

THE MINERAL REGIONS OF SOUTHERN NEW MEXICO. 441

Range, about 9000 feet above tide. The whole of this region was considered so unsafe, both from hostile Indians and worse white banditti (called "Rustlers"), that it was thought necessary to provide a military escort, which, together with the guns carried by the party, gave us twenty-five Winchesters and two mounted scouts perfectly familiar with the country. No difficulty occurred, however, nor was any likely to happen to so strong a party:

The Black Range is intersected by powerful lodes carrying gold, silver, copper, zinc, and lead. Hagan's Peak, a prominent landmark, which forms the apex of the range, appears to be a centre from which radiate numerous veins. One of these, known as Hagan's Lode, is covered for over two miles by successive locations, the ores of which are chiefly valuable for silver, with a little gold and some yellow copper, in a coarse-grained crystalline and cellular quartz, the vein being generally very large, e. g., "The Midnight" samples gave me silver 15, 43, and 118 ounces, from three portions of the vein, a trace of gold, and under 5 per cent. of copper. "The Colossal" had 127 ounces of silver, $\frac{1}{2}$ an ounce of gold, and about 7 per cent. of copper. The "Monte Christo" yielded, silver 168 ounces, gold 1 ounce, with under 1 per cent. of copper. These are obviously all free milling ores, the silver existing chiefly as chloride; galena and lead salts are rare.

This vein is believed to extend to the north much farther than above indicated, covering in all a stretch of many miles. But no competent observer testifies to the truth of this statement as the result of personal investigation. All I can say is, that I saw a powerful vein, which I followed for more than two miles from the town of Grafton, commencing at the "Ivanhoe," and passing the Buckeye, Surprise, Alaska, Montezuma, etc., and so on, to the north, and beyond, where I followed it to the "Wild Horse." It is said to maintain its course conspicuously for about five miles from the point of starting.* At the "Montezuma" it was over 20 feet wide; a mass of hard quartz, with noble combs of amethystine crystals and great subveins of calcite included, with streaks of ore. It was developed by a shaft, sunk in the eastern porphyry, which incloses it, and the vein remained almost undisturbed for 150 feet, the depth of the incline shaft, at that time. Samples which I collected gave about 1 ounce of gold and 140 ounces of silver.

This vein is certainly worthy of a systematic development. The

* If the vein from Hagan's Peak to the "Wild Horse" location is one vein, its length is from ten to twelve miles.

gold is not visible to the eye, and the silver exist chiefly, if not entirely as chloride.

Sullivan B, TRANS AME, Vol 10, 1882