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Geology of the Northeast coast of Kagoshima bay, HUMOTO tuff in particular .

NAKANO, Maho[1*], Kimihiko Oki[2]

[1]Graduate School of Science, Kyoto University, [2]Kagoshima University museum

The Kokubu Group is exposed all along the northern coast of the Kagoshima Bay. The Kokubu Group is a serried of marine sedimentary deposit of Quaternary and is divided into three sedimentary formations which are the Kajiki Formation, the Kamo Formation, and the Hayato Formation. All the three formations are separable by the underwater pyroclastic flow sediments. The area of investigation in this research is the eastern part of Yoshida town which lies along the coastal part in the northwest of Kagoshima Bay. Although the overlying formations such as the Kamo Formation and Hayato Formation are exposed all along the Kagoshima area, the unwelded tuff layers between them which have drastic and variable thickness are exposed only in the investigated area. Among them, in particular the Fumoto Tuff which is weakly sorted and consists of fine ˜ very fine sand with volcanic glass is the most prominent layer. The purpose of this research is to (1) re-examine the stratigraphic relation of the Kokubu Group, and (2) to clarify the depositional environment of the Fumoto tuff. In this research, sampling was carried out systematically with fixed interval from the Fumoto tuff in order to know the heavy mineral fraction and particle size composition. They were then used for comparison with various other tuff deposits in the area in order to identify the pyroclastic flow deposition. By this investigation, we came to the conclusion that the Fumoto tuff overlies the Oda pyroclastic flow deposit. Moreover, the Fumoto tuff was deposited in a basin which becomes lower in altitude from southeast towards northwest in the area. In addition, gradation in grain size indicates that the particle size composition got finer towards the upper part and this can be seen in the research area. The direction of water flow which deposited the middle layers of the Fumoto tuff was from west to east and is indicated by the current ripple mark. In the upper part water driven structures are seen indicating the deposition was fast in the upper layers. Moreover, the presence of a clastic dike along the boundary of Hayato Formation and the Fumoto tuff display that a seismic event occurred after the deposition of Fumoto tuff.

Keywords: Fumoto tuff, Environmental of deposition, Kokubu Formation