

## **The Traversella mining site as Piedmont geosite**

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The multidisciplinary research project PROGEOPIemonte, started in 2012, selected nine strategic geothematic areas that have been and are still investigated as representative of the geodiversity of Piedmont region. The dissemination of the knowledge connected to geological history, climate and environmental changes, natural hazards, soil processes, and georesources, not only of the geosites but also of the museum collections, has been and will be spread, evidencing the mining and quarrying activities, and by means of science exhibits and Nature trails.

Among the nine selected geosites, there is the Traversella mining area, object of the present research. Traversella mine is located nearly 50 km north of Torino, and it was (together with the neighbor site of Brosso) one of the most important mining location for iron exploitation. The Traversella orebody was exploited from late medieval age up to the middle XX century. It is a representative contact-metasomatic deposit at the border between granodiorite and preexisting host rocks (micaschists, gneisses and marbles of the Sesia-Lanzo Zone), and the mining district represents the only exploited skarn-type mineralization in the Alps. The iron mineral, exploited from different veins and mass (pertaining to the contact aureola) was primarily magnetite, an iron oxide easy to treat in cast iron even employing the technology locally available before 1900. After the beginning of XX century the extraction involved also pyrite and chalcopyrite (iron and copper-iron sulfide), used mainly for the production of sulfuric acid. The mine, after some interruptions and re-openings, was officially closed in the second half of the XX century, due to the high exploitation costs and the competition of the foreign mine deposits interested by iron extraction.

The area still presents several signs of mining and dressing activities (underground pits, explorable under severe restrictions, traces of dressing plant, offices, and miners changing room and canteens, etc.); such signs are the tangible trace of a remarkable industrial activity, which can be considered as cultural heritage of historical industrial activities (“industrial archeology”).

To enrich such cultural heritage, a museum for minerals and mining tools exposition is still active. Furthermore, to evidence the importance of Traversella mining site, outstanding mineralogical samples coming from Traversella area are displayed in the most famous museum all over the world.

The present research aims at emphasize the extraordinary importance of this mining site both from a scientific and a historical point of view, examining the methods and the amount of production during the last three centuries, and highlighting how these activities contributed to the industrial development of the surrounding area and of the whole Piedmont Region. We also want to illustrate the sociological and environmental impact of mining activities at regional level, highlighting the importance of the site from a geoturistic point of view, thanks to of the cultural exploitation of the mining site remains, the developing and upgrade of the already existing mining museum, and the organization of geoturistic itinerary.