

# Hannanmetals

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

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NEWS RELEASE

JUNE 13, 2022

## HANNAN IDENTIFIES OUTCROPPING CU-AU PORPHYRY MINERALIZATION OVER 1600M LONG AND 800M WIDE AREA AT THE 100% OWNED VALIENTE PROJECT

Vancouver, Canada – Hannan Metals Limited (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF - <https://www.commodity-tv.com/ondemand/companies/profil/hannan-metals-ltd/> ) is pleased to provide an update at the Belen copper-gold porphyry project at the 100%-owned Valiente in central Peru (Figures 1 and 2).

The Valiente Project, located 19 km east from the township of Tingo Maria in central Peru, defines a previously unknown Miocene-age porphyry-epithermal copper-gold mineralized belt within a 140 km by 50 km area in Peru 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.

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### Highlights:

- Detailed field work at the Belen prospect, which represents a small proportion (4%) of Hannan’s total landholding at the Valiente project, has consisted of infill soil sampling over a 1,600 m by 800 m area and coincident identification of an **outcropping leached copper-gold porphyry with well-developed quartz veining with evidence for an enriched chalcocite blanket** at the Southern Porphyry Copper-Gold Target (Figures 2-7).
- A gold-bearing epithermal target area identified by large gold mineralized boulders of quartz-pyrite and iron oxides as well as strongly gold anomalous soil samples has been discovered 2.5 km NW of the Southern Porphyry Target, where a systematic 100 m x 100 m soil sampling program has identified two strong gold anomalous trends that extend for 1800 m and 970 m respectively.

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**Michael Hudson, CEO, states "Hannan’s has located a new Miocene-age copper-gold mineral camp within a 140 km by 50 km area at Valiente. At Belen we see extensive and systematic soil sample anomalies over multiple kilometres. What is most encouraging is the presence of an outcropping leached copper-gold porphyry with well-developed porphyry alteration and quartz veining at upper topographic levels with evidence of an enriched chalcocite blanket within lower lying creeks. This is the first bone fide bedrock find at the Valiente project. We look forward to more detailed field work including channel sampling at Belen and working up adjacent porphyry targets. The Company is also initiating work to commence drill permitting."**

A linked porphyry copper-gold and epithermal gold mineral system has been identified at Belen within a 9 km by 2 km trend (Figure 2-7). Detailed field work at the Belen prospect, which represents a small proportion (4%) of Hannan’s total landholding at the Valiente project, has infilled soil sampling trends and **identified a leached copper-gold porphyry with well-developed quartz veining at upper topographic levels with evidence for an enriched chalcocite blanket sampled over 1 km within lower lying creeks** at the Southern Copper-Gold Porphyry Target. A gold-bearing epithermal target area identified by large gold mineralized boulders of quartz-pyrite and iron oxides as well as strongly gold anomalous soil samples has been

discovered 2.5 km NW of the Southern Porphyry Target. Work over the last month described in further detail below:

### ***Southern Copper-Gold Porphyry Target***

This target consists of a highly anomalous Cu-Au-Mo soil anomaly, initially reported [here](#), over a 1,600 m by 800 m area above a mapped and radiometrically dated Miocene-age porphyry intrusion. Systematic soil sampling has been completed. A total of 494 samples have been taken across the porphyry target covering an area of approximately 3.3 km x 1.7 km at sample spacing of 100 m x 100 m. The results show strong correlation with several elements including Cu-Au-Mo-K-V. The core of the anomaly extends over 1600m and 800m width and have consistent values > 500 ppm Cu with Cu values up to 1461 ppm Cu and Mo up to 32 ppm. (Figures 2-4). Gold is locally anomalous within but also occur peripheral to the main copper anomaly. The main "offset" gold target is marked by a 1000 m long up to 300 m wide gold anomaly. Gold assays have been received for 331 samples and values range from <0.001 ppm to 0.185 ppm, average 0.0162 g/t and 9 samples have values > 0.1 ppm (100ppb) in soil (Figures 2-4).

