

The MINES of ARIZONA

This department is under the direction of Mr. W. E. Defty, the well known mining engineer, who will carefully scrutinize all matters relating to mining in order that only reliable information regarding legitimate enterprises shall find a place here.

The Republic would be pleased to receive information from any part of the state regarding the development of the mining industry. All communications should be addressed: Mining Department Arizona Republican.

R. D. O. JOHNSON Mining Engineer Room 4, Lewis Bldg. Phone 624

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Corona Copper Company's operations, as it appeared several weeks ago, at Ajo, Arizona. In the foreground is shown the machine shop, foundation work for electrolytic tank house, coarse and fine crushing plants, ore bins, power plant, leaching tanks and railroad yards; the low, cone-shaped hills shown in the background contain the ore deposits soon to be attacked by steam shovels.

The exposed area of the New Cornelia's deposit here amounts to 45 acres, and appears as a series of connected dome-shaped hills from which all waste or overburden has been eroded away. The deposit consists of massive porphyry, containing dikes of diorite and diabase, and bearing copper oxides and carbonates to a depth of 150 to 200 feet and sulphides in the form of chalcopryite and bornite to a depth of 100 feet.

Motor Trucks And Mining The Duguesne Mining & Reduction Company has been using a 4-wheeled tractor with a trailer to transport ore and concentrates from the mine at Duguesne, this state to Patagonia, the nearest railroad connection 15 miles distant. This equipment operates in the reverse direction over the same road to transport mining supplies of all kinds, including a large amount of new machinery, being installed in connection with the work of developing the mine.

Some idea of this 15-mile stretch may be had from the fact that it took 2 days for a 10-mule team to make the road trip of 35 miles, hauling 2 tons of supplies on the trip to the mine and returning with a 7-ton load. To complete the comparison, it is said that the tractor covered the same 35-mile round trip in 10 hours, hauling 4 tons on the trip to the mine, and 3 1/2 tons on the return trip at an estimated saving of over 48 per cent.

The loads varied considerably, but experience proved that an average of 10 tons per day could easily be made. The tractor, as much as 5 1/2 tons up, and 10 tons down, with the same apparent ease as when lighter loads were taken. The record of tonnage hauled shows an average of 352-ton miles over a period of six successive days, with a record for one day of 255-ton miles.

The 15-mile haul is over one of the worst roads in the state, including the famous Huerfano hill and the equally well-known Rocky hill, both of which have pitches in excess of 25 percent, with ledges of rock crossing the road diagonally, to complicate the problem of traction. Part of the way there is no road, making it necessary to follow up Creek canyon. Three different creeks have to be forded 61 different times.

The tractor is steel shod throughout and the semi-trailer has also steel tires. The power wheels of the tractor itself are equipped with diagonal steel cleats that insure traction.

Metals Recovered From Scrap And Drosses The value of the copper, lead, zinc, tin, aluminum and antimony recovered in the United States from scrap skimmings and drosses in 1915 was \$114,304,939, against \$57,829,706 in 1914, a 100 per cent increase. This large gain, says the U. S. Geological Survey, was caused by greater recoveries and much higher prices, particularly for those to be exported made in 1915, the most prosperous year in the waste metal trade.

The recuperative demand for zinc and copper by munition manufacturers and for foreign trade made spot metal very scarce. Secondary metals not desired for these purposes were generally available for domestic uses when virgin metal could not be purchased for prompt delivery. The incentive of high prices caused all metal to be more carefully saved, segregated and refined.

must be very old. However, it is believed that the number of people living in the region at any time may not have been great, for the aborigines frequently moved from place to place. The early expeditions of the Spanish explorers found many pueblos. The first Spaniard to enter Arizona was Marcos de Niza, a Franciscan friar, who crossed the southwest corner in 1529. A year later Niza led Coronado to the Pueblo country, and two small expeditions from this great exploring party visited the Hopi country. The present Indian population of the state is nearly 12,000.

The word Arizona is taken from the Papago language, in which it is said to signify place of small springs.—U. S. Geological Survey.

The San Juan, one of the old, historic mines of Arizona, located in the early eighties, has been taken over by a syndicate, headed by F. W. Estabrook, a director of the Miami Copper Company. The twelve claims, comprising the group were originally located by a woman, who had come out to Arizona from the east and prospect in the Lone Star Mining district. She was able to interest certain capitalists in the property, which resulted in a partial development of the claims, the deepest work being prosecuted to 325 feet with a drift over 1,500 feet of lateral work. Records of this company show that it has produced 343,500 worth of ore, but owing to the then slump in copper and disagreement between the stockholders and the management of the mine, operations were suspended and the property was worked only in a spasmodic manner until 3 years ago when extensive churning drilling was carried on. It is estimated that by this drilling over 500,000 tons of material were developed, and the property has been developed. Last February the property was secured from the company by T. J. Sparks, R. W. Craig, Mrs. Hirschfeld and J. C. Adams, all of Phoenix. Louis A. Duran, who figured prominently in the sale of the Inspiration property, near Miami, and the Rap Con. at Ray, provided the syndicate with the names of these owners and Estabrook Syndicate. During the short time the above mentioned owners had the property in charge of ore were shipped to the Calumet & Arizona smelter at Douglas.

