TRACE AND RARE EARTH ELEMENT GEOCHEMISTRY OF THE BED SEDIMENTS AND ARCHEOLOGICAL SAMPLES OF GULF OF CAMBAY, WEST COAST OF INDIA

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One of the main objectives in geochemical research on trace and REE geochemistry in marine sediments is to understand its provenance characteristics and formational mechanism, which is playing the major controlling role for the enrichment of geochemical elements in marine system which is covering the ocean basins as crustal blanket. Assessments are based on the basic assumption of immobility that the chemical composition of the selected trace elements (mainly Hf, Ta, Y , Zr and Nb) and REE of the contributed sediments are unaffected by post consolidation weathering, alteration and hence they reflect the primary petrogenetic character of the parent material.

In modern sea floor environments, hydrothermal, hydrogenous and diagenetic processes contribute to the formation of sea floor sediments, imparting distinctive geochemical and isotope signatures to contrasting sediment types.

For the present study seventeen samples (10 bed sediments and 7 artifacts) were analysed for Trace and REE in ICP-MS. Shale normalized REE pattern show LREE depleted pattern with Eu positive anomaly indicating that the provenance could be from the magmatic source of ultrabasic composition from the seafloor itself and not from the basalts of the nearby provenance. There is no distinction observed between the surface sediments and the artifacts geochemical pattern, which are indicating that the artifacts are insitu and they are not transported and are made from the nearby seafloor sediments.