AMENABILITY TO BENEFICIATION OF LOW GRADE MANGANESE ORE FINES FROM KMK MINES, SANDUR REGION, KARNATAKA, INDIA

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Abstract

A low grade ferruginous Mn ore assaying 25.05% Mn and 27.10% Fe from mines in Sandur region was subjected to assess amenability to beneficiation process comprising of wet screening over 10, 6, 3, 1mm - split jiggling of screen over sizes in a mineral jig, - crushing of jig tails to -1mm – magnetizing reduction roasting of crushed jig tails and natural minus 1 mm powder 600°C for 0.5 hour with 10% coal reductant followed by water quenching and wet low intensity magnetic separation to remove ferruginous impurities, this yielded a composite concentrate assaying 32.98% Mn, 21.80% Fe.1.51 Mn/Fe ratio with 77.28% Mn distribution at 58.70 wt.% yield meets the specifications of metallurgical industry after suitably agglomerating the concentrate. The sample is amenable to processing.

Keywords: Amenability Manganese Ore, KMK Mines, Deogin.