

# Bingham Soon to Be Country's Biggest Copper Producer.

NOT long ago, Daniel Guggenheim, who is at the head of the American Smelting and Refining company, made the prediction that within ten years, Bingham would be producing more copper than any other camp in the United States. There is not the slightest doubt but that this great mining and smelting magnate knew just what he was talking about when he made that statement; for he has been backing it up with his own cash and that usually counts for a whole lot in this day and age.

During the year Mr. Guggenheim and associates have become extensively identified with the big copper mines of that camp, but only after their experts had carried on a series of exhaustive examinations. So, it can be seen, the American's chief executive first found himself well fortified before he gave utterance to the words credited to him.

He is in position to know about such things; for there is probably no mining district of any consequence in the country, or in the world, that he does not have some knowledge of.

## Bingham Has Made History.

But Bingham has certainly been making history during the past year. Great changes have taken place and the incubator has been working overtime on things of magnitude never dreamed of when George Ogilvie went into the canyon in the early '80s and located the first mining claim there.

To glance back for only twelve months, one can scarcely realize the progress that has been made, nor appreciate what has been accomplished in the way of the development of tremendous ore bodies and in the perfecting of plans for the operation of some of the mines of the district upon such a broad scale that not many years ago would have been considered a matter of the question, in fact, if such a thing had been suggested, then, would have been looked upon as preposterous.

## Progress Noted Everywhere.

But everywhere this progress has gone along unintercepted and the little mines, as well as the big ones, have been making headway with the greatest interest centered on the operations of the Utah Copper and the Boston Consolidated in the mineralized porphyry zone, which is now supplying the 800-ton mill of the Utah Copper with ore each day, and will soon be called on to supply plants many times as large out at the new town of Garfield on the south shores of the Great Salt Lake.

The Boston Consolidated has made wonderful headway in the development of new ore bodies, and few months hence will introduce the system of mining with huge steam shovels in order has been placed for these machines, and by the time the proposed mill is ready for commission, this mode of getting out ore cheaply will be in vogue.

## Camp's Great Tonnage.

Bingham, at the present time, is producing ore at the rate of 3,600 tons a day, which is at the rate of 1,300,000 tons per annum. A year from today, it can be said with a reasonable degree of certainty, that this tonnage will be at least doubled, if not quadrupled, on account of the building of the new copper smelter of the American Smelters Securities company, and the mills of the Utah Copper and Boston Consolidated at Garfield. But that will not be the stopping point; plans are laid for still larger plants for the reduction of the ore of Bingham and that means more tonnage must be produced from the mines and that Utah's copper camp will be the largest in the head of the list of the copper camps of the country, just as Mr. Guggenheim predicts.

## What Railroad Is Doing.

An evidence of the changed conditions in Bingham is found in the enormous passenger traffic to and from the camp daily. It was only about two years ago that the freight and passenger business of the district was handled by one train; while today, two Rio Grande trains are operated each way and the several coaches are usually crowded. The freight train is given to suit the proportions that it takes a good many trains to handle the business; in the movement of ore alone from 75 to 100 flat cars are required every day, twenty-four hours, to say nothing of the up freight.

