

Alta Coming to the Front as a Copper Camp.

THE present year has wrought many changes in the camp of Alta. Chief among them was the completion of the first mill-plant ever built in Little Cottonwood canyon and the placing of the same in successful commission by the Columbus Consolidated Mining company. Another important event, was the harnessing of the waters of Little Cottonwood creek and the subsequent inauguration of electric power and lighting facilities in the district. This work was also done by the Columbus Consolidated company. Recently the finished construction of a mill of 100 tons daily capacity and is now building an aerial tramway, five miles in length, over which the ores of the mine will be transported to the mill, located on what is known as Tanner's flat, for reduction.

MINE DEVELOPMENT SATISFACTORY.

The development work conducted in the mines during the year has been of a character which cannot help but inspire confidence in the future and strengthen the oft expressed opinion that this camp, which once before became famous because of the existence of the noted Emma and Flagstaff mines, will again rank among the most important in the state, and that the enviable records of production made by the pioneer producers will be a matter of little consequence as compared to the production of the latter-day mines with their modern equipment.

PAST FILLED WITH EVENTS.

Alta's past history is one of interest and a book could be written about it which would not be lacking in the portrayal of interesting events. At one time, along about the beginning of the 70's Alta had a population of 5,000 souls and it was about as lively as any western camp ever was, yet outwary laws were upheld and obeyed. The indulgence in such pastimes as shooting holes in the hat of a "tenderfoot" occasionally was not considered to be a serious enough offense to cause arrest. But generally speaking, outwary was not tolerated.

WHEN IN ITS PRIME.

The camp was practically in its prime about 1871 when the Flagstaff, Emma and other mines were being worked, and which contributed to an output estimated from various sources to be in the neighborhood of \$20,000,000. Just before the decline of the camp a horse tramway was built from Alta to Wasatch at a cost, it is said of \$50,000. From Wasatch to Sandy the Rio Grande railroad operated trains; the ore being taken to the smelters at the latter place.

DISCOVERY OF EMMA LODE.

Alta did not experience the top wave of its boom until after the discovery of the Emma lode, which occurred in 1863 by Capt. R. B. Chisholm, father of W. Chisholm of this city, associated with Capt. Chisholm was J. F. Woodman, once a prominent figure in Utah mining affairs, but who passed over the Great Divide several years ago. After the discovery of the Emma lode a short while, Messrs. Chisholm and Woodman instituted an active campaign to develop the lode, they encountered some rich surface deposits and made a shipment to the Salsby smelter near San Francisco. The shipment was hauled to Utah, the nearest station on the Union Pacific railroad east of Ogden. The ore averaged \$150 to the ton in lead and silver, while it was not infrequently to find ore valued as high as \$2,000 to the ton. Silver was worth \$1.25 an ounce in those days, and the miner received no compensation for his lead unless it ran better than \$40 to the ton.

SOLD FOR \$5,000,000.

In 1871 the Emma was sold, or at least a half interest in it, to Park & Baxter of New York, for \$325,000; but before the transfer was made by Messrs. Chisholm and Woodman they took out a half million dollars. The mine continued productive for another year, when the entire property was sold to an English company, the consideration being \$5,000,000.

The English company operated the mine but a short time, and after spending an enormous sum in equipment and development, lost the ore body. Litigation followed and the mine was closed down, remaining in that condition for fully 20 years, excepting for the activity of an occasional leaser.

FAMOUS FLAGSTAFF.

Almost contemporary with the Emma was the Flagstaff mine, on the Emma lode, and which, at that time, was owned by Nicholas Groesbeck, the builder of the Wasatch block, now occupied by the Kenyon hotel, and who was the father of Will Groesbeck, the well-known mining man, the sad intelligence of whose death, at Lima, Peru, was received in this city not long ago. The Flagstaff was also a prolific producer in its day, and, like the Emma, passed into the hands of an English syndicate.

