

BIOMore, 2016-04-22

Press release

BIOMore – An Alternative Mining Concept

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New ideas for future mining funded by the EC/EU “Horizon 2020” Research and Innovation Program

Most technology metals and precious metals are becoming rare. Existing deposits are highly exploited although adequate deposits exist at depths greater than 1,500 m. New methods are needed for recovering them in an economic, sustainable and environmentally acceptable way. As part of the Horizon 2020 Program, the BioMOre project is designed to develop 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.

Combining the best available technologies

BIOMore mainly focusses on already developed technologies but combines them to a completely new process that should be suitable and cost-effective even on industrial scale. The strategy implies hydro-fracturing and in-situ bioleaching to extract metals from ores by using sulfuric acid and innocuous living organisms (bacteria). 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.

Bioleaching in focus of investigation

Bioleaching represents a major focus of the BioMOre project: All necessary technology for testing and monitoring – including the ferric iron-generating bioreactor (FIGB) for the separation of ore – will therefore be established underground in an operating mine in Poland. The test facility will comprise two ore blocks of 100 cubic meters with boreholes drilled horizontally using standard equipment and will thus test the leaching process in a real environment.

BIOMore will enable high-detail testing of necessary methods and technical or geological equipment, at the same time avoiding time-consuming and risky permission procedures. The current project will perform extensive pre-feasibility studies including optimized technology and related CAPEX and OPEX cost figures as well as an optimized decommissioning of the site after the mining operations have been finished. If the results are satisfying, a second phase of the project (but not within the framework of the currently running project) may intend to develop a pilot plant to demonstrate the applicability of the process on a large scale, including accessing the deposit from the

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surface. By this separation the EU makes sure to evidently make a distinction between the design of the process and its implementation on a profitable scale.

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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 advanced mining technology will substantially decrease the costs for extraction and processing by keeping all the waste rock underground, thereby lowering infrastructure investments, avoiding underground and open-pit mining, minimizing facilities and waste heaps and the subsequent excessive costs for remediation.

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 underground mine in Poland. BIOMore is an ambitious approach including 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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