

# Hannanmetals

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NEWS RELEASE

NOVEMBER 16, 2023

## HANNAN DEFINES THIRD PORPHYRY AT THE VALIENTE PROJECT, PERU

Vancouver, Canada – Hannan Metals Limited (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) is pleased to announce definition of the third porphyry copper target at the at the 100% owned Valiente project in central Peru (Figure 1). The new Divisoria copper porphyry is located 10 km east of the Belen area where two outcropping porphyry targets (Ricardo Herrera and Sortilegio) and associated epithermal and skarn targets have been defined (Figures 1 and 2). All targets lie within a previously unknown [Miocene-age](#) porphyry-epithermal copper-gold mineralized belt.

The Company is also pleased to announce that 1). Public participation meetings and environmental studies at Belen have progressed well and final submission of the Declaracion de Impacto Ambiental (“DIA”) will be made shortly and 2) Social licence permissions for the first time have been received across a broad area of Valiente, including the Previsto target area, and initial field work has commenced.

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### Highlights:

- The first exploration work reported from the Divisoria area has identified a zoned copper porphyry target over a 2,000 m by 500 m area.
  - Discovery of abundant high-grade hydrothermal zinc-lead-silver breccias and quartz-pyrite veins where values up to 8.0 m @ 3.3% Zn including 0.5 m 33.4 % Zn from outcrop channel sampling.
  - These veins are interpreted to represent a distal polymetallic veins district peripheral to a porphyry core.
  - The host rock to the base metal veins is a fine-grained dioritic porphyry intrusion with moderate to strong propylitic alteration, typically associated in the outer margins of a porphyry system.
- Social teams at Valiente have been active:
  - Field work for the DIA or Environmental Impact Statement at Belen is complete with archaeological and environmental data collected and community participation meetings complete. Broad support was received. Submittal for approval to the General Directorate of Mining Environmental Affairs of the Ministry of Energy and Mines is anticipated by the end of November 2023.
  - Initial social licence permissions to the Previsto area have been received allowing exploration access to this highly prospective alkalic Cu-Au porphyry target area.

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**Michael Hudson, CEO, states:** *“The Valiente area continues to impress, with the Divisoria target the third porphyry target delineated in detail at Valiente. The new work further highlights the overlapping suit of porphyry targets with composition ranging from conventional calc-alkalic to alkalic hosted Cu-Au related porphyry/epithermal/skarn mineralization within a 140 km by 50 km area at the Valiente Project.*

*“Importantly social licencing has advanced positively with the completion of environmental and social permitting at Belen, now ready for submittal to authorities for approvals, together with first exploration access granted to the highly prospective Previsto porphyry area where multiple porphyry centres have been discovered within an area of 15 km by 7 km.”*

## Geological Discussion

During the last months surface exploration has shifted to expanding into new areas of the 1,686 sq km large Valiente project. Work has focused 10 km east of the Belen area where the company has previously reported a discovery of two outcropping porphyry targets (Figures 1 and 2).

In the new area, called Divisoria, the company identified a 2,000 m by 500 m area with hydrothermal base metal breccias and veins. The breccias are hosted by a fine-grained porphyry intrusion of diorite composition with propylitic alteration of moderate to strong intensity. Divisoria is partly covered by a 50 m to 100 m thick sequence of Paleogene red beds (Fig 2).

The area with strongest brecciation and veining is exposed for about 300 m width before it disappears under cover. It hosts frequent N-S trending veins of quartz pyrite and quartz pyrite galena-sphalerite. Locally very high-grade zinc zones have been analysed with values up to 33.4% Zn (Figure 3). All veins are younger than the porphyritic country rock and appear to overprint the hydrothermal breccias. Representative photos are shown in Figure 4 and 5. Assay results from channel and panel sampled outcrops are summarized in Table 1 below:

Sample number	Width (m)	Zn %	Pb %	Ag g/t	Sample type
14409	0.5	33.4	0.0	2.6	channel
14407	0.8 x 0.8	3.1	0.1	1.0	panel
14513	1.5 x 1.5	2.2	0.1	0.4	panel
14613	8.0	3.3	0.1	3.6	channel
14615	4.1	0.9	0.0	3.5	channel
14603	1.0	4.4	0.3	7.9	channel
14605	0.1	10.0	1.1	11.5	channel

Table 1: Assay results from channel and panel sampled outcrops from Divisoria.