The host rock is a grey to greenish porphyritic intrusion with hornblende and feldspar phenocrysts that is overprinted by strong weathering. Observations of hydrothermal alteration are emerging from systematic mapping and Terraspec analysis and so far, areas of propylitic, phyllic, intermediate argillic alteration, silicification and secondary biotite have been observed. Geological and alteration vectors such as pyrite and chalcopyrite ratios from surface rock observations suggest that the mineralization represents the upper part of a porphyry intrusion. Both more intense hypogene copper mineralization can be expected at depth and zones of supergene enrichment. Sampling below the soils has uncovered:

- A strongly leached copper-gold porphyry, with an extensive zone of enrichment has been discovered beneath anomalous soil sampling that cover an area of 1,600m by 800m area.
  - In the leached zone secondary copper is evident within manganese oxides (neotocite) and red iron oxides (hematite) in outcrops and boulders with values exceeding 0.1 % Cu (Figure 5).
  - Assay results from 19 panel samples have been received to date with an average of 333 ppm Cu and 0.024 g/t Au over an average surface area of 1.9m<sup>2</sup>. The size of the panels ranges from 0.24-4m<sup>2</sup> and with Cu ranging between 104-1070 ppm and gold from <0.01 to 0.313 g/t. The copper anomaly and rock samples are shown in Figure 2-4 and selected rock photos in figure 5-7.
- Both M (magnetite-bearing), B (quartz/biotite) and A-veins (saccharoidal quartz/K-feldspar) have been observed in outcrop and quartz veins have been mapped with encouraging densities of approximately 6 veins per metre (assays pending) with associated stockworking.
- Supergene enrichment has been observed in the lowest topographic levels in creeks where chalcocite is seen to replace chalcopyrite within samples separated by 1 km. Assays from these zones are pending. (Figure 6).

### ***1. Central Epithermal gold target***

This consists of a gold-bearing epithermal target identified by large gold mineralized boulders of quartz-pyrite and iron oxides as well as strongly gold anomalous soil samples has been discovered 2.5 km NW of the Southern Porphyry Target ([initially reported here](#)). Work over the last month has included:

- Systematic 100 m x 100 m soil sampling program. Two strong gold anomalous trends that extend for 1800 m and 970 m respectively have been identified. Assays have been received to date from 376 samples covering an area of 2 km x 1.7 km. Values range from <0.001 ppm to 0.094 ppm, average 0.0056 g/t in soil. The gold anomaly correlates very well with several elements including arsenic. (Figures 2 and 4).
- Spatially the gold anomalies correlate with a mapped Andean-age thrust fault and remains open in both to the north and south (Figures 2 and 4)

- Soil anomalies are coincident with gold found in quartz-iron oxide boulders ([reported here](#)). To date 19 boulders >0.1 ppm Au has been sampled over a trend of 1.6 km that is parallel to the main gold anomaly. A total 43 rock samples from boulders average of 0.48 g/t Au, 6 g/t Te and range from below detection limit to 2.69 g/t Au and <DL to 59 g/t Te.
- Two gold mineralized outcrops have also been located 270m apart. The mineralization is hosted by 5-30cm wide quartz vein in an intrusive host rock with magnetite and iron oxides. The mineralization is correlated with high values of copper and molybdenum. The outcrops assayed:
  - Grab sample: 1.17 g/t Au, 0.67 % Cu and 33.4 ppm Mo.
  - Channel sample: 30 cm @ 3.21 g/t Ag, 0.57 % Cu and 22 ppm Mo ([reported here](#))

At Belen, Hannan plans to continue systematic soil sampling to cover the entire 10-km intrusive trend and detailed trench sampling. Hannan also plans to survey an extensive airborne magnetic survey over the Valiente project area. 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.

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 Alumbra 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.

