

# Hannanmetals

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## NEWS RELEASE

FEBRUARY 09, 2022

### HANNAN UPDATE: 100% OWNED MIOCENE COPPER-GOLD PORPHYRY PROJECT, PERU

#### Discovers a 1,600 m by 800 m Cu soil-anomaly at Belen

Vancouver, Canada – **Hannan Metals Limited** (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) is pleased to provide an update on exploration programs at the 100%-owned Valiente copper-gold porphyry project in central Peru (Figures 1 and 2).

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#### Highlights:

- Hannan is a top 10 concession holder in Peru. It has a dominant and first mover position in the tropical sub-Andean zone where it has 121 granted and pending applications for 1,164 sq km of mining concessions in a previously unrecognized [Miocene copper-gold metallogenic belt](#), the most significant metallogenic epoch in Peru. At least 7 intrusive centres within a 140 km x 50 km area (Figure 2) have been identified at the Valiente project (previously known as Previsto but now extended and renamed) and the Company has established a vast first mover tenure position:
  - With 25 mining concessions for 244 sq km of mining concessions now granted, Hannan has commenced working more closely with local stakeholders to plan to undertake the first detailed exploration on the project.
  - Exploration methodologies include airborne magnetics, stream sediment and float and outcrop Cu-Au geochemical sampling. Recently discovered rock samples have assayed up to [25% copper](#) and [0.9 g/t gold](#).
- Initial reconnaissance ridge-top soil sampling at the Belen prospect within the Valiente project area has defined a robust and coherent 1.6 km by 0.8 km copper anomaly (Fig 2), with values up to 1,461 ppm copper from portable XRF analysis. Additionally, the large soil anomaly is associated with:
  - Strongly leached and weathered sub-cropping porphyry with secondary copper oxides.
  - Alluvial gold extracted by artisanal miners located 700 metres down-stream (Figures 3 and 4).
  - A coincident 5 km by 5 km prominent magnetic high anomaly from regional airborne surveys (Figure 3) associated with a dated [Miocene-age](#) alkaline porphyry intrusion.
  - Although laboratory results (including gold) are pending a strong multi-element association including molybdenum and potassium are evident in the soil data (Figure 3).
- Hannan plans to fly a detailed airborne magnetic survey over the entire 1,164 sq km Valiente project area in mid-2022 and has already commenced initial permitting work.

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**Michael Hudson, CEO, states “Hannan has established a vast first mover position at the new Miocene-aged Valiente district in the Andes over 140 km of strike, with intense veining and**

**alteration of float and outcrop associated with intrusive clusters. These are coincident with large scale geochemical stream sediment anomalies that provide a compelling set of exploration criteria.**

**“With 244 sq km of mining concessions now granted within a much larger tenure position, we have been able to work more closely with local stakeholders to plan and undertake the first detailed exploration on the project. We have moved quickly to identify a large and robust copper in soil anomaly over a large area, coinciding with an airborne magnetic high anomaly as well as gold being collected by artisanal miners down-stream. This in itself is a significant find, but also demonstrates the serious exploration opportunity presenting itself across the larger 140 km x 50 km Valiente project area. For a team of mineral explorers, it does not get a lot better than this at this stage of exploration. We look forward to working closely with all stakeholders as we work up this and other targets in the project area with multiple field teams active.”**

### **Planned Exploration Program at Belen**

Field work will focus in an area of 5 km x 5 km (Figure 3) with the aim to identify and expand the source areas to the Cu-Au mineralization by soil sampling, stream sediment sampling and systematic mapping in creeks over the next months. The work will be carried out with local support.

Hannan also plans to fly an extensive 200-metre-spaced airborne magnetic survey over the entire 1,164 sq km Valiente project area in mid-2022. Initial permitting for this work is now underway. The area was previously surveyed in 2013 by a PeruPetro fixed wing airborne magnetic survey at 700 metre line spacing. These data show strong correlation between magnetic high anomalies and anomalous Cu-Au-Mo samples (Figure 3). The country rock to the intrusive is non-magnetic and Hannan therefore believes the magnetic anomalies represent previously unrecognized mineralized porphyry bodies over a large area that were emplaced post the formation of sedimentary rocks and Andean inversion.