Hannan believes the hydrothermal breccias and qz-pyrite base metal veins relate to a peripheral zonation of a copper porphyry target. The magnetic data acquired by Hannan in 2022 reveals that Divisoria is intruded by multiple intrusions with variable magnetization (Figure 6). The relationships between the hydrothermal breccias, quartz-pyrite veins and the host rock suggests that the copper porphyry target is hosted by the intrusive stocks at Divisoria.

The company is now undertaking more detailed mapping in the area and preparing for a larger IP survey to identify potential drill targets.

## 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 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.

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. 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.

## 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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## THE VALIENTE COPPER GOLD PROJECT

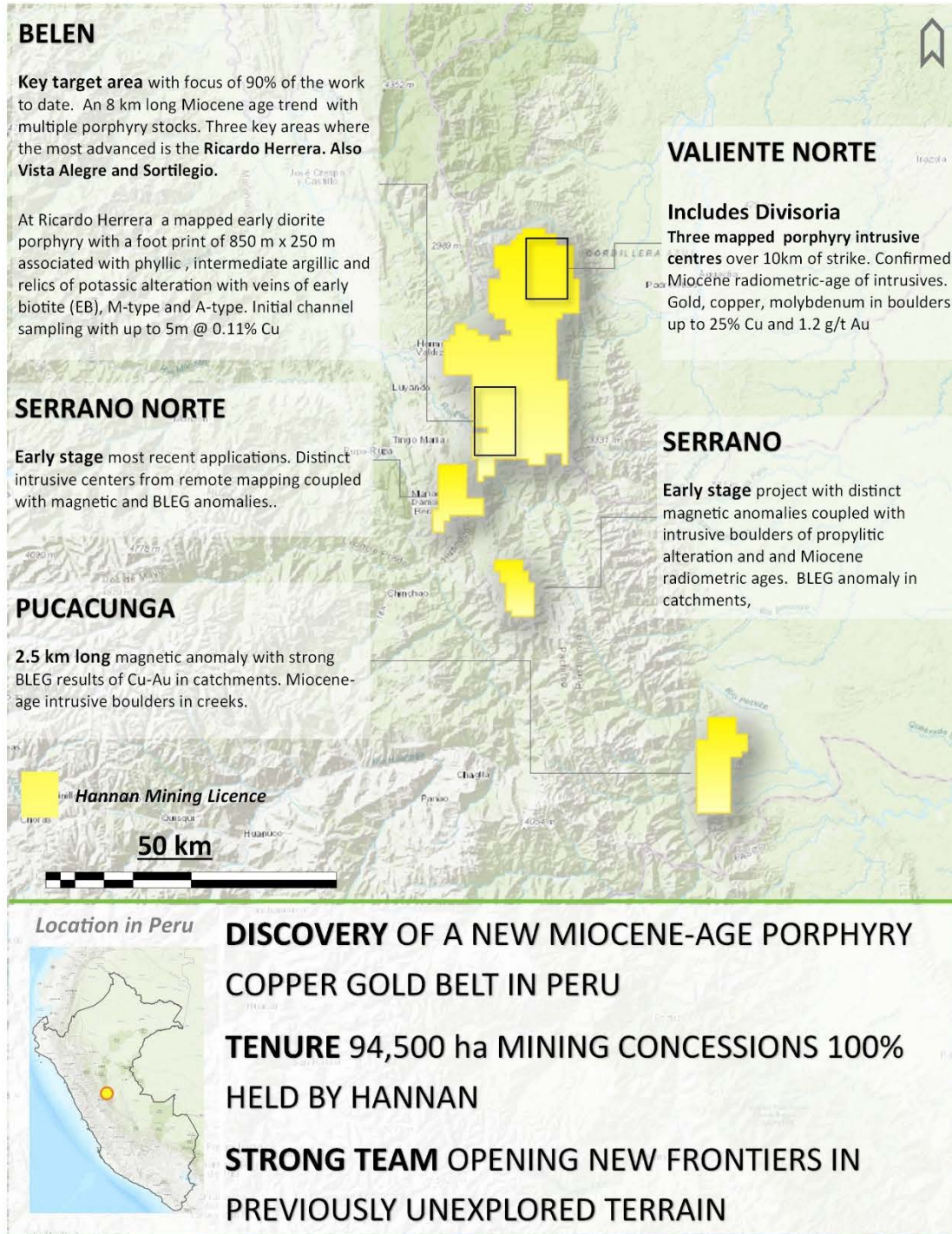


Figure 1. Overview of the Valiente project in Peru



## AN EMERGING CLUSTERED PORPHYRY CAMP AT VALIENTE

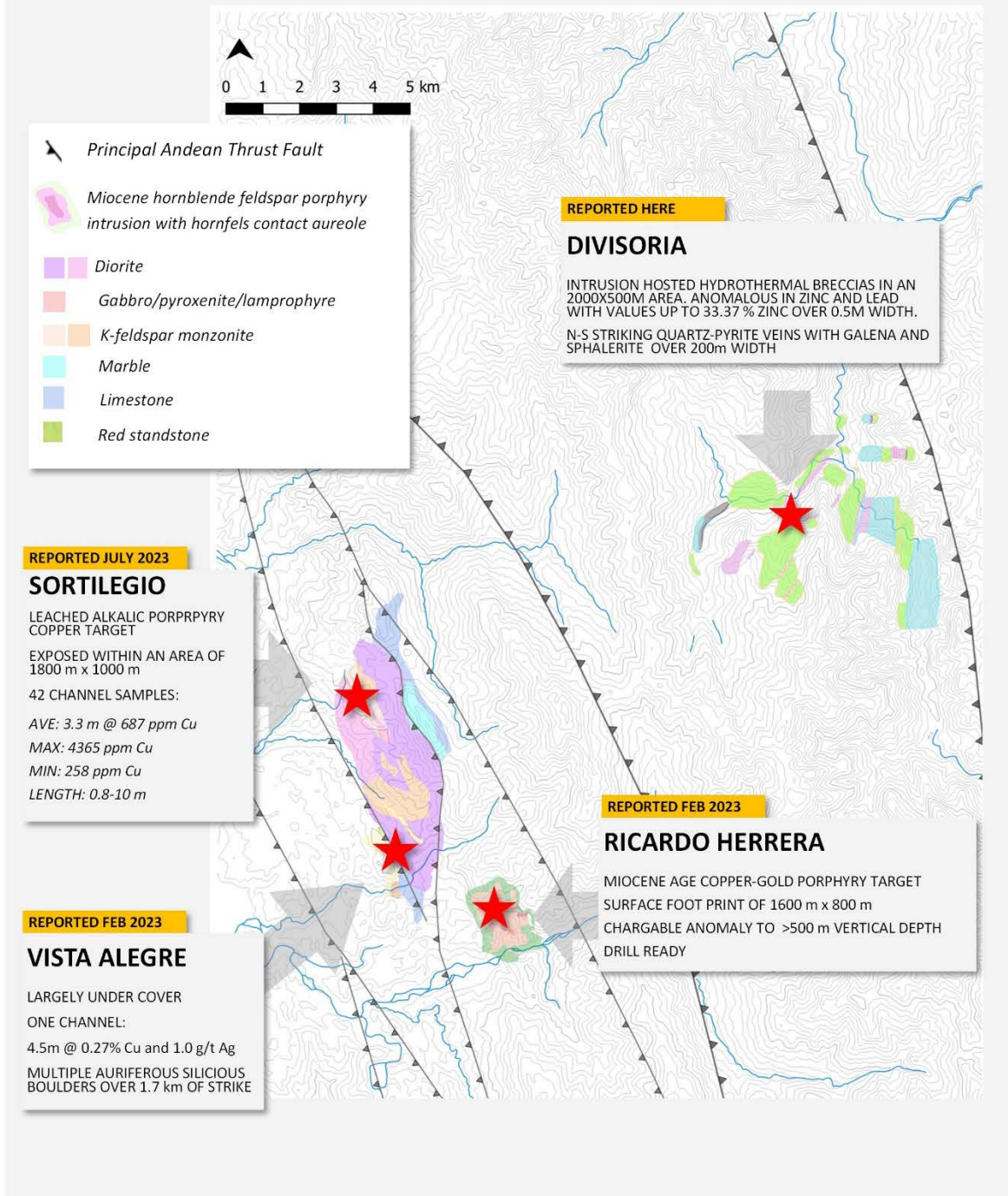


Figure 2. Geological overview of porphyry copper exploration targets at Valiente. A new target has been discovered at Divisoria (reported here).

