SUMMARY OF THE MINERAL PRODUCTION OF THE UNITED STATES IN 1902.

GENERAL REMARKS.

The varied character of the units of measurement employed in the mineral industry makes it impossible to compare the outputs of the several minerals except in the value of the products. The figures given in the following summary show a continuation of the remarkable activity in the mineral industries of the United States noted in 1900 and 1901.

In 1902, for the third time, the total value of the commercial mineral production of the United States exceeded the enormous sum of $1,000,000,000. The exact figures for 1902 were $1,260,639,415 as compared with $1,086,584,851 in 1901, with $1,063,678,053 in 1900, and with $972,208,008 in 1899, a gain of 1902 over 1901 of $174,064,414, or 16.02 per cent; a gain of 1902 over 1900 of $196,961,362, or 18.52 per cent; and a gain of 1902 over 1899 of $288,431,407, or 29.67 per cent. Although this gain is not so great either actually or proportionally as was the gain in 1899, when the gain over 1898 was $273,601,810, or 39.17 per cent, it is sufficient to be worthy of note.

The notable gains and losses of the last two decades are as follows:

The largest actual gain was that of 1899 over 1898, $273,601,810, or 39.17 per cent; next, that of 1902 over 1901, $174,053,760, or 16.02 per cent; then the gain of 1895 over 1894, which was $94,215,822, or 17.88 per cent; then that of 1900 over 1899, $91,468,340, or 9.41 per cent; and the gain of 1887 over 1886, $74,927,880, or 16.81 per cent. In other years than those mentioned between 1880 and 1898 the gains were not noteworthy, and in some of the years, notably in 1884, the production decreased $40,451,968, or nearly 9 per cent. During the industrial depression of 1892–1895 the production would have been expected to decline, as it did, going from $648,895,031 in 1892 to $574,464,724 in 1893, and to $527,079,225 in 1894, and then rising to $621,295,047 in 1895, and not reaching the output of 1892 until 1898.

As heretofore, iron and coal are the most important of our mineral products. The value of the iron in 1902 was $372,775,000; the value of coal, $367,032,069. Nearly all the important metals increased in both output and value; and among the less important metals platinum, as compared with 1901, lost in both quantity and value even more

than it gained in 1901 as compared with 1900, the production in 1902 being 94 ounces, valued at $1,814, as compared with 1,408 ounces, valued at $27,526, in 1901, with 400 ounces in 1900, and with 300 ounces in 1899. The fuels increased from $442,410,904 in 1901 to $469,078,647 in 1902, a gain of $26,667,743, or 6 per cent. Every variety of fuel increased in value except anthracite coal, which showed a decrease in quantity of 23,301,850 long tons and in value of $36,330,434. The average price of anthracite coal per long ton at the mine was $2.35, as against $2.05 in 1901—the highest figure then obtained since 1888—as compared with $1.85 in 1900, and with $1.80 in 1899; and the average price per ton for bituminous coal at the mine was $1.125, as compared with $1.047 in 1901. The increase in value of the bituminous coal output over 1901 was $54,436,434.

The gain of $174,064,414 in the total value of our mineral production is due to the increase in both metallic and nonmetallic products, the metallic products showing an increase from $518,266,259 in 1901 to $642,258,584 in 1902, a gain of $123,992,325, and the nonmetallic products showing an increase from $567,318,592 in 1901 to $617,380,831 in 1902, a gain of $50,072,089. To these products should be added estimated unspecified products, including building, molding, and other sands reported to this office, the rare mineral molybdenum, and other mineral products, valued at $1,000,000, making the total mineral production for 1902 $1,260,639,415.

The manufacture of arsenious oxide, noted for the first time in the United States in the report for 1901, was continued in increased proportions in 1902.

METALS.

Iron and steel.—Twenty-two States made pig iron in 1902, as against 21 in 1899 and 1900, and 20 in 1901. The total production of pig iron in 1902 was 17,821,307 long tons, against 15,878,354 tons in 1901, 13,789,242 tons in 1900, 13,620,703 tons in 1899, 11,773,934 tons in 1898, and 9,652,680 tons in 1897. The production of 1902 shows an increase of 1,942,953 long tons, or 12.2 per cent, in quantity over the production of 1901, and in increase in value from $242,174,000 to $372,775,000, amounting to $130,601,000, or about 54 per cent. The average price per long ton of pig iron increased from $15.25 in 1901 to $20.90 in 1902. The average prices per long ton in recent years have been as follows: 1900, $18.85; 1899, $18; 1897, $9.85; 1896, $10.47; 1895, $11.14; 1894, $9.76.

Iron ores.—The production of iron ores in 1902 amounted to 35,554,135 long tons, as compared with 28,887,479 long tons in 1901, a gain of 6,666,656 long tons, or 23 per cent. The value at the mines of the ore mined in 1902 was $65,412,950. As in the four preceding years, the production of iron ores in 1902 in the United States has

never been equaled by any other country. There were mined also in 1902, 13,275 long tons of manganiferous iron ore, valued at $52,371, which were used in the production of spiegeleisen.

Gold.—The production of gold in 1902, as reported by the Bureau of the Mint, was 3,870,000 fine ounces, valued at $80,000,000.

Silver.—The production of silver in 1902, as reported by the Bureau of the Mint, was 55,500,000 fine ounces; coining value, $71,757,575; commercial value, $29,415,000.

Manganese ores.—The production of manganese ores increased from 11,995 long tons, valued at $116,722, in 1901, to 16,477 long tons, valued at $177,911, in 1902, an increase in quantity of 4,472 tons and in value of $61,189. The average price per ton was $10.74 in 1902, as compared with $9.73 in 1901 and with $8.52 in 1900.

Copper.—The copper-mining industry suffered during 1902 from the reaction which followed the unsuccessful attempt in 1901 to maintain the metal at an artificial level. The production, however, increased from 602,072,519 pounds in 1901 to 659,508,644 pounds in 1902, an increase of 57,436,125 pounds, or about 9 per cent, in quantity, but decreased in value from $87,300,575 in 1901 to $76,568,954 in 1902, a decrease of $10,731,561, or about 12 per cent. Unless unforeseen events cause widespread or long stoppage at the mines, the production of copper in the United States will be considerably larger in 1903 than it has ever been.

Lead.—The production of lead has been almost exactly the same for the last three years, viz, 270,000 short tons in 1902, 270,700 short tons in 1901, and 270,824 short tons in 1900. The value of the production in 1902 was $22,140,000, as compared with $23,280,200 in 1901, and with $23,564,638 in 1900.

Zinc.—The production of zinc in 1902 showed a continued increase in quantity as compared with 1901 and 1900, the production being 156,927 short tons in 1902, as compared with 140,822 short tons in 1901 and with 123,886 short tons in 1900. The value of the zinc production in 1902 was $14,625,596, as compared with $11,265,760 in 1901, and with $10,654,196 in 1900.

Aluminum.—The production of aluminum during 1902 was 7,300,000 pounds, valued at $2,284,590, as compared with 7,150,000 pounds, valued at $2,238,000 in 1901, and with 7,150,000 pounds, valued at $1,920,000 in 1900.

Platinum.—The production of platinum from domestic ores in the United States during 1902 was 94 ounces, valued at $1,814, as compared with 1,408 ounces, valued at $27,526 in 1901.

Quicksilver.—The production of quicksilver during 1902 amounted to 34,291 flasks of 76½ pounds net, as compared with 29,727 flasks in 1901 and with 28,317 flasks in 1900. The value of the quicksilver produced in 1902 was $1,467,848, as compared with $1,382,305 in 1901

and with $1,302,586 in 1900. California reported 28,972 flasks in 1902, as compared with 26,720 flasks in 1901; and Texas reported 5,319 flasks in 1902, as against 2,932 flasks in 1901. In addition, the census reports 10,427 tons of cinnabar or crude, valued at $67,242, mined in California, and 1,300 tons of cinnabar, valued at $1,500, mined in Texas in 1902, but not roasted or treated, a total of 11,727 short tons of cinnabar, valued at $82,242. The total production of both quicksilver and cinnabar in 1902 was therefore valued at $1,550,090.

Lithium.—The production of lithium minerals in 1902 was 1,245 short tons, valued at $25,750 at the railroad, a decrease of 505 tons in amount and of $17,450 in value as compared with the production of 1901, which was 1,750 tons, valued at $43,200. As far as can be ascertained the greater part of the lithium minerals mined during 1902 was not shipped. Although the price of these minerals was lower in 1902 than in 1901 for the same grade of mineral, there was apparently no increase in the home demand. There is, however, an increase in the demand for these minerals from foreign chemical manufacturers.

Nickel.—The production of metallic nickel in 1902 was 5,748 pounds, valued at $2,701, as compared with 6,700 pounds, valued at $3,551 in 1901.

Antimony.—No antimony was obtained from domestic ores during 1902. The antimony obtained from the smelting of foreign imported ores amounted to 657 short tons, valued at $129,126, and the antimony obtained from hard lead produced from foreign and domestic lead ores was 2,904 short tons, valued at $505,240, a total production for 1902 of 3,561 short tons, valued at $634,506, as compared with 2,639 short tons, valued at $539,902, in 1901. The estimated total amount of antimony available for consumption in 1902 was 6,255 short tons, including 2,694 short tons of imported antimony regulus, as compared with 4,475 short tons, including 1,837 short tons of imported antimony regulus in 1901, and with 6,053 short tons, including 1,827 short tons of imported antimony regulus in 1900.

Bismuth.—No bismuth ores were produced in the United States during 1902. The marketed output in 1901 was 318.6 short tons. The ore contained gold and silver, for which the producers were paid. As nearly as can be ascertained, the value of the output in 1901 was $80 per ton, not including charges for transportation or treatment.