Besides the North Star, the Emma and the Flagstaff, other mines were found in their near neighborhood, included in the number being the Valejo, City Rocks, Davenport, Prince of Wales, Wellington, Albion, South Star, Nabob, Savage and Montezuma, McKay and Revolution, Toledo, Grizzly, Frederick

and Crown Prince, Oxford and Geneva, Peruvian and many others, all of which have made more or less fine records as producers of metallic wealth. In the year 1870 or 1871 Messrs. Buhl and Matzner built a smelter at the mouth of Little Cottonwood canyon, a few miles below Wasatch. This plant was run by Archibald Claverling Gunter, who is now living in New York, and who, since his association with the early history of Little Cottonwood has developed into a novelist of national repute.

SOME OF THE PRODUCERS.

While there is no way of getting at actual figures, John G. Sullivan, the present postmaster at Alta, and who is engaged in the merchandising business there, the following figures were obtained on the camp's output up to the present time.

The Flagstaff \$5,000,000
Valejo and North Star 2,000,000
The Emma 5,000,000
Valejo and North Star 2,000,000
South Star 1,000,000
Grizzly 1,000,000
Prince of Wales 1,000,000
Nabob 250,000
City Rocks 250,000
Savage and Montezuma 500,000
McKay and Revolution 850,000
Albion 500,000
Toledo 100,000
Frederick and Crown Prince 100,000
Oxford and Geneva 100,000
Peruvian 50,000
Columbus 50,000

During the present year the Continental-Alta has shipped out quite a large tonnage of low grade ore from which a fair profit was derived.

NO DEEP MINING DONE.

Mining in Alta in the early days was confined almost exclusively to the surface deposits. It was seldom heard of that any mine was worked below the surface 300 or 400 feet.

THE COLUMBUS CONSOLIDATED.

It takes time to develop a mine. Big things, oftentimes, cannot be accomplished in a day or month, but it usually takes years to put on the finishing touches and round out any imperfections. This applies particularly to mining, and it is frequent that stockholders become impatient and complain because the mine who shoulder the responsibility of development are not making what occurs to them, a satisfactory showing.

The Columbus Consolidated mine has been operated only a little over two years; but in that time it has been transformed from a crude prospect into a mine of rather generous proportions. So in many ways, the Columbus has made rather satisfactory advances, and with the splendid equipment it now has, the mine is ready to enter upon its money making career.

In the mine are more than two miles of workings, consisting of tunnels, cross-cuts, drifts, winzes, upraises, etc., of this amount between 2,000 and 3,000 feet were driven during the present year. That immense tonnage are now in sight as a result of this work is admitted, and it is safe to say that the mill will not be cut short of a supply to keep it going at full capacity for a good many years to come.

An official of the company, said a few days ago that during the year probably \$100,000 has been spent for development purposes, and in providing and paying for new equipment.

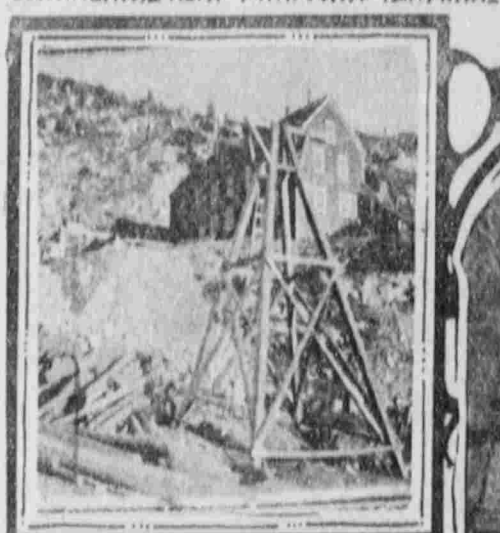
In the way of development, the most important achievement of the year was the completion of the cross-cut, which connects the lower Columbus and Howland tunnels, thus completing the connecting-up system. This cross-cut is 1,200 feet in length, and was run through a hard limestone formation. The task was by no means an easy one, but it was accomplished by the aid of power drills, and the vast ore reserves were readily reached, while the cost of extraction has been reduced to a minimum.

