

Abstract

All the cement raw materials contain constituents other than the main constituent. Sometime these unwanted minerals or impurities cause problems in cement manufacturing process. They cause negative effect on the reaction take place inside the kiln.

The clinker production rates have been reduced in August and September of year 2004, due to affect of those impurities of raw materials. Therefore, the quartz was identified as major impurity, which is affected to cement burning process.

The Quartz has some special characteristic like, highly chemical inertness, High melting point, Specific crystal structure and high hardness (7). Therefore, the quartz removing is very important to get quality clinker with low production cost. Several methods were introduced to minimize quartz in cement raw materials as removing of some quartz layers by optical identification, Better bed cleaning methods and planned material collection system.

A 3D model was prepared by analysis of large amount of representative samples to show the quartz variation of the quarry. Therefore, it will be very useful to future quarry planning without or minimum quartz in the cement raw materials and get quality clinker without burning problems.