The first data about the REE's contents in new-formed phases (Berezitovoe gold deposit, Priamurye, Russia)

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Here we present the first data on contents and geochemistry of REEs in the secondary new-formed phases from weathering zone of Beresitovy gold deposit hostrocks. Also the analysis of fractionation and migration of REE in single geochemical cycle "bedrock - weathering zone - surface and ground water - secondary new-formed phases" are performed.

The Beresitovy gold deposit located in the northeastern Amur gold province in the downstream basin of the Khaikta River. In 2007, two mining companies: Berezitovy Mine Ltd. and High River Gold Mines Ltd., started to mine this deposit. Geologically, the deposit is localized in a southeast part of the North Asian craton, in a zone of its joint with formations of northern frame Tukuringra-Dzhagdinsky terrein Mongolo-Ohotsky zone. Two formations of sediments (granites and ore–metasomatic rocks) occur in the deposit. Main minerals bearing REEs are allanit, monatsit - (Ce), chervandonit - (Ce).

The preliminarily results of investigation showed, that the content and distribution of REEs in the new-formed phases from weathering zone of deposit. Our data indicate that the content of REEs in new-formed phases of Berezitovoe deposit can reach up to 149 ppm and the content of LREEs is at about 93% of total REEs. All types of new-formed phases display of strong negative Ce and Nd amonalies.

Profiles of distribution of REE of new-formed phases are comparable to bedrock profiles, small difference is observed in distribution heavy groups of elements.

Relation between diatom communities and the degree of AMD affection in selected water dams in Iberian Pyrite Belt

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In mining regions the presence of water reservoirs affected by AMD is a common problem. This study is part of a project that characterizes the water dams in the Spanish Iberian Pyrite Belt, in order to achieve a classification based on the effects by AMD. This preliminary work presents data from four selected dams: mining dams (Gossan and Águas Ácidas), for industrial use (Sancho), and for human supply (Andévalo). The main objectives are: i) to describe the water and sediment properties; ii) to characterize diatom communities, and iii) to find possible relations between diatoms and the degree of AMD. Chemical composition of water and sediments was determined by AAS and ICP-MS. XRD was performed for mineralogy (bulk and clay fractions). Diatoms were sampled from sediments. Identification and quantification were performed in slides mounted with Naphrax® . Results indicate that the four dams are subject to the effect of metallic loads from polluted rivers, although with different levels: Águas Ácidas>Gossan>Sancho>Andévalo. In accordance, diatom communities have differences in composition and dominant diatom taxa. *Pinnularia acidophila* and *P. aljustrelica* were found dominant in the most acidic dams (Gossan and Águas Ácidas), *Pinnularia subcapitata* was dominant in Sancho and *Eunotia exigua* in Andévalo.