The electric power plant, the construction of which commenced about a year ago, was completed and placed in commission several months ago. It was put in at a cost approximating \$40,000, and is now supplying the company's mine and mill with power. In addition to this the company derives revenue from the sale of light and power to other mines in the district.

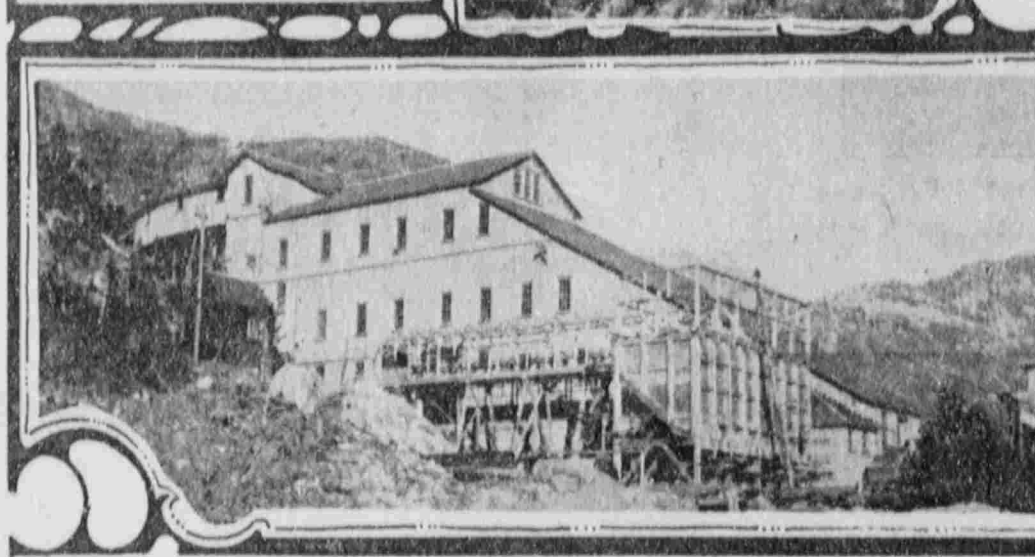
The mill, which went into commission recently, was among the improvements made this year. The management made a good move in buying the equipment of the old Tesoro mill in Tintic, which was operated for only a short time. The machinery was practically new and it was obtained at a figure which saved the company several thousands of dollars. But as it is a new plant, it is not yet in its prime. The equipment of the mill consists of jigs and Wilfley tables and the ore concentrates on the basis of 5 or 6 to one.

The impetus given to mining in Alta during the past few years, has been due largely to the efforts of President and General Manager Jacobson of the Columbus Consolidated company. Years ago when the camp was in its prime, Mr. Jacobson worked there. Recalling the fact that operations in those days were confined to the surface ores, it occurred to him, that with the modern methods of mining and reduction, the low grade ores could be mined profitably. Mr. Jacobson's previous experience in the district gave him knowledge of the formations and the trend of the veins, so it was not a difficult matter for him to map out a plan of campaign which would bring ultimate results. It was a big undertaking for one of limited means, but endowed with plenty of courage and determination to succeed, he went ahead. Soon after a large group of claims, which have since been added to, the Columbus Consolidated company was formed with a capital of \$50,000 shares of a par value of \$1 each.

CONTINENTAL ALTA TRAMWAY TERMINAL



CONTINENTAL ALTA MILL



COLUMBUS CON'S. NEW MILL AT ALTA

The opening of the mines has been under the superintendence of A. O. Jacobson, and much credit is due to him for the present physical conditions.

It is expected the Columbus will soon enter the list of dividend payers. Besides the shipment of concentrates, the markets will be supplied with much high grade shipping ore during the next year.

CONTINENTAL ALTA MINES.

The Continental Alta mines, at the head of Little Cottonwood canyon, will cut an important figure in the future metal output of the camp of Alta. For a little over a year the Continental Mines & Smelting corporation has been operating in the district and the management announced to shareholders recently that fully \$1,000,000 worth of ore had been added to the miners' reserves during the year, or about as much again as was in sight when the Grizzly, Layton and Regulator groups were purchased and which now constitute the Utah properties of the corporation.

