

## Geological time bright layer recorded in the low-P/T metamorphic rocks

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The geological time bright layer was recognized in the Cretaceous low-P/T Ryoke metamorphic rocks in the Iwakuni-Yanai area, southwest Japan. We found that silicified pelitic schists distribute as layers or lenticular bodies several to fifteen meters in thickness, and they are restricted in the greenschist facies conditions within structurally vertical thickness about one kilometer. The surrounding pelitic schist is dark in color but silicification turned it to be pale gray or milky white. Silicified pelitic schist is mainly composed of fine-grained quartz and minor muscovite and biotite, and some of colored minerals are decolored by alteration more or less. The boundary between silicified layer and underlying pelitic schist is fairly distinct but that between the overlying pelitic schist is rather gradual. Quartz veins crossing high angles with schistosity were preferentially developed in the silicified rocks, while schistosity-parallel quartz veins, which underwent viscous flow, were observed in the pelitic schist. En echelon quartz vein and fishnet-like quartz veins are characteristic of silicified rocks. The mode of occurrences of quartz veins indicates that silicified rocks are competent relative to underlying pelitic schist. Rock boundary with high competence contrast is probably a good reflector of seismic waves. Seismic bright-layer reflections in the middle crust would be arisen from observed silicified rock layers in this study, if those are distributed in the deep crust to a considerable extent.