### 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 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.

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 a ALS in Lima to validate the pXRF data. Gold was analyzed by ALS in Lima using a standard sample preparation and 50g 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)

In Europe:  
Swiss Resource Capital AG  
Jochen Staiger  
[info@resource-capital.ch](mailto:info@resource-capital.ch)  
[www.resource-capital.ch](http://www.resource-capital.ch)

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## HANNAN IN PERU

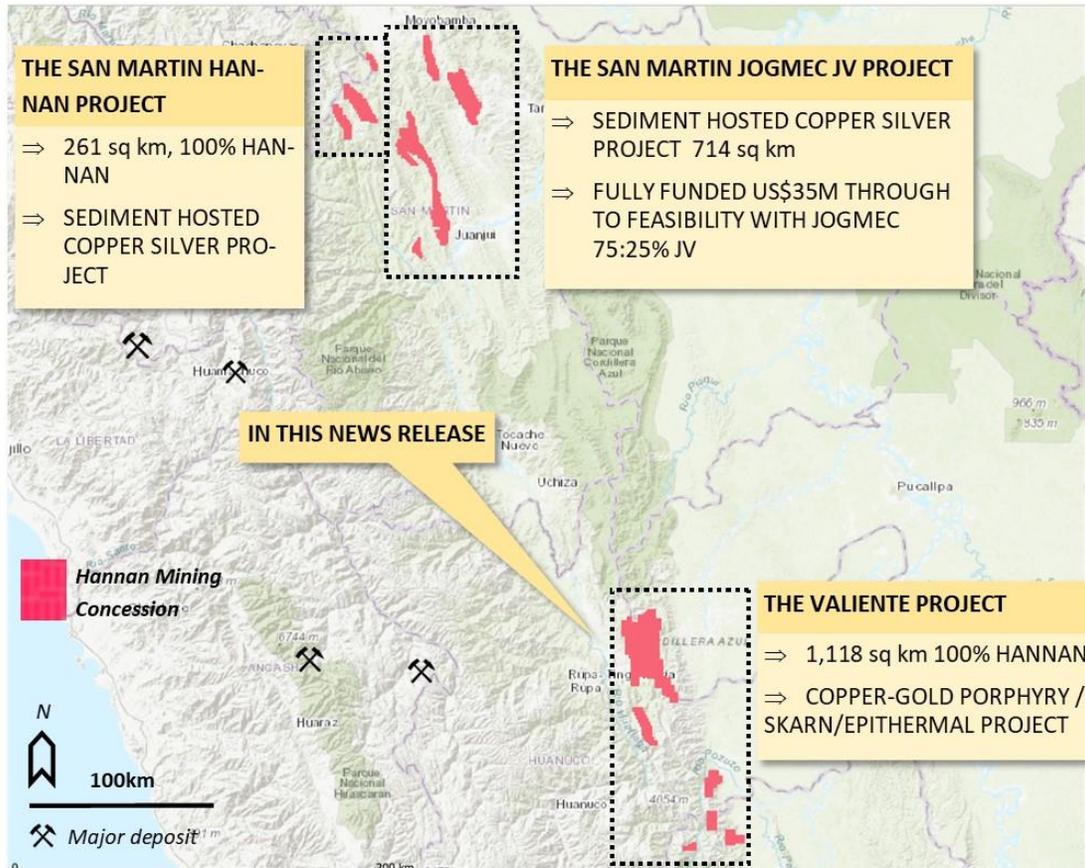


Figure 1. Overview of Hannan's 2093 sq km of project areas in Peru.

### 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 (100% Hannan)

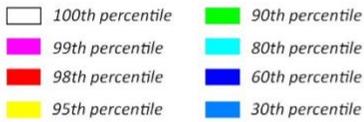
- ⇒ Sediment hosted copper silver project (same style as the JOGMEC JV project)

### THE VALIENTE PROJECT (100% Hannan)

- Copper gold porphyry /skarn/epithermal project.

