

Electric Power in Drift Mining.

The electric power and lighting-plant installed by the Electrical Engineering Co. of San Francisco for the Dardanelles mine, Placer county, Cal., consists of a 25-horse power Keith electric generator, a 6-horse power electric pump, a 6-horse power electric hoist and 50 incandescent lamps. The pump and hoist are operated by Keith motors. The electric plant was substituted for the cable transmission previously used.

The Dardanelles is a prominent gravel mine, on one of the ancient river-beds, which, before the antidebris decisions, was a large producer of gold by the hydraulic method. It is now, however, worked by the drift method. This latter necessitates the use of a tunnel one-half mile long through the rim rock. At the inner end of this tunnel is an incline of 330 feet, up which all the water and gravel from the mine must be raised before passing out to the mill through the tunnel.

The power to run the pump and hoist used before the electric plant was installed was conveyed to them through the tunnel by the use of a continuously- running wire cable one mile long. The expense of keeping this cable system in working order was enormous when renewals, delays and damages were taken into account. Two cables costing \$1400 were worn out each year, and many delays were caused by the stranding of the cable, which necessitated frequent repairs and the consequent delays.

By the substitution of power transmission by electricity, the expense has been reduced to the minimum, so that the initial expenditure of power has been decreased fully three-quarters.

This is an important matter, especially as during four months of each year steam power must be used, because the waterpower belonging to the mine, and used during eight months, is not then available. Three cords of wood were used each day to run the cable, but less than one cord is necessary by the electric system, even when the 25 electric lights in the tunnel and incline are continually lighted. The further saving of wear and tear is of much importance. No additional men to those otherwise employed in the mill and mine are engaged in operating the electric plant.

The mine is owned by Gen. Jo Hamilton of Auburn, and the superintendent is H. F. Calenberg at Forest Hill. We illustrate the generator and pump in use, and will shortly do the same with the hoist.

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