

## Petrography and Mineral Chemistry of Ore from the Kobetsuzawa Epithermal Gold-Silver Deposit, Southwestern Hokkaido, Japan

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### Introduction

The southwestern district of Hokkaido has produced a valuable amount of gold, silver, lead as well as zinc metals. This occupies an important portion of the mineral production in Japan. Most of the mines in this district have been closed during the past 30 to 50 years due to the exhaustion of ores including low grade Kobetsuzawa deposit. The Kobetsuzawa was had less than 1 ton gold and silver content with Ag/Au ratio 48.1 (Ishibashi, 1956). The geology of this district and some study on Kobetsuzawa deposit such as mineralogy, structural geology and metallogeny have been carried out by previous authors. Even though, the occurrence and association ore minerals in this deposit is still interesting to study since there are various kind of ore minerals. Which is it could be apply to study other deposit elsewhere.

### Tectonic Setting and Regional Geology

Hokkaido is divided into three geologic units from a geotectonic view point, namely west, central and east Hokkaido which are bounded by the Sapporo – Tomakomai lowland belt and the eastern margin of Tokoro – Toyokoro tectonic belt (Minato et al., 1965). The young epithermal veins of Pliocene (or younger) are distributed in Southwest Hokkaido. This district is at the junction between the N-S trending Honshu Arc and the ENE-WSW Kuril Arc (Fig. 1).

Neogene volcanic and volcanoclastic rocks

predominated in the district while Cretaceous and Paleogene granites, rhyolites and sedimentary rocks are scattered in limited areas.

The Sapporo-Iwanai district (including Kobetsuzawa deposit) is situated at the junction between the Kuril and northeast Honshu Arcs. In this respect, the arc-arc junction is one of the most suitable sites for vein type mineralization (Watanabe, 1990).

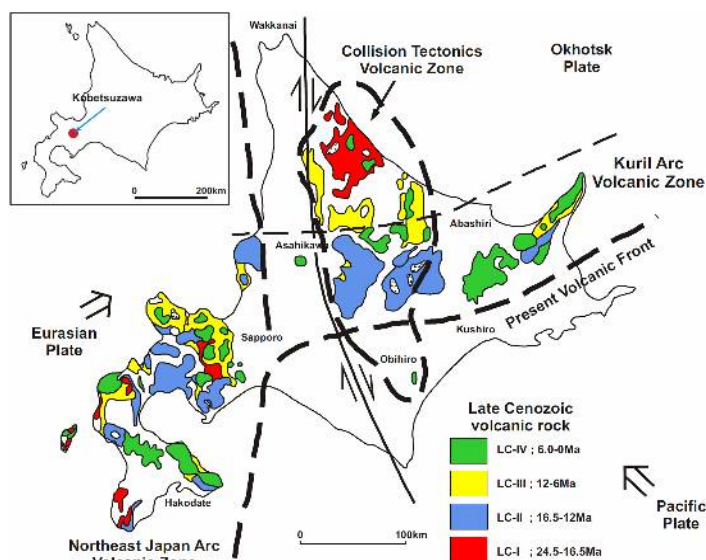


Figure 1. Geological map of Hokkaido and the location of the Kobetsuzawa deposit.

There are no age dating yet for Kobetsuzawa mineralization but since there are generally close associated between the deposit and neighboring andesitic lava in this district, which the age of deposit