

shoot has decreased in size at this depth. The main shaft has now reached the seventh level at a depth of 880 feet measured on the vein. The cross-cuts to the veins will soon be under way.

GRADE OF ORE.

The grade of ore from the shoot is shown by the above tables, also by the accompanying statistics of yearly and monthly production. From all these data it is apparent that with depth the ore product has lowered in grade. It must be noted, however, that this change in product, considered only by itself, would not prove any change in the shoot. As the costs of mining and smelting decreased, the pay limit was lowered. The stopes were therefore extended to include ore of lower grade. By stopping less, the grade might have been kept higher.

Hence, the productiveness of the shoot at various levels is measured by the quantity as well as the grade of its product. As compared with the first three levels, the fourth level block now finished showed a sudden and great decrease in both the quantity and grade of its ore. The fifth level is also less productive, but an improvement on the fourth. The sixth level is not developed enough to show its contents. It promises, however, to be more productive than the fifth. A body of fine ore was stoped, averaging about \$28.00, smelter's gross assay value. Patches in this ran from \$40.00 to \$50.00, which is as high as anything in the three first levels. This proves that the conditions of ore deposition here were still such as to permit the occurrence of high grade bodies. The number to be encountered is of course a matter of luck. On the whole, the decrease in productiveness for two levels is no more than might be expected from the natural fluctuations of ore shoots. So far there is no reason to assume that the decrease is permanent. No conclusion can be drawn until the shoot is developed to greater depths.

The fact that development work is exhausted, as explained elsewhere, makes it impossible to present any accurate estimate of ore available above the sixth level. So far as estimates can go they indicate about 20,000 tons, with an average grade of about \$14.25, smelter's gross assay value.

DETAILS OF DEVELOPMENT ON 5TH AND 6TH LEVELS.

Fifth Level.—The fifth level east extends 180 feet east of the shaft cross-cut. On the level west the vein splits into a north and south branch at a point 40 feet west of the shaft cross-cut. On the main or south branch the level is extended to the distance of 296 feet from shaft