### **Regional Copper-Gold Porphyry Project Work**

The Valiente Copper-Gold Porphyry Project is located 300 km south of the [100%-controlled San Martin Hannan sediment-hosted copper-silver project](#), and is defined by a previously unknown [Miocene metallogenic belt](#) within a 140 km x 50 km area, where potential mineralization is concealed under vegetation and thin soils. Reconnaissance work by Hannan during 2021 identified multiple target areas and the Company has subsequently staked a commanding land position. Hannan has granted and pending application for 1,164 sq km in this area (Figure 2) and is working closely with local stakeholders and regional government to plan the next steps on the project now that 25 mining concessions for 244 sq km have been granted.

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.

Trace element geochemistry and porphyry prospectivity plots of Sr, Y and MnO supports the prospectivity of Cu-Au intrusive samples at Valiente. Work by Hannan indicates alkalic foid syenite to quartz monzonite composition ([Middlemost, 1994](#)) intrusions, commonly associated with porphyry copper-gold deposits globally, that intruded the deformed sedimentary package during the early to mid-Miocene, some 140 km east of the magmatic arc in the Peruvian Cordillera of the same age.

Mineralization is characterized by chalcopyrite, chalcocite and covellite with pyrite and magnetite. The presence of chalcocite and covellite indicates supergene copper enrichment, indicating potential for a well-developed secondary copper zone comprising near-surface and higher-grade copper may be present, below the leached surface samples.

Outside of Belen, 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 entire area is under thin cover, and it is estimated that <1% of the bedrock outcrops.

### Technical Background

All mineralized 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 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 being produced which is dried and analyzed by a portable XRF (pXRF). Certified reference material, blanks and field duplicates are routinely added to monitor the quality of the pXRF data. In addition, 10% of all samples are submitted to ALS in Lima for 4-acid ICP-MS analysis to check the quality of the pXRF data.

### 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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## HANNAN IN PERU

