

# Hannanmetals

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NEWS RELEASE

SEPTEMBER 03, 2019

## HANNAN SAMPLES EXTENSIVE NEW ZONE OF HIGH-GRADE COPPER AND SILVER OVER 16 KILOMETRES AT TABALOSOS, PERU

Vancouver, Canada – Hannan Metals Limited (“Hannan” or the “Company”) (TSXV: HAN) (OTCPK: HANNF) announces new sampling results from the Tabalosos claim application area (19,700 hectares) from the 100% owned San Martin project (38,400 hectares under claim application) in north central Peru (Figure 1).

### Highlights:

- A new zone of high-grade grab copper-silver mineralization has been discovered over 16 kilometres of strike at Tabalosos (Figure 2);
- At Tabalosos North West, grab samples from six mineralized boulders (>0.1% copper) **range in grade from 0.8% to 11.5% copper and 8 g/t silver to 28 g/t silver with an average grade of 4.2% copper and 17 g/t silver** over a 5 kilometre strike:
  - Tabalosos North West is located 3.5 kilometres immediately west of Tabalosos North East where grab samples from sixteen mineralized boulders (>0.1% copper) ranged in grade from 0.1% to 8.3% copper and 0.2 g/t silver to 109 g/t silver with an average grade of 2.7% copper and 29 g/t silver East ([Hannan News Release January 17, 2019](#)) over a strike length of 9 kilometres (Figures 2 and 3).
  - Tabalosos is located 80 kilometres north of Hannan’s Sacanche application claim area where high grade outcrops with have recently been identified (2 metres @ 5.9% copper and 66 g/t silver with the wider zone assaying 3 metres @ 4.1 % copper and 45 g/t silver, 0.6 metres @ 8.7% copper and 59 g/t silver (Figure 1) ([Hannan News Release August 01, 2019](#)).
- Additionally, a grab sample from a boulder located 8.5 kilometres south of Tabalosos South West assayed **12.3% copper and 70 g/t silver** in an adjacent anticlinal fold limb (Figures 2 & 3):
  - This boulder is located 3 kilometres north of three mineralized boulders (Figure 2) (>0.1% copper) which ranged in grade from 0.2% to 6.9% copper and 2 g/t silver to 27 g/t silver with an average grade of 3.3% copper and 12 g/t silver ([Hannan News Release January 17, 2019](#)).

Michael Hudson, Hannan’s CEO, states, *“Initial reconnaissance exploration at Tabalosos suggests that copper-silver mineralization is laterally extensive, with similar style high-grade boulders discovered along a strike length of 16 kilometres, across 4 kilometres of multiple antiformal structures. A significant new copper-silver mineral camp is developing at San Martin with the Tabalosos discoveries similar in geological style to mineralization found 80 kilometres south at Hannan’s Sacanche claim application area, where high-grade samples been recently been defined i.e. 3 metres @ 4.1 % copper and 45 g/t silver in outcrop ([Hannan News Release August 01, 2019](#)). Further results from the 2019 field program over the large project area remain to be released.”*

Two distinct sub-types of the sediment-hosted copper-silver style are found throughout Hannan’s claim application areas at San Martin:

1. The first style is hosted by the Sarayaquillo Formation:
  - Mineralization is associated with reduced facies within red beds, where in-house petrographic studies indicating that copper sulphides replace both pyrite and organic material. This style is like copper mineralization associated with Zechstein Basin in Poland and Central African Copper Belt.

2. The second style is hosted by the Cushabatay Formation:

- Mineralization is hosted in quartzites with hydrocarbon metal traps, and analogous to the giant Udokan copper deposit in Russia and Spar Lake in the USA.

At Tabalosos, initial reconnaissance exploration suggests that the copper-silver mineralization is laterally extensive and is hosted in Sarayaquillo Formation, with similar style high-grade boulders discovered across two anticlinal structures within an area of 4 kilometres by 5 kilometres at Tabalosos East and West and a parallel zone found on an adjacent anticlinal limb 8.5 kilometres south (Figures 2 and 3). Exploration to date has focused on prospecting most prospected creeks and riverbeds, with minimal work yet undertaken to follow up outcropping mineralization.

