

DETERMINATION OF RADIOACTIVITY CONCENTRATION LEVELS OF BAKIRÇAY RIVER BASIN

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The main sources of natural radiation are; the products of the series of Th-232, the series of U-238, K40 and Radon. The radiation, which is produced by these natural raionuclides , gives us valuable information about the environment along the river whether it is suitable for life or not. The aim of this study, to be detrmind of the radioactivity level of Bakırçay River Basin.

Beyond Bakırçay River, fro Çandarlı Gulf to Soma, soil and sediment samples were collected from 54 different approximately 2km intervals of sample points. The activity concentrations of Th-232, U-238 and K-40 radionuclides were determined by using scintillation detector and radioactivity levels of Ra-226 were measured using collector method.

Measured average data for Th-232, U-238 and K-40in the soil samples, 5.93ppm, 5.92ppm and .91ppm respectively. In sediment samples those data were measured as 6.86ppm, 7.65ppm and 0.69ppm. The Radium activity concentrations in water samples were determined between 0.09-0.94 Bq/l and average value of 0.36Bq/l. Most of the reslts are found to be acceptable copared to world standards
