Abstract

Mining of limestone from coastal reef has caused serious sea erosion and other environmental problems.

Dolomite, calcium and magnesium carbonate ($CaCO_3.MgCO_3$) is the only alternative mineral available to produce lime.

The quality of the dolomitic quicklime available in the market is inferior due to the presence of unburnt and over burnt particles. Hard burnt Magnesium oxide is difficult to hydrolyze and result blistering of the plaster.

Supply of firewood as a heat source become more difficult and this is a threat to the environment. Exhaust gases from wood fired kiln causes health problems for the workforce involved in this industry.

An oil-fired kiln was designed and constructed at Digana to solve problems mention above. High quality dolomitic lime can be obtained by controlled firing in the calcine zone. High productivity in the kiln can cater the high demand for lime. Environmental impact is less due to the facts of complete combustion of oil.

By subjecting the lime to pressure and high temperature, it is possible to obtain complete hydration for MgO. Steam hydrated plant was setup at Digana to produce high quality dolomitic hydrated lime powder. This is the most concentrated form of hydrated dry, fine, white powder that can be produced commercially as hydrated lime.

Production of dolomitic quicklime using oil-fired kiln although not economical compared to the traditional kiln, a high quality quicklime can be produced compared to the traditional kiln.