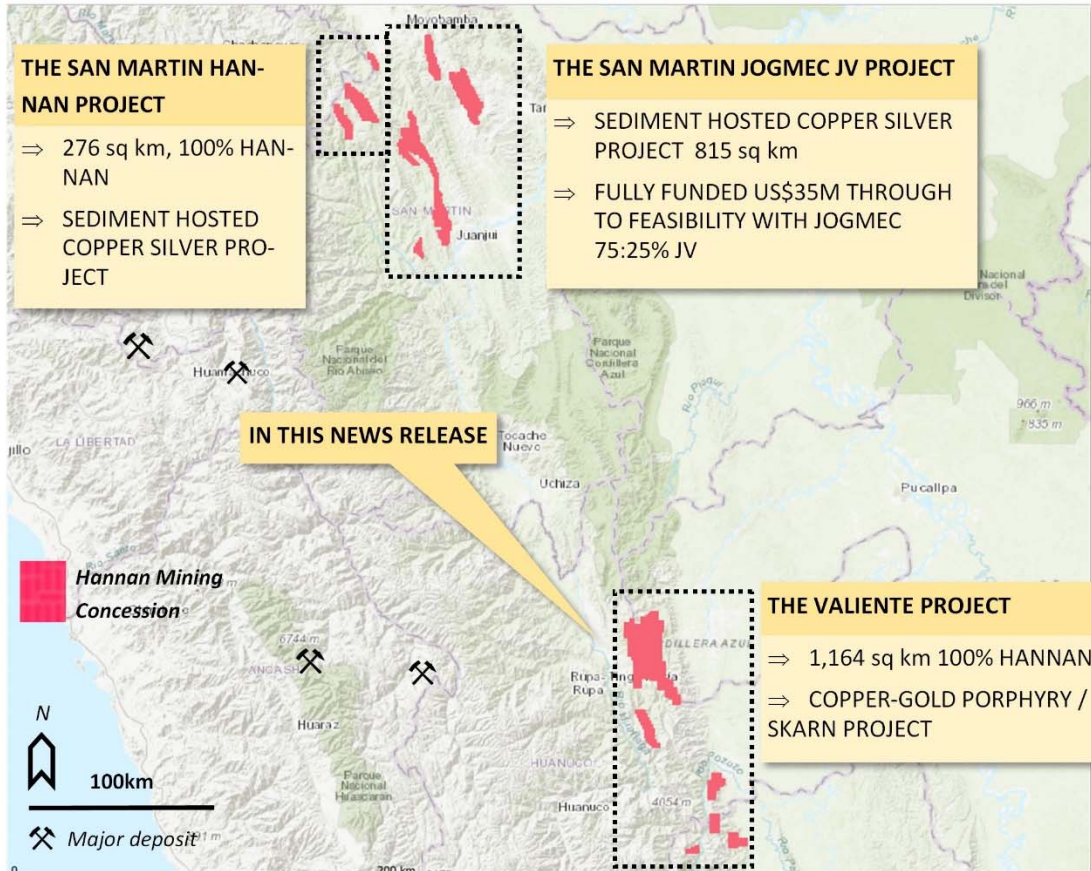


Figure 1. Overview of Hannan's project areas in Peru.

### 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 VALIENTE PROJECT (PREVIOUSLY KNOWN AS 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



## VALIENTE:

## DISCOVERING A NEW COPPER GOLD MIOCENE BELT

REPORTED HERE SEE FIGURE 3:

**1.6km x 0.8km large  
concentric Cu-Mo-K soil  
and magnetic anomaly,  
anomalous Mo with  
downstream alluvial  
gold workings.**

