Evaluation of Marwit Rod El Leqah Quartz Deposits As A Strategic Source of High Purity Quartz

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Abstract : Pegmatite quartz deposits of Marwit Rod El Leqah area classify as medium purity quartz with 99.575 % average SiO2 content and therefore do not match the requirements of high technical applications (99.8 % SiO2 for solar cells, 99.8% SiO2 for electronics). Petrographic field and petrographic investigations reveal that, the reduction of the silica content attributed mainly to impurities of iron oxide, muscovite, rutile, orthoclase, granitic rafts and fluid inclusions. Such impurities resulted in raising Fe2O3, Al2O3, MgO, CaO, K2O and Na2O relative to the silica content. Structural impurities are the main source of trace elements in the quartz samples.

Keywords : High purity quartz, High-tech applications, solid impurities, structural impurities

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