## MINERALIZATION POTENTIAL OF GRANITIC ROCKS IN JUKUCHI, MINNA NORTH-WESTERN NIGERIA.

AJIBADE, M.R. and ALABI, A.A.

Department of Geology, Federal University of Technology, Minna ajibademoduper@gmail.com +2348169934744

ABSTRACT

Granite is a coarse-grained, light-coloured igneous rock composed mainly of feldspars and quartz with minor amounts of mica and amphibole minerals.The geology and whole rock geochemistry of granitic rocks in Jukuchi within the composite map of Zungeru sheet 163 and Minna sheet 164, North-Western Nigeria was studied to determine its mineralisation potential. Field mapping revealstwo lithologic units of biotite schist and biotite granite.Within this granite, micro faults, quartz veins and sets of jointstrending in the Northeast-Southwest direction were observed. Petrography reveals quartz, feldspar, biotite as the major minerals associated with the granite. X-Ray Fluorescence spectrometry analysis revealed the following oxides composition SiO2 71.14%, TiO2 0.28%, Al2O3 14.27%, MnO 0.11%, MgO 0.42%, Fe2O3 3.39%, CaO 0.76%, P2O5 0.22 %, K2O 4.81% and Na2O 4.05%. The rocks plotted within the granite field in Total Alkali Silica (TAS) diagram. Variation plots reveals the Granite to be S-type and Peraluminous suggesting sedimentary rock protolith. The trace elements are within range of background concentration expected for granite butbelow anomalous concentration to be considered as mineralised. It is therefore concluded that Jukuchi Granite is not mineralized in Co, Ni, V, Cu, Zn, Pb, W, Au, Ag, Nb, Mo, Cd and Sn. The granite can be further study for potential mineralization of Rare Earth Elements.

**Keywords:** Granite, Mineralisation, petrography, protolith, background concentration, Anomalous concentration.