

## **SAFEGUARDING OF BLAST-AFFECTED AREAS**

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### **ABSTRACT**

A recent Bureau of Mines analysis has shown that failure of blast area security systems is the major cause of mine blasting accidents. Accidents occur during scheduled blasting because of failure to clear the blast zone, inadequate guarding, and failure of personnel to follow instructions, retreat to a safe location and/or take adequate cover. The high incidence of blast-site security-related accidents could be considerably reduced by increased attention to improving minesite blast-guarding practices.

Mining and Marketing Associates, Inc., conducted research under contract to the Bureau of Mines to determine the state-of-the-art of blast area guarding and to recommend safe procedures and areas deserving of future research. This paper is a summary of that research. Case studies of current blast area guarding practices at two surface and three underground mines are presented; practices at these five mines are considered to be much safer than those generally found in the industry. The essential elements of an effective blast-guarding system are outlined, along with recommendations for improving procedures. Although the survey of military and industrial surveillance and detection technology did not reveal any security systems immediately available for transfer to the mining industry, areas with a potential for adaptation were identified.