

## Geochemical character of Quaternary tephra beds in sediment cores from IODP site U1344 in the central Bering Sea

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Sediments cores U1343 (water depth 1956 m) and U1344 (water depth 3174 m) were collected from the center part of the Sea of Bering and near the Bering Self sloop. The core U1344 include thirty-four tephra samples from three Hole cores. Tephra samples were (1) washed by ultrasonic cleaner, (2) sieved and to recover the 63-125 micrometer size fraction, and (3) grains examined under the binocular/polarizing microscopes to describe their form, color and mineral assemblage. The chemical compositions of volcanic glass shards in the 63-125 micrometer size fraction were determined using a wavelength dispersive electron probe micro-analyzer operated at 15 kV and using a 10 nA beam current and a 10-micrometer beam diameter to minimize loss of Na and K. As a result, we found that this core included seven visible tephra layers at least, and the age of the deepest layer was ca.1 Ma. The geochemistry of seven tephra layers are characterized by andesite and dacite.

The sediment core U1343, at 259 km southeast of the site U1344, which age model on the basis of the oxygen isotopic stratigraphy was established during the last 2.4 m.y. (Asahi, et al., 2014) has twenty-one tephra layers (Aoki. et al., 2012; 2015). The site U1344 located at more north of the Bering Sea and far from the supposed origins, such as the volcanic belts on the Kamchatka Peninsula, the Aleutian Islands, and the Alaska Peninsula. Therefore, we analyzed the small particles of volcanic glass shards under the 63-micrometer size and over 45-micrometer size in twenty-six samples by additions. The sample of 230.01m - 230.03 m (0.500 m.y.) includes many volcanic glass shards seemed to be deposited as cryptotephra.

We present the consideration on tephra correlations between the sediment cores at the site of U1344 and U1343 and the geochemical character of Quaternary tephra in the center of Bering Sea.

Keywords: Bering Sea, deep-sea sediment core, tephra