

Improving plant performance at the Endeavor Mine using Pionera F-250

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ABSTRACT

Any processing plant dealing with sulfide minerals want to control the amount of pyrite in their final concentrate. Depression of pyrite is complicated because the surface chemistry of pyrite is similar to that of valuable base metal sulfides. Additionally, galvanic interactions between pyrite and other sulfide minerals, combined with potential activation by ions present in the process water further complicates maintaining control over the amount pyrite reporting to the flotation concentrate.

At the Endeavor mine in Cobar, NSW, production volumes suggest that the mass pyrite in the final concentrate increases with the silver content in the ore. While there are several ways to deal with pyrite in concentrates, reduced production volumes of concentrates leaves traditional ore blending techniques are unavailable to the mine. Evaluation of different depressants revealed that Pionera F-250 adequately depressed pyrite demonstrated in both laboratory tests and in plant trials. F-250 was selected for use in the process as it not only efficiently reduced pyrite in the final concentrate but general handling and everyday use was easy. Finally, use of F-250 increased the volumes of produced concentrates.