This is a most gratifying exhibit. While the ore is of a low grade, it has been demonstrated that they can be handled in a manner which means big returns to the company. With this in view, General Manager Henry M. Crowther is pushing work as rapidly as possible on the construction of the five-mile tramway, referred to in the introduction, and before winter closes in on the camp, it is hoped the line will be practically completed. The new 100-ton mill was enclosed last week and at this writing much of the machinery is in place. The mill will be operated by water power and it is expected that the earnings of the company when the tramway and mill equipment is fully installed will equal \$500 per day on initial installation and that \$1,000 per day will be installed later. It is expected that a \$40 product will be the result of concentrating six tons into one. Figuring the production of ore from the mine at 100 tons a day, the mines are prepared to keep the mine supplied for a period of almost five years without further development.

CONTRACT WITH SMELTERS.

A contract was entered into with the American Smelting & Refining company not long ago whereby the Continental company has agreed to furnish the smelters with 75,000 tons of ore, which, figured on the low average of \$3 to the ton, means that a company will derive revenue therefrom to the amount of \$1,875,000.

The building of the tramway will bring about a solution of the transportation problem. By the construction of the mill on Tanner's flat, five miles below the mines, the cost of freightage both ways will be cut in two. As a cold business proposition, the move was a good one, and the saving enabled will soon make up for the cost of expensive tramway equipment.

The Continental company has acquired considerable new territory during the year and has more than trebled it since the original cash purchase. The equity in a group of 10 contiguous claims, together with two 20-acre mill sites, with water power was purchased, and upon which the management has now placed a value of \$250,000. Other territory was taken in and altogether Manager Crowther has succeeded in grouping together a property destined to become one of the state's foremost producers.

DEVELOPMENT WORK.

According to the annual report placed in the hands of shareholders in August last, the developments on July 31 consisted of 1,331.9 feet of tunnels, 207

feet of shafts, and 130 feet of raises, and the estimated amount of ore developed was as follows:

125,000 tons, gross value in gold, silver, lead and copper \$8.65 per ton \$1,086,750.00
42,000 tons, gross value \$12.40 per ton \$520,800.00
500 tons, gross value \$30.00 estimated as available in extraction of above second-class shipping and milling ore 150,000

Total developed value \$2,557,550.00

200,000 tons of Granite-Lime Contact milling ore, undeveloped in ground, but proven on both sides of operations to be an average of 12 feet wide and 1,000 feet long, containing 43 ounce gold, 2 ounces silver, 3 percent copper and 50 percent iron, valued at \$7 per ton, including fluxing value of iron \$3,500,000.00

Total reserves, value \$5,557,550.00

Since this report was issued, the campaign of exploration has been carried on vigorously and the above reserves have been greatly added to.

SIX MONTHS' PRODUCTION.

The gross production of ore covering the past six months of operation was 4,710, 838 pounds, from which was produced 551,264.7 pounds of lead, 98,123.5 pounds of copper, 31,767.5 ounces of silver, and 826 ounces of gold.

The company owns some valuable water rights in Little Cottonwood canyon, capable of producing a minimum of 600 horsepower. Later, it is the intention to utilize this further by the installation of an electric power plant at a cost, probably, of \$40,000.

The mines of the Continental company are under the personal direction of General Manager Crowther, who is also president of the company. He is a mining engineer and metallurgist of wide experience. The company is in safe hands, while he is at the helm, and

Renewed Activity In Big Cottonwood.

It is a source of considerable wonderment and surprise that the mineralization of Big Cottonwood canyon has not attracted capital more in late years than it has. The district, from a geological point of view, is a most interesting one. For more reasons than one this district should be made to yield more generously than it did away back in the 70's when Big and Little Cottonwood districts constituted what was then Utah's most active mining camps.

NEAR SALT LAKE CITY.