## Zinc and lead results from rock sample at Divisoria

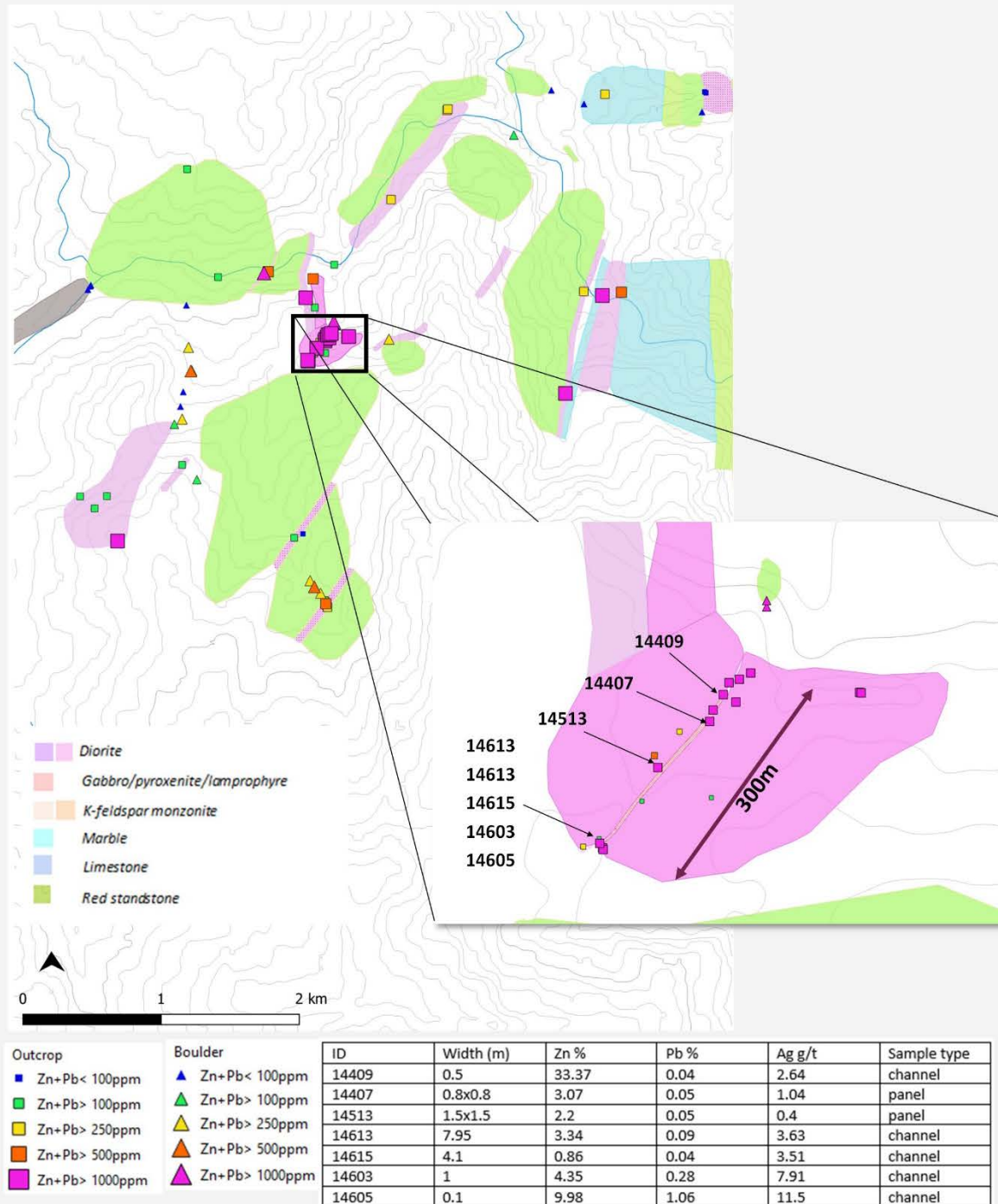


Figure 3. Zinc and lead results from Divisoria. Hannan believes the hydrothermal breccias and qz-pyrite base metal veins relate to a peripheral zonation of a copper porphyry target.

