

THE MINES OF NEW MEXICO.

INEXHAUSTIBLE DEPOSITS OF

GOLD AND SILVER

COPPER, LEAD, IRON AND COAL.



A MINERAL AREA UNEQUALED IN ANY STATE OR TERRITORY
FOR THE EXTENT AND VALUE OF ITS MINES.

Issued by the New Mexico Bureau of Immigration,
Santa Fe, N. M., May, 1896.

SANTA FE, N. M.
NEW MEXICAN PRINTING COMPANY.
1896.

and the locality so remote from railways that this field has attracted but little attention from the American prospector, although it offers a promise of good results when carefully prospected.

Cochiti District.

The most important and widely known mining district in Bernalillo county is the Cochiti district, located in the Valles mountains, forty miles north of Albuquerque, in a direct line and about twenty-five miles west of Thornton station, on the A., T. & S. F. R. R. The first discoveries of mineral in this district were made in 1889, but no work having been done by its discoverers, it may be said that the district began its existence in 1893, when some surface rock was sent to Colorado for assay, from what is now the Lone Star mine, which assayed \$300 in silver and \$350 in gold. The result of this assay created considerable excitement, and during the following winter there was a rush of prospectors to the camp. No real results were possible during the winter, but the following spring vigorous prospecting commenced and many valuable claims were located. The district so far proven to be valuable to the miner, covers an area of from three to five miles in width by twelve miles in length, although surface prospects of much more promise have been found outside of that area, some prospectors claiming that the mineralized area will, when fully developed, be found to cover an area thirty miles square.

The Cochiti country consists of a high tableland cut through by deep cañons, the higher portions covered with volcanic ash and scoria, which have been eroded at many points until porphyry dykes have been uncovered containing quartz leads. Some of these porphyritic quartz dykes are very prominent, and some of the best assays have been from rock broken off cliffs high above the surface. The general character of the mineral veins consists of porphyry containing veins of milky white quartz carrying red oxide of iron with tellurium. Cyanite, trachyte and phonolyte occur in most leads, and usually carry rich deposits of gold and silver, gold predominating in many instances. It is a proven fact that the ores from many mines in this district carry values of from \$20 to \$40 average mill or smelter test, while selected ores run much higher.

The mines now in course of development are located in five principal cañons which cross the district from east to west, cutting the mineralized dykes. These are Bear cañon on the west boundary, then Peralta, Colla, Pino, and Mediodia, with its branch Frijol. Most of these cañons contain water, at least a portion of the season, and their sides and summits are covered with pine timber. The principal development work, so far, is found in Pino cañon, around the town of Bland. Here are located the following mines, all sufficiently developed to prove them to be producers whenever mills or reduction works are established near by: Washington; Crown Point, from which large shipments of ore have been made to Pueblo smelters; Lone Star, another shipper; Iron King, Union, Good Hope, Black Girl, Posey, Hopewell, Last Chance No. 2, No Name, Ellen L. Mam-

moth, Corinne, North Star, Sunny South, Dry Monopole, Giant, Bull of the Woods, Little Casino, Wanderer, High Tide, Glencoe and Queen of Shades, a total of twenty-four claims, each of which is known to be a valuable mining proposition. The Bland Tunnel Company is also a Bland proposition. This company is incorporated for the purpose of running a tunnel, starting on the west side of Pino cañon 500 feet from the Bland town-site, and tunneling west through Gold Hill to Colla cañon. This tunnel will attain a depth of 950 feet beneath the apex of the Washington mine, will cut the veins of the Black Girl, Wilson, Iron Queen, Chicago, Remnant, Last Chance No. 2, Washington, Free Trade, Lone Star and King Solomon mines. Considerable work has been done on this tunnel, and its ultimate completion is assured.

The leading mines, in point of development, in Colla cañon, are the Albemarle, Ontario, Huron, Sheridan, Orphan Girl, King Solomon No. 2, Crown Point No. 2, Victor Lode No. 2, La Roja, Buena Ventura, San Buena Ventura, Santa Barbara, Monster and Hat Claim, all of which have been sufficiently developed to establish their value.

Peralta cañon has had less development, but shows some claims equally as good as any in the district; among these the J. H. S. Four Hundred, Master Irwin, Norma, God Help, New York, Empire, Murphy, Hazel and Santa Maria. A group of ten mines, all of which are of proven value, and upon all of which considerable development work has been done.