Molybdenum.—The production of molybdenum in 1902 was approximately the same as that of 1901, but none of the product was shipped in 1902. The value of these molybdenum ores is very erratic, the highest price hitherto quoted being $1,500 per ton, and the lowest, $100.

Tungsten.—The production of tungsten during 1902 was 184 short tons of crude ore, of which not more than a few tons were sold. This does not represent the amount of tungsten ore sold in 1902, for 76 tons

of concentrated ore, mined in 1901, were sold in 1902. In 1901 the production amounted to 179 tons of concentrated ore, valued at $27,720. The larger part of the production of 1902 was from Colorado.

Uranium and vanadium.—There was a marked increase in the production of uranium and vanadium minerals in 1902, which, as reported to the Survey, amounted to 3,810 short tons, valued at $48,125, or $12.62 per ton. This, of course, represents the crude ore. In 1901 the production was 375 tons of crude ore.

FUELS.

Coal.—For the first time in the history of the United States the production of coal reached a total of over 300,000,000 short tons, showing an actual output of 301,590,439 tons of 2,000 pounds, valued at $367,032,069. Of this total the output of anthracite coal amounted to 36,940,710 long tons (equivalent to 41,373,595 short tons), which, as compared with the production of 60,242,560 long tons in 1901, was a decrease of 23,301,850 long tons, or about 39 per cent. This decrease, as is well known, was due entirely to the suspension of operations by the strike in the anthracite region from May 10 to October 23, a little over five months. But for the strike the output for the year would probably have been over 65,000,000 long tons. The value at the mines of the anthracite coal in 1902 was $76,173,586 as against $112,504,020 in 1901, a loss of about 32.3 per cent. The average value of the marketed coal sold during the year at the mines was $2.35 per long ton, the value in 1901 having been $2.05.

The output of bituminous coal (which includes semianthracite and all semibituminous and lignite coals) amounted in 1902 to 260,216,844 short tons, valued at $290,858,483, as against 225,828,149 short tons, valued at $236,422,049 in 1901. The increase in the production of bituminous coal was, therefore, 34,388,695 tons in quantity and $54,436,434 in value.

Out of 30 States and Territories producing coal in 1902, seven—California, Michigan, New Mexico, Oregon, Pennsylvania, Texas, and Washington—had smaller outputs than in 1901.

The production of bituminous coal in Pennsylvania in 1902 exceeded that of 1901 by 15,755,874 short tons, but was not sufficient to overcome the great loss in anthracite production. The States in which the more important increases occurred with the corresponding gains are as follows: Illinois, 5,547,751 short tons; Colorado, 2,314,412 short tons; Ohio, 2,444,577 short tons; Indiana, 2,268,371 short tons; Alabama, 1,490,865 short tons; Kentucky, 1,193,176 short tons.

Coke.—The coke production of the United States in 1902 exceeded that of any year in our history. The production, which includes the output from 1,663 retort or by-product ovens, amounted to 25,401,730 short tons, as compared with 21,795,883 short tons in 1901, and with

20,533,348 short tons in 1900. The increase in 1902 over 1901 amounted to 3,605,847 short tons, or 16.5 per cent. Large as this increase was, it was considerably less than it would have been had the transportation facilities been commensurate with the demand for coke and with the productive capacity of the ovens. The increase in the value of coke was even more noteworthy. The average price per ton at the ovens was the highest recorded in a period of twenty-three years, and the total value reached the high figure of $63,339,167, an increase over 1901 of $18,893,244, or 42.5 per cent. The value of the coal used in the manufacture of coke in 1902 exceeded that of 1901 by $7,932,563, from which it appears that the value of the coke product increased $10,970,681 over and above the increased value of the coal used in its production. In 1901 the highest price obtained for Connellsville furnace coke was $4.25. In September and October of 1902, while the contract coke was nominally quoted at $3 per ton, consumers were paying from $10 to $12 per ton for prompt delivery, and $15 was reported as paid for this fuel at one time. With the termination of the anthracite strike in the latter part of October prices for coke quickly declined, but in December of 1902 furnace coke for prompt delivery was still commanding $5 and $6 per ton, and contracts for delivery in the first six months of 1903 were made at from $3.75 to $4 per ton.

Gas, coke, tar, and ammonia.—The aggregate value of all the products obtained from the distillation of coal in gas works or retort ovens in 1902 was $43,869,440. About two-thirds of this amount, or $29,342,881, was represented by the value of the gas produced. The value of the coke produced was $11,267,608, and the tar was worth, at the works, $1,873,966. The total quantity of ammoniacal liquor sold was 49,490,609 gallons, containing 14,683,374 pounds NH_3, and was worth at the works $1,065,300. In addition to this there was an actual production of 11,276,502 pounds of sulphate, which sold for $319,685.

Petroleum. —The total production of crude petroleum in the United States in 1902 was 88,766,916 barrels, as against 69,389,194 barrels in 1901, an increase of 19,377,722 barrels, or 27.92 per cent, over the production of 1901 and of 39.52 per cent over that of 1900. The greatest portion of the increase in 1902 came from Texas and California, the gain over 1901 being 13,690,000 barrels, or 311.6 per cent for Texas and 5,197,938 barrels, or 59.16 per cent, for California. The increase in Indiana in 1902 over 1901 was 1,723,810 barrels, or about 30 per cent. Louisiana produced for the first time in 1902, the production being 548,617 barrels. The increase over 1901 in the production of Kansas was 152,598 barrels, or about 85 per cent. Kentucky and Tennessee increased their production in 1902 by 48,072 barrels, or nearly 35.02 per cent. Indian Territory increased 37,000 barrels and

Wyoming 853 barrels as compared with 1901. The largest decrease in production in 1902 as compared with 1901 was in West Virginia, where it amounted to 663,781 barrels, or about 4.5 per cent, and Ohio in 62 fields showed a decrease of 633,852 barrels, or nearly 3 per cent. The decrease in Pennsylvania was 561,888 barrels, or about 7 per cent; in Colorado, 63,619 barrels, or about 13.81 per cent. The percentages of production for fields show a remarkable change from 1900 to 1902. In 1900 the percentages were: Appalachian field, 57.05; Lima-Indiana field, 34.20; all other fields, 8.75. In 1902 the respective percentages were: Appalachian field, 36.07; Lima-Indiana field, 26.31; all other fields, about 37.62. The value of crude petroleum produced during 1902 was $71,178,910, or 80.19 cents per barrel, as compared with $66,417,335, or 95.7 per barrel, in 1901—a decrease of 15.51 cents per barrel, or 16 per cent, in 1902.

Natural gas.—The value of the natural gas produced in 1902 increased to $30,867,668, as compared with $27,067,500 in 1901, with $23,698,674 in 1900, and with $20,074,873 in 1899—a gain of 13 per cent in 1902 over 1901.

STRUCTURAL MATERIALS.

Stone.—The value of all kinds of building stone produced in the United States during 1902 amounted to $64,559,099, as compared with $55,615,926 in 1901, with $44,321,345 in 1900, and with $44,090,670 in 1899.

Clay products.—The activity in all branches of the clay-working industries noted in the reports as true of 1899, 1900, and 1901 continued during 1902. The value of all clay products as reported to this office in 1902 was $122,169,531, as compared with $110,211,587 in 1901 and with $96,212,345 in 1900. The brick and tile products in 1902 were valued at $98,042,078, as compared with $87,747,727 in 1901 and with $76,413,775 in 1900. The pottery products were valued in 1902 at $24,127,453, as compared with $22,463,860 in 1901 and with $19,798,570 in 1900.

The clay mined and sold by those not manufacturing the product themselves in 1902 was valued at $2,061,072, as compared with $2,576,932 in 1901 and with $1,840,377 in 1900.

Cement.—The total production of hydraulic cement in the United States in 1902 was 25,753,504 barrels, valued at $25,366,380, as compared with 20,068,737 barrels, valued at $15,786,789, in 1901, and with 17,231,150 barrels, valued at $13,283,581, in 1900. The Portland cement production in 1902 was 17,230,644 barrels, valued at $20,864,078, as compared with 12,711,225 barrels, valued at $12,532,360, in 1901, and with 8,482,020 barrels, valued at $9,280,525, in 1900, an increase, as compared with 1900, in quantity of about 100 per cent and in value of over 50 per cent. The number of plants using Portland cement increased from 50 in 1900 to 56 in 1901, and to 65 in 1902. The production of natural-rock cement in 1902 was 8,044,305 barrels,

valued at $4,076,630, as compared with 7,084,823 barrels, valued at $3,056,278, in 1901, and with 8,383,519 barrels, valued at $3,728,848, in 1900. The production of slag cement amounted to 478,555 barrels, valued at $425,672, in 1902, as compared with 272,689 barrels, valued at $198,151, in 1901, and with 365,611 barrels, valued at $274,208, in 1900.

ABRASIVE MATERIALS.

Carborundum.—There was a slight decrease in the quantity of carborundum—3,741,500 pounds produced in 1902, as compared with 3,838,175 pounds in 1901—due in part to lack of a sufficient supply of raw materials, a result of the anthracite coal strike. The value of the carborundum varies from 8 to 10 cents per pound.

Corundum and emery.—The combined production of corundum and emery in 1902 amounted to 4,251 short tons, valued at $104,605, as compared with 4,305 short tons, valued at $146,040, in 1901, a decrease of 54 tons in quantity and of $41,435 in value.

Crushed steel.—The production of crushed steel in 1902 was 735,000 pounds, as compared with 690,000 pounds in 1901, and the product is quoted at 5½ cents per pound free on board at Pittsburg.

