

4090 0002

W. Pine Co.

193

(337)

Item 2

Development openings on the property consist of the main adit and 6,800 feet long, from which several shafts, drifts, raises, and crosscuts have been extended.

Tungsten ore produced from development openings has been stockpiled on the mine dump. This ore contains about 0.7 percent  $WO_3$ . A few carloads of ore was sent to Stockton, Utah for mill testing purposes.

No attempt was made to systematically mine the scheelite-bearing ore sections and more of the ore reserves are still available in the mine workings.

S8, 15N, 68E

Sacramento Pass

(337)

The Sacramento Pass mine is situated on the west side of the Snake Range a short distance south of U.S. Highway 6, about 45 miles southeast of Ely.

Rocks in the area consist of limestone that strikes north and dips  $20^\circ$  to  $25^\circ$  W.

Scheelite occurs in large crystals and thin seams along certain layers of the limestone which have been partly silicified and replaced by quartz, secondary carbonate, and some silicates. Two such layers have been explored by short adits, shafts and 2 small stopes have been opened on the vein.

The mineralized zones in the limestone are parallel to the bedding and are probably related to a granite intrusion exposed nearby. Lenses and pockets of scheelite-bearing rock are found for a strike distance of 400 to 500 feet and a vertical distance of 100 to 200 feet.

Production from the property in 1941 and 1942 amounted to 86 tons that contained 1.0 percent  $WO_3$ .

The property has been inactive since 1942.

USBM Unpubl. data, 1963 1

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heretofore made from Chinese crude antimony. [Notes on antimony production in China will appear soon in the Press.—EDITOR.]

The tendency has been for some companies to go to an expense for mine development, machinery, and mills, not wholly warranted by the circumstances. The present high prices are necessarily temporary. The Chinese deposits are extensive, and worked by very cheap labor, and other deposits are being developed in other parts of the world, and as soon as the War is over, and possibly before, prices will probably drop to a level with or close to those of 1914.

## Tungsten in 1915 X

The production of tungsten ores in the United States during 1915 broke the record, and was apparently equivalent to about 2165 short tons of concentrates, carrying 60% of tungsten trioxide ( $WO_3$ ), and was valued at more than \$2,000,000. These figures are based on preliminary returns to the U. S. Geological Survey. The largest previous output of tungsten ore was in 1910, when 1821 tons was produced.

Conditions and prices in the tungsten market were unsettled and somewhat anomalous. Although the price in the latter part of 1914 was \$9 or more a unit, 60% ore was sold in the early part of 1915 as low as \$5.80 a unit, so that tungsten mining did not start very briskly. Early in the summer, however, floods of orders for munitions of war caused a great demand for high-speed steels, to be used in cutting shells, rifle-barrels, etc.; an embargo was declared by the British government on the export of tungsten ores from any part of the British possessions, and there was soon a country-wide scramble for tungsten ores. Probably no one foresaw the height to which the price of tungsten would rise, and some operators contracted for ores at prices which in ordinary years would be high, but which were soon exceeded by several hundred per cent. Tungsten metal was also contracted for at prices much below those afterward reached. In the fall the prices of tungsten reached unheard-of heights; \$48 per unit was paid for numerous lots, \$50 for some, and even higher prices were reported. The prices moved upward so rapidly and unexpectedly that strenuous tungsten prospecting did not follow at once, but early in the fall a large number of men were in the field looking for deposits.

The mining activities are described by Frank L. Hess in some detail. The output of the Boulder (Colorado) field was for various reasons not increased as had been hoped. Many properties had been worked by leasing, so that there was no development of orebodies, for the ore had been removed as fast as it was exposed, and it is reported that in the Conger mine, whose shaft was sunk below the 800-ft. level, development was disappointing. Sinking is said to have been continued. The output of the district was estimated by the Boulder County Metal Miners' Association as equivalent to 960 tons of 60% concentrate.

