Research Title Measurements of Gamma Ray from Uranium Thorium and Potassium at Doi Pae Po Mak Ban Doi Tao Amphoe Doi Tao Changwat Chiang Mai

Author Mr. Songchai Sasitaranuwat

M.S. Teaching Physics

Examining Committee :

Assoc.Prof.Dr.Kittichai Wattananikorn	Chairman
Assist.Prof.Viwat Teeyasoontranont	Member
Assist.Prof.Dr.Prayote Ounchanum	Member

Abstract

Measurements of gamma ray from uranium, thorium and potassium at Doi Pae Po Mak, Ban Doi Tao, Ampho Doi Tao, Changwat Chiang Mai have been conducted in two areas of 400x500 and 300x350 square meters each, using NaI(Tl) spectrometer, Urtec UG-140. During field measurement, the maximum measured gamma ray was 357.6 cps at station M208, which is 6.4 times greater than the background. Twenty three samples were also collected and analysed by the laboratory technique of gamma ray spectrometry using HPGe detector with crytal size 72 cm^3 and multi-channel analyzer. The results show that the concentration of uranium in the sample collected from station M208 is 1.76 %, while the concentration of thorium and potassium is below the measurement error level. The samples from other stations do not show clear anomaly. Both field and laboratory measurement of gamma ray indicate that the area of station M208 has a high amount of uranium.