Crystalline quartz.—In 1902 the production of crystalline quartz included under abrasives amounted to 15,104 short tons, valued at $84,335, as compared with 14,050 short tons, valued at $41,500, in 1901. This large variation in value is due to the fact that in 1902 the value reported was in some cases that of the quartz after it had been crushed or ground. The actual value of the crude quartz produced in 1902 was $43,085.

Garnet.—The production of abrasive garnet in the United States during 1902 amounted to 3,926 short tons, valued at $132,820, as compared with 4,444 short tons, valued at $158,100, in 1901, and with 3,185 short tons, valued at $123,475, in 1900. As reported to the Survey the prices varied from $20 to $60 a ton, the highest price being obtained for the North Carolina garnet. The average value per ton of the production in 1902 was $35.10, as compared with $35.57 per ton in 1901 and with $38.77 in 1900.

Grindstones.—The total value of all kinds of grindstones produced during 1902 was $667,431, as compared with $580,703 in 1901, an increase of $86,728. The production of 1900, valued at $710,026, still remains the largest on record for any year. It should be remembered, however, that the price per ton has decreased from $15 to from $8 to $10, and that therefore the tonnage of grindstones used has correspondingly increased within the last few years. The imports for 1902 amounted in value to $76,906, as compared with $88,871 in 1901 and with $92,581 in 1900.

Infusorial earth and tripoli.—In 1902 the production of infusorial earth and tripoli amounted to 5,665 short tons, valued at $53,244,

including 175 short tons mined as a by-product and valued at $1,436, an increase of 1,645 tons in quantity and of $294 in value, as compared with the production of 4,020 tons, valued at $52,950, in 1901.

Millstones and buhrstones.—The value of the production of millstones and buhrstones in 1902 was $59,808, an increase of $2,629 over the value of 1901, which was $57,179. The value for 1902 was almost twice the value of the production of 1900, which amounted to $32,858. From 1886 to 1894 there was a very large decrease—from $140,000 to $13,887—in the production of buhrstones. Since 1894 there has been a gradual increase in the production.

Oilstones and whetstones.—There was a decided increase in the domestic commercial production of oilstones and whetstones during 1902, the value of which amounted to $221,762, as compared with $158,300 in 1901, an increase in 1902 of $63,462. Until 1902, the year of maximum production was 1899, when the value of the output amounted to $208,283. The crude production of oilstones and whetstones in 1902, as reported by the Census, was valued at $113,968.

Pumice.—The volcanic-ash deposits in Nebraska have been worked to some extent during 1902, the product being used in the manufacture of certain soaps and scouring powders. The production of pumice amounted to 700 short tons, valued at $2,750.

CHEMICAL MATERIALS.

Arsenious oxide.—The domestic production of arsenious oxide (white arsenic) in 1902 was 1,353 short tons, valued at $81,180, as compared with 300 short tons, valued at $18,000, in 1901. The entire product was made by the Puget Sound Reduction Company at Everett, Wash., which began the manufacture of this important substance in 1901. The largely increased output in 1902 is a sign of the success of the new industry.

Borax.—The reported returns for 1902 gave an aggregate commercial production of crude borax of 2,600 short tons, valued at $91,000, of refined borax and boric acid, amounting to 17,404 short tons, valued at $2,447,614, of which it was stated that 862 short tons, valued at $155,000, were boric acid. This gives a total production for 1902 of 20,004 short tons, valued at $2,538,614. The production during 1901 was 17,887 short tons of crude borax and 5,344 short tons of refined borax, with a total value of $1,012,118.

Bromine.—The production of bromine in 1902, including the amount of bromine contained in potassium bromide, amounted to 513,890 pounds, valued at $128,472, as compared with 522,043 pounds, valued at $154,572, in 1901, a decrease for the year of 38,153 pounds in quantity and of $26,100 in value. The price per pound during 1902 averaged 25 cents, as compared with 28 cents in 1901 and with 29 cents in 1900. There has been practically no change in the bromine industry in the United States in 1902.

Fluorspar.—There was a large increase in the production of fluorspar in 1902 over that of 1901, due partly to its increased use for metallurgic purposes. The total production in 1902 was 48,018 short tons, valued at $271,832, as compared with 19,586 tons, valued at $113,803, in 1901. This increase in production was not due to any one State, but there was a large increase in production in both Illinois and Kentucky, and also an increase in Arizona. The average price of crude fluorspar was reported as $5.19 per ton, as compared with $5 in 1901, and the average price of ground fluorspar was $9.98 per ton, as compared with $9.22 in 1901. In addition to this production there were 800 short tons, valued at $3,850, mined but not marketed in 1902.

Gypsum.—The production of gypsum, particularly for the manufacture of calcined plaster, continues to show a remarkable gain. The output of crude gypsum in 1902 was 816,478 short tons, valued in its first marketable condition at $2,089,341, as compared with 633,791 short tons, valued at $1,506,641, in 1901, and with 595,462 short tons, valued at $1,627,203, in 1900. The production in 1899 was 486,235 short tons, and in 1898 it was 291,638 short tons. The greatly increased production of the last four years is attributable to the largely increased use of plaster of Paris in the large modern buildings and in the manufacuture of staff for temporary buildings.

Marls.—The production of marls in the United States in 1902 was 12,439 short tons, valued at $12,741.

Phosphate rock.—The total commercial production of phosphate rock reported to the Survey in 1902 amounted to 1,490,314 long tons, valued at $4,693,444, as compared with 1,483,723 long tons, valued at $5,316,403, in 1901, an increase in quantity of 6,591 tons and a decrease in value of $622,959. The total quantity of phosphate rock reported as mined during 1902 was 1,548,720 long tons, valued at $4,922,943, as compared with 1,440,408 long tons in 1901.

Salt.—The salt product includes salt in the form of brine used in large quantities for the manufacture of soda ash, sodium bicarbonate, caustic soda, and other sodium salts. The domestic production of salt in 1902 amounted to 23,849,221 barrels of 280 pounds net, valued at $5,668,636, as compared with 20,556,661 barrels, valued at $6,617,449, in 1901, and with 20,869,342 barrels, valued at $6,944,603, in 1900.

Sulphur and pyrite.—The domestic production of sulphur and of pyrite for the manufacture of sulphuric acid amounted in 1902 to 207,874 long tons, valued at $947,089, as compared with a combined production of 241,691 long tons, valued at $1,257,879, in 1901. The production of sulphur was from Louisiana, Nevada, and Utah, named in the order of the importance of their outputs. Oregon and Idaho reported no production in 1902. The greater part of the output of pyrite was derived from Virginia, Georgia, North Carolina, Colorado, and Massachusetts, named in the order of production.

PIGMENTS.

Barytes.—The production of crude barytes in 1902 was considerably in excess of that of the year before, amounting to 61,668 short tons, valued at $203,154, as compared with 49,070 tons, valued at $157,844, in 1901. This is an increase of 12,598 tons in quantity and of $45,310 in value.

Cobalt oxide.—The domestic production of cobalt oxide in 1902 was 3,730 pounds, valued at $6,714, as compared with 13,360 pounds, valued at $24,048, in 1901, a decrease in quantity of 9,630 pounds. All the cobalt oxide was obtained as a by-product in smelting lead ores at Mine Lamotte, Mo.

Mineral paints.—The commercial production of mineral paints in 1902 amounted to 73,049 short tons, valued at $944,332, as compared with 61,460 short tons, valued at $789,962, in 1901. The production of crude mineral paints in 1902 is reported as 35,479 short tons, valued at $360,885, including 4,500 tons, valued at $18,000, of ocher and metallic paint reported as mined but not marketed in 1902.

Zinc white.—The production of zinc white in 1902 amounted to 52,645 short tons, valued at $4,016,499, as compared with 46,500 short tons, valued at $3,720,000, in 1901.

MISCELLANEOUS.

Asbestos.—The commercial production of asbestos in the United States in 1902 was chiefly from the mines at Sall Mountain, White County, Ga., with smaller quantities from Hillsdale, Berkshire County, Mass. This production was 1,005 short tons, valued at $16,200, an increase of 258 tons in quantity and of $2,702 in value over the production of 1901, which was 747 short tons, valued at $13,498. The production in 1900 was 1,054 short tons, valued at $16,310. In addition there were reported as produced but not marketed in 1902 1,500 short tons of crude asbestos, valued at $30,000.

Asphaltum.—Under this title are included the various bitumens or hydrocarbons not discussed under the heading "Petroleum" in the volume on Mineral Resources. The commercial production of asphaltum in 1902 was 105,458 short tons, valued at $765,048, as compared with 63,134 short tons, valued at $555,335, in 1901—a large increase, amounting in quantity to 42,324 short tons and in value to $209,713. The production of crude asphaltum in 1902 is reported as 66,238 short tons, valued at $236,728.

Bauxite.—In 1902 the production of bauxite increased to 29,222 long tons, valued at $128,206, as compared with 18,905 long tons, valued at $79,914, in 1901. Georgia yielded the greater bulk of the product, the remainder being supplied by Alabama and Arkansas.

Chromic iron ore.—California was the one State to produce any chromite during 1902, the quantity being 315 long tons, valued at $4,567, a decrease of 53 tons in quantity and of $1,223 in value, as compared with the production of 1901, which was 368 long tons, valued at $5,790.

Feldspar.—The production of feldspar in 1902 was 45,287 short tons, valued at $250,424, as against 34,741 short tons, valued at $220,422, in 1901.

Fibrous talc.—This variety of talc or soapstone occurs in but one locality in the United States—Gouverneur, St. Lawrence County, N. Y. It is used principally as makeweight in the manufacture of paper. In 1902 the production was 71,100 short tons, valued at $615,350, an increase of $131,750 in value and of only 1,900 tons in quantity, as compared with the production of 69,200 short tons, valued at $483,600, in 1901.