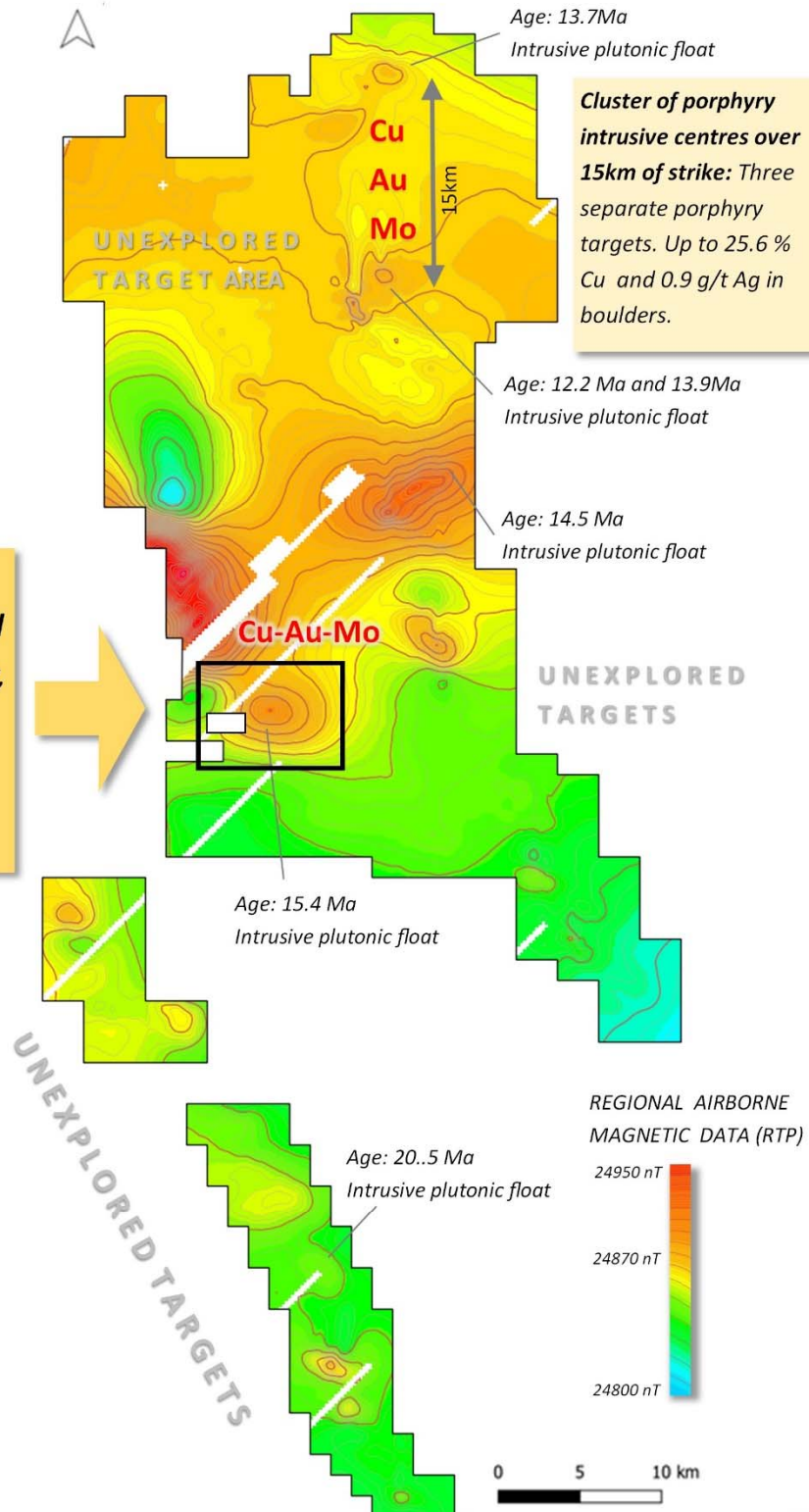


Figure 2. Hannan is discovering an new Miocene belt in Peru. The targeting is driven by follow-up of magnetic anomalies from broad regional spaced fixed wing airborne data surveyed by PeruPetro at 2013 at with a 700 m line spacing. The ages quoted on the image are radiometric (U-Pb) zircon ages analyzed by Hannan 2021.

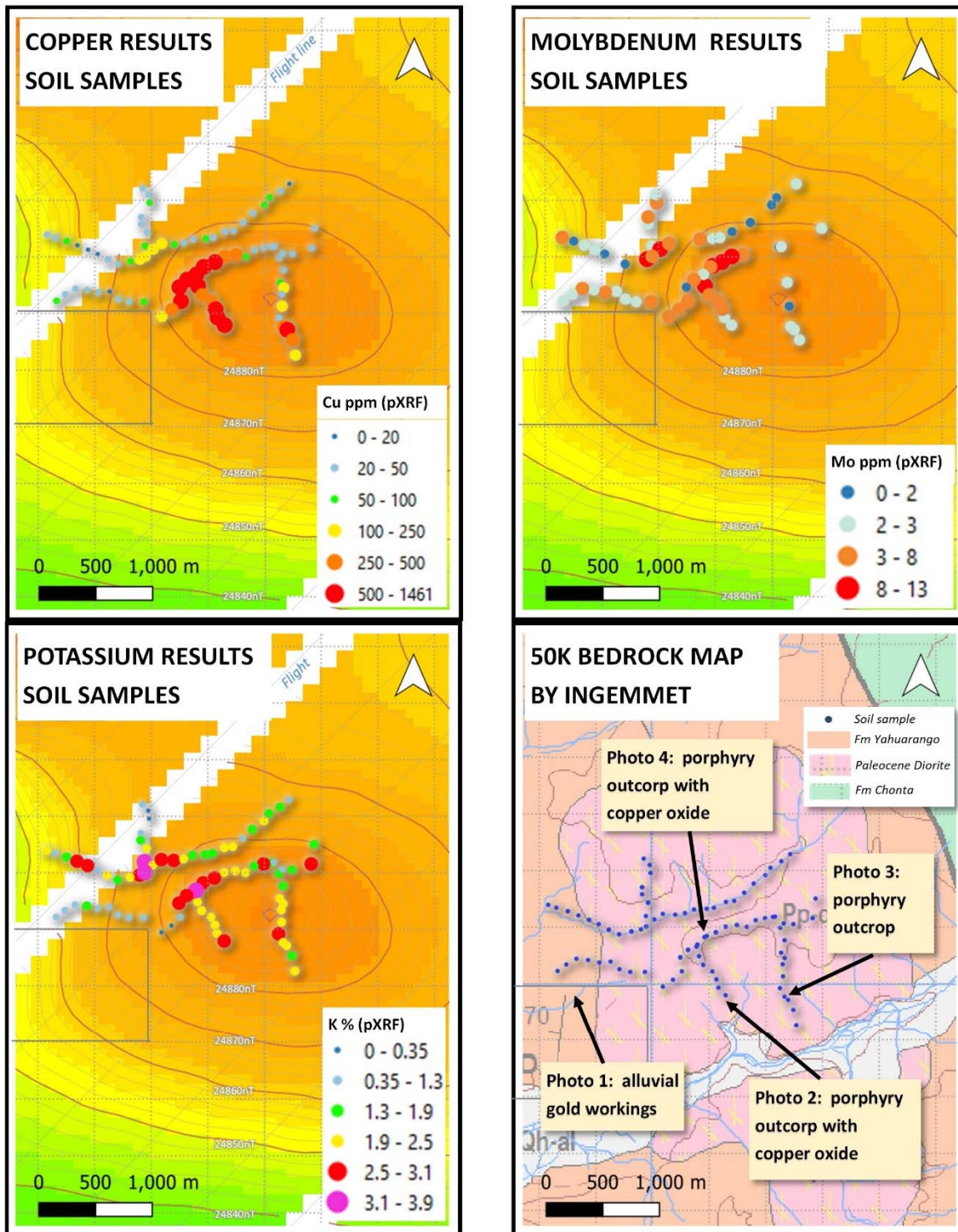
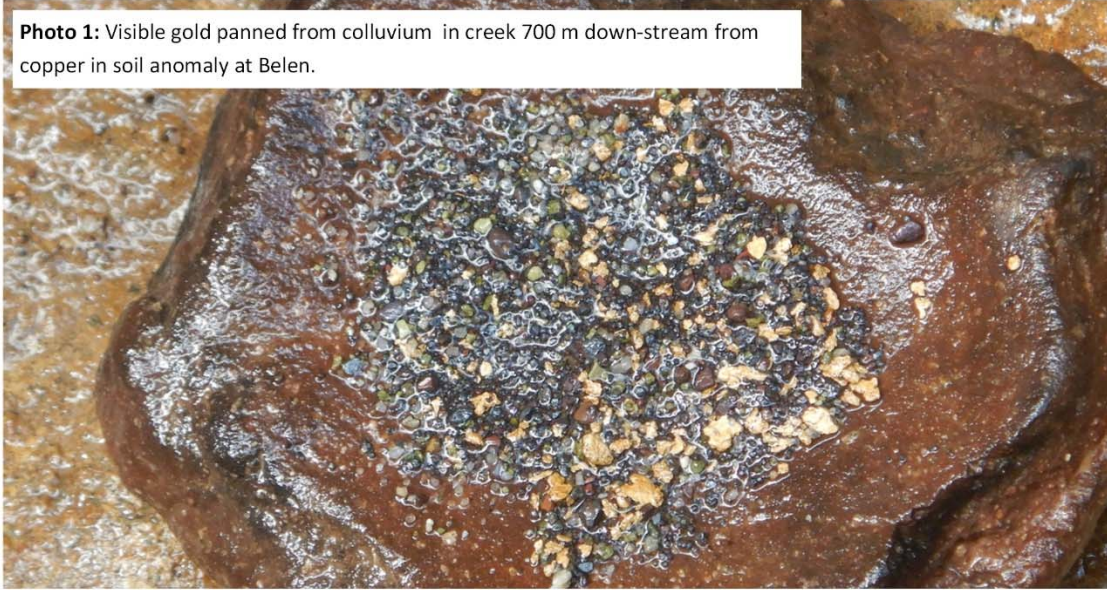