Although two key stratigraphic positions have been identified, mineralized rock types from other parts of the stratigraphy have been discovered. A shale boulder in the south western part of Tabalosos (Fig 2-3) assayed 12.3% copper and 70 g/t silver with only minor secondary copper oxides (Figure 5). The stratigraphic position of the shale is unknown.

Sarayaquillo Formation hosted copper-silver mineralization is also found 80 kilometres south at the Sacanche application claim area where high grade outcrops with have recently been identified (2 metres @ 5.9% copper and 66 g/t silver with the wider zone assaying 3 metres @ 4.1 % copper and 45 g/t silver, 0.6 metres @ 8.7% copper and 59 g/t silver ([Hannan News Release August 01, 2019](#)).

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.

Hannan's geological interpretation for the formation of the sediment-hosted copper and silver at San Martin is mineralization was deposited from low-temperature oxidised saline brines formed from the several hundred metre thick Pareni Salt Formation (Figure 4). The brines scavenged metals (principally copper ± silver and associated lead and zinc) from the deeper Mitu Group red beds and volcanoclastics which were deposited in a failed Traissic rift. The circulation of saline fluids across the redox boundary was induced and focused by halokinesis (salt tectonics). Geological relationships suggest halokinesis was initiated during Jurassic rifting and was active until the early to mid-Cretaceous which coincides with the formation of an Andean foreland basin.

**About Hannan Metals Limited (TSX.V:HAN) (OTCPK: HANNF)**



Hannan Metals Limited is a natural resources and exploration company developing sustainable and ethical 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. 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)

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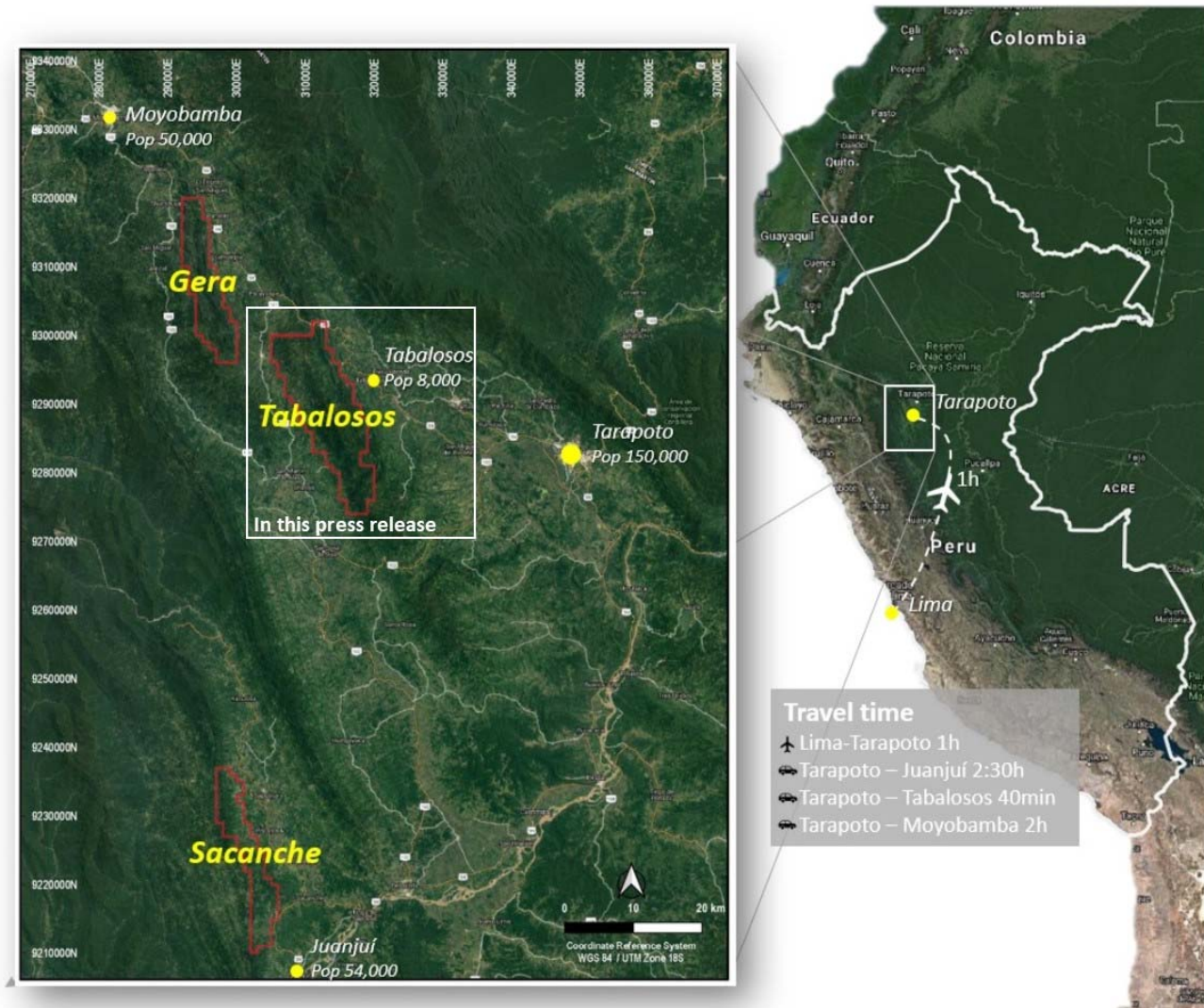
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#### Forward Looking Statements

