiente was formed in a tectonically favourable area associated with an arc-oblique wrench fault system, that may have aided the ascent of oceanic arc-related magmas into the transfer zone so far inboard from the magmatic arc.

The Valiente project is believed to consist of an overlapping suit of porphyry targets with composition ranging from conventional calc-alkalic to alkalic hosted Cu-Au mineralization ([reported here](#)). It is anticipated that both high and low-magnetic and radiometric correlations may exist within the property and a detailed evaluation combining the airborne data with 3D litho-structural interpretations and results from stream sediments samples (BLEG) is currently being undertaken.

In 1984 Ingemmet, the Peruvian Geological Survey, conducted mapping in the central part of the Central Cordillera in the Departments of Huanuco and Ucayali. The area was sporadically explored during the 1990's by Gitennes, Newcrest, BHP, WMC and others but records are sparse. At this time, access to the area was restricted because of unpredictable security conditions and poor infrastructure.

From 2020 to 2021, Hannan launched a greenfields exploration program for porphyry and epithermal gold deposits in the high jungle areas of the Eastern Cordillera of Peru, which included regional database compilation, target generation, and field mapping. Hannan also conducted regional stream sediment sampling (fine clay fraction). The target generation permitted definition of prospective area, one of which was the Valiente block located along the eastern flank of the Central Cordillera, Department of Ucayali.

In 2022, field work started in the Belen area which represents a small proportion (4%) of Hannan's total landholding at Valiente. In this area, several geochemical anomalies were found, with boulders of diorite porphyry containing quartz-sulfide and magnetite veinlets. Subsequent mapping, soil and rock sampling at Belen during the last two months has identified porphyry-style alteration and veinlets.

Field and social teams are actively engaged in the area, with Hannan's policy to undertake exploration activities only within areas where full support from local stakeholders exists.

## Technical Background

All samples 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 2 mm, riffle split off 250g, pulverize split to better than 85% passing 75 microns. 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. Gold was analyzed by ALS in Lima using a standard sample preparation and 25g fire assay sample charge.

All soil samples were collected by Hannan geologists using an in-house protocol for soil sampling in jungle areas. The samples were subsequently analyzed with a portable XRF ("pXRF") deploying a protocol developed by [Hannan for the San Martin project](#). The method is designed to minimize risk of contamination and ground disturbance. In most cases the sample media is the "B-horizon" of the soil profile. Only 100g of sample material is collected from each site. From the soil sample a pellet is produced which is dried and analyzed by a pXRF. Certified reference material, blanks and field duplicates are routinely added to monitor the quality of the pXRF data and 10% of all samples are submitted to ALS in Lima to validate the pXRF data. Gold was analyzed by ALS in Lima using a standard sample preparation and 25g fire assay sample charge.

## 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

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

1305 – 1090 West Georgia St., Vancouver, BC, V6E 3V7

Mariana Bermudez, Corporate Secretary,

+1 (604) 685 9316, [info@hannanmetals.com](mailto:info@hannanmetals.com)

