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BURRO MOUNTAIN TURQUOISE

The mining of turquoise in the southwest antedates the advent of the Conquistadores. Old working pits and dumps where turquoise had been mined were noted by the early Spanish explorers in their conquests of "New Spain". Many of these workings at that early day had grown old and mossed with age. Associated with all these old dumps and working pits are found the oldest types of pottery and the crudest of stone hammers and other prehistoric implements.

In the wanderings of Alvar Nuñez Cabeza de Vaca with his three companions, who were the first Europeans that set foot on New Mexican soil in the year A. D. 1534, found the Pueblo Indians at that time well supplied with ornaments and trinkets of turquoise.

There seems to be but little doubt that the mining of turquoise antedates any other kind of mining conducted in the United States.

Turquoise exists in four distinct mining districts of New Mexico :the Burro Mountains, Los Cerrillos, Jarilla and Hachita. Each of these widely separated regions show prehistoric workings.

The turquoise of the Burro Mountains seems to be somewhat purer and prettier than the product from the other districts. Although the turquoise from any of the New Mexican mines is considered a formidable rival in beauty and durability to the celebrated article from Persia.

For comparison, analyses of New Mexican and Persian turquose are here given:

From New Mexico—

Aluminum and ferric oxide..	39.53 %
Phosphorus pentoxide	31.86
Copper monoxide	6.30
Lime	.13
Silica	1.15
Water	19.80
Total	98.8[illegible] %

From Persia—

Alumina	40.19 %
Phosphorus pentoxide	32.86
Copper monoxide	5.27
Ferric and Ferrous oxides..	2.21
Manganous oxide	.36
Water	19.34
Total	100.23 %

The first of these analyses was made by Professor Clarke of the United States Geological Survey and the other was taken from Dana's Mineralogy.

It is thus seen that the two analyses coincide to a remarkable degree of closeness, when the fact is considered that the products come from diametrically opposite points of the globe.

At the Azure Company's mine in the Burro Mountains there is said to be the largest open cut in the world made in the mining of turquoise.

Concerning the excellence of the Burro Mountain turquoise, particular attention is directed to the Porterfield Mines where it is said that the gem-stone excels in beauty, purity and durability any other turquoise in the world.

The Porterfield mines are only

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ROSEDALE MINING DISTRICT

NEW MEXICO

The Rosedale mining district is one of the principal gold camps of New Mexico. It lies on the east side and near the north end of the San Mateo range of mountains, in Socorro county and about thirty miles west and a little north of the village of San Marcial, the nearest railroad point.

The core of the mountain range is pre-Cambrian in age. Flanking the older rocks are profound flows of effusive types of acidic porphyries. These eruptive lavas—belonging to the middle Tertiary—have later fissured, forming veins that have become filled and mineralized by ascending solutions. The vein filling is quartz carrying values in gold.

The rhyolite flows, in which the more important veins are encased, are of great thickness, as evidenced by the main working shaft at the Rosedale mine, which is down 732 feet in that formation.

The principal lode of the district is that on which the Rosedale mine is located, and is known as the Rosedale vein. This vein is quite persistent and crops out at intervals for a distance of about five miles; the width varies from five to eighteen feet.

There are a number of good claims along the main lode beside the few original Rosedale locations.

A second vein parallels the Rosedale vein to the west, lying higher in the mountains.

Several of the properties in this district are more or less developed, generally less, but the principal work has been done on the Rosedale mine.

The Rosedale properties consist of two lode claims, the Great Lode and the Rothschild and two millsites; all of which are patented.

The strike of the vein is about N. 16 degrees W. and the dip is [illegible] degrees to the west. The average width of the principal ore shoot in which the main development is done is between seven and eight feet. The vein filling is chiefly a grayish-white quartz and is considerably crushed and shattered, due to the uneven slipping or shearing motion of the walls. The richest quartz has a greenish caste and is usually associated with a sprinkling of manganese dioxide.

The ore shoot to the south of the one in which the working shaft penetrates is perhaps the larger of the two, but the grade of the ore is not so good. Between the two shoots is a very large body of a still lower grade ore, the most of which is susceptible of being milled at a profit under proper method of treatment.

There has been milled about 30,000 tons of ore, mostly from the ore shoot penetrated by the main working shaft. The ore milled averaged $10.[illegible] per ton, carrying but little values in silver. There are approximately 200,000 tons of ore in sight, including the lower grade of ore. The working shaft is 732 feet deep reaching to water level, with drifts 50 feet apart.

