

The Beneficiation Studies of Celestite Deposits from Garmsar area, Iran.

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The occurrences of huge reserves of Celestite deposits have been reported from different parts of Iran, specially those of Garmsar area which is relatively high in nature. These deposits cannot be directly used as Strontium Carbonate and many other, because of some impurities present. To know the mineralogical composition, shape of the particles, chemical characters and the mesh of which play vital role in finding out suitable flowsheet design, The sample have been subjected to detailed mineralogical and microscopic studies, sieve analysis, liberation studies and chemical analysis. The results are shown that the is the main mineral present with an average grade of SrSo4 of 87.12% .

Calcite, Quartz, Barite, and Clays are the impurities present in the order of abundances and liberatory studies shown that the most of the particles are free below 300 microns. Based on the characterization studies carried out, it suggested that the gravity methods like tabling and spiral as well as M.G.S could be the suitable separating techniques for removing the impurities and up Therefor the beneficiation studies have been carried out with table and spiral separators. The results of characterization and beneficiation studies shown that with combination of tabling in (-300+150 microns fractions) it is possible to up grade the Celestite Ores of Garmsar area to the tune of more than 96% with recovery of above 75.5% .The results obtained are not only encouraging but also form original and distinct contribution to the beneficiation of Celestite in general and that of Garmsar area of Iran in particular.