**Geochemical Study of Stream Sediments in South-western Part of Zungeru Sheet 163 North-eastern Nigeria**

O. E. Akpotu and A. A. Alabi

Geology Department, Federal University of Technology, Minna

Corresponding Author: Email: euniceakp@gmail.com. Phone No. +2347036017080

**Abtrasct**

Stream sediments analysis is one of the most widely used methods in geochemical investigations for mineralization potential studies, it aids in identifying possible sources of elements which are favorable for the occurrence of particular type of mineralization and area of potential mineralized zone. This study will establish baseline geochemistry of stream sediments and geochemistry dispersion of elements in Zungeru North-western Nigeria with the aim of providing a baseline for future exploration work. The stream sediments were collected along stream channels and meandering points in the field and were sampled mostly at depth of 10 -15 cm. the sediments collected were washed to remove the light particles while the heavier ones consisting of sand and dark colored minerals were collected at the base of the panning dish. A total of 24 elements were analysed in 12 samples using XRF analytical methods with emphasis on Al, Si, Ca, Fe, Mg, Na, P, Ag, Au, Mo, Co, Cr, Cu, Mn, Ni, Rb, Nb, Sn, Zn, and W. Average elemental concentration for each samples obtained by statistical analysis showed enrichment and depletion in some samples. Results showed that the stream sediments have high concentration of Co, Cr, Ni, and Zn with average value of 145ppm, 81ppm, 45ppm, and 47ppm respectively. Co have concentration of 145ppm when compared with published crustal abundances. This result indicates that Co and other elements originated from the weathering of underlying rocks such as amphibolite, schist and quartzite. Therefore, it is recommended that similar study of stream sediments should be carried out upstream of the studied Area which may reveal more elemental concentration and narrow search for economic minerals.

**Keyword:** Mineralization, Baseline, Potential, Exploration, Basement Complex