Big Cottonwood is located but a few miles from the capital city and had it the railroad facilities enjoyed by Bingham it would be as readily accessible. In the canyon are a good many properties of promise. One mine is producing ore regularly—the Maxfield, which enjoys the record of having paid \$118,000 in dividends and has produced more than \$1,000,000 worth of ore. Other mines are being developed on a small scale and the Kennecott Mining company, which acquired the old Reed and Benson groups about two years ago is doing some deep tunnel mining. The Kessler's Peak Mining company is also executing development work on a moderate scale and the Scottish Chief at the head of the canyon, is developing into a producer and is contributing to the local ore markets, with another year in which to continue the campaign of exploration may see it become an important mine. The Maxfield, at the present time is the only regular shipper in the canyon. Notwithstanding that it has been active for the greater part of 30 years, the property is still considered to be a long ways from being a developed mine.

MINERAL BELT LARGE.

A visitor to Big Cottonwood recently expressed himself in the following manner concerning that district: It is a mining country all the way up the canyon from the Maxfield to the summit, and from the point where the south fork of the stream branches off, to the crest that is the dividing line between Big and Little Cottonwood canyons. On one side of the crest is the clining camp of Alta. On the other is the head of the south fork of Big Cottonwood, where there is a veritable cluster of mines and prospects, chief in importance being the Kennecott, formerly known as the Reed & Benson; while in the immediate vicinity of this old producer, which has a record of \$500,000 to its credit, are to be found the Baber McKee, the South Fork, Monte Cristo, the Jones mine and many other

shareholders need have no fear that their interests will be carefully guarded.

The properties owned by the Continental were among Alta's earliest producers, and from them many thousands of dollars were taken out of the rich surface deposits of lead and silver ores.

OTHER ACTIVE PROPERTIES.

Among the other companies operating in Alta, and which are doing much good for the camp, are the Albion, South Columbus, Alta-Quincy and a few others.

The Albion management has been engaged in running a long tunnel, several thousand feet in length, and which will tap the ore bodies at great depth. The adit is now entering mineralized territory, and is nearing the ledges towards which it was directed.

The South Columbus is developing one of the most likely groups in the Alta district. The location covers an extension of the veins developed in the Columbus Consolidated. The tunnel has been driven about 800 feet, all done this year, and is approaching the vein which yielded many thousands of dollars from its surface deposits. When encountered, there will be stopping places of at least 900 feet on the vein. The company erected a new boardinghouse during the year and added machine drill equipment. Power is supplied from the Consolidated Con. compressor plant.

The ores of the South Columbus carry good values in copper, gold, silver and lead.

The Alta-Quincy locations, which cover an extension of the veins passing through the South Columbus ground, have developed some large bodies of low grade copper ore. Machine drill equipment was added to this property this year; and, like its neighbor, obtains the power necessary to operate them from the Columbus Con.

Undoubtedly the Albion, South Columbus and Alta-Quincy will do some shipping next year. It will not be long until these mines will require milling facilities for the low grade ores.

properties of promise, while on Kessler's Peak, far down the canyon, are the old Carbonate & Rattler, Sallor Jack, the Phoenix and other mines that were productive of much good ore when the district was at the height of its prosperity and popularity.

WILL CONNECT WITH ALTA.

As the crow flies the Kennecott is but a short distance from the mines that have made Alta so famous in the past. It is probably on the same mineralized zone, and a tunnel, cutting through the mountain's crest, would doubtless connect with the old workings of the Flagstaff mine, one of Alta's noted producers of the past. The Kennecott, of which W. J. Craig of Bingham is manager, is now worked under contract, and tunnel connections with Alta, as above mentioned, will probably be made in due time.

AN ACCIDENTAL FIND.

Almost directly across the canyon from the Kennecott is the property of the Baby McKee Mining company. This was an accidental find and a surface producer from the start, the vein being a fissure in the quartzite and evidently a continuation of the Columbus Consolidated ledge on the other side of the divide. This mine was discovered in the year 1891 and was worked successfully until late in the year 1895, when, on account of the death of one of the principal owners, and the subsequent transfer of a major interest to a Chicago capitalist, active operations were suspended, although there is every reason to believe that this ground is the making of a heavy producer. During the present month, however, the mine has been visited by the Chicago

gentleman, and arrangements have about been perfected for its systematic development and exploitation. In the main canyon, its forks are its numerous gulches are many other properties of merit, including the Gipsy Blair, the Black Horse, the Wheeler & Wilson, the Pioneer, the Utah-Chicago, and the big copper property of the Big Cottonwood Copper & Gold Mining company, of which Col. Nick Treweek is general manager.

