

Title : Petrography of Extrusive Rocks at Khun Fang Subdistrict, Mueang Uttaradit District, Uttaradit Province

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ABSTRACT

This study presents a detailed geological analysis of twenty extrusive igneous rock samples collected from the Mon Kiu Lom area in Khun Fang, Uttaradit. By integrating field observations with petrographic analysis under a polarizing microscope. The research aim classify these rocks and interpret their original depositional environments. The study area is situated within the Chiang Khong-Lampang-Tak Volcanic Belt, with a geological age spanning from the Permian-Triassic or the post-Triassic periods.

The samples can be classified into two distinct groups: volcanic rocks and pyroclastic rocks, with ten samples in each category. The Volcanic Rock group is primarily composed of porphyritic Rhyolite. Microscopic examination reveals phenocrysts of sanidine, plagioclase, and quartz. The groundmass exhibits a micropoikilitic quartz texture and the presence of spherulites. These specific textures indicate a depositional environment characterized by dense lava accumulation, which reflects an effusive eruption. In contrast, the pyroclastic rock group are made up of volcanic fragments, including crystals of quartz, sanidine, and plagioclase, as well as devitrified glass and rhyolitic lithic fragments. Many of these components have undergone alteration into secondary minerals such as sericite, clay minerals, and epidote. The rock textures vary between welded and non-welded forms. These characteristics suggest an explosive eruption in subaerial environment, involving both primary ash fall and pyroclastic flow processes.

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In conclusion, the composition and formation patterns of these extrusive rocks suggest that they originated in a Continental Volcanic Arc setting or were the result of volcanic activity following a post-collisional tectonic event.

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