Certain information set forth in this news release contains "forward-looking statements", and "forward- looking information" under applicable securities laws. Except for statements of historical fact, certain information contained herein constitutes forward-looking statements, which include the Company's expectations regarding future performance based on current results, expected cash costs based on the Company's current internal expectations, estimates, projections, assumptions and beliefs, which may prove to be incorrect. These statements are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause the Company's actual performance and financial results in future periods to differ materially from any projects of future performance or results expressed or implied by such forward-looking statement. These risks and uncertainties include, but are not limited to: The Company's expectations regarding timing to complete field work and outcome of results, the granting of the claim applications in Peru, community relations, liabilities inherent in mine development and production, geological risks, the financial markets generally, and the ability of the Company to raise additional capital to fund future operations. There can be no assurance that forward-looking statements will prove to be accurate, and actual results and future events could differ materially from those anticipated in such statements. The Company undertakes no obligation to update forward-looking statements if circumstances or management's estimates or opinions should change except as required by applicable securities laws. The reader is cautioned not to place undue reliance on forward-looking statements.

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*The Sacanche application covers 8,900 Ha of Initial sampling in May-June identified copper mineralization and related zinc-lead gossans in outcrops and boulders of 27km of strike. Representative chip samples from outcrops and assayed:*

**3m @ 2.5% Cu and 22g/t Ag (LD190517-19)  
2m @ 5.9% Cu and 66g/t Ag (TC190536-38)**

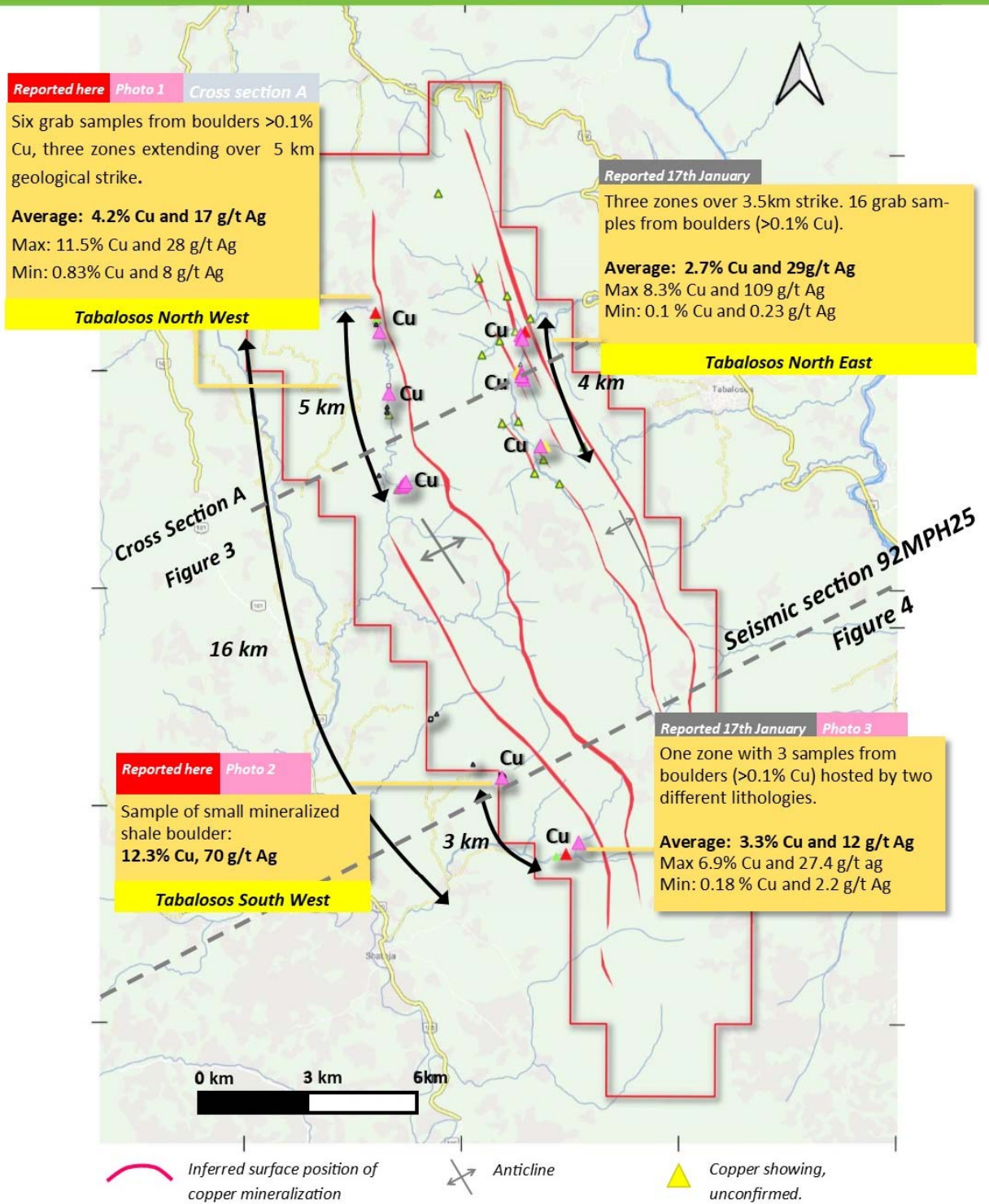
*The Tabalosos application covers 19,700 Ha.*

*Initial sampling outlining 4 separate areas of high-grade copper and silver over 15 kilometres of strike within at least 2 structural corridors. Nineteen mineralized boulders (>0.1% copper) range in grade from 0.1% to 8.3% copper and 0.2 g/t silver to 109 g/t silver with an average grade of 2.8 % copper and 27.2 g/t silver*

*The Gera application covers 10,000 Ha of similar age rocks and structural setting as the Tabalosos claim. The prospective strike extent is 25 km.*

**Figure 1.** Overview of the San Martin sediment-hosted Cu-Ag project, Peru. Hannan's mineral claim applications now cover 76 kilometres strike (38,600 hectares) of the prospective host horizon within a 110 kilometre long trend.





**Figure 2.** Overview of the San Martin sediment-hosted Cu-Ag project, Peru. Hannan's mineral claim applications cover 76 kilometres strike (38,600 hectares) of the prospective host horizon within a 110 kilometre long trend.