## KEY SAMPLE RESULTS AND SOIL GEOCHEMISTRY

### Soil data



### Rock samples

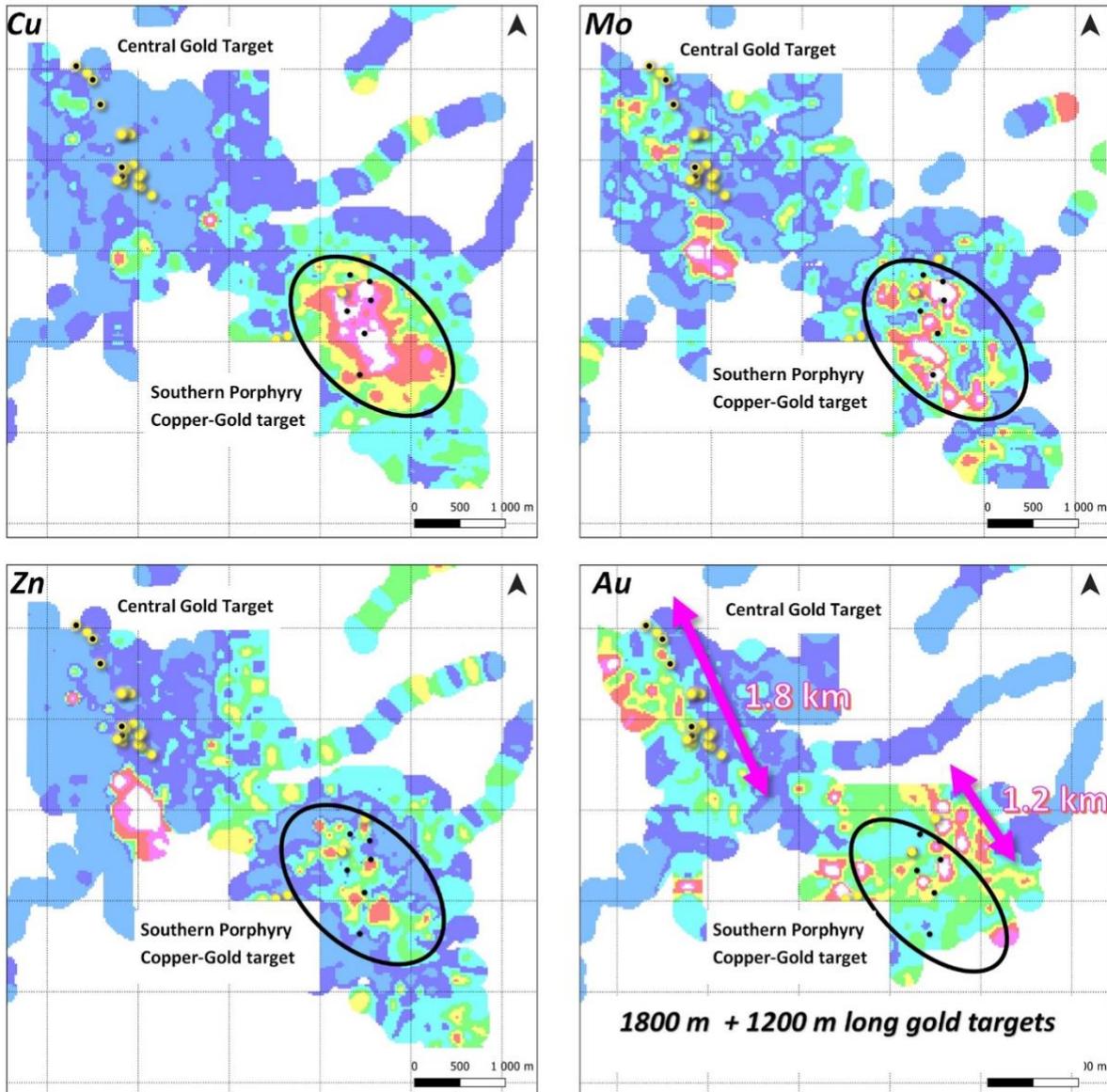
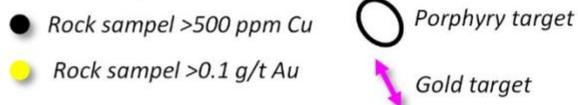
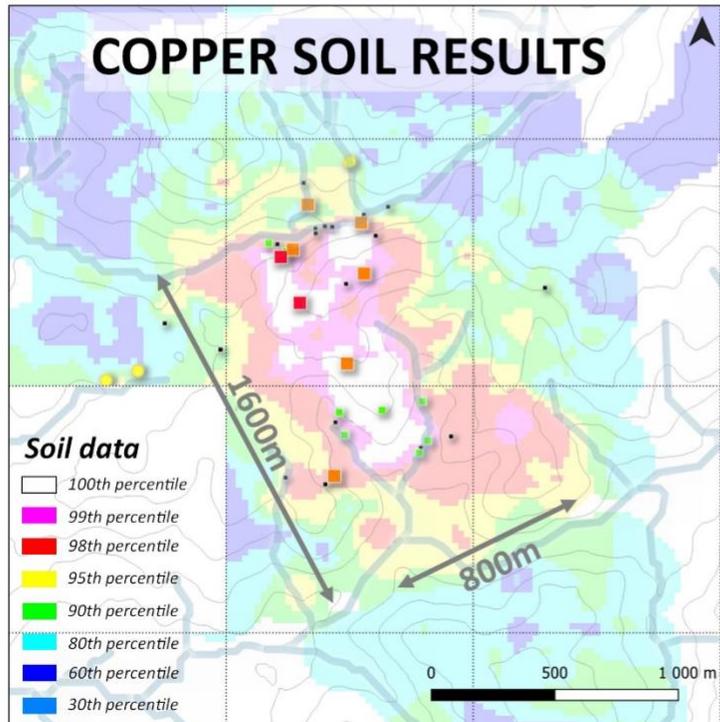


