

X-RAY POWDER DIFFRACTION STUDY OF TARD CLAY AND BUDA MARL

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As part of a complex research of several typical Hungarian geological formations X-ray powder diffraction studies were carried out on some rock-sample series.

The investigated serials of drilling samples were from boreholes of Kiscell-1, Alcsutdoboz-3, Cserépváralja-1. At the same time several surface samples from localities Sikfőkut, Zugliget, Csillaghegy-Ibolya street, Buda-Pusztaszeri street, Kiseged and Romhány-délhegy were also studied.

The aim of this study was the identification of main and characteristic mineral phases of Late Eocene and Early Oligocene geological profiles represented by the collected samples.

It was found that neither Buda Marl nor Tard Clay contained such mineral phases that could be used as indicators of their different geological ages.

The following types of minerals were identified:

/a/ Quartz

/b/ Carbonates: calcite, dolomite /siderite only from Kiseged/

/c/ Clay minerals: chlorite, illite, montmorillonite, kaolinite

/d/ Other minerals: pyrite and gypsum.

In one sample from Kiseged jarosite was found which may be a weathering product of siderite.

The results of X-ray studies were in good correlation with that of other analyses /e.g. CO₃-determination, etc./.

Since the X-ray diffraction results are not conclusive as far as the faciological classification is concerned, a further optical texture analysis is strongly indicated.