LEDGES ARE PROMINENT.

It would be difficult to find better surface showings than are on exhibition on every hand in Big Cottonwood canyon almost from its mouth to the extreme limits of its tributaries. The

ledges in this section are strong and prominent and carry high grade ore at the very favorable to the existence of the precious and lower metals, being principally quartzite and lime, being ore usually making in the line near the contacts. It is a "down hill pull," with good roads, to the valley sampling works and smelters, and the district, if located anywhere else than so close to Salt Lake City, would attract a great deal of attention at the hands of mining men and investors. It is safe to say that this locality, because of its splendid mineral resources, its accessibility and the many opportunities it offers, will not be much longer overlooked by those out after banana propositions.

American Fork Canyon.

The Miller Mountain Bonanza Ledges Are Opened Again.

To that system of mineralization extending across the Wasatch range of mountains in the Cottonwoods, belongs the American Fork mining district, at the head of the canyon of that name. Some geologists claim these districts are only a part of the Park City and there is no reason doubt that this is the case, for the ore zone can be traced from the big producers of the latter camp. During the present year there has been an awakening in American Fork and developments made recently will serve as a forerunner to increased activity in that section next year.

IMPORTANT DEVELOPMENTS.

Probably the most important even of this year was the re-opening of the old Miller mountain mine, which, during the early twenties, is reported to have produced close to a million dollars from its rich silver-lead deposits. For some time the mine flourished, the owners became so confident that their earthly possessions were worth well up into the millions and that the mine would continue to yield its precious metals indefinitely, that it was decided to build a smelter and a railroad, from the town of American Fork to the mines. The work was undertaken, but soon after it was finished a fault in the formation cut off the ore supply; the vein was

lost, apparently, at any rate it could not be found again, and, in due time, the property became abandoned. The equipment was scattered to the four winds the railroad was taken up and moved to Picher, Nev., where it did service between the mines and smelters which furnished about the time the district visited American Fork district.

LOST CHANNEL FOUND.

The Miller Mountain Mining company never attempted after this to operate the mine. It was practically abandoned for good. Lessers, however, were given a chance and occasional shipments of ore were made. But it was left for a Colorado miner and his son to repay a big reward. A few months ago they broke into the lost ore channel and at this writing it would be difficult to place any accurate estimate on the value of the ore now in sight, but \$1,000,000 is the lowest figure placed on it by parties who have given it recent investigation. The lessors have been shipping the ore to Picher, Nev., where it did service between the mines and smelters which furnished about the time the district visited American Fork district.

Another important disclosure of ore was made in the Pittsburgh mine, further up the canyon, where a 12-foot vein of galena ore was opened. The above finds have had the effect of strengthening confidence and interest in American Fork, and a good many properties are being operated in a small way, with every prospect of success.

The Pittsburgh will probably do considerable shipping next year.

This Year's Metal Output WILL SHOW BIG INCREASE.

THE latest government report covering the metal output of the state was issued from the office of B. H. Tatem, government assayer, with headquarters at Helena. This report covered the year 1903. An estimate is all that can be had on the present year's output, as nothing official can be obtained until the year's business closes, and the government statistics will not be compiled for several months yet to come.

Last year there were produced from the mines of the state 237,284 ounces of gold, 19,571,767 ounces of silver, 23,552,692 pounds of copper and 109,765,257 pounds of lead.

When the balance sheets for this year are made up it will be shown that there has been a material increase in the production of gold, silver and copper, while the output of lead will come up to and likely exceed the figures given for last year. Great advances have been made in the copper districts, particularly, and the output for the year will not be far from 49,000,000 pounds either way. The silver bearing ores have been mined extensively and by Jan. 1, next, close to 25,000,000 ounces will have been produced and the gold output will likely reach 250,000 ounces.