Flint.—The production of flint in 1902 was 36,365 short tons, valued at $144,209, as compared with 34,420 short tons, valued at $149,297, in 1901.

Fuller's earth.—As reported for the Survey, the production of fuller's earth in 1902 showed a decrease in quantity and an increase in value, being 11,492 short tons, valued at $98,144, as compared with 14,112 short tons, valued at $96,835, in 1901. The maximum production of fuller's earth was obtained in 1897, when the production was 17,113 short tons.

Glass sand.—The production of glass sand in 1902 was 943,135 short tons, valued at $807,797; the production of engine, furnace, building, molding, and other sands, mined incidentally, was 904,776 short tons, valued at $615,817—a total production of 1,847,901 short tons of sand, valued at $1,423,614.

Graphite.—The commercial production of crystalline graphite during 1902 amounted to 3,936,824 pounds, valued at $126,144, as compared with 3,967,612 pounds, valued at $135,914, in 1901, and with 5,507,855 pounds, valued at $178,761, in 1900. The commercial production of amorphous graphite in 1902 was 4,739 short tons, valued at $55,964, as compared with 809 short tons, valued at $31,800, in 1901. The decline in value was due to a proportionate increase in the production of the lower grades. Considerable development and exploratory work was done during the year in Montana, Wyoming, North Carolina, and New Mexico. In addition, 30,000 pounds of refined graphite, valued at $1,800, and 20,716 short tons of crude graphite, valued at $43,600, were reported as produced but not marketed in 1902. This gives a total production of 3,966,824 pounds of refined graphite and of 25,455 short tons of amorphous graphite, with a total value of $227,508, as produced in 1902. The production of artificial graphite was 2,358,828 pounds, valued at $110,700, the average price being 4.69 cents per pound, as compared with 2,500,000 pounds, valued at $119,000, in 1901, the average price being 4.75 cents per pound.

Limestone for iron flux.—The quantity of limestone used for fluxing in blast furnaces in 1902 was 11,878,675 long tons, valued at $5,271,252, as compared with 8,540,168 long tons, valued at $4,659,836, in 1901, and with 7,495,435 long tons, valued at $3,687,394, in 1900.

Magnesite.—The production of megnesite in the United States continues to be limited to California, and during the year 1902 the commercial production reported was 3,466 short tons, valued at $21,362—a large decrease as compared with the production in 1901, which was 13,172 short tons, valued at $43,057. Of the 1902 production, 380 tons, valued at $1,723, were sold in 1902, but were mined previously.

Mica.—The production of mica in 1902 was as follows: 373,266 pounds of plate or sheet mica, valued at $83,843; 1,028 short tons of scrap mica, valued at $13,081; and 372 short tons of rough mica, valued at $21,925—a total value of $118,849.

Mineral waters.—The total production of mineral waters for 1902 was 64,859,451 gallons, valued at $8,793,761, as compared with 55,771,181 gallons, valued at $7,586,962, in 1901—a gain in quantity of 9,088,263 gallons and in value of $1,206,799.

Monazite.—The production of monazite is confined exclusively to North Carolina and South Carolina, by far the larger quantity being obtained from the former State, and in 1902 this amounted to 802,000 pounds, valued at $64,160, as compared with 748,736 pounds, valued at $59,262, in 1901—an increase in quantity of 53,264 pounds and in value of $4,898. The price per pound received by the miners for the monazite produced in 1902 varied from 2.5 to 8 cents, according to the percentage of thoria.

Precious stones.—The value of the gems and precious stones found in the United States in 1902 was $328,450, as compared with $289,050 in 1901, with $233,170 in 1900, and with $185,770 in 1899. There has been a great advance in the lapidary industry in the United States since 1894. The fact that larger establishments have been formed, which are able to purchase the rough diamonds in greater quantities, has placed our American diamond cutters in a position equal to that held by the cutters of Amsterdam, Antwerp, and Paris. The cutting of our native gems has also grown to the proportions of an industry, notably in the case of the beryls and the amethyst found in North Carolina and Connecticut; the turquoise from New Mexico, Arizona, Nevada, and California; the fine-colored and deep-blue sapphires found in Montana; the colored tourmalines of San Joaquin County, Cal.; the chrysoprase mine of Visalia, Tulare County, Cal.; the garnets of Arizona and New Mexico, and the pale-purple garnets of North Carolina.

Rutile.—The production of rutile in 1902 was less than in 1901.

Soapstone.—Exclusive of the production of fibrous talc from Gouverneur, N. Y., the production of talc and soapstone in 1902 amounted to 26,854 short tons, valued at $525,157, as compared with 28,643 tons, valued at $424,888, in 1901—a decrease of 1,789 tons in quantity and an increase of $100,269 in value. The output for 1900 was 27,943 short tons, valued at $383,541, and for 1899 it was 24,765 short tons, valued at $330,805.

Mineral products of the United

	Product.	1901.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, spot value ..... long tons..	15,878,354	$242,174,000
2	Silver, coining value ..... fine ounces..	55,214,000	71,387,800
3	Gold, coining value ..... do....	3,805,500	78,666,700
4	Copper, value at New York City ..... pounds..	602,072,519	87,300,515
5	Lead, value at New York City ..... short tons..	270,700	23,280,200
6	Zinc, value at New York City ..... do....	140,822	11,265,760
7	Quicksilver, value at San Francisco ..... flasks..	29,727	1,382,305
8	Aluminum, value at Pittsburg ..... pounds..	7,150,000	2,238,000
9	Antimony, value at San Francisco ..... short tons..	2,639	539,902
10	Nickel, value at Philadelphia ..... pounds..	6,700	3,551
11	Tin ..... do....	None.	.....
12	Platinum, value (crude) at San Francisco ..... troy ounces..	1,408	27,526
13	Total value of metallic products	.....	518,266,259
	NONMETALLIC (SPOT VALUES).		
14	Bituminous coal ..... short tons..	225,828,149	236,422,049
15	Pennsylvania anthracite ..... long tons..	60,242,560	112,504,020
16	Natural gas	.....	27,067,500
17	Petroleum ..... barrels..	69,389,194	66,417,335
18	Brick clay	.....	13,800,000
19	Cement ..... barrels..	20,068,737	15,786,789
20	Stone	.....	55,615,926
21	Corundum and emery ..... short tons..	4,305	146,040
22	Crystalline quartz ..... do....	14,050	41,500
23	Garnet for abrasive purposes ..... do....	4,444	158,100
24	Grindstones	.....	580,703
25	Infusorial earth and tripoli ..... short tons..	4,020	52,950
26	Millstones	.....	57,179
27	Oilstones, etc	.....	158,300
28	Arsenious oxide ..... short tons..	300	18,000
29	Borax (refined) ..... do....	5,344	697,307
30	Borax (crude) ..... do....	17,887	314,811
31	Bromine ..... pounds..	552,043	154,572
32	Fluorspar ..... short tons..	19,586	113,803
33	Gypsum ..... do....	633,791	1,506,641
34	Lithium ..... do....	1,750	43,200
35	Marls ..... do....	99,880	124,880
36	Phosphate rock ..... long tons..	1,483,723	5,316,403
37	Pyrite ..... do....	241,691	1,257,879
38	Salt ..... barrels..	20,566,661	6,617,449
39	Sulphur ..... short tons..	(a)	(a)
40	Barytes (crude) ..... do....	49,070	157,844
41	Cobalt oxide ..... pounds..	13,360	24,048
42	Mineral paints ..... short tons..	61,460	789,962
43	Zinc white ..... do....	46,500	3,720,000
44	Asbestos ..... short tons..	747	13,498
45	Asphaltum ..... do....	63,134	555,335
46	Bauxite ..... long tons..	18,905	79,914
47	Chromic iron ore ..... do....	368	5,790
48	Clay (all other than brick) ..... short tons..	.....	2,576,932
49	Feldspar ..... do....	34,741	220,422
50	Fibrous talc ..... do....	69,200	483,600
51	Flint ..... do....	34,420	149,297
52	Fuller's earth ..... do....	14,112	96,835
53	Glass sand ..... do....	.....	.....
54	Graphite (crystalline) ..... pounds..	3,967,612	167,714
55	Graphite (amorphous) ..... short tons..	809	
56	Limestone for iron flux ..... long tons..	8,540,168	4,659,836
57	Magnesite ..... short tons..	13,172	43,057
58	Manganese ore ..... long tons..	11,995	116,722
59	Mica (sheet) ..... pounds..	360,060	98,859
60	Mica (scrap) ..... short tons..	2,171	19,719
61	Mineral waters ..... gallons sold..	55,771,188	7,586,962
62	Monazite ..... pounds..	748,736	59,262
63	Ozocerite (refined) ..... do....	None.	None.
64	Precious stones	.....	289,050
65	Pumice stone ..... short tons..	None.	None.
66	Rutile ..... pounds..	44,250	5,710
67	Soapstone ..... short tons..	28,643	424,888
68	Uranium and vanadium ..... do....	375	.....
69	Total value of nonmetallic mineral products	.....	567,318,592
70	Total value of metallic products	.....	518,266,259
71	Estimated value of mineral products unspecified	.....	1,000,000
72	Grand total	.....	1,086,584,851

(a) Combined with pyrite.

States in 1901 and 1902.

