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**JANUARY 2025 Tillo Project** 

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- Tillo is located 70 km south of Lima in Peru
- Tillo is 100% owned by Zafiro Mining SAC (subsidiary of Latin Metals Inc).
- Agreement in place with local community for surface exploration.
- Tillo is located close a cluster of VMS-style projects (10 km west of Balducho, 30 km north of La Palma and 45 km north of Perubar)
- Initial exploration includes stream sediment sampling with strong multi-element anomalies and subsequent soil and rock chip sampling
- Tillo has evidence of porphyry style mineralization throughout the project, and locally a strong barium-zinc correlation within in the volcanic environment, indicative of VMS mineralization



### **Exploration Belt**



Cretaceous coastal Belt between Ancash and north Ica

- The Cretaceous coastal belt between Ancash and Lima hosts significant VMS deposits such as María Teresa, La Palma, Perubar, Balducho and Aurora Augusta.
- Porphyry copper projects discovered through exploration include Newmont's ILLARI deposit and Latin Metal's LACSHA project.









- La Palma 14.5 Mt including 9.6 Mt of indicated grading 5% zinc, 0.7% lead and 22 g/t silver.
- Perubar 6.5Mt grading 12% zinc, 1.5% lead, 30g/t silver
- Cerro Lindo 32Mt grading 2.1% zinc, 0.24% lead, 0.77% copper



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Coastal batholith



# **Regional Geology**



- Casma Group (Chilca Fm., Pamplona Fm.) and Rimac Group • is host for VMS style mineralization in the belt.
- Santa Rosa and Tiabaya Coastal Batholith with younger porphyritic intrusions are the principal host for the Porphyry copper-gold mineralization related to Cretaceous belt.



- **Cretaceous Volcanic Package**
- Mesozoic Calcareous Package

**Coastal batholith** 



### Structural Framework



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- Deposits are strongly controlled by the intersection of major structural trends:
  - East-west low magnetic trends recognized by airborne magnetic surveys and;
  - major mapped fault systems trending northwestsoutheast
- Possible relationship to deep structures controlling secondary porosity



Structural corridors iterpreted by Geophysics

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\*Regional MAG interpretation by Peru Petro

### Stratigraphic Column



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#### Quaternary deposit

Huarochiri Fm. (Andesitic tuff)

Rimac Group (Andesitic tuff)

Quilmana Fm. (Andesitic flows)

Chilca Fm. (Calcareous material)





### **District Geology**



Regional Geology by INGEMMET



- Lower Cretaceous Casma Group is common host for VMS style mineralization.
- The Upper Cretaceous Coastal Batholith hosts porphyry copper mineralization.



- Eocene-Miocene Sedimentary Package
- Mesozoic Fine Sediments
- Cretaceous Volcanic Package
- Mesozoic Calcareous Package

**Coastal batholith** 

#### **Schematic Section**



0 — 3km



VMS early or advance stage projects

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Miocene Volcanic Package
 Mesozoic Volcanic Package
 Mesozoic Fine Sediments

#### Costal Batholith: (S.U. Tiabaya, S.U. Patap)



#### Infrastructure & Access



- The Tillo project is in Lima department, on the border between Huarochiri and Cañete provinces.
- The project can be reached by road from Lima via Chilca.

Huarochiri and Cañete provinces

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### Stakeholder Engagement



- Surface agreement in place to explore the area.
- The property comprises 2,000 hectares with mining titles under the name of Zafiro Mining SAC (a Subsidiary of Latin Metals Inc.)



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### **Regional Landholders**

- Latin Metals owns three projects in the area • (Tillo, Para and Lolli)
- Buenaventura holds ground contiguous to Tillo, • presumably for VMS exploration.
- Cerro Lindo mine is located 100 km south of • Tillo.
- The operating IOCG Raul Contestable mine • (Southern Peaks) is located 14 km to the southwest.



- Favorable Pamplona Formation is a Cretaceous volcanic package in contact with the Coastal Batholith.
- Post Batholith intrusions probably developed porphyry type mineralization.