Development work has not been pushed sufficiently in other portions of the district to demonstrate the worth of the claims, but surface assays in many prospects indicate their value.

The Cochiti district was handicapped at the start by suits to establish title by land grant claimants, but these suits are now practically settled, the United States Land Court having decided the cases in favor of Government ownership. An appeal has been taken, however, to the United States Supreme Court, which it is confidently believed will be favorable to the miner, as the President has re-appointed the members of the Land Court to hear the testimony and report the case for final action. The camp has been further handicapped by the erection of two milling plants of inferior construction and small size, that unfortunately were controlled and operated by parties not competent to operate even these inferior plants. The distance from smelters involving long team hauls and high freight rates from the railroad to Pueblo smelters has also unfavorably affected the district. Yet, with this drawback, several of the mines have shipped ore to Pueblo with profit.

What the camp needs is suitable reduction works at the Rio Grande, with mills and concentrating works at the mines, to make of this one of the greatest mining camps in the country. There are immense bodies of ore running from \$20 to \$40 per ton in value awaiting treatment, with select ores from many of the mines which will assay from \$100 to \$1,500 or even more per ton.

[BY HENRY LOCKHART IN SOUTHWEST MAGAZINE.]

Believing that a fair and candid statement of the results of mining in the Cochiti mining district as taken from regular and extended ore shipments and returns will do more to establish its right to be regarded as a sound locality for legitimate and profitable investment than isolated reports of rich strikes and assays and occasional shipments of a good car of ore, I herewith append the results of the regular shipments of the Crown Point mine from the first shipment made March 29th, 1894, to date. I refer to this property because I am in a position to verify the figures, and *as a criterion to judge the value of other properties*; two of which at least, the Lone Star and Iron King, can show approximately as good results on the amount of development done as far as I can judge.

I give the gross result of returns on smelting and milling as the expense of hauling, smelting, etc., vary, being now fully one-third less than a year ago. It will be observed also that the average results on the lots from one to seventeen are much higher than on most of the subsequent shipments. This is due to the fact that high smelting and hauling charges made it necessary to sort the ore and ship only the higher grade of smelting ores up to that time. The lowering of these rates made it practicable to ship at a profit a larger quantity of lower grade ore while at the same time it lowered the apparent assay average of the output for the time being. Were there proper milling facilities in the camp or had the mill been under competent management this ore and thousands of tons of a similar character at this mine, and others in the camp, could have been treated here at a greatly enhanced profit to both miners and mill.

Now while it is a fact that occasional small deposits of ore assaying into the thousands are met with, and respectable pockets of several tons running into the hundreds are quite frequent, the value of the mines so far as yet determined must rest on the general average of all ores extracted susceptible of treatment at a profit. To ascertain what this is, the first seventeen shipments in the statement annexed hereto returned 9440.6 ounces silver and 218.925 ounces gold. This was from 123 tons of ore, showing an average of 76.75 ounces of silver and 1.78 ounces of gold, or a money value of \$51.42 in silver and \$35.60 gold, or \$87.02 total value in both per ton. This was on the shipments from March to December, 1894, and almost entirely on high grade ore. The bulk of the ore shipped during the present year was not sorted except to separate waste, and included the second and some third grades for the former year, the latter being milled here. The results show a lower average than would really exist by reason of being deprived of a portion of the high grade in the previous year's shipments. These shipments show returns of 8866.56 ounces silver, and 369.2 ounces gold. This was from 460 tons of ore, showing an average of 19.275 ounces of silver and .8027 ounces gold, or a money value of \$12.91 in silver and \$16.05 gold, or \$28.96 total value in both per ton. The general results on entire shipments therefore would be as follows: 18307.184 ounces silver and 588.125 gold. This would be on 583 tons of ore showing 31.4 ounces

silver and 1.0088 ounces gold, or a mining value of \$21.04 silver and \$20.17 gold or \$41.21 in both per ton.