## Having a Building Boom.

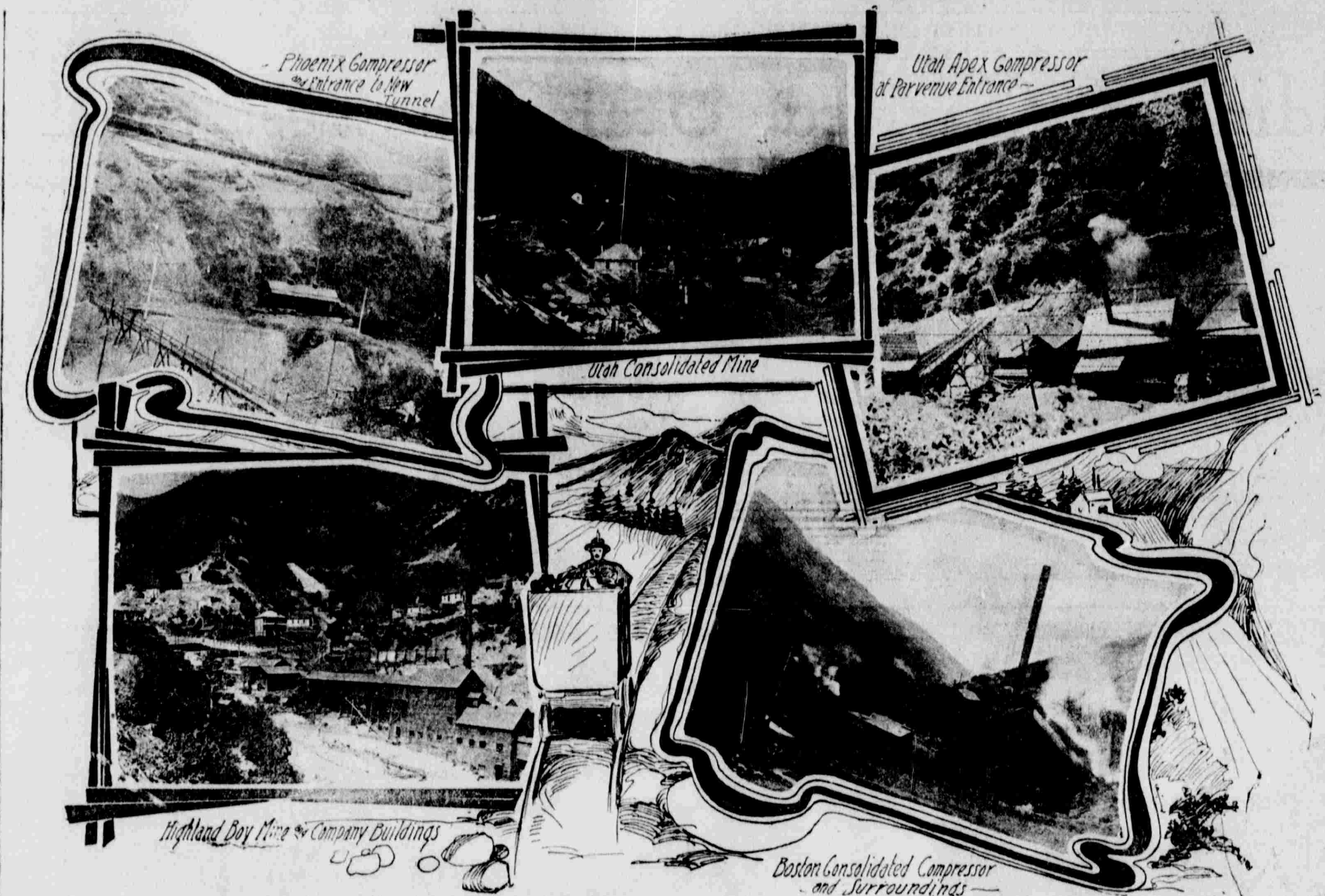
In the town of Bingham, the change is noticed. Everything is moving at a rapid pace; the streets are crowded with people day and night; the town is enjoying a building boom and all up and down the canyon the song of the hammer and saw are heard and every inch of available space is being taken up along the principal thoroughfares. The population of the town is growing rapidly, and it is becoming a city of considerable magnitude.

## Property Changed Hands.

The year has recorded the sale of several properties in the camp. As the readers of the "News" are well aware, a majority of the stock of the Utah Copper company passed into the possession of the American Smelters Securities company and that corporation has also secured a foothold in the Boston Consolidated. The latter group of claims, which covers a large area of the characteristic Bingham porphyries, was purchased by Col. E. A. Wall and he proposes to make out of it a mine something on the magnitude of the Utah Copper, which he also once owned. The Mary group of claims in Carr Fork passed to Simon Bamberger and associates, and it was made the basis for the formation of the Bingham Mary Copper company; eastern parties have taken up the New Red Wing, a large acreage, above the Boston Con. and near the Bingham-New Haven mine, was acquired by a local syndicate which launched the Bingham Central Copper company. Numerous other properties have changed ownership; some of the big ones have added to their possessions, and Samuel Newhouse has undertaken to explore the ledges in North Bingham, which, heretofore, have received but little attention.

## Rejuvenation of Shawmut.

The rejuvenation of the old Shawmut mine has been noted and the eastern shareholders of that corporation have put up money to carry on a vigorous campaign of exploration, which is to be followed by the resumption of mill operations. The Fortuna has come to the front and that company is remodeling the old mill and preparing for an increase in output next year. The Phoenix has become a regular shipper; the Bingham Con. has completed its deep tunnel at the Dailon & Lark, and a steady stream of ore now comes from that property to the smelter at Bingham Junction. The New England Gold & Copper company has increased its mill output and has succeeded in opening new ore reserves in the mine. The Bingham-New Haven company built a new tramway from the mine down to the ore line on the Copper Belt railway, thus greatly facilitating the handling of ore. So, all along the line, progress has been made in Bingham.