1902.		Increase (+) or decrease (−) in 1902.		Per cent of increase (+) or decrease (−).		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
17,821,307	$372,775,000	+ 1,942,953	+$130,601,000	+ 12.24	+ 53.93	1
55,500,000	71,757,575	+ 286,000	+ 369,775	+ .52	+ .52	2
3,870,000	80,000,000	+ 64,500	+ 1,333,300	+ 1.69	+ 1.69	3
659,508,644	76,568,954	+57,436,065	− 10,731,561	+ 9.53	− 12.29	4
270,000	22,140,000	− 700	− 1,140,200	− .26	− 4.90	5
156,927	14,625,596	+ 16,105	+ 3,359,836	+ 11.44	+ 29.82	6
34,291	1,467,848	+ 4,564	+ 85,543	+ 15.35	+ 6.19	7
7,300,000	2,284,590	+ 150,000	+ 46,590	+ 2.10	+ 2.08	8
3,561	634,506	+ 922	+ 94,604	+ 34.94	+ 17.52	9
5,748	2,701	− 952	− 850	− 14.21	− 23.93	10
						11
94	1,814	− 1,314	− 25,712	− 93.32	− 93.41	12
	642,258,584		+ 123,992,325		+ 23.92	13
260,216,844	290,858,483	+34,388,695	+ 54,436,434	+ 15.23	+ 23.03	14
36,940,710	76,173,586	−23,301,850	− 36,330,434	− 38.68	− 32.29	15
	30,867,668		+ 3,800,168		+ 14.04	16
88,766,916	71,178,910	+19,377,722	+ 4,761,575	+ 27.92	+ 7.17	17
	15,000,000		+ 1,200,000		+ 8.70	18
25,753,504	25,366,380	+ 5,684,767	+ 9,579,591	+ 28.33	+ 60.68	19
	64,559,099		+ 8,943,173		+ 16.08	20
4,251	104,605	− 54	− 41,435	− 1.25	− 28.37	21
15,104	84,335	+ 1,054	+ 42,835	+ 7.50	+103.21	22
3,926	132,820	− 518	− 25,280	− 11.66	− 15.99	23
	667,431		+ 86,728		+ 14.94	24
5,665	53,244	+ 1,645	+ 294	+ 40.92	+ .55	25
	59,808		+ 2,629		+ 4.60	26
	221,762		+ 63,462		+ 40.09	27
1,353	81,180	+ 1,053	+ 63,180	+351.00	+351.00	28
17,404	2,447,614	+ 12,060	+ 1,750,307	+225.67	+251.01	29
2,600	91,000	− 15,287	− 223,811	− 85.46	− 71.09	30
513,890	128,472	− 38,153	− 26,100	− 6.91	− 16.89	31
48,018	271,832	+ 28,432	+ 158,029	+145.16	+138.88	32
816,478	2,089,341	+ 182,687	+ 582,700	+ 28.82	+ 38.68	33
1,245	25,750	− 505	− 17,450	− 28.86	− 40.39	34
12,439	12,741	− 87,441	− 112,139	− 87.55	− 80.80	35
1,490,314	4,693,444	+ 6,591	− 622,959	+ .44	− 11.72	36
207,874	947,089	− 33,817	− 310,790	− 13.99	− 24.71	37
23,849,221	5,668,636	+ 3,282,560	− 948,813	+ 15.96	− 14.34	38
(a)	(a)					39
61,668	203,154	+ 12,598	+ 45,310	+ 25.67	+ 28.71	40
3,730	6,714	− 9,630	− 17,334	− 72.08	− 72.08	41
73,049	944,332	+ 11,589	+ 154,370	+ 18.86	+ 19.54	42
52,645	4,016,499	+ 6,145	+ 296,499	+ 13.22	+ 7.97	43
1,005	16,200	+ 258	+ 2,702	+ 34.53	+ 20.02	44
105,458	765,048	+ 42,324	+ 209,713	+ 67.04	+ 37.76	45
29,222	128,206	+ 10,317	+ 48,292	+ 54.57	+ 60.43	46
315	4,567	− 53	− 1,223	− 14.40	− 21.12	47
1,455,357	2,061,072		− 515,860		− 20.02	48
45,287	250,424	+ 10,546	+ 30,002	+ 30.36	+ 13.61	49
71,100	615,350	+ 1,900	+ 131,750	+ 2.75	+ 27.24	50
36,365	144,209	+ 1,945	− 5,088	+ 5.65	− 3.41	51
11,492	98,144	− 2,620	+ 1,309	− 18.57	+ 1.35	52
943,135	807,797					53
3,936,824	182,108	− 30,788	+ 14,394	− .78	+ 8.58	54
4,739		+ 3,930		+485.78		55
11,878,675	5,271,252	+ 3,338,507	+ 611,416	+ 39.09	+ 13.12	56
3,466	21,362	− 9,706	− 21,695	− 73.69	− 50.39	57
16,477	177,911	+ 4,482	+ 61,189	+ 37.37	+ 52.42	58
419,266	84,843	+ 59,206	− 14,016	+ 16.44	− 14.18	59
1,377	34,006	− 794	+ 14,287	− 36.57	+ 72.45	60
64,859,451	8,793,761	+ 9,088,263	+ 1,206,799	+ 16.30	+ 15.91	61
802,000	64,160	+ 53,264	+ 4,898	+ 7.11	+ 8.26	62
None.	None.					63
	328,450		+ 39,400		+ 13.63	64
700	2,750					65
						66
26,854	525,157	− 1,789	+ 100,269	− 6.25	+ 23.60	67
3,810	48,125	+ 3,435		+916.00		68
	617,380,831		+ 50,072,089		+ 8.82	69
	642,258,584		+123,992,325		+ 23.92	70
	1,000,000					71
	1,260,639,415		+174,064,414		+ 16.02	72

Mineral products of the United States

	Product.	1880.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, value at Philadelphia.....long tons..	3,375,912	$89,315,569
2	Silver, coining value.....fine ounces..	30,320,000	39,200,000
3	Gold, coining value.....do....	1,741,500	36,000,000
4	Copper, value at New York City.....pounds..	60,480,000	11,491,200
5	Lead, value at New York City.....short tons..	97,825	9,782,500
6	Zinc, value at New York City.....do....	23,239	2,277,432
7	Quicksilver, value at San Francisco.....flasks..	59,926	1,797,780
8	Nickel, value at Philadelphia.....pounds..	233,893	257,282
9	Aluminum, value at Pittsburg.....do....	.....	.....
10	Antimony, value at San Francisco.....short tons..	50	10,000
11	Platinum (crude), value at San Francisco.....troy ounces..	100	400
12	Total value of metallic products.....	.....	190,132,163
	NONMETALLIC (SPOT VALUES).		
13	Bituminous coal.....long tons..	38,242,641	53,443,718
14	Pennsylvania anthracite.....do....	25,580,189	42,196,678
15	Stone.....do....	.....	18,356,055
16	Petroleum.....barrels..	26,286,123	24,183,233
17	Lime.....do....	28,000,000	19,000,000
18	Natural gas.....	.....	.....
19	Cement.....barrels..	2,072,943	1,852,707
20	Salt.....do....	5,961,060	4,829,566
21	Phosphate rock.....long tons..	211,377	1,123,823
22	Limestone for iron flux.....do....	4,500,000	3,800,000
23	Mineral waters.....gallons sold..	2,000,000	500,000
24	Zinc white.....short tons..	10,107	763,738
25	Potters' clay.....do....	28,877	200,457
26	Mineral paints.....do....	3,604	135,840
27	Borax.....pounds..	3,692,443	277,233
28	Gypsum.....short tons..	90,000	400,000
29	Grindstones.....	.....	500,000
30	Fibrous talc.....short tons..	4,210	54,730
31	Pyrite.....long tons..	2,000	5,000
32	Soapstone.....short tons..	8,441	66,665
33	Manganese ore.....long tons..	5,761	86,415
34	Asphaltum.....short tons..	444	4,440
35	Precious stones.....	.....	100,000
36	Bromine.....pounds..	404,690	114,752
37	Corundum.....short tons..	1,044	29,280
38	Barytes (crude).....do....	20,000	80,000
39	Graphite.....pounds..	.....	49,800
40	Millstones.....	.....	200,000
41	Oilstones, etc.[a].....pounds..	420,000	8,000
42	Marls.....short tons..	1,000,000	500,000
43	Flint.....long tons..	20,000	80,000
44	Fluorspar.....short tons..	4,000	16,000
45	Chromic iron ore.....long tons..	2,288	27,808
46	Infusorial earth.....short tons..	1,833	45,660
47	Feldspar.....long tons..	12,500	60,000
48	Mica.....pounds..	81,669	127,825
49	Cobalt oxide.....do....	7,251	24,000
50	Slate ground as a pigment.....short tons..	1,000	10,000
51	Sulphur.....do....	600	21,000
52	Asbestos.....do....	150	4,312
53	Rutile.....pounds..	100	400
54	Lithographic stone.....short tons..	.....	.....
55	Total value of nonmetallic mineral products.....	.....	173,279,135
56	Total value of metallic products.....	.....	190,132,163
57	Estimated value of mineral products unspecified.....	.....	6,000,000
58	Grand total.....	.....	369,411,298

[a] Prior to 1889 quantity and value are for rough stone quarried; since 1890 they are for finished product.

for the calendar years 1880–1902.