The San Juan has the largest known deposit of copper ore in Graham county, located 4,100 feet elevation and lies at the base of a high range of mountains running northwest and southwest. The principal formation in the section being drilled, the strata is nearly east and west. The copper veins are principally in the monzonite and in the fractured and banded zones of the diorite and monzonite, the monzonite being of later origin. The surface and outcrops show very much copper carbonate. Various old shallow workings show strong evidence of copper leaching. An examination of the logs of the drill holes bear strong evidence of copper leaching and precipitation of copper light in iron. The mineralized area, other than the brecciated zone, is intersected with small veins and veins, some of which are rich in copper contents.

The new management under the superintendency of E. Walker, immediately after the purchase of the property, will continue development by churning drilling and will also continue the shipping of the carbonate ore. The possibilities of the mine are estimated at from \$19,000,000 to \$26,000,000. At the present tonnage and its possibilities there is every reason to believe that the San Juan will very shortly be added to the list of Arizona's best copper.

Arizona Notes The work of installing electric power, wires and appliances at the mine and mill of the Big Pine Mining Company is practically completed. A large working force is engaged on the property and a considerable tonnage of gold-silver ore is being mined. It is the purpose of the management to reduce all ores in the company's mill. The contract with the electrical company calls for 150 horse power daily. Duluth, Minnesota, capital is back of the enterprise.

Having selected a site for a main working shaft and the development of its property, the Green Monster Mining Company will this month begin mining operations on its new property, the Chelover Verde contact in accord with the recommendations of A. P. Thompson, who recently completed an examination of the property. He recommends the development of the Green Monster vein, including the adjacent deposit on the Cliff claim; development of the outcrop of quartz and hematite at the south end of the Devenne claim; development of the iron-stained quartz blowout on the Protector claim and, through the medium of crosscuts and drifts, the development at depth of the veins apexing on the Lone Pine claim to the south. He likewise suggests an investigation of the possible downward extension of the copper-stained diorite on the Amazon claim.

On this side of the Colorado river mining activity is constantly increasing, and such a large aggregate tonnage of ore is being shipped that several interests are figuring on building a custom smelter on the Colorado river, near Fackler, which it may be reached by mine operations on the south side of the river. Mining men who have studied this district state that the formation and mineralization is similar to that of the Copper Queen, Old Dominion and Arizona Copper mines. The ore is found in fissure veins of great lateral extent, the veins capped by an iron gossan, followed by the leached zone containing copiously carbonates and oxides of iron, sulphides, and all containing gold and silver. The gangue matter is principally quartz, but much calcite and barite is found with lenses of manganese and iron oxides.

Operations have been resumed at the Holmes mine in Black canyon. The property was recently acquired by William Bender and associates of Los Angeles who purpose to develop it at depth. The history of the Holmes mine dates back to the early sixties, and its record as a producer of high-grade, gold-bearing ore runs concurrently therewith. Early development was prosecuted by means of a tunnel and disclosed free milling ore. The general average grade of the ore at that time mined is said to have been 360. It was reduced in a small mill erected on the property at a fair profit. A wagon road has been built connecting the property with the camp of Mayer, and the old workings are now being

The United Verde Extension Mining Company has declared an initial quarterly dividend of 50 cents a share, payable August 1 to stock of record July 15. In a letter to stockholders, directors say in part: "We are now shipping to smelters in Arizona, a considerable distance from Jerome, over 70,000 tons per month, which has been averaged about 20 per cent copper, resulting in net profit of about \$350,000 a month for several months past. These earnings are due

in part to the prevailing high prices for copper. Cash on hand as of this date is \$793,882; there is due us from ore shipped approximately \$1,000,000, making a total of \$1,793,882. Although we have this surplus available, it has been decided to accumulate larger surplus for purpose of developing the property and constructing necessary reduction works."

The Shannon Copper Company earned approximately \$100,000 on its June operations when its usual 1,000,000 pounds of copper was produced. The cost of producing per pound of copper was 15.6 cents and the average selling price was 26.4 cents, leaving a profit of 10.8 cents per pound. Production during the 6 months of 1915 totaled 4,404,000 pounds, from which net earnings of \$420,000 were realized. The company has now a net working capital of about \$1,000,000, which compares with \$550,000 on December 31 last.

At the Greene-Cannara Copper Company organization meeting of directors, J. W. Allen was elected secretary, to succeed F. R. Kennedy. Mr. Allen will continue as treasurer. E. J. Dudley was chosen as secretary and J. W. Allen resigned as director and Walter Douglas of Phelps, Dodge & Company was chosen to succeed him. Mr. Allen will continue as secretary and treasurer. Referring officers were re-elected.

