

CLAY MINERAL FORMATIONS IN THE SEDIMENTS OF THE SADO RIDGE (JAPAN SEA)

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Mineral composition and distribution of the green clay sedimentary formations (clay rock fragments, globules, nodules and moulds of test cavities of foraminifera) were investigated in district of the Sado Ridge (Japan Sea). The previous studies in the South-China and East-China seas established that such formations have different origin. Fragments (chips, debris) of the green clay rocks have multicomponent structure and are presented by high ordered mixed-layer I-S or vermiculite, hydromuscovite?, trioctahedral chlorite and smectite. Main mineral phase of the globules, nodules, and moulds of test cavities of foraminifera is dioctahedral smectite such as nontronite. Main difference between the fragments (chips, debris) of the clay rocks from the moulds, globules and nodules is purity of the last ones, where the nontronite dominates. While mineral structure of the fragments is more combined and contains much terrigenous impurity. Genesis of the moulds, globules and nodules is diagenetic, meanwhile it is terrigenous for fragments. Sediments of the Sado Ridge contain these formations. But they have other structure and origin. The fragments composed by smectite and random mixed-layer I-S, meanwhile globules and nodules composed by hydromica (seladonite?) and mixed-layer I-S. Probably they are edaphogenic both. The fragments derived from low altered volcanogenic rocks (basalts and tuffs). The globules and nodules derived from high altered volcanogenic and greenschist rocks. Consequently in sediments we have some formations, which conserve environmental conditions (diagenetic processes - nontronite) and other - reflect output sources (terrigenous processes - chlorite, vermiculite, mica, hydromica (seladonite)). In normal conditions (P - 1 at, T -25°C and pH 7-8) smectite forms preferably.