

UNIVERSITY OF NAIROBI
SCHOOL OF PHYSICAL SCIENCES
SGL 413: PROJECT IN GEOLOGY

**GENESIS AND GEOCHEMICAL CHARACTERIZATION OF CLAY DEPOSIT
OF KYATUNE AREA, SOUTHEASTERN KENYA**

BY:

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ABSTRACT

The area of study (Kyatune) is located in Southeastern Kenya in Kitui County. The trading centre is located at longitude 38° 6' 59.5" E and latitude 1° 46' 12.4" S and is composed almost entirely of rocks of the Neoproterozoic Mozambique Mobile Belt presumed to be of archean age that have suffered compression. The rocks have been folded but some parts of the area are covered by recent deposits of sandy and black soils overlaying the rocks of undifferentiated Neoproterozoic Mozambique belt.

Kaolin from Kyatune has been analyzed for their chemical composition. The kaolin is derived from the rocks of the Neoproterozoic Mobile Belt by weathering of feldspathic rocks particularly the microcline-oligoclase-biotite-hornblende migmatites with amphibole schlieren that are found towards the northeast of Kyatune trading centre. The clays have been transported and deposited at Kaolinite is the dominant mineral and its chemistry has been discussed in this report.

Chemical data analyzed indicates that the samples collected have a relatively high content of Al_2O_3 and K_2O with other oxides present in small amounts. The depletion of Fe, Mn, Mg and Na in Kyatune kaolin not only shows the extent of kaolinization, but also gives Kyatune deposits its white colour.

The chemical composition of Kyatune Kaolin deposit indicates their suitability for use in brick, ceramic and earthenware production.