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BENEFICIATION OF INDIAN IRON ORE SLIME AND FINES: EFFECT OF SURFACE-ACTIVE AGENT AND SPECIFIC ION EFFECTS

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The suspension stability in 10 % slurry of iron ore fines and slime was studied by using three surface-active agents at pH 8. The Al_2O_3/Fe and Al_2O_3/SiO_2 ratios in the concentrates are appreciably reduced at the isoelectric point of hematite. The surface-active agent removes and disperses gangue minerals. The hard-water flocculates particles in the dispersed phase and generates roughly clear water for reuse. The specific ion effects in the pH variation have been observed in the hematite suspension.