	Miocene Tuff Package
	Eocene-Miocene Sedimentary Package
v v	Cretaceous Volcanics Package
	Cretaceous Calcareous Package

Post Batholith Intrusions
S.U. Incahuasi
S.U. Tiabaya





### **Stream Sediment Sampling**



- Initial regional stream sediment survey reveals a strong Zn-Cu Anomaly in Tillo
- The area was defined by 5 anomalous samples
- Initial anomaly is 2 x 5 km in size









- 101 talus and 79 soil . samples were collected
- The most abundant • elements are Ba, Cu, Mn, P, Pb, Rb, Sr, V, Zn and Zr
- Copper and Zinc are • highest priority elements

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Copper appears to be more anomalous in intrusive rocks and zinc is more anomalous in volcanics

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## Soil & Talus Sampling







 TALUS
 SOIL

 ●
 <75 ppm</td>

 ●
 76- 150 ppm

 ●
 151 - 250 ppm

 ●
 251 - 500 ppm

 ●
 501 - 1330 ppm

- Soil samples were collected in Horizon B where possible and where soil was not developed, talus samples were collected .
- Copper and zinc values are more anomalous relative to the stream sediment anomaly.

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- Anomalous values reach 1,050ppm copper and 1,330 ppm zinc
- 101 talus and 79 soil samples were collected

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146 rock chip samples
 were collected

**Rock Chip Sampling** 

- The most anomalous elements are Cu, Mo, Zn, Sr, Pb, P, and Ba
- Enrichment of copper and molybdenum is observed in both the Quartz Diorite and the Quartz Monzonite.
  - Zinc is more anomalous in the andesites than in the intrusive rocks

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# **Rock Chip Sampling**



#### ROCK

- <250 ppm
- 251- 500 ppm
- 501 1000 ppm
- 1001 2000 ppm 2001 – 59830 ppm



- Rocks chip samples were taken over a 1m diameter area on outcrops.
- Strong copper-molybdenum correlation in this phase.
- Strong SW-NE trend in the mineralization, related to the contact between volcanic and the batholith where post batholith intrusions were emplaced
- 143 rock chip samples were collected

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Volcanics Quilmana Andesite



Super Unit Tiabaya Granodiorite

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Post Coastal Batholith Intrusives Qz Diorite Qz Monzonite



Post Mineralization Rhyolite /Dacites

- The granodiorite from the Super Unit Tiabaya are the most representative rocks within the Coastal Batholith.
- Post batholith intrusions appear to have developed porphyry type mineralization.



• the majority of the Andesites show chloritic alteration, with local sericitic alteration.

• Sericitic alteration is obvious with chloritic alteration in both post batholith intrusives.



### Alteration







Propylitic in Volcanic

Chloritic in Volcanic

Sericitic in Volcanic

Sericite in Intrusives

- Sericitic > Chloritic alteration has been recognized in the Intrusive rocks.
- Chloritic, Propylitic and Serictic alteration have been identified in the Andesitic volcanics around the area.





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#### Veining



#### Intrusives

Early Dark Veinlets

**B** Veinlets

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Volcanics C Veinlets



• Different types of veinlets recognized in the Quartz Monzonite and the Quartz Diorite as well as in the Volcanic rocks .

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C Veinlets?

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- Copper mineralization has been recognized as oxides.
- Post Batholith intrusions are enriched in copper mineralization
- The porphyritic rock with primary sulfide mineralization underlies the oxidation zone.

**Copper Sulfides** 



#### Mineralization in Volcanic Rocks



 Zinc-lead-copper mineralization has been recognized in some volcanics levels within the andesitic package, in north of the property, close to the contact with the Coastal Batholith.



#### **Exploration Model**



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750m

- Different types of veinlets within the Quartz Monzonite related to Porphyry Copper mineralization.
- The fertility of the Quartz Monzonite is high and the Quartz Diorite it is also interesting



Porphyry Cu Prospectivity La/Yb vs Yb

- Copper-molybdenum mineralization related to a porphyry target probably close to surface at contact between Batholith and the Volcanic stratigraphic column.
- Zinc-copper mineralization related to the volcanic package / VMS will be evaluated in more detail in 2024