Figure 3. Overview of ridge-top reconnaissance soil sampling results (by portable XRF) at the Belen target. Results from the laboratory (including gold) are pending. Data shows coincident copper with molybdenum and potassium. Surface leached copper mineralized sub-outcrop has been found in the same area. Regional magnetic TMI imaged data from PeruPetro survey 2013.



**Photo 1:** Visible gold panned from colluvium in creek 700 m down-stream from copper in soil anomaly at Belen.



Sample 340



**Photo 2:** Sample 340. Porphyry outcrop with iron oxide veins and tenorite in fractures. 1833ppm Cu with portable XRF. Lab results are pending.

Sample 338



**Photo 3:** Sample 340. Porphyry outcrop with iron oxide veins and tenorite noted on fracture. 47ppm Cu with portable XRF. Lab results are pending

Sample 339



**Photo 4:** Sample 339. Porphyry outcrop with iron oxide veins and tenorite in fractures. 431 ppm Cu with portable XRF. Lab results are pending

**Figure 4.** Photos of porphyry rock samples from the Belen target. All rock samples are strongly leached by surface process and affected by supergen argillic alteration. Main iron oxides are jarosite and goetite. Tenorite, a black copper oxide, has been observed in some samples. The assay results from the portable XRF confirms the presence of copper oxides in the samples.