SOME OF THE BIG COPPER AND LEAD PRODUCERS OF UPPER BINGHAM.

Such as never has been experienced before.

## Utah Consolidated Bonanza.

The story of Bingham would not be complete without specific mention of the great Utah Consolidated mine, for with the organization of this company late in the '90s, copper mining as an industry in Utah was born. Its advent marked the beginning of a new era in the state's history. It was the starting point for things of such magnitude that was not dreamed of at the time.

But when one stops to take an inventory of the things that have been accomplished, the changes that have been wrought in so short a time, the truth can scarcely be realized, or appreciated; not at least until one consults the log showing that where hardly more than a half dozen years ago the production of copper from the mines of Utah was practically an unknown quantity, while today, the smelters erected in the Salt Lake valley are turning out bullion to the amount of \$600,000 per month, or approximately 36,000,000 pounds per annum.

The mines of Bingham are contributing the bulk of this vast tonnage. From that camp, approximately 2,600 tons of ore are coming down from the mines to the reduction works every day, but this will seem insignificant as compared to what it will be in another year when the big mills and smelters being reared out on the shores of the Great Salt Lake are in commission.

## Was the Pioneer of Bingham.

The Utah Consolidated was the pioneer, so to speak, in the finding and development of the copper deposits of Bingham and in solving the problems of that treatment. Its record has been one of remarkable successes from the beginning.

The greatest progress made by this company has been under the present administration, which took charge of the mine at the time of the transfer of the Highland Boy property to the English syndicate, with headquarters in London, but which were afterwards transferred to New York City, thereby becoming an American institution, still retaining its identity as the Utah Consolidated Mining company.

## Enormous Dividends Paid.

Few mines in the country, if any, have been conducted more systematically

ally and with such favorable results as this one has. The management has been confronted with many intricate problems at times, but they have all been solved, and during the incumbency of the present management the mine has paid in dividends the sum of \$3,642,000, the ore reserves in the mine have been steadily increased; the cost of production has materially decreased; the net earnings of the company have steadily increased, while from time to time thousands of dollars have been expended in mine and smelter betterments. The past year has witnessed many of them; the mine, particularly shows greater tonnage than at any time in its history.

In the early days of Bingham, the territory embraced in the domains of the Utah Consolidated, which now comprises 250 acres, was productive of much lead-silver ore. Later, it was thought to be the location of a great gold mine and the Highland Boy Gold Mining company, organized under English laws, came into existence with Samuel Newhouse, the well known Salt Lake mining operator and Clark Ward & Co., of Boston, mentioned as the promoters and largest shareholders. These men, attracted by the extensive bodies of oxidized gold ore which the mine contained at that time, purchased it for \$115,000. Thomas Wel was the resident manager, and was also an extensive shareholder.

Shortly after the purchase, a cyanide mill was installed at a cost of about \$50,000; but it was operated only a short time when it was abandoned, having proved a failure. Twenty-five thousand tons of ore received treatment in the plant, from which came practically no returns.

## Gold Changed to Copper.

It became evident to Mr. Newhouse and associates, even before the cyanide mill went into commission, that the Highland Boy would eventually lose its identity as a gold mine; for development made in tunnels Nos. 4 and 5 demonstrated that copper had supplanted the gold ore in the sulphide zone, which the tunnels had penetrated.

This change in the character of the ore was reported by Mr. Newhouse to shareholders in 1895 and he at that time made the prediction that the Highland Boy would become a producer of copper of great magnitude. There were no copper smelters in existence in Utah then, so Mr. Newhouse made recommendations to the

board of directors in which he ventured the statement that they would be justified in erecting one. The directors acted favorably on the recommendations made to them by the managing director and, in due time, the plant was built. It went into commission in 1899.

## Copper Gets Interesting.

Then followed a lively interest in copper mining in Utah. Outside capital sought investment in the mines and the picture of prosperity in evidence throughout the camps at this time, tells the story. The original smelter built by the company had capacity for the treatment of 250 tons of ore per day. Before it was blown in Messrs. Newhouse and associates, disposed themselves of a majority of the stock of the corporation.

## Is a Camp of Tunnels.

Bingham is a camp of tunnels and in that respect the camp has a distinct advantage over many others, where mining through shafts has to be depended upon.

In the Utah Consolidated mine six tunnels are in operation. Its No. 7 tunnel is the lowest one, and is the main avenue through which the ores are taken from the mountain. All the tunnels are connected and ore mined in the upper one is dropped through chutes to the main tunnel level to be moved to the surface.