1881.		1882.		1883.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
4,144,254	$87,029,334	4,623,323	$106,336,429	4,595,510	$91,910,200	1
33,077,000	43,000,000	36,197,695	46,800,000	35,733,622	46,200,000	2
1,676,300	34,700,000	1,572,186	32,500,000	1,451,249	30,000,000	3
71,680,000	12,175,600	91,646,232	16,038,091	117,151,795	18,064,807	4
117,085	11,240,160	132,890	12,624,550	143,957	12,322,719	5
26,800	2,680,000	33,765	3,646,620	36,872	3,311,106	6
60,851	1,764,679	52,732	1,487,042	46,725	1,253,632	7
265,668	292,235	281,616	309,777	58,800	52,920	8
				83	875	9
50	10,000	60	12,000	60	12,000	10
100	400	200	600	200	600	11
	192,892,408		219,755,109		203,128,859	12
48,179,475	60,224,344	60,861,190	76,076,487	68,531,500	82,237,800	13
28,500,016	64,125,036	31,358,264	70,556,094	34,336,469	77 257,055	14
	20,000,000		21,000,000		20,000,000	15
27,661,238	25,448,339	30,510,830	24,065,988	23,449,633	25,790,252	16
30,000,000	20,000,000	31,000,000	21,700,000	32,000,000	19,200,000	17
			215,000		475,000	18
2,500,000	2,000,000	3,250,000	3,672,750	4,190,000	4,293,500	19
6,200,000	4,200,000	6,412,373	4,320,140	6,192,231	4,211,042	20
266,734	1,980,259	332,077	1,992,462	378,380	2,270,280	21
6,000,000	4,100,000	3,850,000	2,310,000	3,814,273	1,907,136	22
3,700,000	700,000	5,000,000	800,000	7,529,423	1,119,603	23
10,000	700,000	10,000	700,000	12,000	840,000	24
28,000	200,000	33,600	240,000	35,840	250,000	25
6,000	100,000	7,000	105,000	7,000	84,000	26
4,046,000	304,461	4,236,291	338,903	6,500,000	585,000	27
85,000	350,000	100,000	450,000	90,000	420,000	28
	500,000		700,000		600,000	29
5,000	60,000	6,000	75,000	6,000	75,000	30
10,000	60,000	12,000	72,000	25,000	137,500	31
7,000	75,000	6,000	90,000	8,000	150,000	32
4,895	73,425	4,532	67,980	6,155	92,325	33
2,000	8,000	3,000	10,500	3,000	10,500	34
	110,000		150,000		207,050	35
300,000	75,000	250,000	75,000	301,100	72,264	36
500	80,000	500	80,000	550	100,000	37
20,000	80,000	20,000	80,000	27,000	108,000	38
400,000	30,000	425,000	34,000	575,000	46,000	39
	150,000		200,000		150,000	40
500,000	8,580	600,000	10,000	600,000	10,000	41
1,000,000	500,000	1,080,000	540,000	972,000	486,000	42
25,000	100,000	25,000	100,000	25,000	100,000	43
4,000	16,000	4,000	20,000	4,000	20,000	44
2,000	30,000	2,500	50,000	3,000	60,000	45
1,000	10,000	1,000	8,000	1,000	5,000	46
14,000	70,000	14,000	70,000	14,100	71,112	47
100,000	250,000	100,000	250,000	114,000	285,000	48
8,280	25,000	11,653	32,046	1,096	2,795	49
1,000	10,000	2,000	24,000	2,000	24,000	50
600	21,000	600	21,000	1,000	27,000	51
200	7,000	1,200	36,000	1,000	30,000	52
200	700	500	1,800	550	2,000	53
50	1,000					54
	206,783,144		231,340,150		243,812,214	55
	192,892,408		219,755,109		203,128,859	56
	6,500,000		6,500,000		6,500,000	57
	406,175,552		457,595,259		453,441,073	58

Mineral products of the United States for

	Product.	1884.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, value at Philadelphia ..... long tons..	4,097,868	$73,761,624
2	Silver, coining value ..... fine ounces..	37,744,605	48,800,000
3	Gold, coining value ..... do....	1,489,949	30,800,000
4	Copper, value at New York City ..... pounds..	145,221,934	17,789,687
5	Lead, value at New York City ..... short tons..	139,897	10,537,042
6	Zinc, value at New York City ..... do....	38,544	3,422,707
7	Quicksilver, value at San Francisco ..... flasks..	31,913	936,327
8	Nickel, value at Philadelphia ..... pounds..	64,550	48,412
9	Aluminum, value at Pittsburg ..... do....	150	1,350
10	Antimony, value at San Francisco ..... short tons..	60	12,000
11	Platinum (crude), value at San Francisco ..... troy ounces..	150	450
12.	Total value of metallic products	.....	186,109,599
	NONMETALLIC (SPOT VALUES).		
13	Bituminous coal ..... long tons..	73,730,539	77,417,066
14	Pennsylvania anthracite ..... do....	33,175,756	66,351,512
15	Stone ..... do....	.....	19,000,000
16	Petroleum ..... barrels..	24,218,438	20,595,966
17	Lime ..... do....	37,000,000	18,500,000
18	Natural gas	.....	1,460,000
19	Brick clay	.....	.....
20	Clay (all other than brick) ..... short tons..	39,200	270,000
21	Cement ..... barrels..	4,000,000	3,720,000
22	Salt ..... do....	6,514,937	4,197,734
23	Phosphate rock ..... long tons..	431,779	2,374,784
24	Limestone for iron flux ..... do....	3,401,930	1,700,965
25	Mineral waters ..... gallons sold..	10,215,328	1,459,143
26	Zinc white ..... short tons..	13,000	910,000
27	Mineral paints ..... do....	7,000	84,000
28	Borax ..... pounds..	7,000,000	490,000
29	Gypsum ..... short tons..	90,000	390,000
30	Grindstones	.....	570,000
31	Fibrous talc ..... short tons..	10,000	110,000
32	Pyrite ..... long tons..	35,000	175,000
33	Soapstone ..... short tons..	10,000	200,000
34	Manganese ore ..... long tons..	10,180	122,160
35	Asphaltum ..... short tons..	3,000	10,500
36	Precious stones	.....	222,975
37	Bromine ..... pounds..	281,100	67,464
38	Corundum ..... short tons..	600	108,000
39	Barytes (crude) ..... do....	25,000	100,000
40	Graphite ..... pounds..	.....	.....
41	Millstones	.....	150,000
42	Oilstones, etc. [a] ..... pounds..	800,000	12,000
43	Marls ..... short tons..	875,000	437,500
44	Flint ..... long tons..	30,000	120,000
45	Fluorspar ..... short tons..	4,000	20,000
46	Chromic iron ore ..... long tons..	2,000	35,000
47	Infusorial earth ..... short tons..	1,000	5,000
48	Feldspar ..... long tons..	10,900	55,112
49	Mica ..... pounds..	147,410	368,525
50	Cobalt oxide ..... do....	2,000	5,100
51	Slate ground as a pigment ..... short tons..	2,000	20,000
52	Sulphur ..... do....	500	12,000
53	Asbestos ..... do....	1,000	30,000
54	Rutile ..... pounds..	600	2,000
55	Lithographic stone ..... short tons..	.....	.....
56	Total value of nonmetallic mineral products	.....	221,879,506
57	Total value of metallic products	.....	186,109,599
58	Estimated value of mineral products unspecified	.....	5,000,000
59	Grand total	.....	412,989,105

[a] Prior to 1889 quantity and value are for rough stone quarried; since 1890 they are for finished product.

the calendar years 1880-1902—Continued.

1885.		1886.		1887.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
4,044,425	$64,712,400	5,683,329	$95,195,760	6,417,148	$121,925,800	1
39,910,279	51,600,000	39,445,312	51,000,000	41,269,240	53,350,000	2
1,538,376	31,800,000	1,881,250	35,000,000	1,596,500	33,000,000	3
170,962,607	18,292,999	161,235,381	16,527,651	185,227,331	21,115,916	4
129,412	10,469,431	130,629	12,200,749	145,700	13,113,000	5
40,688	3,539,856	42,641	3,752,408	50,340	4,782,300	6
32,073	979,189	29,981	1,060,000	33,825	1,429,000	7
277,904	179,975	214,992	127,157	205,566	133,200	8
283	2,550	3,000	27,000	18,000	59,000	9
50	10,000	35	7,000	75	15,000	10
250	187	50	100	448	1,838	11
.....	181,586,587	.....	214,897,825	.....	248,925,054	12
64,840,668	82,347,648	73,707,957	78,481,056	87,887,360	98,004,656	13
34,228,548	76,671,948	34,853,077	76,119,120	37,578,747	84,552,181	14
.....	19,000,000	.....	19,000,000	.....	25,000,000	15
21,847,205	19,198,243	28,064,841	19,996,313	28,278,866	18,877,094	16
40,000,000	20,000,000	.....	.....	.....	.....	17
.....	4,857,200	.....	10,012,000	.....	15,817,500	18
.....	.....	.....	6,200,000	.....	7,000,000	19
40,320	275,000	44,800	325,000	48,160	340,000	20
4,150,000	3,492,500	4,500,000	3,990,000	6,692,744	5,674,377	21
7,038,653	4,825,345	7,707,081	4,736,585	7,831,962	4,093,846	22
437,856	2,846,064	430,549	1,872,936	480,558	1,836,818	23
3,356,956	1,678,478	4,717,163	2,830,297	5,377,000	3,226,200	24
9,148,401	1,312,845	8,950,317	1,284,070	8,259,609	1,261,463	25
15,000	1,050,000	18,000	1,440,000	18,000	1,440,000	26
3,950	43,575	18,800	315,000	22,000	330,000	27
8,000,000	480,000	9,778,290	488,915	11,000,000	550,000	28
90,405	405,000	95,250	428,625	95,000	425,000	29
.....	500,000	.....	250,000	.....	224,400	30
10,000	110,000	12,000	125,000	15,000	160,000	31
49,000	220,500	55,000	220,000	52,000	210,000	32
10,000	200,000	12,000	225,000	12,000	225,000	33
23,258	190,281	30,193	277,636	34,524	333,844	34
3,000	10,500	3,500	14,000	4,000	16,000	35
.....	209,900	.....	119,056	.....	163,600	36
310,000	89,900	428,334	141,350	199,087	61,717	37
600	108,000	645	116,190	600	108,000	38
15,000	75,000	10,000	50,000	15,000	75,000	39
327,883	26,231	415,525	33,242	416,000	34,000	40
.....	100,000	.....	140,000	.....	100,000	41
1,000,000	15,000	1,160,000	15,000	1,200,000	16,000	42
875,000	437,500	800,000	400,000	600,000	300,000	43
30 000	120,000	30,000	120,000	32,000	128,000	44
5,000	22,500	5,000	22,000	5,000	20,000	45
2,700	40,000	2,000	30,000	3,000	40,000	46
1,000	5,000	1,200	6,000	3,000	15,000	47
13,600	68,000	14,900	74,500	10,200	61,200	48
92,000	161,000	40,000	70,000	70,000	142,250	49
68,723	65,373	35,000	36,878	18,340	18,774	50
1,975	24,687	.....	.....	.....	.....	51
715	17,875	2,500	75,000	3,000	100,000	52
300	9,000	200	6,000	150	4,500	53
600	2,000	600	2,000	1,000	3,000	54
.....	.....	.....	.....	.....	.....	55
.....	241,312,093	.....	230,088,769	.....	270,989,420	56
.....	181,586,587	.....	214,897,825	.....	248,925,054	57
.....	5,000,000	.....	800,000	.....	800,000	58
.....	427,898,680	.....	445,786,594	.....	520,714,474	59

