

## Stratigraphy of Aso pre-caldera stage lavas distributed at the western edge of the caldera wall

\*Shota Togawa<sup>1</sup>, Toshiaki Hasenaka<sup>2</sup>, Masayuki Torii<sup>2</sup>, Hiroyuki Oishi<sup>3</sup>, Tomohisa Tamura<sup>3</sup>, Yasushi Mori<sup>4</sup>

1. Kumamoto University, 2. Center for Water Cycle, Marine Environment and Disaster Management, 3. West Japan Engineering Consultants, Inc., 4. Kitakyushu Museum of Natural History and Human History

The stratigraphy of the pre-Aso caldera lavas distributed at the western edge of the Aso caldera wall was investigated. The study area was divided into Shinsho district and Tateno district that are different from the topographic features. Stratigraphy of Shinsho district is based on surface survey and that of Tateno district examined drilled core description. We examined the stratigraphy of pre-Aso volcanic rocks. We did geological survey and drilled core description. In addition, we studied the petrography and whole rock chemical analysis of pre-Aso volcanic rocks in order to establish the stratigraphy of pre-caldera stage, Aso volcano.

The lava stratigraphy of the Shinsho district is, from the lowest order, high alumina basalt, andesite, and trachy dacite, which are covered by Aso-1 pyroclastic flow deposits. The top of the steep cliff in Shinsho district forms a flat surface that slopes gently southwest. The direction of the lava continuous to the side is almost parallel to the flat surface.

On the other hand, the lava stratigraphy in Tateno district is andesite, hornblende-andesite, high alumina basalt, and andesite from the lower to upper. We found the gravels of trachy dacite in collapse sediment distributed in the top surface of Tateno district. The lithology of Tateno is similar to that of Shinsho. At the top of Tateno, there is no flat surface confirmed in Shinsho district.

The stratigraphy in sequence of the pre-Aso volcanic rocks distributed on the western part of the Aso caldera is summarized as follows from bottom to top; andesite, hornblende andesite, high alumina basalt, andesite, and trachy dacite. Aso-1 pyroclastic flow deposit covered these lavas. High alumina basalt is effective as key layers in order to establish stratigraphic relationship between Shinsho and Tateno district. The stratigraphy suggests that the near surface lava at the top of the Shinsho district was correlated with the top of the large landslide site of the Aso bridge in Tateno district. It is considered that geological situation of Tateno district is more vulnerable than Shinsho district, and the current topography may have been formed as a result of repeated collapses

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