

# **SIGNIFICANCE OF As-Sb MINERALS ASSOCIATED WITH QUARTZ VEINS FROM THE KAJLIDONGRI MANGANESE MINE, DISTRICT JHABUA, M.P., INDIA**

**NAYAK,V.K.,** DEPT. OF APPLIED GEOLOGY, UNIVERSITY OF SAUGAR, SAUGAR 470 003 (M.P.), INDIA

The Proterozoic manganese ore deposit of the Kajlidongri Mine ( $22^{\circ}57':74^{\circ}31'$ ), District Jhabua, M.P., India, is hosted in the Aravalli Supergroup (2000-1800 Ma). The manganese orebody of gonditic type is traversed by abundant epigenetic quartz veins which have played a vital role in the formation of a variety of silicate and oxide minerals. Based on associated mineralogies, the quartz veins are classified into various categories.

The geological set-up of quartz veins associated with As-Sb minerals i.e. ardennite and squawcreekite are furnished in details. The genetic relationship between ardennite-squawcreekite and the quartz veins is outlined. It is postulated that the residual siliceous solution rich in arsenic, antimony, gaseous emanations and hyperfusible mineralizers, formed the quartz veins together with ardennite, squawcreekite and several other minerals.

The high content of  $\text{As}_2\text{O}_5$  (7.71%) in ardennite and  $\text{Sb}_2\text{S}_3$  (18.66% to 51.14%) in squawcreekite are the characteristic indicator elements for gold and probably other deposits.

The significance of As and Sb indicator elements in the area is highlighted. It is emphasized that geochemical and biogeochemical prospecting and study of soil may prove to be a rewarding attempt to search for gold in the rocks of the Aravalli Supergroup in the vicinity of manganese deposits and occurrences in the northern part of the Jhabua District, Madhya Pradesh.