GEOLOGICAL FACTORS CONTROLLING URANIUM

G-II uranium occurrence is one of the most important and promising occurrence in Gabal Qattar uranium prospect. This occurrence is located in the northwestern part of the Qattar pluton, north Eastern Desert of Egypt. The area of study is approximately determined by the intersection of latitude 27° 5’30” N and longitude 33° 17’ 5” E. The granite of G-II uranium occurrence could be classified as alkali feldspar granite.The most prevailing structures are the secondary elements exhibited by faulting, fracturing and jointing. The faults, especially those trending in the NNE-SSW, NW-SE, NE-SW and N-S directions, predominate in the study area. They acquire their importance by playing the role of passways for the uranium mineralizing solution. Their intersections represent the localizing sites for dense uranium mineralizations.The statistical analyses and comparative studies of both -surface and subsurface joints revealed that the predominating joints trending NNE SSW, N-S, WNW-ESE and NE-SW, receded at surface, are still active at the subsurface, accompanied with the same types of mineralization and associated alteration, with variation in intensities and distributions.Systematic measurements of the total gamma radioactivity were conducted all over the area of study on surface and subsurface. This lead to the discovery of many surface and subsurface primary and secondary uranium mineralized zones. Some of them extend from the topographic surface to mining work levels and may extend to deeper levels which require an intensive drilling program!G-II uranium occurrence could be classified as a hydrothermal vein -type uranium deposit. The presence of uranium mineralization at different levels of depth confirm the role of ascending hypogene solutions in mineralizing the granite. The dimensions and intensities of the uranium mineralized zones are of good economic potentiality. These factors together give G-II uranium occurrence its important as a good target for further development works.