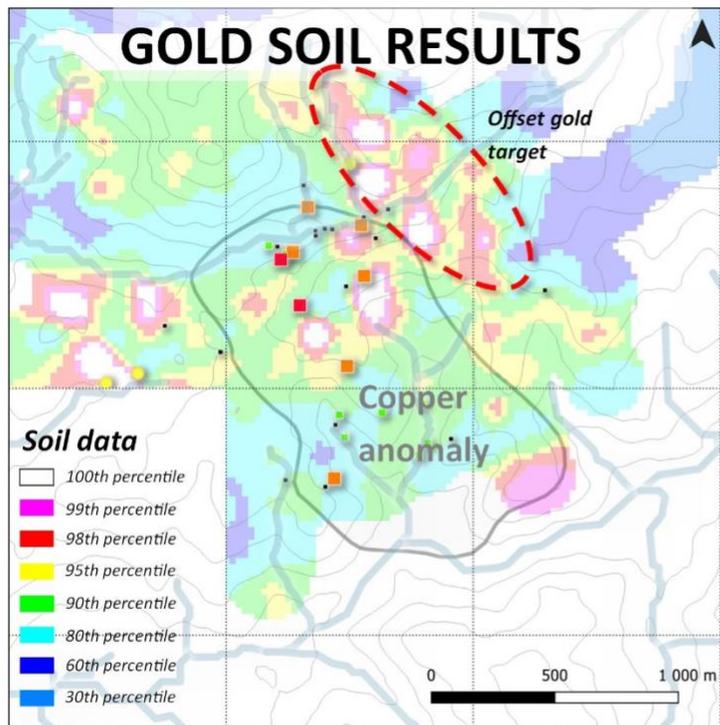
Figure 2. Overview of soil sampling and key assay results of boulders and outcrops from the Belen area.



494 samples have been taken across the porphyry target covering an area of approximately 3.3 km x 1.7 km at sample spacing of 100 m.

The core of the anomaly extends over 1600 m and 800 m width and have consistent values > 500 ppm copper. With values up to 1461 ppm Cu and Mo up to 32 ppm.