It will be observed that in the high grade the silver value is about 59 per cent. and the gold value about 41. In the lower grade ores about 45 per cent. silver and 55 gold, and the general average in both grades nearly equal. In the strictly low grade milling ores, however, as indicated by the shipment of 100 tons to the Bland mill the silver value was only 30 per cent, while the gold was 70. To sum up; the average of the first batch of shipments would be entirely too high to apply to regular production because it embraced nearly all selected ore. The second lot would be too low as it had been deprived in a great measure of the higher grade shipped at first. The general average of both would still be too high as it does not take into account the residue of milling or low grade ore still remaining on the dump awaiting treatment. This would constitute at least two-thirds of the entire output and reduce the general average of the entire body as far as can be judged at present, to a value of \$30 to \$35 per ton.

A statement of the regular shipments of the Crown Point mine from the first shipment, March 29, 1894, to date, shows an output of 571 tons, the gross value of which was \$22,135.55. Twelve tons of first grade ore have been shipped since the close of this statement and included in estimates in article.

This result may appear small to the average reader who gathers his mining information from the result of some assay on a selected sample, but is in reality an excellent showing for it is not dependent on a little stringer of quartz of a few inches, but is the value of the entire vein of quartz between the walls—good, bad and indifferent—averaging probably five feet in thickness. This, I believe, will apply to any developed property in the camp.

As to treatment; shipping to smelters at distant points is not profitable except in case of high grade ore, which forms but a small percentage of the output at present. A smelter here is out of the question because of the expense of transporting fluxing materials. The ore, however, has been tested sufficiently to know that the entire product can be milled at a profit in the hands of competent men with suitable machinery. This is all the camp now lacks. There can be no doubt of the assured success of a large custom mill at the river, with a sampler which would enable all owners of claims, large or small, to dispose of their ores at a small expense for transportation. There are three properties in camp now capable of supplying a ten or twenty stamp mill each and with ample water and fuel supplies at hand for that amount. Mills for these would be still more profitable if built on the properties. This section of New Mexico has been building great hopes on the results of Cochiti, but what has it done to aid the development? The mines have shown that with expensive transportation, high rates of treatment, able to handle only a small percentage of the ore extracted and without the investment of capital they can still be developed without loss; what then would be the result of the erection of a good

milling plant enabling all the ore to be treated at a profit instead of less than 10 per cent. as now, and that at double the expense necessary. The district does not need capital to develop its mines. They are self-evident. What it needs is the means to extract the gold and silver on the spot from the ores those mines are now producing or will produce the moment they can utilize their product.

Output of the Cochiti Mines.

The following report of shipments of ores from Bland, in the Cochiti district, is furnished by Mr. Chester Greenwood, a resident of that camp, and which he states is very close to the exact amount shipped up to March 26, 1896.

TO SMELTERS.		TO MILLS.	
Crown Point Mine.....	600 tons	Crown Point Mine.....	100 tons
Lone Star Mine.....	600 "	Lone Star Mine.....	200 "
Washington Mine.....	180 "	Iron King Mine.....	400 "
Albermarle Mine.....	60 "	Little Casino Mine.....	125 "
Iron King Mine.....	50 "	Other Prospects.....	100 "
Other Prospects.....	60		
			925 tons
	1,550 tons		1,550
			2,475 tons

SANTA FE COUNTY.

[BY W. M. EMMERT.]

Commencing about four miles south of the flourishing town of Cerrillos, Santa Fe county, and extending south for twelve or more miles, in disconnected ranges of mountains and hills, with an average width of six miles, is one of the richest and most wonderful mineral regions in New Mexico. The geological formation, and the surface mineral indications, of this entire section, are, without peradventure, unequalled in the great southwest. Within this section are situated the mining towns of San Pedro, Golden and Dolores.

In order to more fully set forth the great mineral wealth of this district, it will be necessary to describe somewhat lengthily the large placer fields which cover a vast area of the territory named. These placers, especially those in the vicinity of the mining town of Dolores, known as the "Old Placers," lying at the base of and on the east and north sides of the Ortiz mountains, forming the Cunningham mesa, have been worked for hundreds of years—the earliest historic record being by the Spaniards in the spring of 1711, a few months after the second Spanish conquest of New Mexico. But indications lead to the conclusion that they were known and worked by the Montezumas and Aztecs, long before the white man discovered this continent. To give some idea of the enormous wealth contained in this great placer deposit, on this mesa: An experienced and