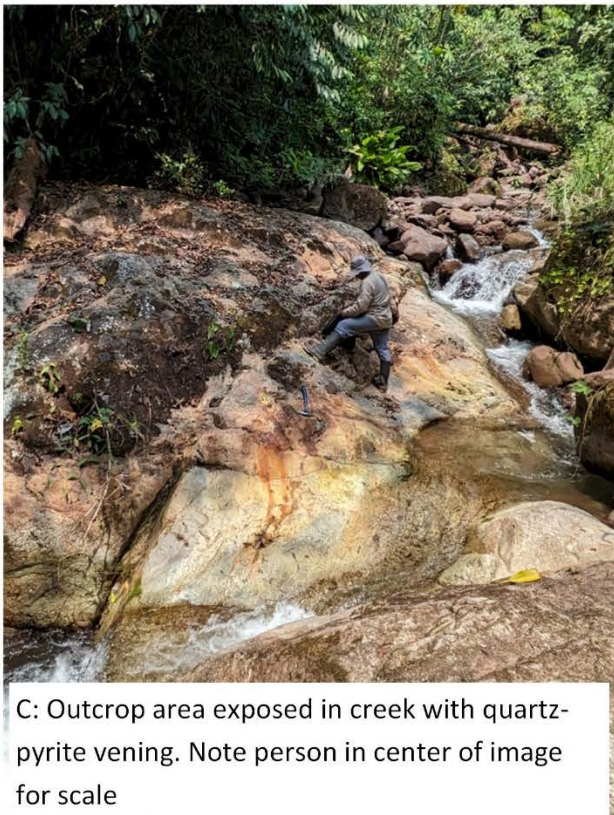




A: Outcrop of hydrothermal breccia pipe with anomalous zinc mineralization



B: N-S striking quartz-pyrite veins. Three veins are visible on the photo



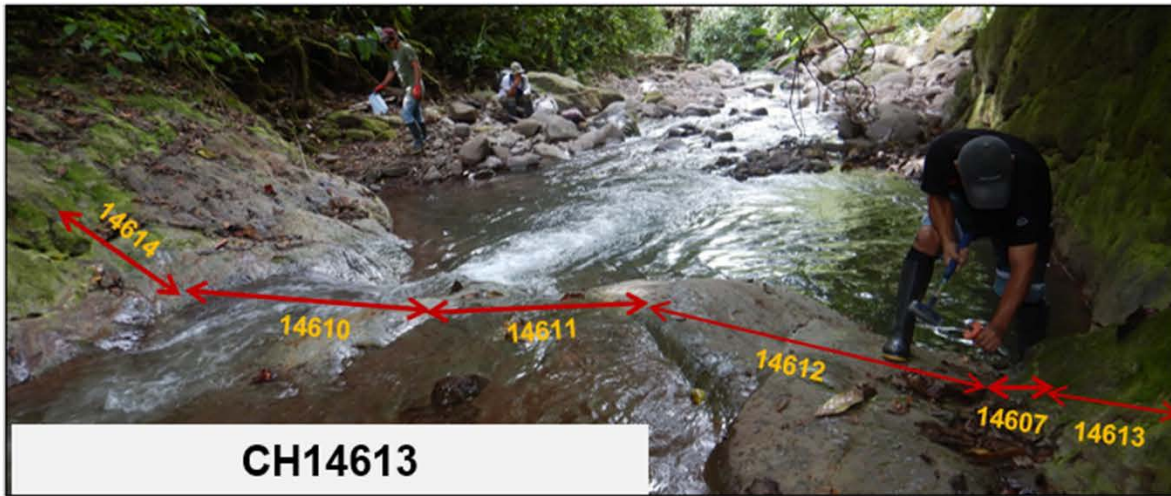
C: Outcrop area exposed in creek with quartz-pyrite veining. Note person in center of image for scale



D: Quartz pyrite veining and brecciation in porphyritic host rock

Figure 4 Rock photos from Divisoria showing outcrops of hydrothermal brecciation and quartz-pyrite veining. The area is exposed for 300m before it disappears under cover.





**14614 (1.30m)**  
Hydrothermal breccia  
with sphalerite in martix



**14610 (1.70m)**  
Hydrothermal breccia with  
sphalerite in martix



**14611 (1.50m)**  
Hydrothermal  
breccia



**14612 (1.85m)**  
Monzodirite with sphalerite  
veinlets



**14607 (0.10m)**  
Massive sphalerite vein with  
galena



**14613 (1.50m)**  
Monzodirite with  
sphalerite veinlets



Figure 5. Photos of rocksamples in channel 14613 which assayed 7.95 m @ 3.34 % Zn.



