

THE OLD PLANT ON THE CORTEZ PROPERTY

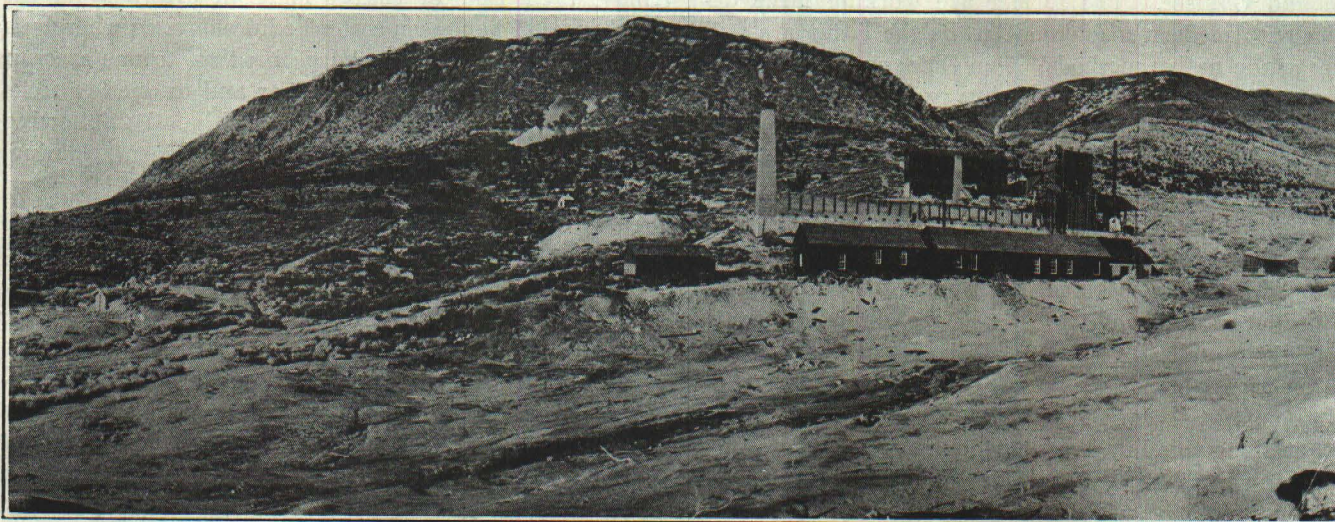
## The Cortez Mine To Be Re-Opened

### Special Correspondence

A company composed of mining men from New York and Nevada has been organized to re-open and develop the old Cortez mine, known also as the Wenban mine, situated on the boundary between Lander and Eureka counties, 35 miles south of Beowawe, a station on the main line of the Southern Pacific railroad. The tunnels, through which the mine was worked, are on the south slope of Tenabo peak, in the Cortez range. The mine has produced ore valued variously at from \$13,000,000 to \$19,000,000. The first locations were made in 1863 by Simeon Wenban, who had been grub-staked by Senator George Hearst. Rich float, shown him by Mexican prospectors, led Wenban to the outcrop on the St. Louis group, high on the south side of Tenabo peak. Subsequently he located the 'Arctic', 'Fitzgerald', and 'Gar-

rison' claims and incorporated them in the Tenabo Mill & Mines Co. Ore was hauled to Austin, 65 miles distant, until in 1867 Wenban bought a small mill, with roasters and silver-pans, in Mill canyon, six miles from the mine.

In 1886 he built a 50-ton mill at Cortez, a mile below the mine. The treatment included grinding, heating, wetting, roasting in rotary kilns with salt, sulphur, and lime; and then leaching and smelting with charcoal, at a total cost of \$28 per ton. Lime was produced in local kilns and brick (for building and furnaces) was made at the mine. Mexicans, using as many as 600 pack-animals, supplied charcoal and nut-pine wood for the furnaces, while a 16-mule team was continually engaged in hauling salt, shipped to Beowawe from the Great Salt Lake. An O'Hara furnace was built at a cost of \$50,000, but was



THE MILL AND ROASTER



found to be useless and was abandoned after a few days. A narrow-gauge railroad, with wood-fired locomotive, connected the mine with the mill. Water was brought seven miles through a two-inch pipe-line, still in good repair. For three years, from August 1888, the mine was worked under lease by Bewick, Moreing & Co., of London. During this period the ore averaged 51 oz. silver and \$3 gold, and in three years with silver selling at 86c. dividends amounting to \$671,577 were declared. The main tunnel is in limestone that underlies a wide bed of quartzite. The latter dips 20° north-east and is overlain by another lime stratum. A wide fissure, nearly vertical, cuts but does not displace these strata. The best ore is found in secondary fractures, in the limestone, and in smaller chambers in the quartzite. The main tunnel, nearly 4000 ft. long, follows this vein for a considerable distance and connects with two shafts. Stopes in the limestone are flat and dip with the quartzite, and pillars of rich ore still remain. Visible ore, including dumps and stope-filling, is estimated at 68,695 tons.

