

**CALIFORNIA STATE MINING
BUREAU, SAN FRANCISCO,
DECEMBER, 1918. MINES AND
MINERAL RESOURCES OF SIERRA
COUNTY**

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ERROL MAC BOYLE

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BUREAU, SAN FRANCISCO,
DECEMBER, 1918. MINES AND
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OF SIERRA COUNTY**

CALIFORNIA STATE MINING BUREAU

FERRY BUILDING, SAN FRANCISCO

FLETCHER HAMILTON

State Mineralogist

San Francisco

December, 1918

Mines and Mineral Resources

OF

SIERRA COUNTY

By ERROL MAC BOYLE



CALIFORNIA STATE PRINTING OFFICE
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SIERRA COUNTY.

MINING DISTRICTS.

ALLEGHANY MINING DISTRICT.

Including Alleghany, Forest, Chips Flat and Minnesota.

Introduction.

The Alleghany district is one of the older California gold camps, famous in early days for rich placer and drift mines. Miners working gold quartz veins often find extremely rich ore shoots which present interesting problems in vein formation.

Situation, etc.

The district is situated in the southwestern part of Sierra County, twenty-five miles northeast of Nevada City. Alleghany may be reached by stage from three railroad points—from Nevada City via Mountain House (forty miles); from Loyalton and Truckee on the northeast and southeast, respectively, via Downieville and Mountain House. A regular daily stage from Nevada City is the shortest route. The stage roads are poorly located in regard to rain and snow, causing the region to be isolated during winter. The freight rate from Nevada City to Alleghany is \$20 a ton. The Nevada County Narrow Gauge Railroad terminates at Nevada City, and the Southern Pacific Railroad connects with the other points.

The climate is characterized by heavy rains and deep snow in winter, and by dry, warm summers. The growth of yellow pine has been almost completely cut, but there are still large areas covered with timber on the ridges south of the South Fork of Yuba River and on the North Bloomfield divide.

The Alleghany district was one of the first placer regions to be worked in California. The rich river bars were mined first, after which hydraulicking and drifting in ancient gravel beds of Neocene age was carried on. Lode mining became important in 1907 after the discovery of the Tightner vein at Alleghany. The total gold production to 1913 is estimated at between \$5,000,000 and \$6,000,000; in 1912 it amounted to \$293,561.

Bibliography.

Ferguson, Henry G., Lode Deposits of the Alleghany District, California, U. S. Geol. Survey Bull. 580 I.

Topography.

The topography is characterized by streams separated by gently rolling areas. The river cañons are deep and precipitous. Alleghany and Chips Flat are on opposite slopes of the cañon of Kanaka Creek, a branch of the Middle Fork of Yuba River. The northern part of the district, about Forest, is drained by Oregon Creek. A broad andesite

breccia ridge between Oregon and Kanaka creeks is about 1000' above the general level, with a moderate slope on the south side. The general elevation of the region is from 4000' to 5000'.

Geology.

The region consists of intensely folded sedimentary rocks, intruded by basic igneous rocks; andesite breccia covers both igneous and sedimentary rocks in certain areas. The sediments and intrusions were eroded before the andesitic flow took place and fragmentary areas of the andesite are sometimes underlain by old Neocene gravel beds. Slates and sandstones are exposed as parallel bands running approximately north and south. A band of Cape Horn slate one mile wide lies to the west, while the Blue Cañon formation, which is three miles in width, lies to the east. The general strike of the beds is north with dips of 80° to 90° E. The Delhi formation is composed of a dark brown, hard, fine-grained rock, and occurs in contact with serpentine near the southwest border of the district.

The Cape Horn and Blue Cañon formations are separated by serpentine and amphibolite. Compressive stresses have caused the igneous rocks to be schistose in character, especially the amphibolite which has probably been derived by pressure, from diorite or gabbro. In some places the amphibolite schists are chloritic and difficult to distinguish from clay slates.

West of Alleghany the serpentine consists of four parallel narrow bands in amphibolite. Along Oregon Creek a serpentine belt encloses a mass of gabbro; the surface exposure of this belt is broken on the ridge south of Oregon Creek by a capping of andesite breccia.

Historical geology.

The oldest known rocks in the region are those of the Blue Cañon and the Cape Horn formations, which belong to the Carboniferous division of the Paleozoic. The former is composed of gray slates and quartzitic sandstones, while the latter is composed only of clay slates. The Delhi formation in the southwestern part of the district rests on Cape Horn slates which are known as the Calaveras formation in other regions.

At the end of the Carboniferous period the sediments were closely folded and compressed. Erosion took place during the Juratrias period, at the end of which the sediments were folded into high mountain ranges. Intrusions of basic and igneous rocks occurred at about the same time. The principal ore deposits followed these intrusions.

A period of folding and faulting occurred again in late Cretaceous time and the high Sierra Nevada range was formed. Deposition, following erosion, built up auriferous gravels in the river beds of the

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