Facies analysis and sequence stratigraphy of an evaporitic-fluvial unit: The Röt (Lower Triassic, Germany)

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With 12 figures

Abstract: In Northern Germany, the lower part of the Röt Formation (Upper Buntsandstein, Lower Triassic) is dominated by evaporitic sediments whereas fluvial sand- and mudplains prevail in Southern Germany. Both regimes are separated by a broad belt of sabkha deposits. The middle part, (Röt 3) is of aeolian origin, the upper part consists of sabkha and lagoonal sediments. Facies are controlled by sea level fluctuations, tectonic activity in the hinterland and – in a minor scale – cyclic climatic fluctuations which, most likely, are Milankovitch cycles. The evaporitic Röt is subdivided in three sequences. The exact correlation of these sequences with the progradation and retrogradation of the fluvial Röt in Southern Germany is not clear.

Introduction

The Röt (= Upper Buntsandstein, upper Lower Triassic) is deposited in a basin extending from England to Poland and from Denmark to Switzerland (Fig. 1). The sediments are very variable and consist of thick halite deposits in Northern Germany whereas fluvial sandstones prevail in Southern Germany. These two regimes are connected by a sabkha plain. It is difficult to elaborate the controlling depositional factors and to correlate both regimes. One of the important tools for the interpretation of sediments

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