

duced some remarkably rich ore. Twenty miles east of Halley are the mines of Little Wood River, chief of which is the Muldoon group, owned by the Wood River Mining and Smelting Company. This company also operates smelting and sampling works.

Warm Spring Creek mining district, of which Ketchum is the centre, embraces all that portion of the great Wood River mineral belt lying from a point six miles south to a distance twenty miles north, and is about the same width. Contingent and tributary to it are the Sawtooth, Wood River (proper) and Smoky districts. Within its boundaries is one of the busiest prospecting scenes in the world. Innumerable good ledges and good ore bodies have been discovered, and, although like all other new mining districts that invariably feel adversities and encounter disadvantages, not a few fortunes have unquestionably been made. Many of the best mines lie within a radius of five miles of Ketchum, and within this limit the most flattering discoveries are constantly being made, though heretofore it was thought the prospector had "done up" the country. Blind ledges appear in the most unexpected places, and three or four of these have developed into bonanzas in the past year, creating a renewed enthusiasm among prospectors in those parts. Close to town may be pointed out half a dozen dividend-paying mines that have netted from \$25,000 to \$250,000 in the past year, one of them having made net dividends in the past three years of nearly \$400,000. This showing does not include other districts, great mineral wealth being developed in points directly tributary to and dependent upon the town of Ketchum.

The gross output from mines, smelters and samplers last year, together with private shipments not reported, amounts to fully \$4,000,000, and that shown by statistics over \$3,000,000.

The ores of Warm Spring Creek mining district—chiefly lead ores, accompanied by iron oxides and carbonates—are either reduced at the Philadelphia smelters in Ketchum, or sold to the Ketchum Sampling Works or private buyers, who ship them to Omaha, Denver or Kansas City. The Philadelphia Mining and Smelting Company has extensive works at Ketchum (see engraving on another page), and owns fourteen mines on both forks of the river. The company also purchases ores from other mines. From 250 to 300 men are employed in the mines and works. There are five furnaces, with a capacity of 200 tons per day, from which ten car-loads of 240 bars of bullion each are shipped weekly to Omaha for refinement. The works are run by water power, which is prevented from freezing in the winter by the hot spring whose waters run into the ditch a short distance above the smelters. The company has \$500,000 invested in its plant. The officers are James M. Rhodes, President; Sydney L. Wright, Vice-President and Treasurer; H. J. Hardess, Superintendent.

Ketchum has a population of 2,000, and is one of the most beautifully located towns in Idaho. The natural scenery surrounding it is grand. It is situated at the confluence of three mountain streams, has abundance of

rich, level ground, pretty drives, and every natural advantage. The hills are a complete shield against wind storms and blizzards. There is an abundance of timber, and the manufacture of lumber is a thrifty industry.

The town contains two churches, a weekly newspaper (the *Keystone*), two banks, a good school, fifty business houses, and in addition to the smelters two saw mills, two planing mills, two breweries and a busy brick yard.

Twenty-five miles west of Wood River is the Smoky District, with ledges of galena carrying from twenty to fifty ounces of silver. There are numerous producing mines, some of them carrying gold in the ore with lead and silver. The Smoky Bullion Consolidated Mining Company are the most extensive operators and have one of the largest concentrating mills in the Territory. At the head of Wood River is Galena District, in which is the town of Galena. The Senate Mining and Smelting Company own the best properties and operate a thirty-ton smelter. Just across the divide from Galena, at the headwaters of Salmon River, are the Sawtooth mines, of which Vienna is the business centre. The ores of the numerous paying ledges of that region are essentially different from those of Wood River proper, but it has been customary to include them in the list of Wood River mines, chiefly because they find there their nearest and most accessible shipping and supply point. The old and celebrated Atlanta District is situated on the Middle Boise River, and is in Alturas County. It finds a shipping point at Mountain Home Station, on the Oregon Short Line, but will soon be connected by a good wagon road with Boise City, eighty-five miles distant.

The ores of this region are of various kinds, ranging from free gold to very base and refractory. This necessitates a variety of methods of reduction, such as gold mills, silver mills, roasting furnaces, smelters and concentrators. The daily capacity of the various mills and smelters is as follows:

Name and Location	Tons.
Belleve's smelting works	5
Halley smelting works	10
Philadelphia M. & S. Co.'s smelter at Ketchum	250
Galena smelting works	30
Muldoon smelting works	30
Vienna Company's gold and silver mill at Vienna	50
Columbia and Feaver Company's mill at Sawtooth	50
Atlanta Company's gold and silver mill at Atlanta	50
Buffalo Company's gold and silver mill at Atlanta	50
Big Lode Company's mill at Atlanta	30
Tehoma Company's mill at Atlanta	30
Last Chance Company's mill at Atlanta	30
Yahnu mill at Rocky Bar	20
Cannon No. 2 gold mill, at head of Rock Creek	20

Making a total daily milling and smelting capacity of... 615

Smelting requiring much capital, many companies prefer to concentrate their ores and sell them in open market. For this reason concentrating works have been constructed. These works crush the ore and concentrate the metal-bearing particles of from three to ten tons of ore into one by separating them from the waste. Following are the best known of these:

Name	Tons.
Minnie Moore Company	50
Queen of the Hills	50
Halley concentrating company	50
Wood Hive	50
Mayflower	50
Narrow Gauge	50
North Star	50
Buzz	50
Ontario	50
Silver King	50