A mine has been sunk 200 feet below the No. 7 level to what is known as the No. 9 level, and late developments in this portion of the mine have added greatly to the ore reserves, which at the beginning of the year were estimated to aggregate about 1,000,000 tons.

The distance between the upper and lower levels is 650 feet; the lowest tunnel (No. 9) is 2,500 feet in length, while the others range from 1,000 to 2,100 feet. The total underground workings is estimated to be the equivalent of 12 miles.

In the mine have been opened six distinct ore bodies, each independent from the other. The largest of these is 340 feet in length, 230 feet at its greatest width, and has been followed vertically for 400 feet. The top-slice caving system, common in the Lake Superior regions, is used in the operation of the mine, as well as the system of square set rooms and filling. The contract system in the employment of miners has proven satisfactory both to the company and its employees.

## Utah Apex Properties.

The Utah Apex properties, located in Carr Fork, and near those of the Utah Consolidated, Yampa and Boston Consolidated, has been carrying on a quiet but vigorous campaign of exploration. While the company has made no

pretense towards getting out tonnage, the production during the year has been about sufficient to meet all the expense of operation.

It can be said of Utah Apex veins that they are more regular than those found in nearly all other portions of the camp; and the ore carries, as a rule, better gold values than those found in some of the neighboring mines. The gold values usually run from \$3.50 to \$4.50 per ton, while the copper values are somewhat lower than in the Utah Consolidated.

Under the contract which the Utah Apex company has with the smelters the ore of that property net a little better than \$12 a ton; but it is not infrequent that shipments are made showing net returns of \$5 to the ton. The gold values in some of the high class going from \$12 to \$18, while associated with it is copper assaying 7 per cent and from 12 to 15 ounces in silver. The heavy per centage of iron in Utah Apex ore makes it an attractive proposition for the smelters pay enough for the iron to just about offset the working charges, and it is not infrequent that the smelters pay a bonus for it. It is doubtful if there is another mine in the camp that sends its ore to the custom smelters and gets it treated as cheaply.

The company is now carrying out an extensive campaign of development, and when it is concluded, the mine will contain an available tonnage that will compare well with any other in the camp. The Parvane, or deep tunnel, main exit for all ore extracted and will tap the ore bodies from 1,000 to 1,500 vertical depth. The shaft is now being pushed ahead as rapidly as possible with two shifts and it is figured it will be necessary to go about 800 feet more to catch the first vein when it will be continued on to other known ore bodies in the property, all of which can be cut by the same tunnel within a distance of 4,000 feet. When the tunnel is finished, the company will be in condition to produce extensively.

There are four established ore bodies in the mine, three of which are connected. Connections are to be made with the other 500 feet below the third, where the bodies are very much stronger. The general average width of the vein now being opened is about five feet, two feet of which is clean shipping ore, the balance being of a silicious character.

## What Annual Reports Show.

Statistics compiled from annual reports of the Utah Consolidated, show that from April 1, 1899, to Dec. 31, a year ago, there was sent from the mine to the smelter 554,810 tons of ore, from which was produced 36,244,000 pounds of copper; average pounds of copper contained in one ton of ore, 65.4; total net earnings for the period, \$4,615,628; net earnings per ton of ore, \$8.34; net earnings per pound of copper, 8.2 cents. The record of the present year, when made up, will show greater earnings than any previous year, as well as a material reduction in the cost of producing copper.

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and will require mill treatment. There has been a great deal of inquiry for Utah Apex stock of late, coming largely from Boston. The officers of the company claim the corporation's location covers the mother lode of a strong and commanding one. The mine is equipped with modern facilities for mining. The resident manager of the company is Walter C. Orem.

## Phoenix Doing Nicely.

Andrew Gebhardt became convinced over 20 years ago that Bingham would eventually become a camp of great importance in the mining world, so he located the Phoenix group of claims in the upper Carr Fork, adjoining the ground Apex Mining company.

While Mr. Gebhardt has operated the property off and on during that period, the mine has been a quiet one. In the past few years, however, there has been such an active campaign carried on as during the present year, which has resulted in the opening of some extensive bodies of ore, the installation of a five-drill compressor, the equipment of the mine with electric lights and the inauguration of work in a new tunnel which is to be the main outlet for all ore coming from the property in the future. This shaft will connect with the Phoenix vein, which is the principal one crossing the property at a distance of about 1,500 feet, and at a depth of 200 feet under the present lowest workings.

The Phoenix vein, as far as explored, six feet and has given up from five to ten ounces of silver, 10 to 15 per cent of late and which has been selling showing values of about 5 per cent lead, eight ounces in silver, 5 per cent copper, with an excess of iron. The mill has received treatment at the Wall custom mill; two to four tons are turned into one and the concentrate produced shows values of about 20 per cent lead, 6 ounces in silver and 50 cents in gold.

