

ABOUT BARREN ZONES.

Old Theory That Values Are Beneath Fully Established.

In mining an ounce of proved fact is worth a ton of unproved theory. There are many theories as yet unproved. There are, too, many substantial facts, generally known now, that were once unproved theories. One of those theories, concerning barren zones, is fast becoming an established fact. It is the old problem in a new phase, "Do mines go down?"

In the majority of cases, says the Mining Press, there comes a time in the development of a mine when zones barren of all ores are encountered. This generally occurs in the case of sulphide ores, when what may be styled the permanent water level is reached, and continues through what may similarly be termed the ebb and flow water line.

The theory here comes in that through the seasons this permanent water line rises and recedes, sometimes in time's countless aeons being higher or lower than at others, the ore becoming decomposed and the ores being leached out, new ore bodies meanwhile forming containing no metallic value, occasioning a barren zone. Another theory takes up the dissolving of metals by hot alkaline water, carbonic acid being present, which, meeting with volcanic gasses from below, would precipitate metals "along the lines of least resistance," thus occasioning barren zones, the character of the rock through which the vein in its entirety passed, not being throughout its entire extent favorable to the deposition of ore.

The possession of sufficient nerve and money has demonstrated the existence of paying ore bodies below such barren zones. Whatever the cause, the theory that such barren zones actually exist has passed into the stage of accepted fact, it having been found that below such barren zones existed ore of equal value with that above, and that the permanent water line no longer marked the limit of profitable mining.

The fact has been demonstrated in deep mining in California, Colorado and Montana, where some of the best paying mines were once abandoned, till modern mining methods permitted deeper working. In Amador county, California, the Kennedy gold mine, one of the richest in the state, was barren of all pay ore for nearly 200 feet in depth. In Calaveras county the great Gwin mine was once sold for a song, because of the occurrence of a barren zone. In Sierra county, California, the Sierra Buttes mine was worked to a depth of nearly 3,000 feet, when a "barren zone" was encountered, and this property, which once operated 96 stamps and has a record of \$15,000,000 output, is now abandoned. In Montana, the Comet-Rumley mine, at Comet, Jefferson county, was a big silver-lead producer, when at a depth of 1500 feet the ore gave out, but upon striking through a "barren" zone of 60 feet a body of galena eight feet wide was found, and the mine's output was greater than ever.

The same conditions are demonstrable in Cripple Creek and elsewhere in Colorado.

J. S. Hughes Back from Missouri.

J. S. Hughes, interested in the Standard group in the Quartzburg district, has returned from a prolonged visit with relatives in Missouri. He spent some time in the zinc fields of that state and reports that the industry is in a flourishing condition. Together with United States Marshal Houser, who is one of the largest owners in the Standard, he passed through Sumpter Monday, on his way to the mine. That property will continue to be worked systematically, but it is not yet determined when the smelter will be put in.

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ABSTRACTS

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W. H. W. HAMILTON, Mining Engineer, Sumpter, Oregon.