



Technical Article

Evaluation of Basic Slurry Properties as Design Criteria for the Marconaflo System

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In developing a means of slurry handling iron ore pellet feed to and from ocean vessels, Marconaflo found it necessary to establish a slurry laboratory to develop the technology and hardware. This paper is a review of the principles involved in such developments and the importance of testing the principles for the commercialization of slurry systems. The data, as presented, is applicable to a wide range of materials, many of which have been subject to comprehensive testing and evaluation in the laboratory and subsequently handled on a commercial basis as the result. Most references to the Marconaflo system have been deleted from the text of the paper unless there is absolute need for such identification.

The Marconaflo system is a body of technology comprising specialized equipment and related procedures for handling, storing, loading, transporting and discharging bulk mineral commodities as slurries. Since the system is designed to accomplish specific objectives when dealing with a particular mineral slurry, it is necessary to characterize certain slurry properties to provide design criteria. Bench-scale, pilot-scale and full-scale experiments were employed in developing the system, and routine procedures are now available for predesign testing.