

14 November 2017

# Extensive High Grade Copper, Gold & Silver in Historic Channel Sampling & Review of Exploration Data Underway at San Santiago Peru

# **Highlights**

- Titan implementing strategic review of San Santiago historical exploration data
- Extensive mineralisation in historic channel sampling at San Santiago Copper project in Peru
- Highlights of historic channel sampling include
  - 1.08m grading 3.76% Cu, 1.13 g/t Au and 4.9 g/t Ag
  - 1.36 m grading 3.53% Cu, 0.215 g/t Au and 4.3 g/t Ag
  - 1.21 m grading 2.17% Cu, 0.751 g/t Au and 3.9 g/t Ag
  - 1.29 m grading 1.81% Cu, 0.302 g/t Au and 2.5 g/t Ag
  - 1.70 m grading 1.79% Cu, 0.429 g/t Au and 3.4 g/t
  - 0.60m grading 9.10% Cu, 4.53 g/t Au and 4.5 g/t Ag
  - 0.85m grading 7.68% Cu, 2.08 g/t Au and 5.6 g/t Ag
- Geophysics team are estimated to finish geophysical survey over the San Santiago project in the next 4
  weeks
- . Geologist Dr Owen Miller has exploration assessment underway with in country team
- Drilling campaign now expected to commence in Q1 2018

Titan Minerals Limited (ASX:TTM) ("Titan" or "The Company") is pleased to advise its geological team is undertaking a thorough review of the historical exploration data for the high-grade copper mineralisation at its 100% owned San Santiago Copper Project in Peru.

The company's geophysical survey is currently underway and covers the San Santiago concessions. This will cover areas of historical mining activity which are highly prospective for base and precious metals. Drilling is expected to commence at San Santiago once all surveying in the area is complete and results have been interpreted.

Systematic mapping (1:500 scale) and channel-sampling of historic workings undertaken in 2015 revealed veins of massive chalcopyrite, pyrite and magnetite, with minor bornite in lenses and disseminated in the wall rocks. The alteration in the wall rocks is mostly secondary biotite and chlorite. Channel sample results reported included 1.08m grading 3.76% Cu, 1.13 g/t Au and 4.9 g/t Ag.

The original sampling work was focussed on the ore shoot known as "Brasil Vein I" which forms part of a much larger vein system in Titan's Brasil/Huarato concession located within the Acari- Cobrepampa copper-gold-silver mining district, which

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forms part of the Marcona Iron Oxide-Copper-Gold (IOCG) province in south-central Peru, about 550 km south of Lima (Error! Reference source not found.).

Systematic detailed mapping and channel-sampling was also undertaken over a second mineralised vein system known as the "Callejon Vein System", which confirmed strong results including 1.36 m grading 3.53% Cu, 0.215 g/t Au and 4.3 g/t Ag.

### **Regional Setting**

The Acari-Cobrepampa copper-gold-silver mining district is located in the much larger Marcona Iron Oxide- Copper-Gold (IOCG) province, south-central Peru, about 550 km south of Lima. Figure 1 shows the location of the Cobrepampa mining district and the approximate location of the Brasil concession. The Huarato, XV, Callejon and Genova concessions are all in close proximity to the Brasil concession (Figure 4).

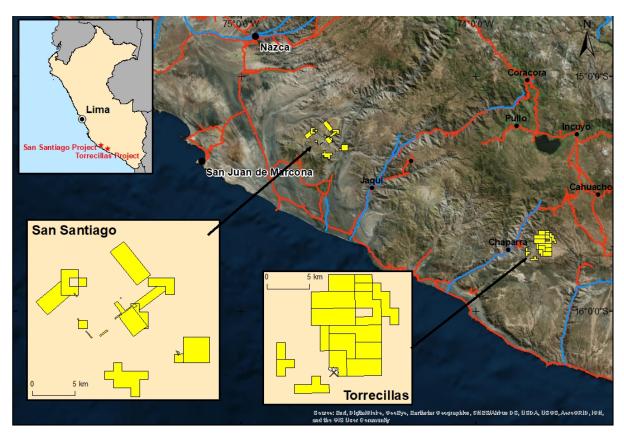


Figure 1 - Location and tenure of Titan Minerals San Santiago and Torrecillas Projects in Peru

The Marcona ICOG province hosts one of the biggest and largest concentrations of iron oxide in the central Andes. Shougang Hierro Peru (a Shougang Group subsidiary) operates the Marcona open-pit mine that contains 1.4bt of ore @ 55.4% Fe, whilst the Nanjingzhao Group owns the Pampa de Pongo magnetite project, containing approximately 950Mt @ 44%Fe, which is located about 30km to the southeast of the Marcona mine. These iron-rich IOCG deposits are thought to have formed in the Middle Jurassic in a shallow marine environment along northeast-striking fault systems that were active as major andesitic-dacitic volcanic activity took place.

In the same province, there is also the mid-Cretaceous IOCG copper-rich style mineralisation. The best-known project is the Mina Justa, located about 5 km northeast of the Marcona mine, which has a JORC (2012) compliant Indicated Resource of 346.6 Mt @ 0.71% Cu, 3.8 g/t Ag and 0.03 g/t Au at a cut-off grade of 0.3% Cu. Copper mineralisation at Mina Justa occurs in hydrothermal breccia fillings and stockworks of copper sulphides that post-date the emplacement of the magnetite

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lenses, within low-angle faults that transgress the host volcanoclastic stratigraphy. Similar features have been observed in some of the vein systems at the Company's San Santiago Project Peru.