GOLD AND SILVER PRODUCTION

By Counties.

Comparative figures on the production of gold and silver, by counties during the years 1902 and 1903:

| Counties. | 1902. | | | | 1903. | | | | Increase or Decrease. |
|------------------------------|--------------|----------------|--------------|----------------|--------------|--------------|--------------|--------|-----------------------|
| | Fine Ounces. | Value. | Fine Ounces. | Value. | Fine Ounces. | Value. | Fine Ounces. | Value. | |
| Beaver | 1,283,000 | 26,521.04 | 1,336,000 | 27,617.58 | 1,095.62 | 1,095.62 | | | |
| Boxelder | 6,100,000 | 126,000.00 | 6,100,000 | 126,000.00 | 126,000.00 | 126,000.00 | | | |
| Iron | 3,102,320 | 64,120.04 | 44,837,467 | 928,800.98 | 41,735,147 | 863,680.94 | | | |
| Junab | 33,344,994 | 685,233.60 | 44,837,467 | 928,800.98 | 11,492,473 | 243,567.38 | | | |
| Plute | 24,502,502 | 502,571.10 | 22,383,660 | 460,205.78 | 2,118,842 | 42,365.32 | | | |
| Salt Lake | 34,923,125 | 723,555.29 | 57,967,157 | 1,197,460.62 | 22,044,032 | 473,905.34 | | | |
| Summit | 16,220,219 | 314,629.85 | 21,325,280 | 602,817.10 | 5,105,061 | 105,187.25 | | | |
| Tooele | 81,770,082 | 1,682,203.24 | 68,029,195 | 1,406,288.26 | 13,740,887 | 275,914.98 | | | |
| Utah | 165,122 | 3,413.38 | 250,000 | 5,167.95 | 1,154.67 | 2,754.57 | | | |
| Washington | | | 526,600 | 10,749.95 | 10,749.95 | 10,749.95 | | | |
| Impossible to classify | 1,340,031 | 27,887.00 | 8,553,475 | 177,642.00 | 7,213,444 | 149,755.00 | | | |
| Total | 192,156,885 | \$3,972,235.41 | 237,283,944 | \$4,905,052.38 | 45,127,059 | \$932,816.97 | | | |
| —Increase. *Decrease. | | | | | | | | | |

SILVER.

| SILVER. | | | | | | |
|--------------------|---------------|-----------------|---------------|-----------------|-----------------------|--|
| Counties. | 1902. | | 1903. | | Increase or Decrease. | |
| | Fine Ounces. | Coining Value. | Fine Ounces. | Coining Value. | | |
| Beaver | 221,866.73 | \$ 256,857.97 | 296,027.00 | \$32,741.98 | 65,884.01 | |
| Boxelder | | | 7,280.00 | 9,412.53 | 9,412.53 | |
| Iron | | | 24,410.30 | 31,560.79 | 31,560.79 | |
| Junab | 2,978,394.00 | 3,850,852.85 | 4,665,953.19 | 5,940,450.75 | 2,682,559.90 | |
| Plute | 71,758.19 | 92,778.26 | 97,109.14 | 98,767.37 | 1,611.89 | |
| Salt Lake | 1,048,828.26 | 1,306,060.69 | 2,315,253.54 | 4,157,794.57 | 2,808,032.78 | |
| Summit | 10,757.12 | 13,757.12 | 13,757.12 | 13,757.12 | 1,100,764.96 | |
| Town | 294,551.51 | 390,340.49 | 728,579.97 | 948,788.22 | 565,851.83 | |
| Utah | 1,125.45 | 1,455.12 | 2,620.86 | 5,611.72 | 1,156.38 | |
| Washington | | | 15,752.64 | 20,367.05 | 20,367.05 | |
| Imp. to classify.. | 168,997.30 | 140,925.83 | 2,934,384.79 | 2,372,311.66 | 2,331,885.82 | |
| Total | 12,678,036.66 | \$16,391,804.97 | 19,571,766.93 | \$25,304,910.83 | \$8,913,105.96 | |