

Klamath, on the north, to Santa Barbara, on the south. It occurs, likewise, at various places in the foot-hills of the Sierras: for example, in Nevada County, near Grass Valley; in Ione Valley, Amador County; and most curiously in connection with auriferous quartz in a mine on the north bank of the Merced River, near Horse-shoe Bend, in Mariposa County. The cinnabar in this locality is found forming a thin seam on the foot-wall of the vein. The only mines of this metal of economical importance are confined to the Coast Ranges. Of these, the most important is the New Almaden in Santa Clara County, which has given employment to as many as thirteen hundred operatives at once. From this mine has been extracted the major portion of all the quicksilver produced on this Coast. The ore is found in a zone of impregnation, whose general course is northwest and southeast, and which extends some five miles from the main workings of the New Almaden, following the direction of the inclosing strata. Northwardly from the Mine Hill are the two mines Enriqueta and Guadalupe—the product from both of which has by no means approached that from New Almaden. The grand deposit of ore was embraced within the comparatively limited space of some forty yards square, and extending downwards with a dip towards the north. The bunches and masses of ore found within this limit were of irregular form and size, and irregularly distributed.

Next, in importance, we may cite the New Idria mine, situated on the western border of Fresno County—the metal from which must all be hauled to San José, a distance of one hundred and thirty miles; and the Redington Lake Company, of Lake County. Amongst the minor localities, may be mentioned the deposits on Mt. Diablo of Contra Costa, and those of Napa County.

The quicksilver is extracted from the cinnabar sometimes in retorts, which are charged with ore mixed with reducing and desulphurizing agents; the volatilized metal thus set free from its combinations being caught in appropriate condensing apparatus; or generally, in large furnaces, where the flame and heated air together effect the chemical disintegration of the cinnabar; while the products of the combustion and the volatilized metal are passed through condensation chambers, and thence through long canals, in order to allow of as thorough a deposition of the metal as possible. When we reflect that mercury is slightly volatile at ordinary temperatures, it will be readily understood that all the metal contained in the ore is saved with great difficulty.

The total production of quicksilver, the greater portion of which must be credited to New Almaden, amounted, up to January 1866, to 419,077 flasks; each flask contains $76\frac{1}{2}$ pounds of metal, and, hence, we have 32,059,390 pounds, equal to 16,029 tons; in value from sixteen to eighteen millions of dollars. The Redington Lake Company is reported to have produced a total of 6,755 flasks since 1862. In May last, large contracts were made for all the quicksilver producible by the various mines of the coast; and the production for the year 1866 has not been made public. The "Mercantile Gazette" states the amount shipped through the Custom House, during that period, to have been 30,287 flasks.

COPPER.

The great copper belt of the State occupies a strip of country running along the western limits of the foot-hills, from the county of Fresno on the south, to Plumas on the north. It carries a varying width up to ten miles, and is traceable by the gozzan or ferruginous outcrop, at intervals, throughout its entire length.

In the far northern coast counties there occurs a second copper bearing region extending from Klamath County into and through Del Norte County, and having a width of about four miles. Elsewhere in the Coast Ranges, traces of copper have been found in Colusa, Lake, Contra Costa at Monte Diablo, Marin, and Los Angeles counties; but nowhere, as yet, in paying quantities. In the Sierras and their foot-hills, we find copper ore in Plumas County, where smelting has been attempted; and mines of greater or less promise in Sierra, Nevada, El Dorado, and Amador counties. Likewise in the Chowchilla region, in the counties of Mariposa and Fresno. The

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