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## **AIRBORN SOILS POLLUTION RISK ASSESSMENT NEAR OPEN - CAST IRON ORE MINES**

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### **Abstract**

According to the study results, the level of soil pollution with heavy metals in the northern part of Kryvvy Rih iron ore basin (Kryvvy Rih district, Ukraine) reach to “moderately threatening”. In the southern part of Kryvvy Rih basin (Shyrokye district, Ukraine) the level of soil pollution was between two assessments: “moderately threatening” and “permissible”. The results of the study on buffer capacity of usual black soils show that the tested elements can be arranged in the following descending order: Pb>Cu>Zn>Mn. It was established that the introduction of quarry dust into soils can unbalance some of the main biochemical processes, such as decreases in the activity of hydrolytic enzymes. This can lead to an irreversible degradation of soils in the zone of technogenic pollution. When barley and soybean were grown in simulation studies, the introduction of quarry dust into soil in a dose of 1% resulted in a 15 to 25% decrease in biological productivity of plants.

*Key words:* biotesting, blasting, buffer capacity, heavy metals, iron ore mining, soil pollution

*Received: December 2013; Revised final: June, 2014; Accepted: June 2014*

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