

## Bismuth and Tellurium Minerals from the Arakawa Deposit in the Northeast Japan Arc

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The Arakawa deposit is a Miocene vein-type copper deposit in the Northeast Japan arc. The ore minerals from the deposit were analyzed by a scanning electron microscope with energy dispersive X-ray spectroscopy and/or an electron probe micro analyzer. Bismuth and tellurium minerals we found from the ores are bismuthinite, tetradymite, hessite, tsumoite, pavonite, matildite, and ourayite. Bi/Te(+ Se + S) of bismuth-tellurides of the Arakawa deposit are  $\leq 1$ . This composition indicates a relatively high sulfur and tellurium fugacity conditions of the ore forming fluid. It also shows an oxidized environment, close to the hematite-magnetite buffer. Bismuth mineral assemblage of the Arakawa deposit is similar to the other Miocene vein-type copper deposits in the Northeast Japan arc.

**Keywords** : Vein-type Cu deposit, Arakawa deposit, Bi-minerals, Te-minerals