A dump containing 5000 tons at the Fitzgerald mine sampled more than 25 oz. silver. Tailing dumps contain 120,000 tons, of which 80,000 tons already has been re-treated with a yield of 10 to 14 oz. of silver. This was ground to 20 mesh only, and will be treated again. The Arctic tunnel, driven from a gulch east of, and 300 ft. below, the main tunnel, was advanced 1600 ft. and is to be extended 600 ft. farther to cut the quartzite contact. Fractured ground east of the lower tunnel also will be explored. The ore in some parts of the mine contains lead with not more than 0.5% copper and a little zinc. An operating organization has been perfected and equipment will be provided to drive the lower tunnel and to handle ore and waste from the main-tunnel workings.

THE Mukden district of South Manchuria is generally credited with remarkable resources of minerals, but the present developments are of a limited character. Deposits of coal, iron, gold, silver, copper, lead, asbestos, magnesite, soapstone, and antimony have been reported. Coal is already being extensively mined both by Japanese and Chinese. The former are working large deposits with modern machinery, while the latter are still using crude native methods. The Chinese are planning, however, to obtain modern mining equipment and there will soon be a considerable demand for American machinery. The Japanese are developing large deposits of iron ore. It is estimated that one of their concessions will be capable of supplying ore to their new steel works at a yearly rate of over 1,000,000 tons of ore for 60 to 100 years. The gold is obtained only by placer mining and is not produced in large quantities as yet, although it may be possible to mine on a large scale by improved methods. The magnesite deposits are said to be equal in quality and quantity to any in the world and considerable development along this line is expected, as the world's supply of magnesite is limited and its use is rapidly increasing. Silver, copper, lead, and antimony are not mined in large quantities, and it is doubtful if they are abundant.

## Metal-Mine Accounting

Mine accounting including the keeping of costs in mining, milling, and smelting operations has been dealt with often, but mostly with regard to forms for cost sheets, payrolls, time-cards, warehouse requisitions, and other plant forms, without any explanation of book-keeping methods necessary for their compilation, says C. B. Holmes in Technical Paper 250, U. S. Bureau of Mines. He offers the following interesting advice to those who may be starting the development of a new property.

While the articles of incorporation are being prepared or a month before you are ready to start construction, you should employ four persons; first, a practical book-keeper; second, an experienced warehouse-man; third, a timekeeper; and fourth, a carpenter foreman. Explain to the bookkeeper what the nature of the plant and operation is to be and let him get up a set of books and forms to cover the needs of the plant. Decide on about how much you want to spend on an office building and warehouse, and if your warehouse-man is experienced get his idea as to how the warehouse should be constructed. While the carpenter foreman and his men are building an office and warehouse you will have time to look around for a superintendent or foreman.

To the bookkeeper: after you have found out what the construction and operation program is to be and have formulated a set of books to cover, take the timekeeper and warehouse-man into your confidence and teach them the accounts to which labor and material are to be charged. The accuracy of your books and reports depends solely upon them. You will not have time to follow the timekeeper around and see that he is correctly charging labor, or to see that all withdrawals from the warehouse are properly charged.

This advice is for the engineer in charge: if it has been left to you to decide what detailed costs of construction are to be kept, use a little judgment and do not make the costs so complicated that the whole force will have to be expert accountants in order to properly distribute their time or charge material drawn from the warehouse. I have seen cost schedules devised whereby a carpenter would have to charge his time to one account if he was driving nails into a floor and to another if he drove nails into the wall alongside of him. By following this procedure the construction, development, mining, and other costs will reflect the actual amount of labor and material expended and not contain items prorated from a material shortage discovered after a few months, as is the practice with most mining ventures. During the period of construction and preliminary development the overhead expense can be distributed on the basis of the percentage it bears to the direct expense (labor and material), but after the plant has started operating costs should not be 'fooled' by charging every little item of further construction and changes around the plant with a portion of the overhead expense, as this would probably amount to the same if there were no construction work.