Gold is locally anomalous within but also occur peripheral to the main copper anomaly. The main "offset" gold target is marked by a 1000 m long up to 300 m wide gold anomaly.

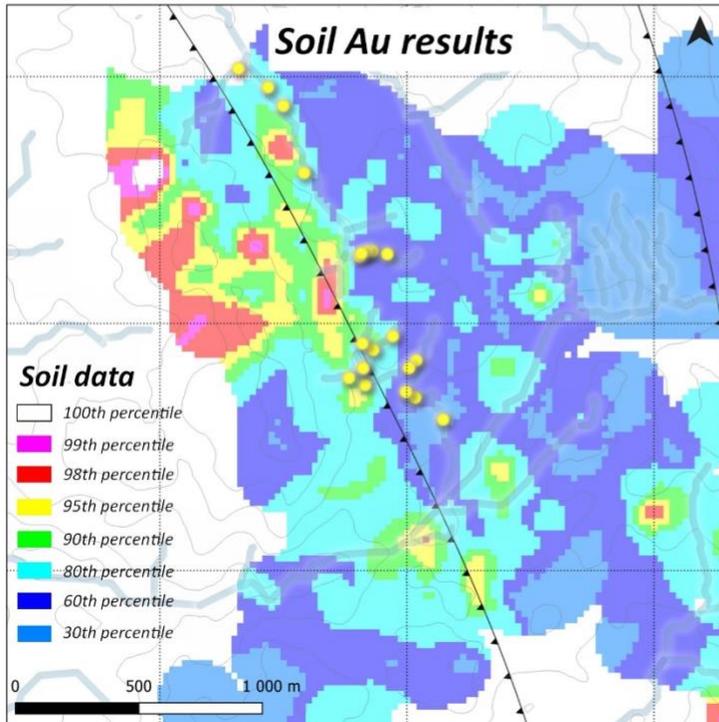


Gold assays have been received for 331 samples and values range from <0.001 ppm to 0.185 ppm, average 0.0162 g/t and 9 samples have values > 0.1 ppm (100 ppb) in soil

### Rock samples

- >0.1 g/t Au
- 250-500 ppm Cu
- 500-1000 ppm Cu
- 1000-2500 ppm Cu

Figure 3. Detailed sample results from Southern Porphyry Copper-Gold target. A highly anomalous Cu-Au-Mo soil anomaly believed to represent the upper levels of a concealed copper-gold porphyry system over a 1,600m by 800m area, hosted by a Miocene-age porphyry intrusion with artisanal gold workings located downstream.



Soil sampling has identified a two strong gold anomalous trends that extends for 1800 m and 970 m respectively.

Assays are received from 376 samples covering an area of 2 km x 1.7 km in sampling grid of 100 m x 100 m. Values range from <0.001 ppm to 0.094 ppm, average 0.0056 g/t in soil. The gold anomaly correlates very well with several elements including As.

Spatially the gold anomalies correlates with an mapped Andean-age thrust fault and remains open in both to the north and south.

19 boulders >0.1 ppm Au has been sampled over a trend of 1.6 km that is parallel to the main gold anomaly (yellow dots).

Two gold mineralized outcrops have also been located 270m apart. The mineralization is hosted by 5-30 cm wide quartz vein in an intrusive host rock with magnetite and iron oxides.

Outcrop Results:

*Grab sample: 1.17 g/t Au, 0.67 % Cu and 33.4 ppm Mo.*

*Channel samples: 30 cm @ 3.21 g/t Ag, 0.57 % Cu and 22 ppm Mo.*

**Rock samples**

● >0.1 g/t Au

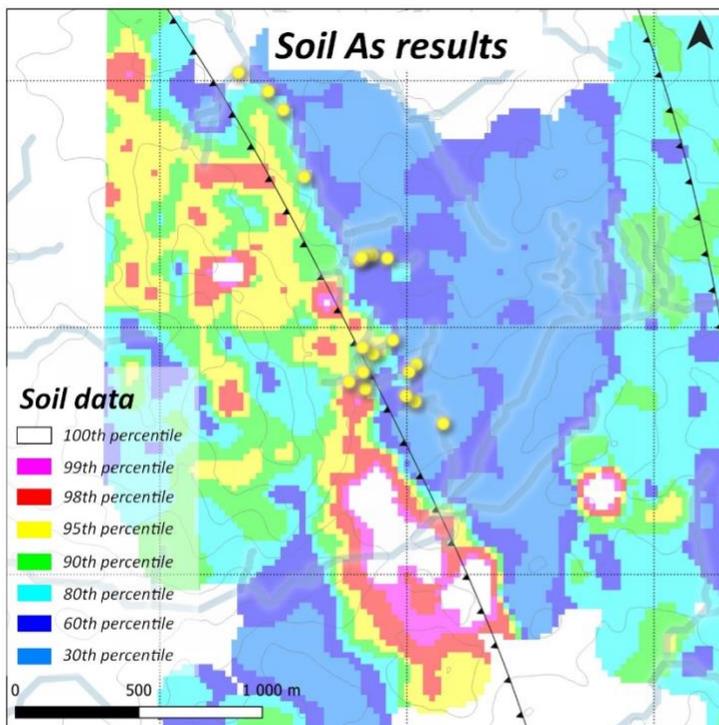


Figure 4. Detailed sampling data from the Central Gold Target where systematic soil sampling program has identified two strong gold anomalous trends.

Outcrop of porphyry intrusive cut by quartz veins (M-type and A-type) veins (6 veins per m). Strong supergene argillic alteration overprints hydrothermal alteration. Copper oxides are dominated by neotocite, with limonite, goethite and hematite. The hammer is 65 cm long.

