

REDUCED ORE DILUTION BY CONTROLLED SPLIT ROUND BLASTING IN UNDERGROUND URANIUM MINING

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ABSTRACT

Split round blasting is commonly practiced in underground uranium mining in the Big Indian ore belt located in Southeast Utah. The technique is used to prevent ore dilution by separately blasting the ore from the face.

An experimental program comprising modification of standard split round drilling and blasting procedures was performed. The standard procedure involves; face scanning to locate the ore, complete drilling of the round, and then probing selected holes to determine which will be shot as ore. In the experimental technique, drilling and probing of rib and center line holes was performed prior to drilling the remaining holes in the round, using lightly loaded split line blastholes located in the ore, at fixed distance from the pre-determined ore waste contact. In addition, experimentation involving the effect of the positioning of the burn cut on overbreak was performed.

The modification of split round blasting with reduced loading proved successful in the reduction of overbreak, thereby reducing ore dilution.