
Mineralogy and Geology of the Maungaparerua Halloysite Deposit in New Zealand

Haydn H. Murray, Colin Harvey* and John M. Smith†

Department of Geology, Indiana University, Bloomington, IN 47401, U.S.A.

* New Zealand China Clays, Ltd., Auckland 7, New Zealand.

† Yara Engineering Corp., Deepstep, GA 31082, U.S.A.

Abstract: The Maungaparerua halloysite deposit is located on the North Island of New Zealand some 210 km north of Auckland. The halloysite deposit was formed by hydrothermal alteration of rhyolite flow rocks. Superimposed on the hydrothermally altered halloysite is deep intensive surficial weathering resulting from the humid climate on the extreme tip of the North Island. The deposit has been drilled and the cores have been analyzed mineralogically and chemically. Drilling has shown that the deposit is circular or ovate and covers about 350 acres. The altered rocks contain about 50% quartz and fine amorphous silica and 50% of a mix of halloysite, kaolinite, and allophane with a small amount of plagioclase feldspar in the coarse fraction. The upper 8– 30m, with an average of 15m, of the halloysite alteration deposit consists of relatively soft clay. Below this soft clay, which is the result of intense surficial weathering, the clay becomes hard and dense. The halloysite and kaolin from this deposit are mined and beneficiated using wet process techniques of dispersion, centrifugation, leaching, dewatering, and drying. The products are used as filler in paper, paint, and plastics and as a ceramic raw material for producing whiteware and fine china. This deposit is unique in that it contains a very high proportion of halloysite in the clay fraction. The detailed geology, mineralogy, geochemistry, and the physical properties of the clay will be discussed.

Clays and Clay Minerals; February 1977 v. 25; no. 1; p. 1-5; DOI: [10.1346/CCMN.1977.0250101](https://doi.org/10.1346/CCMN.1977.0250101)

© 1977, The Clay Minerals Society

Clay Minerals Society (www.clays.org)
