

DEWATERING OF PHOSPHATE SLIMES

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Dewatering of phosphate slimes has been a serious problem for the Florida phosphate industry. Difficulty in dewatering arises due to the ultra-fine (2 micron) particle size of the material. In this paper results, of a DEEP CONE THICKENER (DCT) pilot-scale testing is reported. Using the DCT and a proper flocculation system and mixing the slime with the coarse waste particles at a phosphate processing plant, a thickened slurry containing about 35% solids was achieved from a feed containing 2% of solids in slimes and 5% of coarse particles. This type of thickened solids dried in one day to about 60% solids and could support light machinery. A preliminary economic analysis of the whole process is also presented.

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