## LEGEND

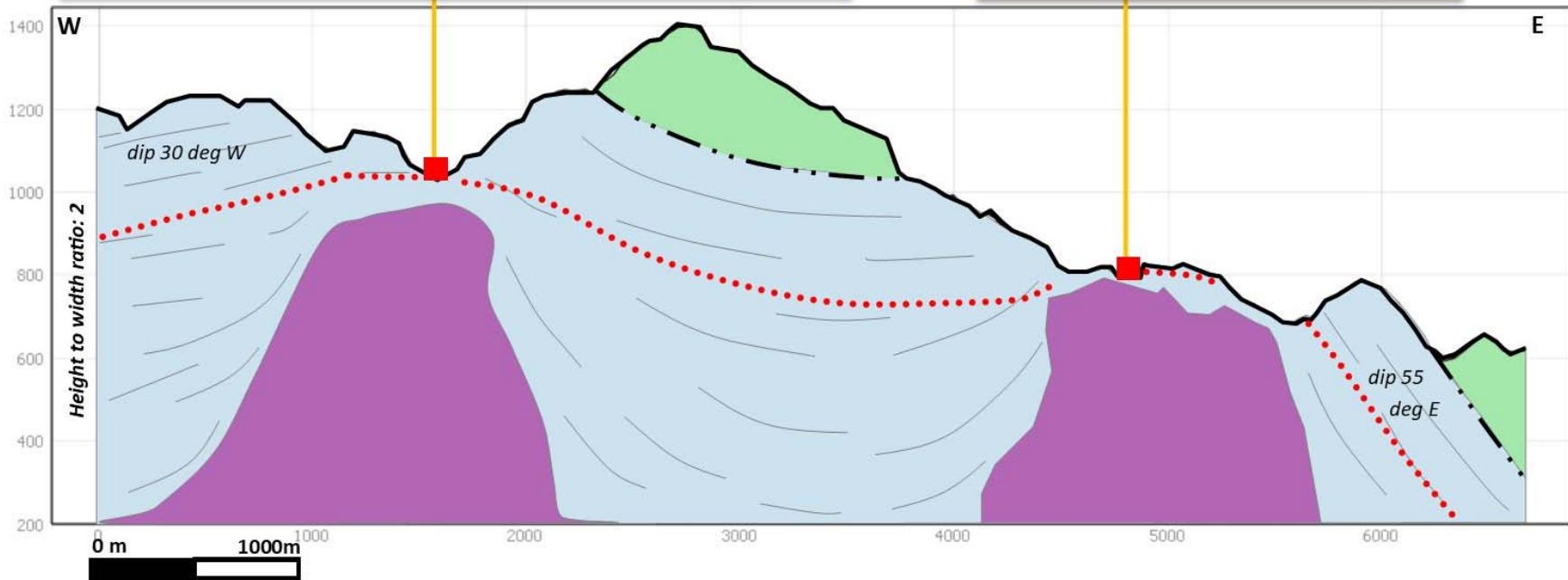
- Grupo Oriente Grey quartzitic sandstone with +/- bituminous carbon
- Sarayaquillo Red sandstone / siltstone / mudstone +/- organic carbon
- Pareni Salt Inferred salt intrusion
- Inferred red-bed hosted copper target
- Erosional unconformity

**Reported here** Photo 1-2

The samples are projected onto section from 2 km north and 3 km south.  
 Six grab samples from boulders >0.1% Cu extending over 5 km geological strike.  
**Average: 4.2% Cu and 17 g/t Ag**  
 Max: 11.5% Cu and 28 g/t Ag  
 Min: 0.8% Cu and 8 g/t Ag

