

Zinc and lead being two of the principal ingredients of Sherwin-Williams Paints, it will not be amiss to give a description of the mines of our company producing these ores and the occurrence of the many varieties found in the underground workings.

The town of Magdalena is a hustling little place, lying at the foot of a lofty range of mountains bearing the same name. The mountains extend north and south about 25 miles west of and parallel with the Rio Grande River. Their elevation is over 10,000 feet above sea-level and nearly 4,000 feet above the general level of the surrounding plains. A branch of the Atchison, Topeka and Santa Fe railroad furnishes ready access and good transportation facilities, and connects with Socorro, a city on the main line of the Santa Fe, 28 miles easterly. Kelly, the mining camp proper, lies on the western slope of the Magdalena range and the mines of our Company are in close proximity. The greater part of the population of both Kelly and Magdalena is composed of Mexicans and they form the main laboring class of the mines.

The Magdalena Range is geologically one of the oldest in this part of the Basin region. It is a huge, tilted block from which the sedimentaries have been almost entirely removed down to the Pre-Cambrian complex. In a word it is formed of the sediments deposited in the inland seas of the thousands of years ago, these being tilted up by eruptive formations in the interior of the earth's crust and congealed by heat and water action into compact masses of rock. Many beautiful specimens of the life of prehistoric ages, occurring mostly as shells of mollusks and the plant life of that time can be found in the underground workings of our mines.

The property, incorporated as the Ozark Smelting and Mining Company, and known all over the world as the Graphic Mines, far famed for the beautiful specimens of lead, zinc and copper ores, is situated on one of the enormous plates of limestone that have been situated on one of the enormous plates of limestone that have been able to resist the attacks of the elements. For more than a generation, the Graphic Mine has been widely known as a great lead producer. It was first located by Col. J. S. Hutchinson, early in 1866 (Mr. Hutchinson is still among the living, residing in Magdalena, hale and hearty as ever.) The easily reduced lead carbonates were shortly after that date smelted in adobe furnaces (Mexican fashion) and the resulting pig lead was shipped over the old Santa Fe trail by ox teams to St. Louis, Mo. It was not until 1878-9 however, that active mining took place, and in 1881 the building of the Rio Grande Smelter at Socorro by the late Gustave Billings and the extension of the railroad to Magdalena, the camp took on an increased activity. In 1893, a lead smelter of 100 tons daily capacity was erected by the former owners who smelted many thousands of tons of the lead carbonate ores.

In 1902, began the era of the mining of zinc ores which has become today the principal industry of the camp. In 1903, C. T. Brown and J. B. Fitch, lessees of the Graphic Mine, sent some Smithsonite, a zinc carbonate ore, to Missouri and the ore proved so satisfactory to pigment manufacturers that more was asked for. Shortly afterwards our company purchased the mine. The production of the mine to this date was said to be in excess of \$5,000,000.

Our mines have underground workings, which, if placed in a long line, would reach some 4 miles in length. This is comprised mostly of drifts, crosscuts, tunnels, winzes and raises. Some of the stopes underground could be made into a good-sized banquet-room, being 25 to 50 feet wide, 300 to 800 feet long and 100 feet high. The immense stopes which occur on the different levels amply attest the enormous bodies of ore that have been removed.

OUR MINES - Cont'd

The workings are reached by several entrance tunnels, the main one and the lowest in elevation being known as the Waldo. From the entrance one goes into the ground horizontally in an easterly direction 1500 feet, crossing the many inclinations of shales, quartzites and limestones until the main horizon is reached, called the Silver Pipe limestone where most of the important ore bodies are found. Drifts have been run north and south at this end of the tunnel a thousand feet each way and in the north drift one of the largest deposits of zinc sulphide ore has been found, there being over 250,000 tons blocked out and approximately a million tons in sight, with vast territory still to be developed. These north and south drifts comprise the ninth level of the mine, the eight others lying above at approximate elevations of 100 feet apart, on an inclination angle of 45 degrees. The third level is connected with the outside world by the Graphic Tunnel, through which most of the ore was removed in the early days. From the sixth level up are located the old carbonate stopes and also most of our zinc carbonate ores of today are being found there. A recent strike of high grade zinc lead ore in the contact of the Waldo is proving of much interest to the camp; this being the first ore similarly encountered in this district.