## AN EMERGING CLUSTERED PORPHYRY CAMP AT VALIENTE

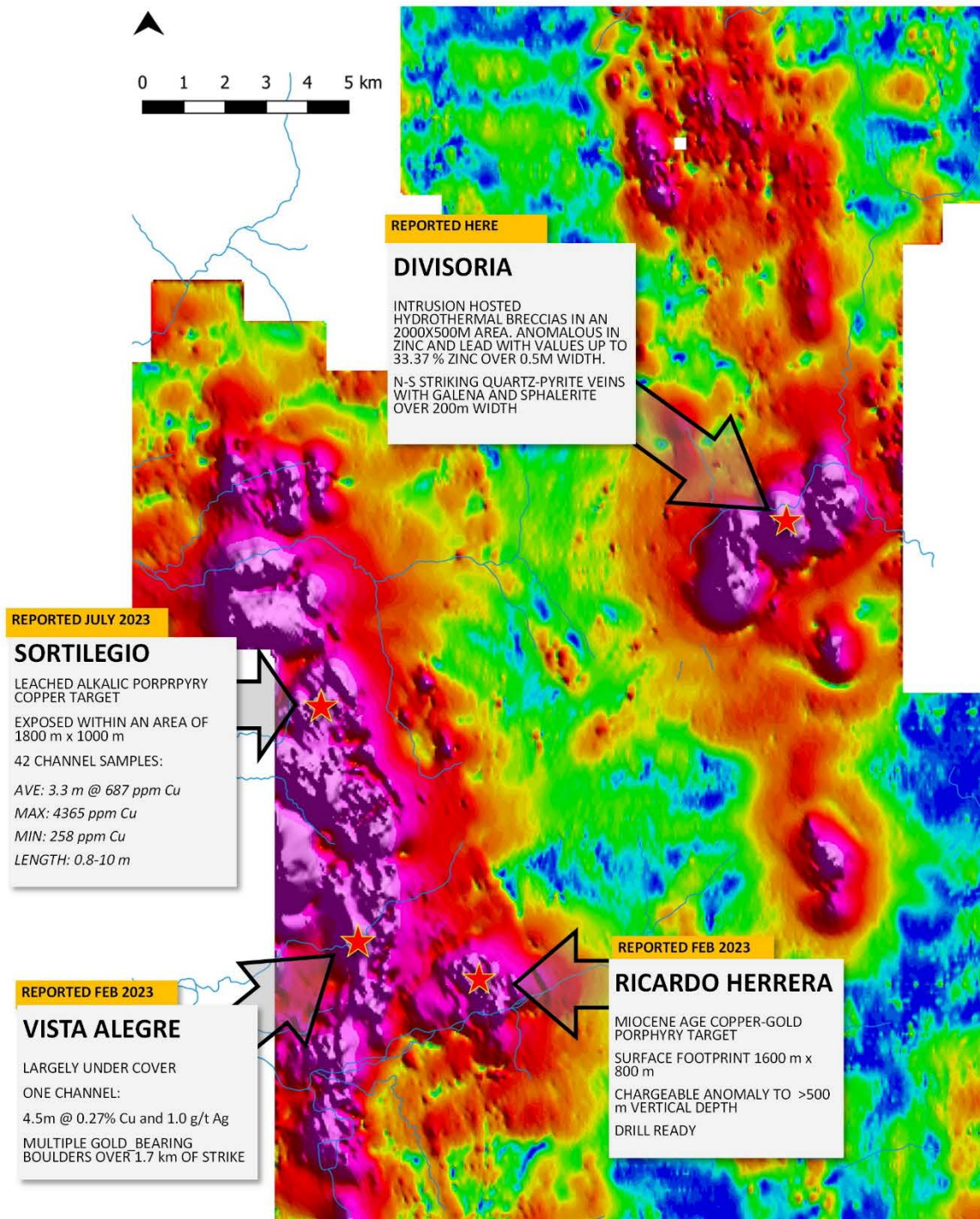


Figure 6. TMI Analytical Signal from the Valiente project highlighting the different porphyry targets and their correlation with magnetic anomalies.