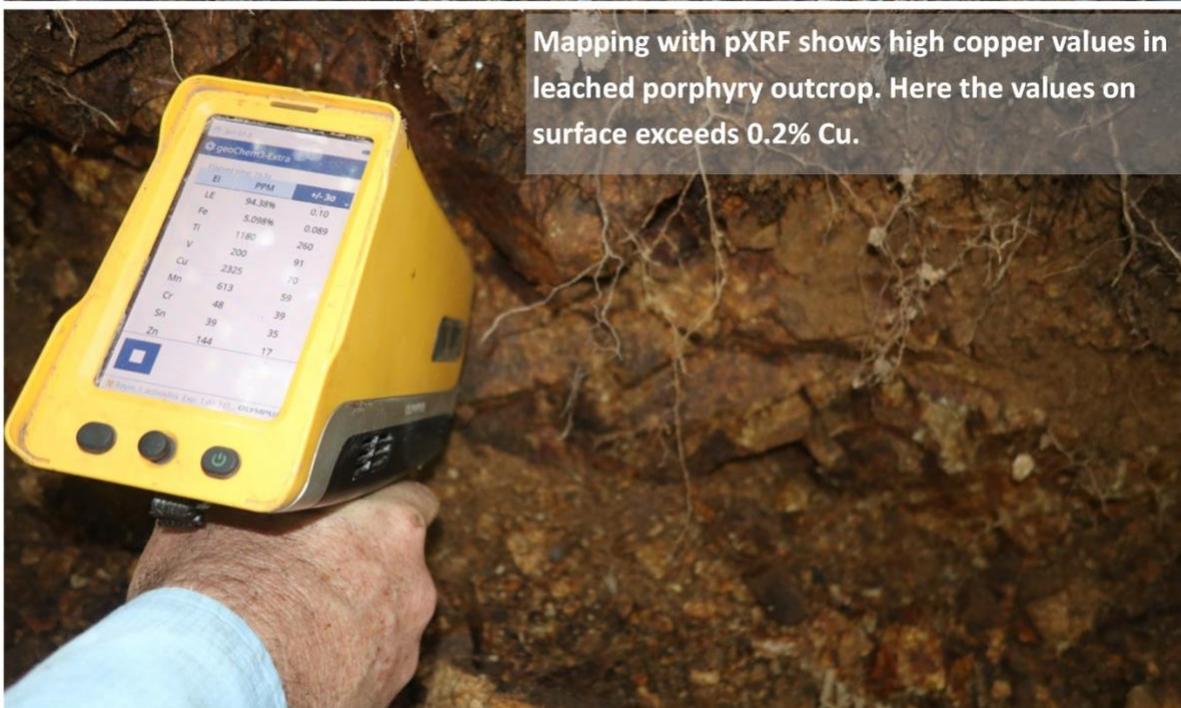


Figure 5. Photos of outcropping leached porphyry cap at Ricardo Herrera .

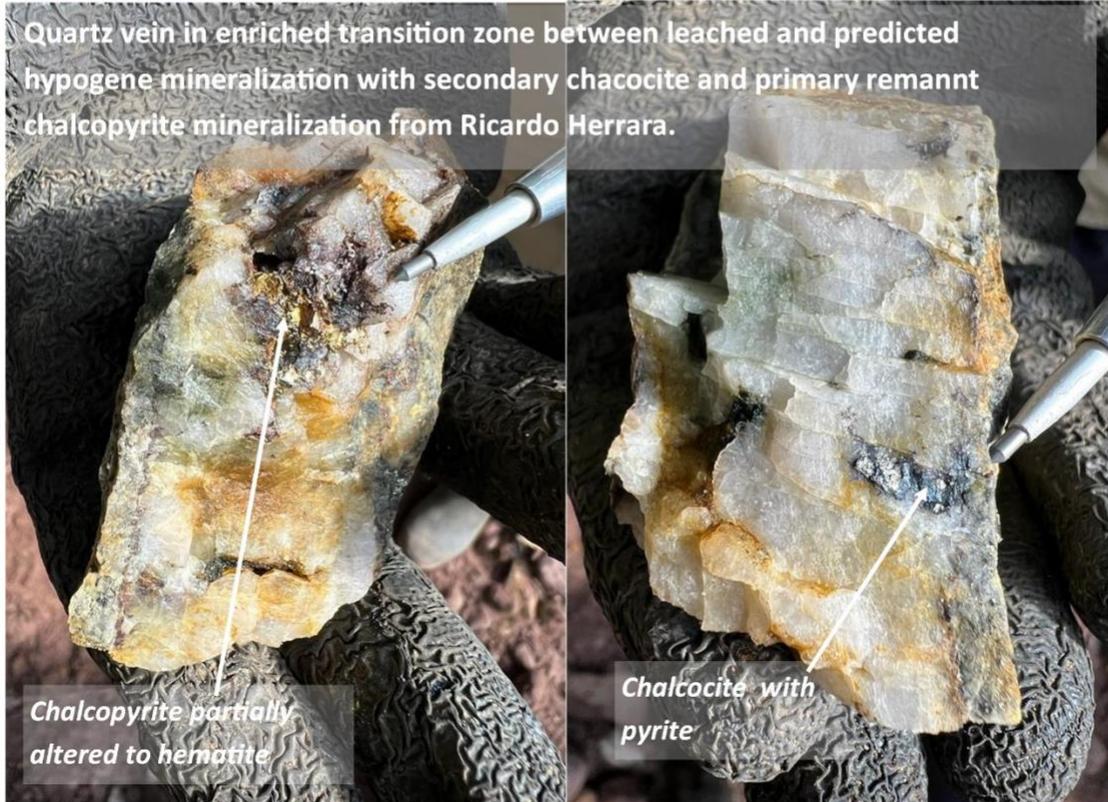


Figure 6. Photos of secondary enriched transition zone with chalcocite and hematite after chalcopyrite.

Outcrop of strongly silicified porphyry cut by A-type quartz veins with a core of red hematite after chalcopyrite.



Outcrop of porphyritic diorite cut by 2-5 cm wide A-type vein. The hammer is 65 cm



Figure 7. Photos of porphyry with quartz veins.