

# SEG 100 Conference: Celebrating a Century of Discovery

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## **Cobalt and MVT Zn-Pb-Ag in the Italian Alps**

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The geology of Italy, a relatively small country of about 300,000 km<sup>2</sup>, is characterised by a variety of geological features because of Italy's location in the middle of the Mediterranean Sea (a remnant of the Tethys Ocean), where lithologies were subjected to the complex geodynamic processes derived from the Triassic breakup of Pangea and the subsequent collision between the Eurasian and African plates that started in the Jurassic. These processes shaped the distinctive form of the Italian peninsula in orogenic and magmatic arcs flanked by basins of different structural significance, as well as contributing to a variety of minerogenetic environments.

In Italy, mining history dates to Neolithic age, but most of the mines that existed at the beginning of the century closed in the 1980s, and zinc, lead, nickel, copper, iron, antimony, gold, and cobalt minerals were left with resources still in the ground.

In this scenario, two projects of high interest have become the flagships of Alta Zinc Ltd (AZI), the Australian company holding mining and exploration permits in Italy:

### **The Gorno Zn-Pb-Ag Project**

This project includes one mining permit and four exploration licences securing a number of Mississippi Valley-Type deposits of the Gorno Mineral District. The deposits are in the form of stratabound and columnar mineralisation hosted by Triassic limestone in the Central Alps.

The Gorno mines were known since Roman times for calamine and, in the 1970s, sphalerite/galena sulphides were extracted until 1980, when all activity was prematurely stopped.

Extensive diamond drilling in excess of 19 km done by AZI from 2015 to date resulted in the definition of JORC resources of 3.3 Mt at 6.1% Zn + Pb and 27 g/t Ag in the Colonna Zorzone. Current drilling carried out at Pian Bracca, the NE extension of Zorzone, has resulted in very promising stacked horizons at 12 to 19% Zn + Pb and 38 to 60 g/t Ag in intersected thickness of 10 to 12 metres for each level.

Following the definition of additional resources, a feasibility study is planned for mining development from 2022.

### **The Punta Corna Co Project**

The project is located about 40 km north-northwest of Turin, in the Municipality of Usseglio, Piedmont Region, in one of numerous postorogenic hydrothermal systems found in the Italian Western Alps and exploited in the past.

The Co-Ni-As-rich veins are emplaced in the Piedmont Zone, an assemblage of metaophiolitic, ultramafic, and metasedimentary rocks representing fragments of oceanic lithosphere of Jurassic age.

The mineralisation is hosted by E-W-trending, postmetamorphic, subvertical veins of up to 6 m in width over a strike length of 6-7 kilometres. The wall rock always shows intense hydrothermal alteration.

AZI holds three exploration licences covering the known deposits and their lateral and downdip potential, which could extend for over 6,000 metres in strike and about 1,000 m downdip.

Work is continuing to define the lateral and downdip extent of the mineralisation.

