

BASIC ANALYTICAL DATA FOR GEOCHEMICAL EXPLORATION IN SOUTHERN VICTORIA LAND, ANTARCTICA

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Abstract: The distribution of minor elements (Mn, Zn, Pb, Ni, Co, Cd) in glacial deposits from the Dry Valleys area, Southern Victoria Land, has been investigated with atomic absorption spectroscopy to conduct geochemical exploration in Antarctica. The specimens were taken from various representative parts from the drill holes 12 (Taylor Valley) and 13 (Wright Valley). Highly anomalous zinc content (0.39% Zn) is evident in one specimen of muddy silt (sample No. 115). Lead shows low values in the particular horizons and generally higher level in sediments from the Taylor Valley than from the Wright Valley.

Compared with the distribution of minor elements in sedimentary rocks around Lake Biwa, Shiga Prefecture, Japan which contained sandstone, shale, chert, limestone, schalstein, and recent deposits, it is observed that average values of the minor elements are similar in both regions, but the magnitude of their variations in the Dry Valleys area except zinc in sample No. 115 and lead, is smaller than around Lake Biwa. These results suggest that geochemical dispersion patterns in Antarctica have been greatly influenced by mechanical action and less by chemical action.

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