

Mariposa estate, Hite's Cove and Coulterville, in Mariposa County; thence north, in Tuolumne County, at Soulsbyville, Jamestown and Sonora; in Calaveras, at Carson Hill, Angel's Camp, San Andreas, West Point and Mokelumne Hill; in Amador, at Jackson, Sutter and Amador; in El Dorado, near Placerville; in Placer, near Auburn; in Nevada, at Grass Valley, Nevada City and Meadow Lake; in Sierra, near Downieville; in Plumas, at Indian Valley, etc. New locations are being made continually throughout the gold belt; while around the centers of greatest past yield an ever increasing enthusiasm has been called into being. For example, from the 1st of January to the 8th of October, of the present year, 10,351 claims, averaging 100 feet each, were recorded in Nevada County alone; and that, too, in a region where quartz mining has been profitably carried on for many years.

The most interesting mine in the State is, for many reasons, the Eureka, of Amador County; which, with the adjoining mine, the Badger, is the property of Mr. A. Hayward. This mine is located on the great mother vein, at the point of junction of the slates and greenstone, and is therefore of the nature of a contact vein; that it is a true fissure vein as well, is not negated by the fact that the crevice was formed between two rocks of different character: for, other things being equal, that is precisely the point at which we should expect the occurrence of a fissure. The lode carries a varying width up to 26 feet in the Eureka, and 40 feet in the Badger. The upper workings did not pay very largely; the average yield, at 600 feet, as stated by the Geological Survey, being a trifle over \$10 per ton. In spite, however, of all drawbacks, its present owner battled persistently until the mine now occupies as favorable a position as any in the State. At a depth of 1,250 feet, the vein is large and carries a very high percentage of free gold. The gross yield from this mine has doubtless been very great; but the owner has not, as far as known, published any authoritative statement as to average yield or gross returns. That the mine has improved in depth, is evident to the most superficial observer; and the present average yield is probably from \$20 to \$30 per ton. This mine is remarkable as being the deepest gold mine in California, and probably in the world; and, as proving that the gold mines of this State, at least, are persistent in depth, it merits detailed description and observation. The old time theory, that gold mines would not contain pay ore at greater depths than 250 feet from the surface, has been most emphatically disproved by dozens of mines on our quartz belt; and, as the facts now show, we may anticipate centuries of profitable returns from this source. The pay chimney in the Eureka and Badger, which for the purposes of description may be taken as one mine, does not exceed 600 feet, including the barren zone between them. The expenses of mining are very materially diminished, owing to the very slight flow of water into the shaft: this is due to the fact that the eastern wall is formed of the more compact rock, which is impermeable by the waters of the High Sierra. The western wall is composed of crumbled quartz, and fatty, black and decomposed slates, called by the miners "the gouge." This gouge contains iron pyrites and some free gold—not in sufficient quantities to be workable. Owing to the pressure from above, the soft matter of the western wall is gradually creeping inwards, and will ultimately fill up the spaces from whence the quartz was stoped. The vein is nearly vertical; sufficient ore is raised to supply two mills aggregating 56 stamps: the one, of 40 stamps, driven by water a part of the year, and by steam when the supply of water runs short; and the other, of 16 stamps, driven by water alone. The amalgamation is performed inside the batteries, from whence the pulp passes over shaking tables lined with copper plates. The percentage of sulphurets in the ore is small, and no especial pains is taken to save them.

Each one of the mining counties has had mines which have produced very largely, but the counties, in the order of prominence, are, Nevada, Amador, Tuolumne, Sierra, and Plumas. The county of Mariposa has been, of late, a point of diminished interest, owing to the ill-success of some of the mines on the Mariposa estate. Recent developments, and better methods of working, give hopes of improvement. The Mariposa Mine, an east and west lode in the lower portion of the grant, has had a

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