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Depositional environment related to Paleo-Tethys opening during Devonian

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The depositional environment related to the opening of the Paleo-tethys during Devonian is examined by lithostratigraphy, biostratigraphy and total organic carbon (TOC) analysis of siliceous rocks. Based on lithological change with radiolarian age, the decreasing of the TOC values indicate the opening history of the Paleo-Tethys during Devonian. The initial Paleo-Tethys was under the anoxic condition during Early to Middle Devonian with deposition of organic black shale. Subsequence to the Paleo-Tethys opening, siliceous rocks were deposited during Late Devonian with the change from anoxic to oxic condition. For the Paleo-Tethys at Late Devonian, mud, organic matter and tuff with pumice were still derived from continental margin. After Late Devonian, pelagic chert was distributed in the deep ocean with the development of the Paleo-Tethys.

Keywords: black shale, chert, Paleo-Tethys, Devonian, paleo-ocean, Northern Thailand