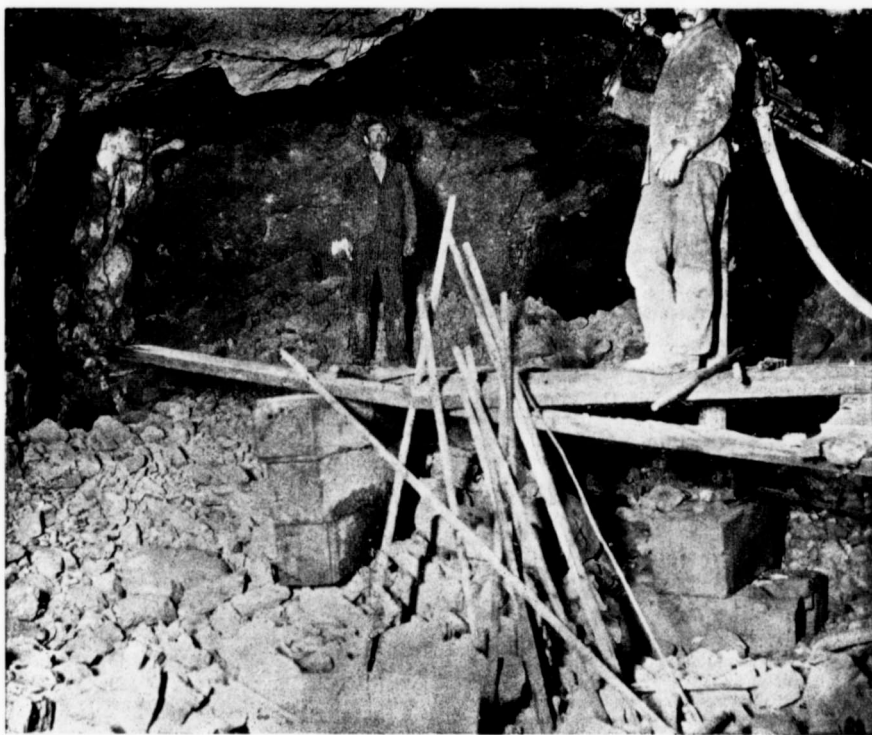


Sergeant air compressor, rated at ten drills; one large and two small hoisting engines; two sinking pumps; an electric light engine and dynamo and a full complement of accessories. At the present time a diamond drill plant is at contract work in the mine, prospecting both horizontally and vertically. Quite recently there were 110 men employed here, but the pay roll at the present time is not up to this its maximum number.

The manager, Mr. S. F. Parrish, M. E., has had many years' mining experience having been engaged in mining in Colorado, for about 24 years, of which 13 to 14 years were spent in Leadville, in charge of various work and properties, among the more important of these having been the mines of the Chrysolite Silver Mining Company and the Yak Mining, Milling and Tunnel Company.

the stamp mill is an economical crushing device. There may be exceptions to this, however. For example, sectional machinery for crushing is not usually satisfactory. This applies to rolls, Huntington mills, and other roller mills, of large capacity. The smaller sizes are less difficult to keep in repair, but their consumption of power is large in the proportion to the work done. Sectional stamp mills, on the other hand, are eminently successful, accordingly they would be justifiable for crushing for cyaniding in a remote district where heavy pieces of machinery could not be transported. Again, crushing in rolls is most efficiently done on dry ores, unless the ores are singularly free from aluminous or sericitic matter. If the ores were very wet it might prove too expensive to dry them. It rarely pays to dry ores when extra fuel must be burnt for that purpose. If it cannot



STOPE IN B. C. MINE, BOUNDARY DISTRICT.

THE DUTY OF STAMP MILLS IN CRUSHING AND AMALGAMATION.*

(By Courtenay De Kalb, M. E., Kingston, Ont.)

IT is with reluctance that I venture to speak upon this important subject, for which I am not aware of possessing any special fitness. I enter the field only upon the solicitation of our Secretary, in the hope that I may stimulate others to offer the fruits of their experience in discussion. I have used the stamp mill on a large variety of ores, crushing for amalgamation, for amalgamation and concentration, and for cyaniding without amalgamation. The latter I have come to regard as ordinarily of very doubtful expediency, to say the least, for I do not think anyone will maintain that

be done by waste gases from the boilers, then it will in all probability have to be abandoned. Here, then, is an argument for using the stamp mill merely as a crusher. In passing I may add that crushing finer than one millimetre (about No. 16 mesh) in rolls is not economically possible. Hence, in crushing for cyaniding, the crushed product must be sorted in hydraulic classifiers, the first spigot discharge being then reground in some other type of mill. For this purpose I have found either the Huntington or the ball mill suitable.

The tendency of the stamp mill is to make an excessive quantity of fines. Under ordinary working condi-

* Paper read before the March meetings of the Canadian Mining Institute.