In addition to the IOCG mineralisation, there are more than two hundred Cu-Ag-Au mineralised vein systems within the Province, including the San Vicente-Trancas; Acari-Cobrepampa; La Loza and Machaynioc. The main vein systems in the Acari-Cobrepampa district are La Argentina, Brasil, Purisma, San Juan, La Verde, Santa Rosa and Maria del Carmen.

The local geology in the Acari-Cobrepampa region consists of monzonite, monzogranites and granodiorites cut by aplitic dykes. In some areas, these rocks have intruded Jurassic andesite and dacite volcanic rocks or volcanoclastic sediments. They are all mostly overlain by rhyodacitic pyroclastic sediments, eluvium and alluvial sand and conglomerate deposits for the majority of the area of interest.



Figure 2 – Massive chalcopyrite  $\pm$  pyrite  $\pm$  quartz from the Brasil Vein I and Callejon Vein systems, respectively

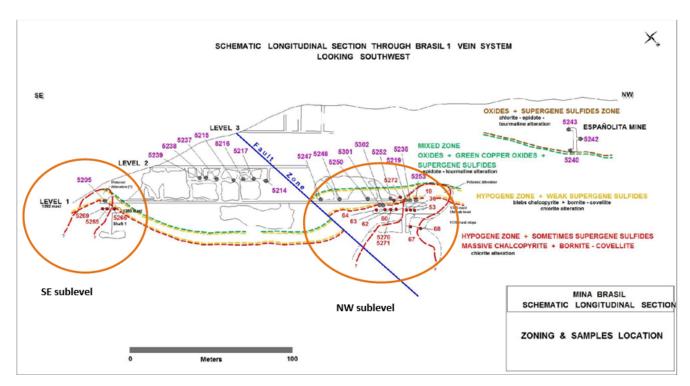


Figure 3 - Cross section of the Brasil vein I showing the areas that have been secured and reopened. It gives all the sample location and the mineralisation zoning observed.



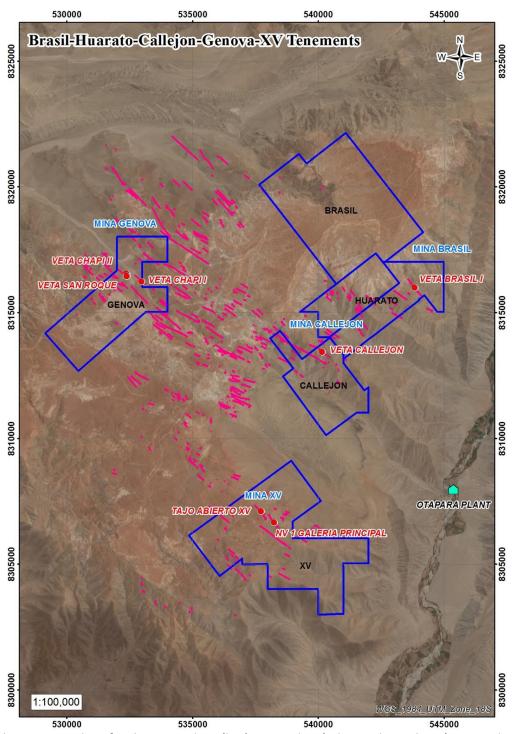


Figure 4 - Location of main Cu-Au mineralised systems in relation to Titan Minerals concessions

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### **About Titan Minerals Ltd**

Titan Minerals is the owner and operator of a copper and gold business in a well-established mining region of Southern Peru. A centralised processing plant with three separate circuits produces copper concentrate and copper cement in addition to loaded carbon from the CIP gold circuit, with feed sourced from third party operators as well as from Titan's 100% owned mines.

The copper assets of Titan are contained within 7,800Ha of under explored concessions that surround the San Santiago processing plant and are currently being mined for copper, with an attractive gold and silver credit.

Titan's gold assets include its small-scale mines at the Torrecillas project. At Torrecillas, a number of high-grade narrow gold veins have been developed and mined by Titan Minerals. This gold project, located just 180kms from the processing plant, are part of 16,000Ha concession package that also contain two large tonnage, low-grade disseminated targets containing known gold and copper with silver and molybdenum mineralization.

### **Competent Person's Statement**

The information in this document that relates to the Torrecillas gold project and the San Santiago concessions is based on information compiled and conclusions derived by Mr Aidan Platel. Mr Platel has over 17 years' experience in the minerals industry, in both mining and exploration roles across a wide range of commodities. Mr Platel has the relevant qualifications, experience and independence to be considered a "Competent Person" as defined by the JORC Code (2012). Mr Platel consents to the inclusion in this presentation of the matters based on his information and has reviewed all statements pertaining to this information in the form and context in which it appears.

Information in this announcement relates to the following previous ASX announcements:

- Exploration results confirm exciting high-grade prospects for the historical Brasil Copper mine, Southern Peru, 18
   March 2015.
- 23 January 2012, Maiden JORC Resource of 102,000oz @16.1gpt for Torrecillas Gold Project, Peru.
- 22nd of April 2013 Exploration and trial mining update from Tessie project Torrecillas Project.
- Brasil Copper Mine Exploration update 29 May 2015.

Exploration results were prepared and first disclosed under the JORC code 2004. It has not been updated since to comply with the JORC code 2012 on the basis that the information has not materially changed since it was last reported (see Minera Annual reports 2012-2014 and various corresponding ASX releases.)

The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed. The company confirms that the form and context in which the competent persons findings have not been materially modified from the original announcement.

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