

# Radiolarian age and geochemical characteristics of the Permian bedded chert sequence in the Soi Dao area, Chanthaburi, Southeast of Thailand

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Permian chert and siliceous mudstone in the Soi Dao, Chanthaburi Thailand are extracted the details on radiolarian assemblage and age, change of depositional environment, and geochemical characteristics. Permian radiolarians were obtained in three study areas (ASD01, ASD14 and ASD09); which radiolarian age of each section is as follows: ASD01: Early Asselian to Early Sakmarian, ASD14: Late Sakmarian to Artinskian, and ASD09: Capitanian to Early Changhsingian. Considering the lithofacies, ages, and chemical composition of the rocks, a preliminary stratigraphy consisting of basaltic rock, radiolarian bedded chert, siliceous mudstone, and coarse-grained clastic of alternation of sandstone and mudstone in ascending order can be reconstructed. Data on geochemistry analysis, particularly chondrite-normalized REEs patterns of chert and siliceous

mudstone, present a gradual change in that degree of the Ce negative anomaly decrease toward the stratigraphical upper position. These changes indicate that the depositional site of the Permian rocks transferred from a state of high hydrothermal activity to a state of weakened activity and that the influx of terrestrial clastics increased. Permian bedded cherts accompanied by basalts and siliceous mudstones recognized in the study area closely resemble to the Paleo-Tethys bedded cherts in terms of their lithofacies and microscopic features; however, their depositional period is much shorter than that of the Paleo-Tethys, indicating that it was deposited in another oceanic basin. The chemical compositions also show that the influence of hydrothermal activity weakened from the strong state, and the terrigenous clastics rapidly supplied.