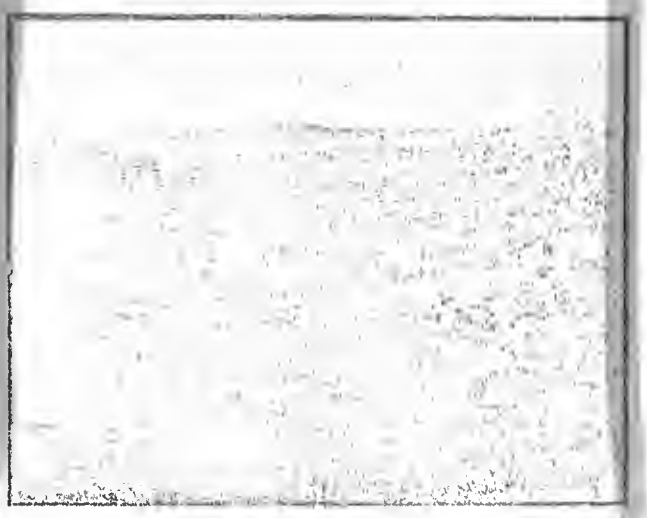
The property is equipped with a shaft house in which there is an 8x10 double cylinder Vulcan hoist; a 10-stamp mill, having a 100-H. P. boiler, 85-H. P. engine and two crushers; a 50-ton cyanide plant and steel tank capacity of 300 tons; fine grinding by a tube mill, agitator and a filter press. Three miles of 3-inch pipe, conveying water to mill by gravity. The water supply is from a reservoir fed by a spring and surface drainage and is quite pure.

Wood is used for fuel and plenty of pine timber exist in the mountains for mine timbers and other purposes.

A saw mill of 6,000 feet capacity B. M. completes the equipment.

The plant has recently been overhauled and everything is now about ready for continuous work.

The Rosedale is one of the few mines that has paid its own way from the start and did all its development and built its own plant from the revenue from its ores. This certainly speaks well for a district that has been but little prospected or developed.



The Rosedale Mine

GOLDEN COCHITI DISTRICT

By William Jenks,
Member of American Institute of Mining Engineers.

At the present time many circumstances tend to show that considerable attention is being attracted to the Cochiti Mining District of New Mexico. That this should be so, is not in any way surprising to those familiar with its history. For a present comparatively small, isolated, mineralized territory it most certainly has done exceedingly well. For what is generally supposed to be a low grade camp, it shipped, and returns were received for some large quantities of not medium but high grade ore. For a new and young camp it passed through many troubles. First: Land Grant Claims threatened its existence, but for New Mexico's sake, these are happily forever past. Next, it had to run the gauntlet of a crop of law suits, afterwards adventurers in the guise of promoters came in whose only aim was to tie up, ostensibly purchase, or otherwise obtain properties, stock them, sell stock, and after pocketing the greater portion of the proceeds, abandon them. Others fell down before reaching this point, but all were a detriment and were then and have been to this writing a hindrance to the camp, in that they prevented actual capital from coming to its aid in the discovery, development, and recovery of its immense riches for the benefit of our own citizens and mankind in general. They did not affect its deep buried values, nor change them one iota, but made history repeat itself, as its experience became similar to that of most of the great camps of the West, in passing through a vicissitude period of sober afterthought and preparation, leaving it ready for emergence into an atmosphere of production and opulence.

History repeats itself, and comparisons prove that the great Calumet and Hecla Mine was in its early existence condemned, I, myself, knew some of the original stockholders who had cold feet in its inception period and sold their original holdings for a song. Butte City, Montana, was in my remembrance and knowledge, a gold placer camp, next a silver camp, ultimately developing into one of the great copper camps of the world. Cripple Creek had its Mount Pisgah and other transitory excitements, all utter failures, many years previous to its being brought suddenly into accidental prominence. The United Verde Mine was a failure until W. A. Clark took hold of it, and expended large sums of money in development. Arizona Copper, Clifton, A. T., passed through a like experience, its stock in the late 80's could have been bought at the very lowest bargain prices. Copper Queen, and Cananea opened up as lead mines and had little or no value until capital had been expended upon them in prospecting for and proving their immense low grade copper deposits. Nevada went through a similar experience of uncertainty, condemnation, and fortunate later discoveries by accident.

This list could be prolonged indefi-

Joining the V

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