

DISPERSION OF BAUXITIC RED MUD IN THE GULF OF CORINTH, GREECE

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Bauxitic red mud slurry discharged by an Aluminium processing factory on the shelf of the Gulf of Corinth, Greece, is used to examine sediment transport and dispersion processes in a deep basin.

The Gulf of Corinth is a silled elongated basin with a maximum depth of 860 m and is characterised by high seismicity. The red mud is discharged via a pipeline at a depth of 100 m where it forms an extensive deposit.

Grabing and Coring have shown that the red mud is extended over the slope and the abyssal plain up to a distance of 17 km from the mouth of the pipeline, where it forms small scattered sheet-like deposits of up to 3 cm in thickness.

The scattered patches of the red mud together with the fact that in some places they are overlain by a thin veneer of gray / olive green (natural) sediments, suggest that the red mud is transported from the shelf to the abyssal plain by gravitative flows which are triggered by earthquakes.

Granulometric and geochemical analyses of the collected red mud samples show that the red mud during its transport from the shelf to the abyssal plain is subjected to mixing with the surrounding sediments. However the mixing ratio as determined by the various trace metals (Fe, Ni, Co, Pb) seems to be somewhat different.

