

# **CURRENT DRILLING TECHNOLOGY IN MINERAL EXPLORATION**

By  
TONY ROBBINS AND J EMERSON

## ABSTRACT

Drilling has always been one of the most important parts of the exploration process with most companies spending around 25% of their budget on drilling. Although superficially there appears to be little difference in drills and drilling practice a number of major refinements have taken place over the last decade that have significantly changed the drilling scene.

One of the most important advances has been in hydraulic engineering giving rise to the Dual Purpose top drive drilling rigs. These have led to significant productivity increases with the high rotation speeds and longer fleets. Downhole technology has also advanced with better hammers, stronger drill rods, impregnated coring bits and improved drilling fluids.

Although geologists continue to measure drilling performance on a cost per metre basis, greater consideration is at last being paid to the quality of sample produced. This is particularly the case with RC drilling where quite sophisticated automatic and semi automatic splitting devices have been developed.

Drill operators are now required to be experienced in both Diamond coring and air drilling and be better qualified to maintain the more sophisticated machinery. Management of drilling companies or drilling divisions has also had to change to accommodate both the high capital cost of equipment and the demands of keeping drilling a cost effective exercise.