Large tsunamis are assumed to transport sediment seaward and form tsunami deposits in submarine environments if they are preserved in beds of marine deposits. Such tsunami deposits, however, remain poorly understood because of scarcity of examples. In this presentation, we show that some sandstone beds are tsunami deposits in deep marine (a few hundred meters depth) sequences included in the Miocene Morozaki Group, which is distributed in the southern part of the Chita Peninsula, central Japan. Main features of the sandstone beds are summarized as follows: (1) alternate paleocurrent directions shown by ripple laminae, (2) laterally intermittent distribution of deposits commonly composed of starved ripples, and (3) containing isolated gravels enclosed by mudstones. These features are envisaged by resulting from water streams with alternate current directions. Considering that the sandstone beds were formed on the sea bottom deep enough to neglect influence of storm surges, we can judge that the water streams were caused by tsunamis. These features provide clues to identify tsunami deposits in beds of marine deposits. Based on the features, we identified 18 layers of tsunami deposits in 11 meters thickness of mudstone-dominated deep marine deposits.