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PŮVODNÍ PRÁCE/ORIGINAL PAPER

## Recentní vznik limonitové bahenní železné rudy v Hulíně (niva řeky Moravy)

Recent formation of limonite mud iron ore in Hulín (flood plain of the Morava River,  
Czech Republic)

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### Abstract

There is described a new occurrence of mud *limonite* iron ore in this paper. *Limonite* originates recently in streams situated in flood plain of the Morava River near Hulín (central Moravia, Czech Republic). The chemical composition of precipitated *limonite* indicates that a contamination of subterranean waters by phosphorus, arsenic and some transitional metals (Cr, Zn) occurs here, very probably due to long-lasting intense agricultural usage of the surrounding fields. Based on experimental precipitation of *limonite* from local well water, a probable mechanism of formation of *limonite* was outlined. The  $\text{Fe}^{2+}$  ions, dissolved in the subterranean waters, are after their seepage into the stream oxidized by aerial oxygen to  $\text{Fe}^{3+}$ , which is subsequently hydrolysed and precipitated in form of solid iron hydroxide. An important role of microorganisms and/or organic matter during precipitation of *limonite* is not suggested by collected data.

**Key words:** *recent geological processes, limonite, mud iron ore, flood plain, Morava River*

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