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A novel approach for acid mine drainage pollution biomonitoring using rare earth elements bioaccumulated in the freshwater clam *Corbicula fluminea*

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Highlights

- *Corbicula fluminea* can bioaccumulate rare earth elements
- AMD pollution degree is registered in tissue of the Asian clam
- NASC-normalized REE distributions in soft tissue determine AMD affection
- The IPB contains values of REE above the permissible maximum concentration

Abstract

Lanthanide series have been used as a record of the water–rock interaction and work as a tool for identifying impacts of acid mine drainage (lixiviate residue derived from sulphide oxidation). The application of North-American Shale Composite-normalized rare earth elements patterns to these minority elements allows determining the origin of the contamination. In the current study, geochemical patterns were applied to rare earth