

## GEOTECHNICAL CHARACTERIZATION OF MINE WASTE MATERIALS (ZINC/LEAD MINE) FROM RAJPURA – DARIBA MINE, UDAIPUR

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### ABSTRACT

Mine waste material is a residue (refuse) obtained after retrieving the minerals from the ores. The Rajpura – Dariba Mine, Udaipur is operated under the control of Hindustan Zinc Ltd. and is presently one of the largest Zinc mines in India and produces Zinc and Lead. In the present study, the mine waste material from Rajpura – Dariba Mine, Udaipur is characterized by conducting the laboratory tests such as Mechanical Analysis (Grain Size Distribution), Atterberg's Limits, Standard Proctor Compaction Test, Specific Gravity Test, Direct Shear Test, One Dimensional Consolidation Test and Laboratory Permeability Test in order to ascertain the suitability of mine waste material as a construction material for raising the height of the existing tailing dam to increase the storage capacity and it is concluded that mine waste material from the Rajpura – Dariba Mine, Udaipur is gravelly material with silt and clay and is able to achieve very good densities and shear strength. The material has low compressibility characteristics and possesses semi-pervious drainage characteristics.

**Keywords:** Geotechnical characterization, tailings, mine waste, tailing dam.