**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.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this news.

## THE VALIENTE COPPER GOLD PROJECT

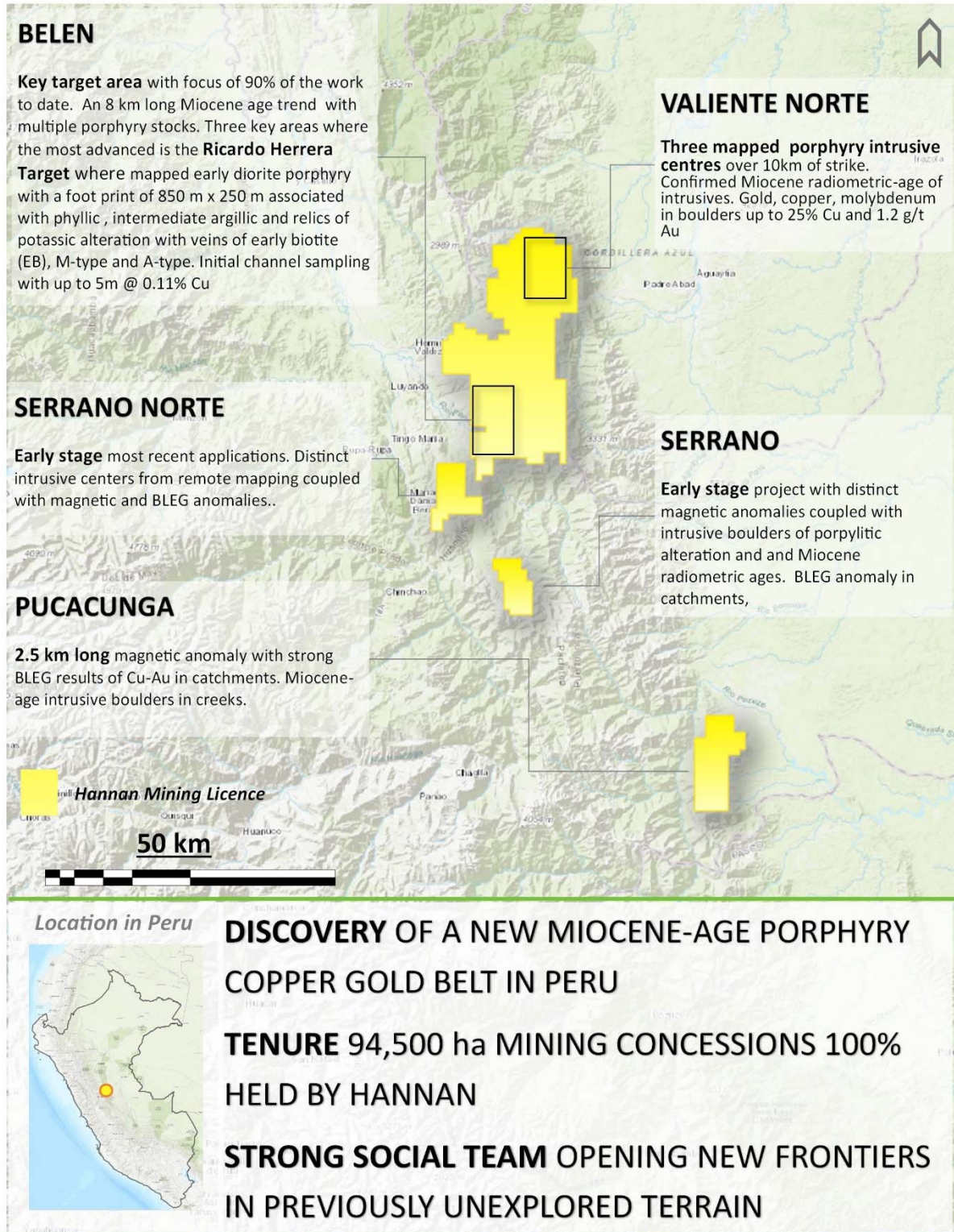


Figure 1. Overview of the Valiente project in Peru

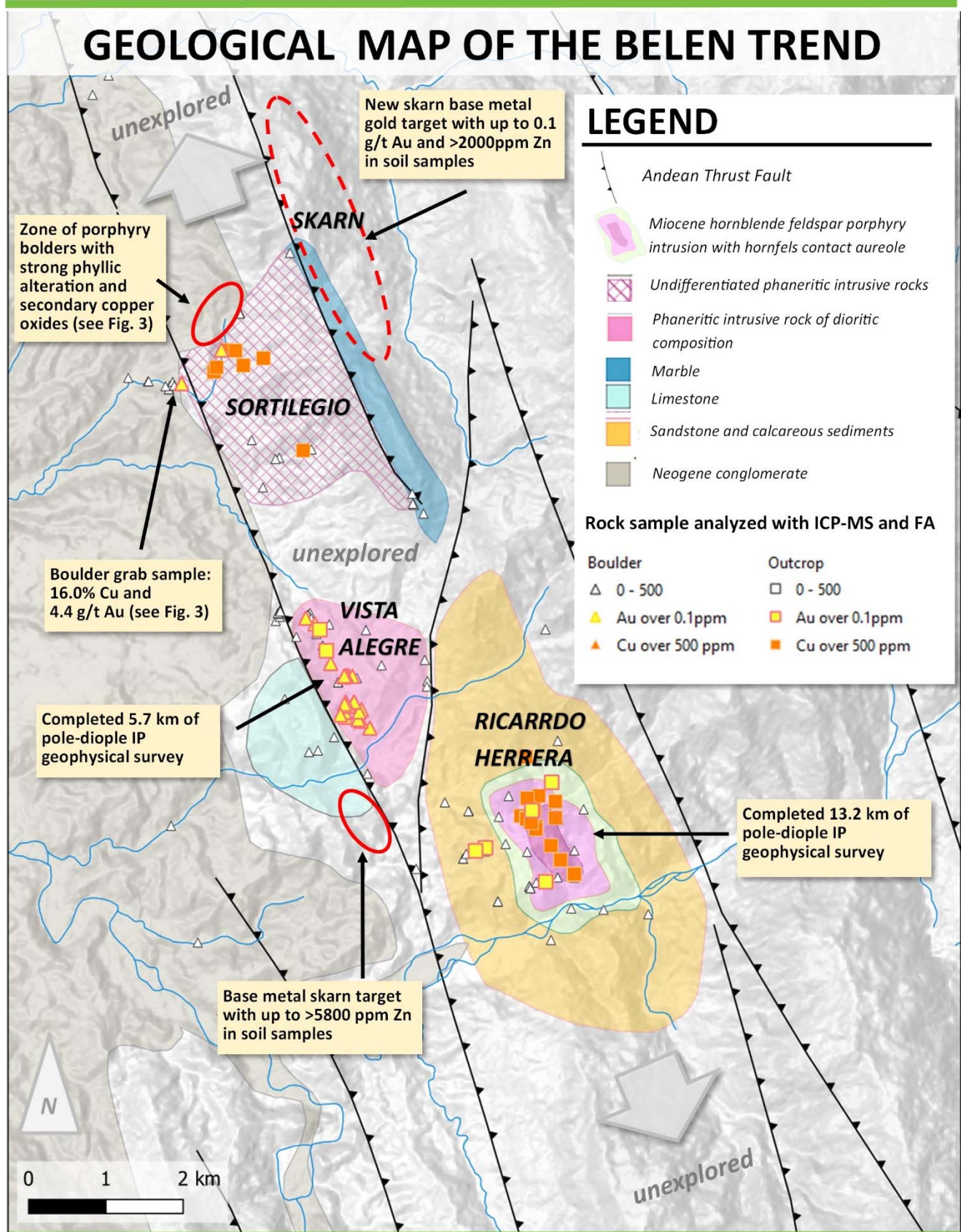
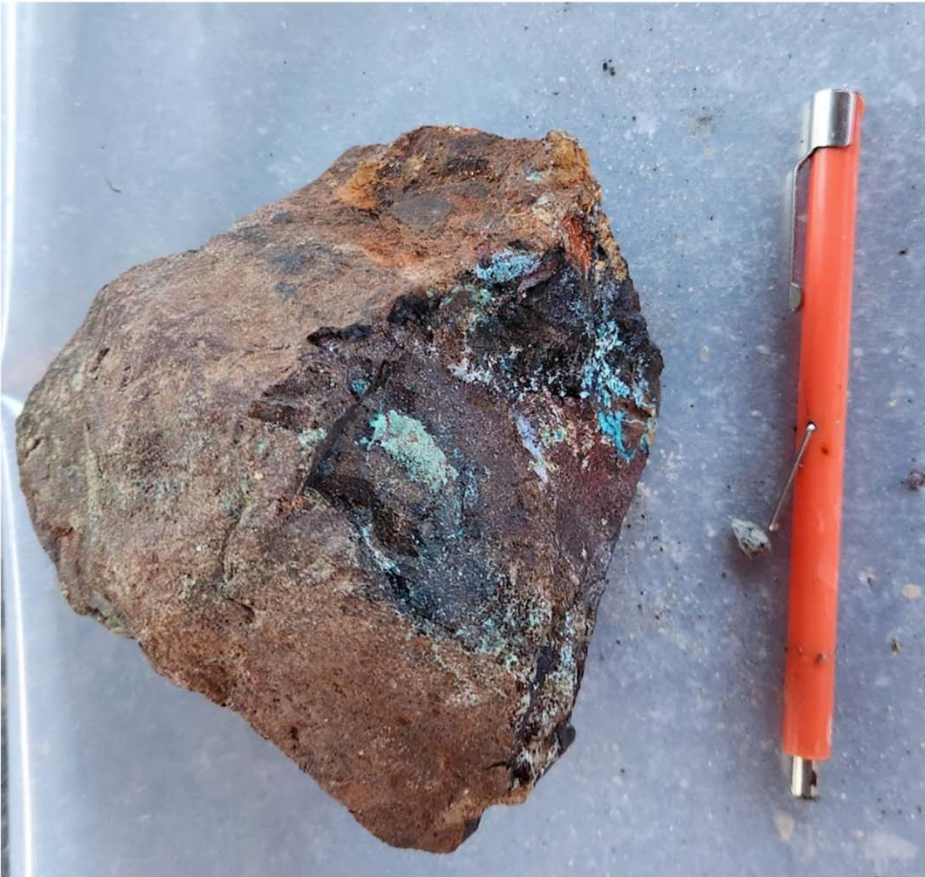


Figure 2. Geological map with key geological and structural elements of the Belen trend. Recent discoveries and advancements are highlighted.



Sample 16262.  
Massive  
boulder from  
creek assaying  
16.0% Cu ad  
4.4 g/t Au



Several hornblende  
plagioclase  
porphyry boulders  
with phyllic  
alteration and  
secondary copper  
oxides in matrix  
and on fracture  
surfaces. Assays  
pending.

Figure 3. Photos of selected samples from Sortilegio.