

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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