TECHNOLOGY OF UPWARD CAPILLARY EXTRACTION OF USEFUL COMPONENTS FROM NATURAL AND TECHNOGENIC MASSIFS

Description
The new technology of upward capillary extraction of useful components includes a full cycle of consecutive processes: supplying leaching solutions from surface to bottom of the massif through the borehole; dissemination of leaching reagent in massif; move up through the massif capillaries on the surface; collection of productive solution on the surface through special deviation channels; supplying a production solution for extracting useful components or correction of the solution composition and re-delivery to the massif. Solution moves from the bottom up to the surface through capillaries of the massif in accordance with the law of communicating vessels, and its speed is controlled by the level of solution in the supply borehole.

Technical appraisal and economic benefits
The technology allows you to extract useful components from massifs of natural and anthropogenic origin. Capillary upward movement of the leaching solution provides the most complete and continuous contact of leaching reagent with the material of massif. Leach fluid passage through the capillaries ensures removal of useful component in a production solution to the surface.

Application areas
• Mines with small stock localized close to the surface.
• Extraction of useful components from anthropogenic objects.
Development stage
The technology was tested at laboratory scale.

Patent situation
Two patents of the RF for invention (2010).

Commercial offers
• Sale of licenses.
• Joint project.

Estimated cost
To be negotiated.

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