Mineral products of the United States for

	Product.	1888.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, value at Philadelphia ..... long tons..	6,489,738	$107,000,000
2	Silver, coining value ..... fine ounces..	45,783,632	59,195,000
3	Gold, coining value ..... do....	1,604,927	33,175,000
4	Copper, value at New York City ..... pounds..	231,270,622	33,833,954
5	Lead, value at New York City ..... short tons..	151,919	13,399,256
6	Zinc, value at New York City ..... do....	55,903	5,500,855
7	Quicksilver, value at San Francisco ..... flasks..	33,250	1,413,125
8	Aluminum, value at Pittsburg ..... pounds..	19,000	65,000
9	Antimony, value at San Francisco ..... short tons..	100	20,000
10	Nickel, value at Philadelphia ..... pounds..	204,328	127,632
11	Tin ..... do....	.....	.....
12	Platinum (crude), value at San Francisco ..... troy ounces..	500	2,000
13	Total value of metallic products	.....	253,731,822
	NONMETALLIC (SPOT VALUES).		
14	Bituminous coal ..... short tons..	102,039,838	101,860,529
15	Pennsylvania anthracite ..... long tons..	41,624,611	89,020,483
16	Stone	.....	25,500,000
17	Petroleum ..... barrels..	27,612,025	17,947,620
18	Natural gas	.....	22,629,875
19	Brick clay	.....	7,500,000
20	Clay (all other than brick) ..... short tons..	41,160	300,000
21	Cement ..... barrels..	6,503,295	5,021,139
22	Mineral waters ..... gallons sold..	9,578,648	1,679,302
23	Phosphate rock ..... long tons..	448,567	2,018,552
24	Salt ..... barrels..	8,055,881	4,374,203
25	Limestone for iron flux ..... long tons..	5,438,000	2,719,000
26	Zinc white ..... short tons..	20,000	1,600,000
27	Gypsum ..... do....	110,000	550,000
28	Borax ..... pounds..	7,589,000	455,340
29	Mineral paints ..... short tons..	26,500	405,000
30	Grindstones	.....	281,800
31	Fibrous talc ..... short tons..	20,000	210,000
32	Asphaltum ..... do....	53,800	331,500
33	Soapstone ..... do....	15,000	250,000
34	Precious stones	.....	139,850
35	Pyrite ..... long tons..	54,331	167,658
36	Corundum ..... short tons..	589	91,620
37	Oilstones, etc.[a] ..... pounds..	1,500,000	18,000
38	Mica ..... do....	48,000	70,000
39	Barytes (crude) ..... short tons..	20,000	110,000
40	Bromine ..... pounds..	307,386	95,290
41	Fluorspar ..... short tons..	6,000	30,000
42	Feldspar ..... long tons..	8,700	50,000
43	Manganese ore ..... do....	29,198	279,571
44	Flint ..... do....	30,000	127,500
45	Graphite ..... pounds..	400,000	33,000
46	Bauxite ..... long tons..	.....	.....
47	Sulphur ..... short tons..	.....	.....
48	Marls ..... do....	300,000	150,000
49	Infusorial earth ..... do....	1,500	7,500
50	Millstones	.....	81,000
51	Chromic iron ore ..... long tons..	1,500	20,000
52	Cobalt oxide ..... pounds..	8,491	15,782
53	Magnesite ..... short tons..	.....	.....
54	Asbestos ..... do....	100	3,000
55	Rutile ..... pounds..	1,000	3,000
56	Ozocerite (refined) ..... do....	43,500	3,000
57	Total value of nonmetallic mineral products	.....	286,150,114
58	Total value of metallic products	.....	253,731,822
59	Estimated value of mineral products unspecified	.....	900,000
60	Grand total	.....	540,781,936

[a] Prior to 1889 quantity and value are for rough stone quarried; since 1890 they are for finished product.

the calendar years 1880–1902—Continued.

1889.		1890.		1891.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
7,603,642	$120,000,000	9,202,703	$151,200,410	8,279,870	$128,337,985	1
51,354,851	66,396,988	54,500,000	70,464,645	58,330,000	75,416,565	2
1,590,869	32,886,744	1,588,880	32,845,000	1,604,840	33,175,000	3
231,246,214	26,907,809	265,115,133	30,848,797	295,812,076	38,455,300	4
158,397	13,794,235	143,630	12,668,166	178,554	15,534,198	5
58,860	5,791,824	63,683	6,266,407	80,873	8,033,700	6
26,484	1,190,500	22,926	1,203,615	22,904	1,036,386	7
47,468	97,335	61,281	61,281	150,000	100,000	8
115	28,000	938	177,508	1,289	217,957	9
252,663	151,598	223,488	134,093	118,498	71,099	10
.....	.....	.....	.....	125,289	25,058	11
500	2,000	600	2,500	100	500	12
.....	267,247,033	.....	305,872,422	.....	300,403,748	13
95,685,543	94,504,745	111,320,016	110,420,801	117,901,237	117,188,400	14
40,714,721	65,879,514	41,489,858	66,383,772	45,236,992	73,944,735	15
.....	42,809,706	.....	47,000,000	.....	47,294,746	16
35,163,513	26,963,340	45,822,672	35,365,105	54,291,980	30,526,553	17
.....	21,097,099	.....	18,742,725	.....	15,500,084	18
.....	8,000,000	.....	8,500,000	.....	9,000,000	19
329,665	635,578	392,000	756,000	448,000	900,000	20
7,000,000	5,000,000	8,000,000	6,000,000	8,222,792	6,680,951	21
12,780,471	1,748,458	13,907,418	2,600,750	18,392,732	2,996,259	22
550,245	2,937,776	510,499	3,213,795	587,988	3,651,150	23
8,005,565	4,195,412	8,776,991	4,752,286	9,987,945	4,716,121	24
6,318,000	3,159,000	5,521,622	2,760,811	5,000,000	2,300,000	25
16,970	1,357,600	.....	1,600,000	23,700	1,600,000	26
267,769	764,118	182,995	574,523	208,126	628,051	27
8,000,000	500,000	9,500,000	617,500	13,380,000	869,700	28
34,307	483,766	47,732	681,992	49,652	678,478	29
.....	439,587	.....	450,000	.....	476,113	30
23,746	244,170	41,354	389,196	53,054	493,068	31
51,735	171,537	40,841	190,416	45,054	242,264	32
12,715	231,708	13,670	252,309	16,514	243,981	33
.....	188,807	.....	118,833	.....	235,300	34
93,705	202,119	99,854	273,745	106,536	338,880	35
2,245	105,565	1,970	89,395	2,265	90,230	36
5,982,000	32,980	.....	69,909	1,375,000	150,000	37
49,500	50,000	60,000	75,000	75,000	100,000	38
19,161	106,313	21,911	86,505	31,069	118,363	39
418,891	125,667	387,847	104,719	343,000	54,880	40
9,500	45,835	8,250	55,328	10,044	78,330	41
6,970	39,370	8,000	45,200	10,000	50,000	42
24,197	240,559	25,684	219,050	23,416	239,129	43
21,113	89,730	13,000	57,400	15,000	60,000	44
.....	72,662	.....	77,500	.....	110,000	45
728	2,366	1,844	6,012	3,593	11,675	46
1,150	7,850	.....	.....	1,200	39,600	47
139,522	63,956	153,620	69,880	135,000	67,500	48
3,466	23,372	2,532	50,240	.....	21,988	49
.....	35,155	.....	23,720	.....	16,587	50
2,000	30,000	3,599	53,985	1,372	20,580	51
13,955	31,092	6,788	16,291	7,200	18,000	52
.....	.....	.....	.....	439	4,390	53
30	1,800	71	4,560	66	3,960	54
1,000	3,000	400	1,000	300	800	55
50,000	2,500	350,000	26,250	50,000	7,000	56
.....	282,623,812	.....	312,776,503	.....	321,767,846	57
.....	267,247,033	.....	305,872,422	.....	300,403,748	58
.....	1,000,000	.....	1,000,000	.....	1,000,000	59
....	550,870,845	.....	619,648,925	.....	623,171,594	60

