

returned to San Francisco, in February, 1855, with specimens of the ore, and the company was incorporated, under the title of the "Arizona Mining Company;" hence, curiously enough, the endeavours of the association to occupy and open old silver mines, were terminated by the unexpected discovery and possession of a rich copper mine.

In the midst of mountain ridges, principally of porphyry, which rise abruptly from plains dotted here and there with grass, lies the Arizona mine. The green colour of the ore, outcropping on the dark red rock, is perceptible at the distance of a mile; numerous specimens of the cactus—one kind of which, the *cereus giganteus*, the *savarre* of the Mexicans, frequently attains the height of forty feet,—together with mezquit and iron wood form the principal vegetable growth. Some of the mountains bear evidence of tremendous igneous action, whilst others are void of all traces of plutonic force. The soil is light and porous, with a superabundance of disintegrated granite. Altogether the scene is lonely and desolate in the extreme; though the perpetual but scanty vegetation prevents it from meriting the appellation of a desert. Water is obtained from natural reservoirs found in the dark mountain recesses, supplied by the rains, which occur with some regularity during the months of July, August, December, January, and February.

The ores extracted are the gray, black and red oxide, the latter richly impregnated with virgin copper. Persons conversant with copper mining admit the ore to be the richest, in the average, of any yet discovered. So far as examined the veins increase in richness and quantity as they remove from the surface. For instance, a vein of red oxide four inches wide at the surface, had, at the depth of fifty feet, reached the thickness of four feet, and became almost exclusively pure copper which lay in a soft rock and was easily worked.

Dr. Webster, a resident of San Francisco, largely interested in the mine, and to whose kind services I am indebted for specimens of the ore, informed me of the existence of a peculiar feature in its vicinity; a high hill known as the iron mountain, but which, more accurate observation and analysis has since proved to be composed of the black oxide of copper, existing in immense quantities.

The knowledge of the Arizona mine was confined to a few Papago Indians, previous to 1851. In the commencement of that year some Mexicans sent a party of seven labourers to work it; six of whom were surprised and murdered by the Apache Indians. Subsequently several foreigners endeavoured to form companies and settle in its