The mine is divided into two distinct zones, the oxidized zone or upper six levels and the sulphide zone or lower three levels. Through the oxidized zone, the original zinc ores (sphalerite) have been transported and redistributed in two distinct forms of smithsonite. Part has formed as well crystallized zinc carbonate which occurs in large porous masses usually intimately mingled with lead carbonate. Part of the zinc carbonate has completely replaced the limestone beds as already mentioned. A small part has united in other chemical combinations to form limited bodies of unusual composition. The well crystallized smithsonite is among the most beautiful of minerals. The great masses of translucent crystals are delicately tinted various shades of green, blue, gray and yellow and are used as a gem by the leading jewellers of the country.

The company owns the bulk of the most valuable mineral land in the Magdalena Range, comprising some 21 mining claims each 600 feet wide by 1500 feet long and representing a total of 227.5 acres. They also own several tracts of non-mineral ground, totalling some 245 acres upon which are located the old lead smelter, the new concentrating mill, the chemical laboratory and the main local office. Upon the smelter tract are located the two beautiful residences, known far and wide as the finest in Socorro County. These are furnished for use of the officers of our good company who occasionally come out to breathe the good ozone of the West, under the azure blue skies of New Mexico and in this part of the only available frontier life of the West.

Our Mines

By L. P. Pressler, Mining Engineer, Magdalena



Mr. L. P. Pressler

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Snapshots taken at the Mines

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The ore measures occur in the crystalline limestone above and below a thin band called the Silver Pipe limestone—a fine grained fossiliferous rock about six feet thick. This formation is invariably followed as a sort of indicator in the development of the mine. The limestone is but seldom attacked by the solutions that deposited the primary sulphides but yet many acres have been replaced in the upper workings of the Mine by the zinc carbonate ores and every structural detail is clearly outlined in the ore. The ore deposits as a whole include lead, zinc, iron, copper, gold and silver. As originally deposited, they manifestly consist of complex mixtures of the sulphides. In the zone of oxidation these have been largely altered to carbonates, but a number of important metallic minerals have also been formed. The deposition of these ores evidently took place in loosely crushed ground and cavities formed in the purer limestone strata. As oxidation took place, the migration of the ores has been clearly down the slope. In this redistribution of the oxidized ores the general arrangement has been first, ores of iron in the highest parts of the slope, then ores of lead, next the ores of zinc and lastly the ores of copper.

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[We regret that owing to lack of space it has been necessary to leave out three paragraphs of this interesting article.—Ed.]

The Victor

A toast to the man who dares,
No matter how dead his trade;
Who can win his luck,
By his own good pluck,
When the rest of the world is afraid.

Another to him who fights,
When trade is a whirlwind lure;
And who jumps right in
With a will to win;
Though rivals are plenty and sure.

So here's to the man who dares,
Though fortune blow low, blow high;
And who always knows
That the conquest goes
To the man who is ready to try.

—Xeno W. Putnam, in Fame.

"Won't You Come Over to My House?"



R. E. K. CANNON, our enthusiastic Promoting Manager of the Southwest District, believes in a strenuous life. At least that's what he's always told us. But we said he had to produce the evidence, so he sends us these photographs and so he is now a practical painter. He believes in versatility not only for representatives, but for every member of the organization.

The photographs show one of his estates in Texas. It took two Cannons to do the work, the other gentleman being a brother. Naturally Mr. Cannon concluded his letter by saying: "I want to tell you that it is the best painted house in the town in which it is located."

Well, we should think so. SWP—and the talent of the painter!

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