

BIOMore, 2016-04-22

Press release

BIOMore – An Alternative Mining Concept

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New ideas for future mining with the EC/EU “Horizon 2020” Innovation Program

The increasing shortage in technology metals requires new and yet environmentally sustainable mining technologies. Therefore the EU has initiated a research and innovation program of 80 billion euros. As part of this program the BIOMore project develops a new technological concept for the in-situ recovering of metals from deep deposits using controlled stimulation of pre-existing fractures in combination with in-situ bioleaching.

Most technology metals become rare

Most technology metals are becoming rare. Together with precious metals, the EU is already depending on imports from non-European countries to meet the demand. Existing deposits are highly exploited although adequate deposits exist at depths greater than 1.5 km – but new methods are required for recovering them in an economic, sustainable and environmentally acceptable way.

Combining the best available technologies

The BioMOrE concept is new and innovative, although many of its individual technologies are already known. The approach is to combine them and design a completely new process that would be suitable and cost-effective on industrial scale. It aims at a combination of (hydro-)stimulation and in-situ bioleaching. This method extracts metals from ores directly at their location by using sulfuric acid and innocuous living organisms. In a future full-scale technical implementation two parallel drill holes are required; one for injecting the leaching liquor into the deposit, the other to transfer the dissolved material to the process cycle. The separation of metal (copper in the present project case) will be realized in a downstream bioreactor.

New mining concept with economical and environmental approach

Up to now mining at greater depths implicates different technological and economical limits. The BIOMore concept is designed to create, test and implement both a practical and cost-effective mining solution for future exploitation. This approach has quite a lot of environmental benefits as there are less waste heaps, no dust exposure, only a minimum infrastructure on the surface, less noise and chemical impact. It will therefore reduce the environmental impacts of mining exploitation, and may improve chances for better public acceptance. Furthermore, the returning hot solution could provide a valuable energy source.

Bioleaching in focus of investigation

The BIOMore project focusses primarily on the bioleaching method. Methods and procedures according to this technology will be designed, tested and evaluated in laboratories and in an operating mine in Poland. A closed system of a volume of 100 m³

**EUROPEAN UNION**

This project is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No 642456.

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will be established underground – fitted with all the technology and necessary monitoring systems for controlling the process and the environment. After completion of the tests no harmful substances will remain at the mine site. The research activities will neither affect groundwater nor any other sensitive environmental assets. If the results of the project are satisfying, it is intended to develop a pilot plant, which will be subject of later research and development works.

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BioMore – general statement

The increasing shortage in technology metals in the EU requires innovative and yet environmentally sustainable mining technologies. BioMore intends to be a cost-efficient and ecological answer to this problem. Its main objective is to develop new technological concepts for the in-situ recovering of metals from deep deposits using controlled stimulation of pre-existing fractures in combination with in-situ bioleaching. Within the scope of this project, methods and procedures of the process will be designed, tested and evaluated in laboratories and in a small test facility in an operating mine in Poland. This innovative concept includes quite a lot of environmental benefits (no waste heaps, no dust exposure, minimum infrastructure on surface, less noise and chemical impact etc.).

More about BIOMore under www.biomore.info or contact us by mail to press@biomore.info stating the company name, contact details and desires.



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