Chemical compositions of twenty-two groundwaters, and alteration minerals from cuttings and shell fossil obtained by drilling a test well (depth of 44m) were analyzed to clarify the water-rock interactions conducted to the chemical composition of the waters in aquifers above 200 m depth at the Noda city, Chiba. There are four aquifers (first surface, second, third and fourth aquifers in descending order) whose water compositions are Ca-HCO3 type. Ca2+ and HCO3- contents gradually increase with depth. Saturation index of aragonite and calcite, and pH of the waters gradually increase with depth. Quartz and plagioclase as primary minerals, and kaolinite, Ca-montmorillonite and halloysite as secondary minerals are found in the first aquifer. Based on these data and presence of shell fossils in the Kioroshi and Kami-iwahashi Formations, the increases of Ca2+ and HCO3- contents with depth are interpreted by the following two mechanism: (1) dissolutions of calcite and aragonite as the shall fossils, and (2) formation of kaolinite and Ca-montmorillonite by weathering of plagioclase.