Title : Petrography of Igneous Rocks from Chalawan, Kumpee, and B Prospects, Phichit and Phetchabun Provinces

Author: **1.** Ms. Tuangrat Saenyakiadtikhun **Student ID :** 650510439

Major: Geology

Advisor: **1.** Assistant Professor Dr. Burapha Phajuy

Type of presentation* *(choose 1)* **:**

- ☐ **Oral Presentation** (เฉพาะ ตัวแทนนศ.ที่สาขาเลือกให้นำเสนอแบบบรรยาย)
- ☑ **Poster** (กรณี นำเสนอผลงานปัญหาพิเศษ/การค้นคว้าอิสระ)
- ☐ **Cooperative Education** (กรณี นำเสนอผลงานสหกิจศึกษา)

ABSTRACT

The Chalawan, Kumpee, and B Prospects are located within the Loei Fold Belt, which is interpreted as an island-arc setting associated with subduction processes. The host rocks predominantly comprise volcaniclastic and volcanogenic sedimentary rocks that host epithermal gold–silver mineralization. However, intrusive dykes cross-cut the host sequence. These dykes are barren of economic mineralization and are therefore classified as waste rock in mineral resource modeling. This study aims to investigate the petrographic characteristics of the intrusive dykes in the study area, focusing on rock-forming minerals, textures, and alteration features in order to classify the rock types and provide fundamental data for delineating dyke distribution and reducing misclassification of waste rock in resource modeling.

A total of 19 drill core samples from 15 boreholes were examined. The samples include intrusive dykes and representative rocks from other units in the area, including coherent units and andesitic volcaniclastic rocks. Dyke identification was based on drill core observations, particularly the presence of chilled margins and cross-cutting relationships with the host rocks. All samples were prepared as standard thin sections and analyzed under a polarizing microscope. Quantitative mineralogical analysis was conducted using the point-counting method with 400 points counted per thin section.

**Type of presentation must be matched with an option you choosing on student upload system.*

***The abstract can be more than one page and must be approved by project advisor before upload.*

The igneous rocks are classified into three principal groups based on petrographic analysis. (1) Basaltic to dacitic rocks (17 samples) include both dykes and lava units and exhibit porphyritic and equigranular textures. These rocks are dominated by plagioclase and unidentified mafic minerals. Quartz occurs in the dacitic samples, and some andesitic samples with felty texture contain alkali feldspar displaying simple twinning. (2) A diorite dyke (1 sample) shows ophitic to subophitic textures and is composed of plagioclase, clinopyroxene, orthopyroxene, unidentified mafic minerals, and minor quartz. (3) A tuff (1 sample) is characterized by a pyroclastic texture dominated by crystal fragments. Most samples exhibit moderate to high degrees of alteration, with sericite and chlorite as the dominant secondary minerals. The petrographic data obtained from this study provide an essential basis for improving mineral resource modeling and supporting future exploration planning.

**Type of presentation must be matched with an option you choosing on student upload system.*

***The abstract can be more than one page and must be approved by project advisor before upload.*