

BLASTER'S TRAINING MANUAL FOR METAL AND NONMETAL MINERS

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ABSTRACT

The Bureau of Mines has developed a blaster's training manual for the metal and nonmetal mining industry. The material is divided into 6 chapters and 47 modules, with each module covering a single topic. (For example, the second chapter, which deals with initiation and priming, is subdivided into nine modules. One module covers initiation systems in general, another covers delay series, and one discusses priming. The remaining six modules deal with each of the six initiation systems.)

The modules were structured to enable mine training personnel to easily develop a site-specific blasters' training program. Each module contains text material that comprehensively covers the topic, as well as a paraphrased section highlighting the major ideas of the text. Also included with each module are line drawings and test questions with answers.

The objective of this material is to increase hazard awareness and foster the use of safe blasting practices, with the anticipated end result being accident free and productive blasting.

INTRODUCTION

Based on accident data obtained from the U.S. Mine Safety and Health Administration (MSHA), most blasting accidents are caused by human error, lack of hazard awareness, or lack of general blasting knowledge. A lack of understanding as to how explosives function can contribute to higher mining costs because of inadequate fragmentation or lost production.

Federal regulations require that every person who uses or handles explosive materials be experienced and understand the hazards involved. Trainees should do such work only under the supervision of and in the immediate presence of experienced miners. Federal regulations also require hazard and task training for miners. Most training given on mining property is based on experience at that mine and is done without the aid of adequate training materials. An improved and more meaningful blasters' training program is essential in assisting operators to properly train blasters and meet MSHA training regulations.

The blasters' training material was developed to aid industry in the preparation of a