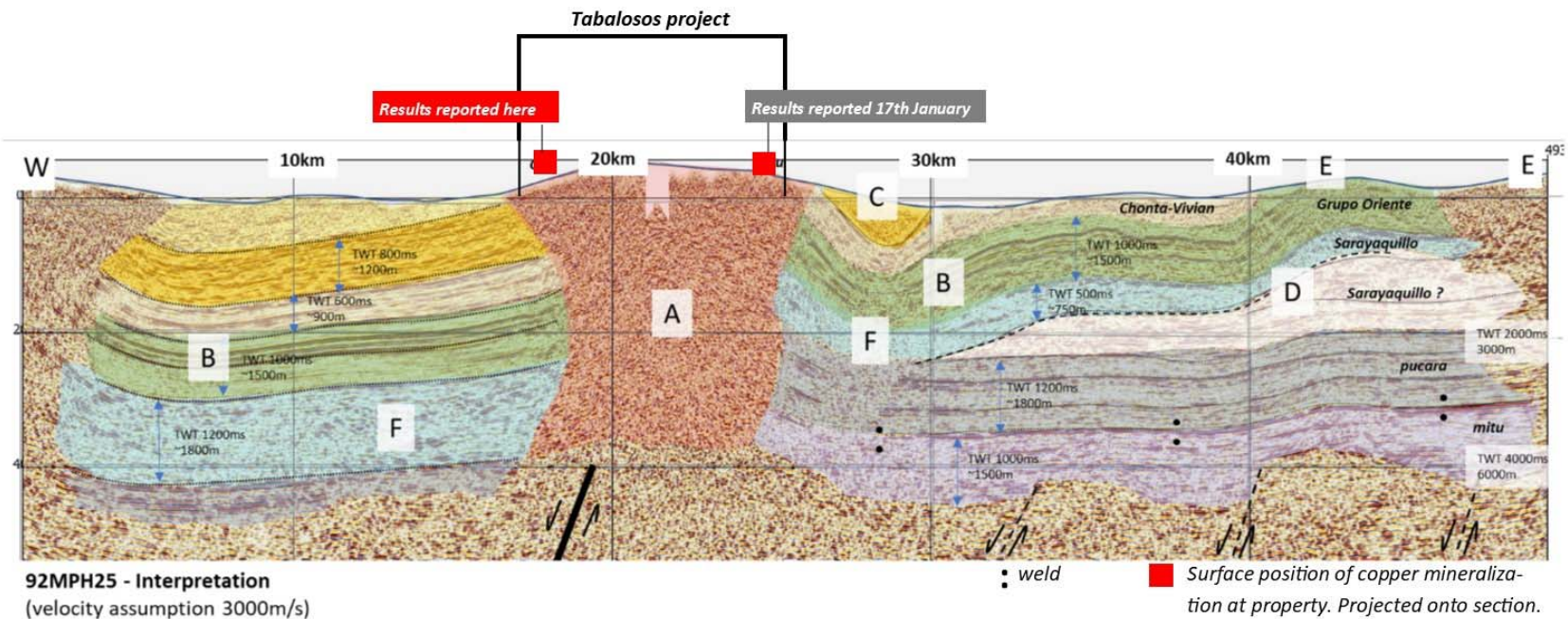
**Reported 17th January**

Three zones over 3.5km strike. 16 grab samples from boulders (>0.1% Cu).  
**Average: 2.7% Cu and 29g/t Ag**  
 Max 8.3% Cu and 109 g/t A  
 Min: 0.1 % Cu and 0.23 g/t Ag



**Figure 3.** Cross section A. Schematic section of the Tabalosos project. The section highlights the interpreted continuity between the western and eastern zones of mineralization at Tabalosos as well as the inferred subsurface salt intrusions which is supported by field observations where chlorites, sulfates and carbonates are frequently out-cropping.





**Key observations:**

- Salt is utilizing pre-existing basement structures for migration and linking deeper parts of the basin with traps for metal bearing fluids
- The seismic data does not image near survey events sufficiently to allow drill targeting (due to survey design) and proximal to salt diapirs data is generally poor (due to salt). Furthermore close to faults the geological dips are steep which is difficult to image from seismic.

- A. Clear salt diapir in central part of line, correlates with the Alto Mayo cordillera and mapped salt domes.
- B. Stratigraphy is inferred from the surface geology and the Grupo Oriente which is a good marker unit.
- C. Compression and folding related to salt inflation
- D. Unconformity marked by package of stronger reflectors at the base of Sarayaquillo Formation.
- E. Inversion related bulge (Andean inversion)
- F. The Sarayaquillo Formation is thicker in the hanging wall compared to the footwall of the basin fault

**Figure 4.** Seismic section 92MPH25 acquired and processed by Mobil 1992. The section is 40 km long and transects the Tabalosos project. The seismic lines highlight regional relationships between the stratigraphy and salt deformation which is important to understand the context of the copper mineralization.

**Photo 1:** Sample 7309

Strongly mineralized boulder rich in malachite, chrysocolla, azurite and chalcocite +/- carbon.

**Assay: 11.5% Cu and 28 g/t Ag**



**Photo 2:** Sample 7323.

Small float of dark shaly rock . Minor copper oxides on surface.

**12.3% Cu and 70 g/t Ag**



**Photo 3:** Sample LD2602.

White sandstone with large black bituminous patches and green glauconitic clay fragments.

**0.2% Cu and 2.2 g/t Ag**

**Figure 5.** Photos highlighting the different styles of mineralization discovered at Tabalosos.