In the Atolia (California) field there were great developments. The Atolia Mining Co. is reported to have employed more than 300 men, and many men worked the desert sands in the vicinity for float scheelite. P. J. Osdick discovered rich ore east of the Atolia Mining Co.'s property and made large profits. On and near the Baltic claim a number of men worked the gravel of a shallow gulch for scheelite and the sands on the Sunshine and other claims are also reported to have been worked at a profit. Several gold mines also produced scheelite. The Consolidated Gold Mines, in Randsburg, had found water at a depth of about 500 ft., and this has been piped to the Atolia company's mill, about five miles distant. Formerly water was hauled on the railroad for a distance of about 50 miles. The company is reported to have erected a new mill to treat its tailing.

Several discoveries of tungsten ores were reported from

Gilpin county, Colorado, but the most extensive discoveries, as indicated by the number of outcrops, were made in White Pine county, Nevada. Veins of scheelite were found at several places between the Minerva district, 30 miles south of Osceola, and Cherry creek, 50 miles north of the settlement. Some of the veins were formerly prospected for precious metals, but the scheelite was not recognized. The hübnerite mine and mill 12 miles south of Osceola were actively operated toward the close of the season; the mill at Camp Bonita, on the east side of the Snake range, was operated part of the year, and mills were erected or started by the St. Anthony Mines Co. at Toy (Browns), Humboldt county, by A. R. Shepard and associates in the Reagan district, and by the Doyle Mining Co. in Sacramento Pass, White Pine county. Some hübnerite was dry washed from desert sands at Round Mountain and Spanish Springs, Nevada.

The dumps of gold mines at White Oaks, New Mexico, were worked over for hübnerite and yielded a considerable quantity of concentrates, and at Tip Top, Arizona, a mill was under construction to work the tailing and dumps of the old Tip Top silver mine for the wolframite they contained.

Mills were erected by the Primos Chemical Co. at Dragoon and by the National Tungsten Co. at Arivaca, Arizona, for treating the tungsten ores, and tungsten was produced at these places and at Camp Wood, Yucca, Oracle, and other points.

At Lead, South Dakota, the Homestake gold mine produced wolframite from the claims west of the great open-cut, and the Wasp No. 2 mine, two miles south, produced a considerable quantity of ore. It has erected a concentration plant. Only a little ore was produced in the southern Black Hills.

Small quantities of tungsten were produced in Idaho and at Silverton, Colorado, and a few hundred pounds was saved from the old concentrates of the gold placers at Nome, Alaska.

The wolframite deposits on Tungsten peak, near Cathedral peak, 45 miles northwest of Oroville, Washington, became the property of the Tungsten Mines Co., and the new owners produced some ferro-tungsten in an electric furnace at Tacoma.

The price of tungsten as metal or ferro-tungsten rose from \$1 a pound in January to \$8 in December. In the same period tungsten steels increased in price from 60 or 75c. to \$3 a pound.

(Special Correspondence.)—The new mill and equipment of the Atolia Mining Co., which was only recently completed, was partly destroyed by fire today. The plant was the only one for producing tungsten concentrate on the Pacific Coast. Atkins, Kroll & Co. of San Francisco were its managers, with Charles Taylor as superintendent. The mill began operating at full capacity of 100 tons per day about January 1, and had not stopped since then. The disaster means about 40 days' shut-down, which will affect 400 employees and every resident of Atolia, nearly 600 people. The cause is said to have been back-firing in the gasoline engine in the hoisting room, where the flames spread by contact with distillate leakage to the whole structure. There was \$56,000 insurance, and the loss is said to be \$40,000.

Atolia, California, January 24.

MANGANESE production of the United States in 1915 was nearly 6000 tons, compared with 2635 tons in 1914. Prices rose from \$12 to \$22.50 per ton for 50% ore. It is not likely that domestic deposits will make more important contributions to the supply. Imports from India were one-twelfth normal; from Russia, negligible; and from Brazil, over twice the average for the three preceding years.

CARNOTITE ORES produced in Colorado last year contained 23.4 tons uranium oxide and 6 grams radium, and 635 tons of vanadium, against 87.2, 22.3, and 435 tons, respectively, in 1914.