



## Geoethical approach to mineral activities in Antarctica

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Antarctica is the outermost from civilization space continent. From 14.0 million km<sup>2</sup> of surface area about 98% of Antarctica is covered by ice that averages at least 1.6 km in thickness. Geologically, the continent is the least explored in the world, and it is almost absolutely unknown what mineral resources Antarctica has as they are buried in rock that is covered by a thick ice sheet. It is thought to have large and valuable mineral deposits under the ice. This is because of what has been found in samples taken from the small areas of rock that are exposed, and also from what has been found in South Africa and South America. Up until 180 million years ago, Antarctica was a part of the Gondwanaland super continent, attached to South America, the Southern part of Africa, India and Australia, these continents then drifted apart until they reached their current positions. This leads to a possibility that Antarctica may also share some of the mineral wealth of these continents. Right now on the ice-free areas of Antarctica iron ore, chromium, copper, gold, nickel, platinum, coal and hydrocarbons have been found.

The Protocol on Environmental Protection to the Antarctic Treaty, also known as the Madrid Protocol, was signed in 1991 by the signatories to the Antarctic Treaty and became law in January 1998. The Protocol provides for comprehensive protection of the Antarctic environment and associated ecosystems and includes a ban on all commercial mining for at least fifty years (this is up for review in 2041). Current climate change and melting ice in Polar Regions is opening up new opportunities to exploit mineral and oil resources. Even Antarctica's weather, ice and distance from any industrialized areas mean that mineral extraction would be extremely expensive and also extremely dangerous, the depletion of mineral resources on the Earth can reverse banning of mining in Antarctica in future.

There is no question that any resource exploitation in Antarctica will cause severe not only permanent, local impact on the environment, but also will have implications for other Earth's systems as a whole. Mineral prospecting and exploration in Antarctica need to be reflected and respected in any concept of environmental sustainability. Anyway, first stage of the geological surveying should be carried purely scientific and not designed to explore for and identify mineral deposits. It's obvious that although various countries claim sovereignty in certain regions of Antarctica, the continent should be continued to be politically neutral. Efforts of scientists and politicians should respect their own responsibility for the protection of the fragile Antarctic environment and of our planet in the whole taking care for future generations.