

Continuous stratigraphic record of Triassic bedded chert along the Sakahogi section, in the Mino Terrane, central Japan

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The Sakahogi section is located 500 m south-southwest of Sakahogi Station and crops out in the right bank of the Kiso River. In this section, a bedded chert sequence of about 80 m corresponds to CH-2 in the Inuyama area. Chert layers are generally red or green, rarely yellow, purple or brown in color. Red and green cherts often gradate each other vertically and horizontally. The beds strike N 30-40 W and dip steeply with a westward younging polarity. Lithologic columnar sections at a scale of 1:10 were depicted measuring the thickness of each chert bed. Lower two thirds (54 m) of the chert sequence has been examined in detail. The investigated interval is litho-stratigraphically divided into three (lower, middle and upper) parts.

In the lower part of the section, a rhythmical bedded chert sequence of 21 m thick is observed. Chert layers range 4-8 cm and siliceous clay layers range 5-10 mm in thickness. They are well alternated each other showing rhythmical stratification. The thickness of chert layers becomes irregular upward. Five white, massive and distinctive chert layers are observed.

The middle part consists mainly of an amalgamated bedded chert sequence of 21 m. Chert layers are generally more than 10 cm in thickness and are frequently amalgamated due to very thin siliceous clay intercalations. Chert beds with striped structures are sporadically found. The common occurrence of the striped cherts characterizes the middle part. The striped structures are recognizable in any colors of red, green, gray and even white, and are traceable laterally in quite a long distance. These striped cherts occur the most commonly in the midst of the middle part and decrease in number downward and upward. There are two horizons of a rhythmical bedded chert that is typically observed in the lower part mentioned above. Two horizons of siliceous clay layer zone of more than 40 cm in thickness are well traceable laterally. They are called CS-1 and CS-2 by previous researcher. Ten white chert layers are observed.

In the upper part of the section (12 m in thickness), a rhythmical bedded chert and amalgamated bedded chert sequences appear alternately. In the rhythmical bedded chert sequence, the thickness of each layer becomes irregular upward. The amalgamated bedded chert sequence consists of 10-15 cm chert with very thin siliceous clay layer that is discontinuous laterally. Three white chert layers are observed.

Previous radiolarian studies revealed the Sakahogi section ranges from Middle Triassic to Lower Jurassic. The Sakahogi section is one of the most suitable sections for any kinds of stratigraphic research because of its continuous nature.