The new tunnel, which has been completed to the length of nearly 200 feet, will also cut out two other veins before it reaches the Phoenix vein; one of them shows about three tons of copper ore, where it has been opened up on the surface; the other is four feet wide and contains a good grade of lead ore.

The Phoenix group consists of 14 acres of ground, all patented, and is now operated by the Phoenix Mining company, of which Andrew Gebhardt is president, manager and treasurer; Frank Hoffman, vice president; A. A. Gebhardt, superintendent; W. D. Gebhardt, secretary, who, with Dr. A. G. Roberts, constitute the board of directors. The company is capitalized for 100,000 shares, of which only 4,000 have been issued. The mine furnishes employment for about 50 men.

## Silver Shield of Bingham.

The Silver Shield of Bingham presents real possibilities of what perseverance and hard work will do. The management of this company has had its full share of trouble with water and caving ground and, with the possible exception of the Grants and Park City, no corporation in the state has had more difficult problems to contend with. But they have not been overcome and the new year will dawn with its skies cleared for the Silver Shield.

The main working tunnel has been carried forward to the point of connection with the ore bodies, and the vein, which is the key to the entire bearing zone of Bingham. This vein is now being explored and managed by Harry S. Moore, who has worked a few days since that he is now opening up a very promising shoot.

A few months ago mill tests were made of the Silver Shield ore, which showed a profit through concentration and steps have been taken towards the erection of a small mill, which will go into commission in 1906. A suitable site was recently acquired from the Boston Consolidated company, and the work of construction can be pushed forward with rapidity as soon as the signal to proceed is given.

The Silver Shield mine is splendidly equipped; the underground workings are illuminated by hundreds of incandescent electric lamps and ore trains are hauled by the ore bodies by means of electric motors. Recent shipments of crude ore from the property were sold on controls showing 25 per cent lead, 15 ounces of silver, and 50 cents in gold. The second class run through the Wall mill showed average values in the concentrate of 15 per cent lead, 10 ounces of silver, 50 cents in gold and 21 per cent iron.

The Silver Shield company has a large acreage of valuable ground in Bingham and enough additional territory to make a large tract, which is in place. It is in possession of an estate extending over an area equal to some other companies operating in the camp.

The officers of the Silver Shield company are: Henry Cohn, president; H. S. Moore, vice president and manager; E. H. Mead, secretary and treasurer; who, with Louis S. Moore of Cincinnati, J. M. Solomon of St. Louis, D. S. Taggart and R. E. Miller of Salt Lake, constitute the board of directors.

## Yampa Mines and Smelters.

The Yampa mine is one of the big producers of Carr Fork canyon. It is a neighbor to such camps as the Boston Consolidated, Utah Consolidated and Utah Apex. The mine is owned by the Yampa Mining and Development company, practically a close corporation, of which Capt. Henry Stern of New York is at the head and he, along with George H. Robinson, are the largest shareholders.

The property is opened by two tunnels. The upper, or Yampa tunnel, is 625 feet below the crest of the mountain and it shows a vast tonnage of ore blocked out.

In the Craig or lower tunnel, a great shooting of ore is in evidence. This tunnel cut the ore body 2,000 feet from its mouth and at a depth of about 1,500 feet on its strike.

The average width of the vein is from 15 to 20 feet, and the character of the ore is a copper iron sulphide. In the richer parts of the vein the ore carries iron, some of which is in the form of chalcocite and chalcocite. The vein is distinctive and practically continuous. The ore averages from 8 to 10 per cent copper in addition to the 800 values which run from \$2 to \$3 to the ton.

The Yampa group covers an area of about 100 acres aside from the ground embraced in the smelter site in lower Bingham.

The Yampa Smelting company, an allied concern, owns the big smelter just below the main town of Bingham and here all the ore coming from the mines of the Yampa Mining and Development company are brought for reduction. The plant has been greatly enlarged and improved during the present year and when the units now being installed are ready for commission, it will be in a shape to handle sulphide from 800 to 1,000 tons of ore per day.

The stock of the Yampa companies is being put in the hands of so few it is the policy of the management to be open to the public just what it is doing to get out the metals from the mountains of Bingham; but there is much satisfaction in knowing that the big corporation is doing its share towards the development and upbuilding of the "Camp of Copper."



UTAH COPPER COMPANY'S MILL, LARGEST IN THE STATE. 800 TONS DAILY CAPACITY