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Various authors group, consists of Rajkovic Radmilo, Mile Bulgarian and Vladan Marinkovic, from the Institute for Mining and Metallurgy Bor, carried out an analysis of tailings pond stability of „Ostreljski planir” and by the GeoStudio 2007 program, while the influence of water on the landfill stability is defined by varying of the pore water ratio within disposed material.

According to the authors, in the period from 1975 to 1980, tailings from “Bor” OCM was disposed at several locations in the vicinity of the open cast mine, with created external landfills. One of them is the tailings pond “Ostrelj” which is also called “East Landfill” or “Cijanizacija”. It is located in the far east of the “Bor” OCM, near the former plant “Cijanizacija”, which is no longer in operation, because part of the slope for landfill leaching, during the eighties, slipped, and disable this facility. It is also the highest landfill of the “Bor” OCM, say the authors, and added that during the period of disposal on “Ostrelj” marginal copper content in the ore was much higher than today, so there is the possibility of exploitation of the landfill by leaching or classical excavating. An important fact is also that the amount of material in this landfill, is about 95 cubic meters of material.

Program used in the analysis by the authors of this paper, is actually a very precise program which can determine all the relevant requirements for the calculation of open pit slope stability, tailings and earth-fill dams. Each lithological member of the profile can be realistically modeled by physical location and physical-mechanical characteristics. Also, it is possible in many ways to model the impact of groundwater on stability, as well as surface loads on the surface.

As for the real understanding of the problem of stability, the most important are input parameters, and that data on the physical and mechanical characteristics are older than three decades, in the case of exploitation of the leaching landfill, or classic excavation, it is necessary to check the geo-mechanical and hydrogeological characteristics of the substrate and disposed material. For stability calculations in exploitation, load of machinery must be taken into account, and minimum distance from the edge of the slope of the tailings pond for its operation to be determined.