

Epithermal Gold-Silver-Base Metal Deposit of Arinem, West Java, Indonesia

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Introduction

The Arinem deposit is located in the Java Island as a part of West Java province of Indonesia (Fig. 1). The Arinem gold mineralization discovered by Antam Tbk. as a result of a rigorous ground reconnaissance program to find other prospect of gold, targeting epithermal gold-silver mineralization. The deposit is test using basic exploration technique commonly applied in the rugged tropical terrains of Indonesia.

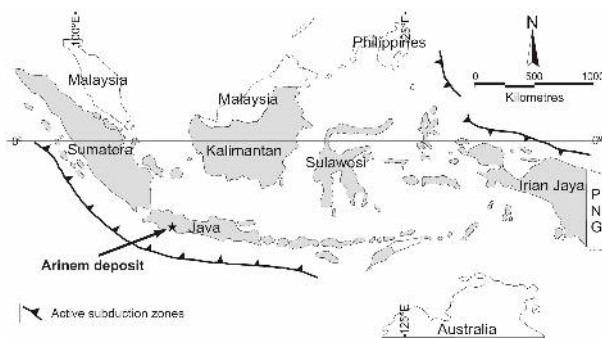


Figure 1. Map of the Indonesia region and the location of the Arinem deposit is note by an arrow

Gold exploration in the Arinem area and its surroundings has started since early 1980s. Further, detail exploration including some drilling activities is ongoing until now to estimate the gold and base metal reserves as well as to define the deposit characteristics.

This study documents the complex of mineralogy, geochemistry and water-rock interactions in a Au-Ag-Te-bearing hydrothermal system of Arinem and based mainly on samples collected from exploration drill holes (drilled by PT. Antam Tbk.) at Arinem and Bantarhuni

veins.

Regional Geology

The study area is a part of southern slope regional uplift (Van Bemmelen, 1949; Martodjojo, 1982). The southern mountains, some 50 km wide, extend from Pelabahanratu Bay to Nusakambangan Island. These represent the southern flank of the Java synclinal structure, an uplifted crustal block dipping to the south.

Exploration work is conducted by Antam, as well the detail geological mapping of surrounding area. Rocks of Tertiary to Recent age occur in the study area and consist of andesitic to basaltic intrusive and extrusive rocks, such as tuff, breccias, and lava flows (Alzwar et al., 1992). It is sometimes difficult to distinguish intrusive and extrusive rocks from different ages since the mineralogical composition of those lithology are similar.

The volcanic rocks are suffered pervasive hydrothermal alteration. Most of the primary minerals in the volcanic rocks of the Early-Middle Miocene Jampang Formation are altered. There are five major normal faults trending N-S and NE-SW within the area. Those faults cropped out the Arinem, Bantarhuni and Halimun quartz veins.

Methodology

Detailed sampling of the mineralized veins was undertaken, as well as sampling of the host rocks. Detailed sampling of the sequence of the alteration