**RED MUD AS A CONSTRUCTION MATERIAL BY USING BIO REMEDIATION**

**ABSTRACT**

Rapid industrialization and faster growth rate are the requirements for leading a proficient life but a holistic approach with environmental consideration are essential for sustainable development. These industries are partially fulfilling their tasks since many factors are not overcome by them successfully and one of that is safe disposal of waste generating at the end.

Red mud is a waste product from the Alumina industry and it creates a lot of health hazards to the ecology, if it is left disposed without necessary precautions, hence safe disposal practices and reuse of the product are one of the solutions. Disposal method entails a huge land area and enormous mass of earth material for construction of embankment. Many countries are disposing red mud waste directly into the ocean due to shortage of land area and scarcity of earth material.

Many researches are still being carried out on the neutralisation of red mud in various ways. This report is one of the parts of utilizing the red mud in a very better and economic manner. In this paper the red mud is used as an alternative construction material after remediation by biological process. This gives a cost effective neutralisation method as well as abundant material which can use in construction.

Research in biology and earth science has enabled important advances in understanding the crucial involvement of microorganisms in the evolution of the earth, their ubiquitous presence in near surface soils and rocks, and their participation in mediating and facilitating most geochemical reactions. Yet, the effect of biological activity on soil mechanical behaviour remains largely unexplored in the Geotechnical field. This research Provides examples of how microbiological conditions and processes may influence engineering properties and behaviours of earth materials which opens a new biological field in Geotechnical engineering which is known as **Bio-Geotechnics**.