

Study of Minor Bauxite Deposits, Madhya Pradesh: Geological Studies and Techno-Economic Evaluation

Rakesh Shrivastava¹ and Suyash Kumar²

1. Professor

2. Assistant Professor

Department of Geology, Government Model Science College, Gwalior, MP, India

Corresponding author:rakesh_geol@yahoo.co.in

Abstract

Indian bauxite deposits are mainly of lateritic origin. They have been grouped into five major bauxite districts based on similar geological and geomorphological features. Apart from major bauxite deposits of Eastern Ghat District (Orissa and Andhra Pradesh), minor pocket type deposits, particularly Satna, Rewa, Katni, Anuppur districts and adjoining areas belonging to Central Indian District have their own importance. Four representative deposits of these areas namely Naru (Satna), Tikar (Rewa), Padwar (Katni) and Chachandee (Anuppur) were studied with reference to their mineralogy, reserves and grade, mining and its impact on environment and techno-economic evaluation. Each of these deposits has reserves of less than 10 million tonnes mixed with three grades of ore namely metallurgical, refractory and cement. There are several other similar occurrences of bauxite in these areas. Mining methods in these deposits is erratic and selective. Associated clay and ochre mining is a characteristic feature of these deposits. Excavated areas are being backfilled in some places leaving others that may cause instability of slopes in future. As per chemico-mineralogical studies, the bauxite of Satna, Rewa area is boehmitic and titanium rich and of Katni, Anuppur areas is mixed gibbsitic-boehmitic. The ore mined from these areas is manually sorted on site into metallurgical and non-metallurgical categories and transported accordingly. There is scope for detailed study regarding complex utilization of ore belonging to these areas.

Keywords: Lateritic bauxite; Katni deposit; Deccan traps; Chachandee deposit.