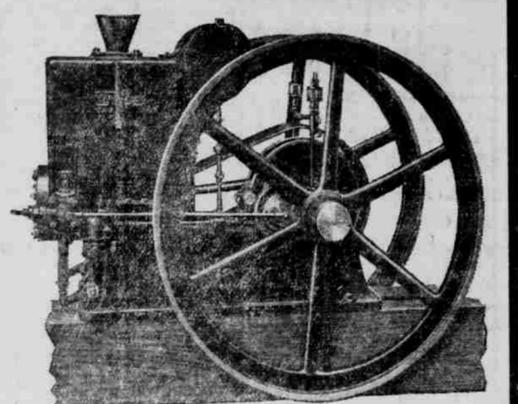
At the Greene Con. Copper Company annual meeting Dr. L. D. Rice was elected director to fill vacancy caused by the death of S. E. Searle. At subsequent meeting J. W. Allen resigned as director and Walter Douglas of Phelps, Dodge & Company was chosen to succeed him. Mr. Allen will continue as secretary and treasurer. Referring officers were re-elected.

BOSTON CULTURE IS VINDICATED The much acclaimed culture of Boston won for itself new laurels when Dr. W. T. Sedgwick discarded a time honored expression that has been in use for years unnumbered. In his lecture to a class of public health students he said to his highly amused hearers: "Public health work should be in the hands of an especially trained class of men—and should not be left to every Tom, Dick and Harry."

PIONEER RUSHES ITS UNDERGROUND WORK In the past 90 days the greatest record for underground work in the Outman district was made at the Pioneer property, says the Globe and Miner. Fifteen hundred feet is the amount accomplished.

On the 400-foot level, all of which is in milling ore, the drift has opened up 200 feet of new ore in shoots No. 1 and 2 on the south, which shoots are exposed on the surface and in the drifts on the 100 and 200 foot levels. To be close to the boundary where it adjoins the Arizona-Tom Reed. The distance to the line on that level is 320 feet. On the 200 foot level, it is considerably closer to the line, being something more than 150 feet. Work here was suspended for quite a while but will be resumed at once. In the last thirty days particularly the work was decisive in opening new ore on the 400 or bottom level. Five hundred feet south of the shaft the new shoot was opened by a crosscut to the

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DID YOU SEND THAT \$100?

IF YOU DIDN'T YOU HAD BETTER SEND IT RIGHT NOW. If you can't send \$100, send \$50 or even \$25, but be sure and get some of the stock of the Glory Hole Bonanza Mines Co. WHILE YOU CAN. It is only 10c a share today, and if we get high grade as we are very apt to any day now, you can't tell what it may be worth or the enormous increase there will be in its price and value in a few days time. Consolidated Virginia went from 17c to over \$600 a share when they opened up their bonanza ore body. The Glory Hole may do as well, you can't tell, neither can I or anyone else until we get into the Glory Hole hill and see what is there. The Glory Hole has an immense surface outcrop and showings, about the largest in all Arizona, and nearly everyone in Arizona knows of it having produced about \$60,000 in less than a week from a twelve foot pit, the ore running over \$100 a pound just as it was dug from the ground. The property has been closed down ever since the time of discovery and undeveloped, but everything has been straightened out now, THE GLORY HOLE BONANZA MINES CO. HAS BOUGHT AND PAID FOR THE GLORY HOLE PROPERTY, including the Glory Hole itself and the main ledge and we have just started work on it. The capital is ONLY \$150,000, less than was refused for an interest in the property, and half the stock is in the treasury, such part of it as is necessary to be sold to pay for development. Only a small amount will be sold now at 10c a share full paid and non-assessable. There is not one share of promotion stock of any kind whatsoever, the

company owns the property all paid for and we are doing real mining.

We have just started, but the miners have already struck a cross fissure horning free gold and are going right ahead to cut the main cross fissure running from the old Glory Hole pit to the main big ledge and follow it to the point of intersection, WHERE THERE SHOULD BE LARGE BODIES OF HIGH GRADE ORE. The miners are so enthusiastic over the certainty of success that some of them of their own accord agreed to work for nothing if they did not open up high grade inside of 90 days; others are buying stock at 10c and paying cash for it in addition to their work. THEY ARE ON THE GROUND AND KNOW WHAT THEY ARE DOING—SO DO I.

HERE IS WHAT I GUARANTEE—AND IT IS ALL ANY HONEST MAN CAN GUARANTEE IN MINING. For every share of stock you buy in the Glory Hole Bonanza Mines Co., I guarantee that you will get your honest and proportionate share of every dollar's profit made on every pound of high grade or milling ores produced by the property. You may lose a little money, so may I a lot of it, BUT YOU STAND A GREAT BIG CHANCE OF MAKING A FORTUNE FROM A FEW DOLLARS PUT IN THE GLORY HOLE IF WE STRIKE HIGH GRADE \$100 A POUND ORE AGAIN. BETTER DO IT RIGHT NOW.

DICK WICK HALL

"ON THE ORE TRAIL" SALOME "THE HOME OF HIGH GRADE" ARIZONA