

contains forty stamps and two cylinder roasters, and is a model structure in every respect. The bullion product runs from \$50,000 to \$60,000 per month, the ore being worked to a higher percentage of its value than in any other mill in the district. W. A. Clark, the banker, is president and general manager of the company. He is also the heaviest stockholder.

*Silver Bow Company.*—This corporation owns a group of mines among which are some of the best in the district—viz., the Grey Rock, 300 feet deep; the La Plata, 350 feet deep; the Mount Moriah, 200 feet deep, and the Belle of Butte, 300 feet deep. They are well developed and productive properties, but cannot be worked on a scale commensurate with their magnitude owing to the fact that the company has but a thirty-stamp mill in which to treat their product. The mill is kept constantly busy, and is producing \$1,000 per day in silver bullion. It is in contemplation to double its capacity before the end of the year, and the result will be the infusion of new life in the development of the mines above named. The Belle of Butte shows twelve feet of ore in the lower levels, the La Plata from four to six feet, and the Mount Moriah three feet. The first mentioned property was one of the first discoveries in the district, and has profits of upwards of \$300,000 standing to its credit.

The other silver mills of the district are the Dexter, with fifteen wet crushing stamps and a capacity of twenty-eight tons daily; the Old Lexington, with ten stamps (dry), and the Clipper, with five stamps (dry). Together they are reducing about forty-five tons of ore daily. The stamps and amount of silver ore worked in the district may therefore be summed up as follows:

Company.	Stamps.	Daily Capacity.
Alice.....	80	100
Lexington.....	60	60
Moulton.....	40	40
Silver Bow.....	30	30
Other mills.....	30	45
Total.....	240	275

Prominent and productive silver mines not mentioned in the above report are the Blue Bird, 300 feet deep, and showing twenty feet of ore; Rising Star, 500 feet; Silver Safe, 500 feet; Little Darling, 200 feet; Original, 400 feet, and many less developed properties. Considerable quantities of silver ores are also worked in the smelters.

#### COPPER MINES AND SMELTERS.

*Anaconda.*—Chief among the copper mines of the district is the Anaconda. Four years ago it was purchased by J. B. Haggin, of San Francisco, for \$30,000. It is now rated as a fifteen million dollar property. The expenditures for machinery, development and the erection of a concentrating and smelting plant amount to fully \$4,000,000. The mine is opened up by a shaft 800 feet deep, from which, 100 feet apart, seven levels have been extended in ore along the ledge, which varies in width from forty to sixty feet, every pound of it being workable ore. The product is divided into three grades: The first class ore assaying from 35 to 76 per cent. copper, mostly copper glance, is shipped East in a crude state. The second class is treated at the smelter, and assays from 18 to 35 per cent. The third class is concen-

trated before being calcined. It carries from 10 to 18 per cent. before the initial treatment. The Anaconda is equipped with the most powerful machinery on the Pacific Coast. The plant is complete in every detail, from hand drill to mammoth air compressor. The present hoisting capacity of the machinery is 1,000 tons per day, which, however, is considerably less than the productive capacity of the mine.

The Anaconda smelter is the largest enterprise of its kind in the world. It contains twenty-six furnaces, which daily reduce 600 tons of ore, producing ninety tons of matte, assaying 60 per cent. copper. The machinery in the entire plant is run by water power, though the furnaces consume ninety cords of wood daily. The concentrator and smelter buildings are the largest structures in the Rocky Mountains, and the marvel of the many hundreds of visitors who flock to see the "Montana Swansea," as Anaconda is called. The company has recently let a contract to Caplice & McCune for 300,000 cords of wood, which is now being delivered, and which will cost over \$1,000,000. This item alone gives an idea of the immensity of the works and earnestness of the company. The Anaconda mine is conceded to be the greatest copper property in America, and when the contemplated increase is made in the capacity of the concentrator and smelter, 1,000 tons of ore will be daily extracted and reduced. The company gives direct employment to 800 men in Butte and Anaconda. Marcus Daly is General Superintendent.

*Parrot.*—Second in importance to the Anaconda in the amount of its production and shipments is the Parrot. The mine is 350 feet deep and splendidly developed. It daily produces 350 tons of copper ore, averaging in value 17 per cent. copper. The smelter is an extensive affair, with eleven reverberatories, six matting furnaces, two blast furnaces and a concentrator, capable of handling 300 tons of ore every twenty-four hours. The company last year produced 9,400,000 pounds of pure copper. The capacity of the works has been almost doubled this year, and a new and improved process of preparing the ore has been introduced. The concern will produce this year about 15,000,000 pounds of pure copper.

*Montana Company.*—The Montana smelter is almost as large as the Parrot, having six matting furnaces and one blast. Its ore supply is drawn mainly from the Colusa mine, which is fully developed to a depth of 600 feet. The vein varies in width from six to twenty-two feet, and has been, and is now, wonderfully productive, having for the past five years maintained a continuous production of 100 tons of ore per day, carrying both silver and copper, thus giving an added richness to the matte product. The machinery equipment of the company is perfect. The concern is now actively developing two other copper properties whose extent and richness are fully as great as those of the Colusa. In the lower levels of all the company's mines immense reserves of ore are in sight.

*Colorado.*—This is chiefly operated as a custom smelter, paying more attention to silver than to copper ores.