Mineral products of the United States for

	Product.	1892.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, spot value ..... long tons..	9,157,000	$131,161,039
2	Silver, coining value ..... fine ounces..	63,500,000	82,099,150
3	Gold, coining value ..... do....	1,596,375	33,000,000
4	Copper, value at New York City ..... pounds..	352,971,744	37,977,142
5	Lead, value at New York City ..... short tons..	173,654	13,892,320
6	Zinc, value at New York City ..... do....	87,260	8,027,920
7	Quicksilver, value at San Francisco ..... flasks..	27,993	1,245,689
8	Aluminum, value at Pittsburg ..... pounds..	259,885	172,824
9	Antimony, value at San Francisco ..... short tons..	1,790	276,416
10	Nickel, value at Philadelphia ..... pounds..	92,252	50,739
11	Tin ..... do....	162,000	32,400
12	Platinum, value (crude) at San Francisco ..... troy ounces..	80	550
13	Total value of metallic products	.....	307,936,189
	NONMETALLIC (SPOT VALUES).		
14	Bituminous coal ..... short tons..	126,856,567	125,124,381
15	Pennsylvania anthracite ..... long tons..	46,850,450	82,442,000
16	Natural gas	.....	14,800,714
17	Petroleum ..... barrels..	50,509,136	26,034,196
18	Brick clay	.....	9,000,000
19	Cement ..... barrels..	8,758,621	7,152,750
20	Stone	.....	48,706,625
21	Corundum and emery ..... short tons..	1,771	181,300
22	Crystalline quartz ..... do....	.....	.....
23	Garnet for abrasive purposes ..... do....	.....	.....
24	Grindstones	.....	272,244
25	Infusorial earth and tripoli ..... short tons..	.....	43,655
26	Millstones	.....	23,417
27	Oilstones, etc	.....	146,730
28	Borax ..... pounds..	13,500,000	900,000
29	Bromine ..... do....	379,480	64,502
30	Fluorspar ..... short tons..	12,250	89,000
31	Gypsum ..... do....	256,259	695,492
32	Marls ..... do....	125,000	65,000
33	Phosphate rock ..... long tons..	681,571	3,296,227
34	Pyrite ..... do....	109,788	305,191
35	Salt ..... barrels..	11,698,890	5,654,915
36	Sulphur ..... short tons..	2,688	80,640
37	Barytes (crude) ..... do....	32,108	130,025
38	Cobalt oxide ..... pounds..	7,869	15,738
39	Mineral paints ..... short tons..	51,704	767,766
40	Zinc white ..... do....	27,500	2,200,000
41	Asbestos ..... do....	104	6,416
42	Asphaltum ..... do....	87,680	445,375
43	Bauxite ..... long tons..	10,518	34,183
44	Chromic iron ore ..... do....	1,500	25,000
45	Clay (all other than brick) ..... short tons..	470,400	1,000,000
46	Feldspar ..... do....	16,800	75,000
47	Fibrous talc ..... do....	41,925	472,485
48	Flint ..... do....	22,400	80,000
49	Fuller's earth ..... do....	.....	.....
50	Graphite ..... pounds..	.....	104,000
51	Limestone for iron flux ..... long tons..	5,172,114	3,620,480
52	Magnesite ..... short tons..	1,004	10,040
53	Manganese ore ..... long tons..	13,613	129,586
54	Mica ..... pounds..	75,000	100,000
55	Mineral waters ..... gallons sold..	21,876,604	4,905,970
56	Monazite ..... pounds..	.....	.....
57	Ozocerite (refined) ..... do....	60,000	8,000
58	Precious stones	.....	312,050
59	Pumice stone ..... short tons..	.....	.....
60	Rutile ..... pounds..	100	300
61	Soapstone ..... short tons..	23,908	437,449
62	Total value of nonmetallic mineral products	.....	339,958,842
63	Total value of metallic products	.....	307,936,189
64	Estimated value of mineral products unspecified	.....	1,000,000
65	Grand total	.....	648,895,031

the calendar years 1880–1902—Continued.

1893.		1894.		1895.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
7,124,502	$84,810,426	6,657,388	$65,007,247	9,446,308	$105,198,550	1
60,000,000	77,575,757	49,501,122	64,000,000	55,727,000	72,051,000	2
1,739,081	35,950,000	1,910,816	39,500,000	2,254,760	46,610,000	3
339,785,972	32,054,601	364,866,808	33,141,142	385,913,404	38,012,470	4
163,982	11,839,590	159,331	9,942,254	170,000	11,220,000	5
78,832	6,306,560	75,328	5,288,026	89,686	6,278,020	6
30,164	1,108,527	30,416	934,000	36,104	1,337,131	7
339,629	266,903	550,000	316,250	920,000	464,600	8
1,503	270,540	1,387	249,706	2,013	304,169	9
49,399	22,197	9,616	3,269	10,302	3,091	10
8,938	1,788	None.	.....	None.	.....	11
75	517	100	600	150	900	12
.....	250,207,406	.....	218,382,494	.....	281,479,931	13
128,385,231	122,751,618	118,820,405	107,653,501	135,118,193	115,749,771	14
48,185,306	85,687,078	46,358,144	78,488,063	51,785,122	82,019,272	15
.....	14,346,250	.....	13,954,400	.....	13,006,650	16
48,412,666	28,932,326	49,344,516	35,522,095	52,892,276	57,632,296	17
.....	9,000,000	.....	9,000,000	.....	9,000,000	18
8,002,467	6,262,841	8,362,245	5,030,081	8,731,401	5,482,254	19
.....	33,885,573	.....	36,534,788	.....	33,319,131	20
1,713	142,325	1,495	95,936	2,102	106,256	21
.....	.....	6,024	18,054	9,000	27,000	22
.....	.....	.....	.....	.....	.....	23
.....	338,787	.....	223,214	.....	205,768	24
.....	22,582	2,584	11,718	4,954	20,514	25
.....	16,645	.....	13,887	.....	22,542	26
.....	135,173	.....	136,873	.....	155,881	27
8,699,000	652,425	14,680,130	974,445	11,918,000	595,900	28
348,399	104,520	379,444	102,450	517,421	134,343	29
12,400	84,000	7,500	47,500	4,000	24,000	30
253,615	696,615	239,312	761,719	265,503	807,447	31
75,000	40,000	75,000	40,000	60,000	30,000	32
941,368	4,136,070	996,949	3,479,547	1,038,551	3,606,094	33
75,777	256,552	105,940	363,134	99,549	322,845	34
11,816,772	4,054,668	12,967,417	4,739,285	13,669,649	4,423,084	35
1,200	42,000	500	20,000	1,800	42,000	36
28,970	88,506	23,335	86,983	21,529	68,321	37
8,422	10,346	6,763	10,145	14,458	20,675	38
37,724	530,384	41,926	498,093	50,695	621,552	39
24,059	1,804,420	19,987	1,399,090	20,710	1,449,700	40
50	2,500	325	4,463	795	13,525	41
47,779	372,232	60,570	353,400	68,163	348,281	42
9,079	29,507	11,066	35,818	17,069	44,000	43
1,450	21,750	3,680	53,231	1,740	16,795	44
448,000	900,000	403,200	800,000	403,200	800,000	45
20,578	68,307	19,264	167,000	8,523	30,000	46
35,861	403,436	39,906	435,060	39,240	370,895	47
33,231	63,792	42,560	319,200	13,747	21,038	48
.....	.....	.....	.....	6,900	41,400	49
843,103	63,232	918,000	64,010	.....	52,582	50
3,958,055	2,374,833	3,698,550	1,849,275	5,247,949	2,623,974	51
704	7,040	1,440	10,240	2,200	17,000	52
7,718	66,614	6,308	53,635	9,547	71,769	53
66,971	88,929	.....	52,388	.....	55,831	54
23,544,495	4,246,734	21,569,608	3,741,846	21,463,543	4,254,237	55
130,000	7,600	546,855	36,193	1,573,000	137,150	56
.....	.....	.....	.....	None.	None.	57
.....	264,041	.....	132,250	.....	113,621	58
.....	.....	.....	.....	.....	.....	59
.....	.....	150	450	100	350	60
21,071	255,067	23,144	401,325	21,495	266,495	61
.....	323,257,318	.....	307,714,785	.....	353,172,239	62
.....	250,207,406	.....	218,382,494	.....	281,479,931	63
.....	1,000,000	.....	1,000,000	.....	1,000,000	64
.....	574,464,724	.....	527,097,279	.....	636,652,170	65

Mineral products of the United States for

	Product.	1896.	
		Quantity.	Value.
	METALLIC.		
1	Pig iron, spot value ..... long tons..	8,623,127	$90,250,000
2	Silver, coining value ..... fine ounces..	58,834,800	76,069,236
3	Gold, coining value ..... do....	2,568,132	53,088,000
4	Copper, value at New York City ..... pounds..	460,061,430	49,456,603
5	Lead, value at New York City ..... short tons..	188,000	10,528,000
6	Zinc, value at New York City ..... do....	81,499	6,519,920
7	Quicksilver, value at San Francisco ..... flasks..	30,765	1,075,449
8	Aluminum, value at Pittsburg ..... pounds..	1,300,000	520,000
9	Antimony, value at San Francisco ..... short tons..	2,478	347,539
10	Nickel, value at Philadelphia ..... pounds..	17,170	4,464
11	Tin ..... do....	None.	.....
12	Platinum, value (crude) at San Francisco ..... troy ounces..	163	944
13	Total value of metallic products	.....	287,860,155
	NONMETALLIC (SPOT VALUES).		
14	Bituminous coal ..... short tons..	137,640,276	114,891,515
15	Pennsylvania anthracite ..... long tons..	48,523,287	81,748,651
16	Natural gas	.....	13,002,512
17	Petroleum ..... barrels..	60,960,361	58,518,709
18	Brick clay	.....	9,000,000
19	Cement ..... barrels..	9,513,473	6,473,213
20	Stone	.....	30,142,661
21	Corundum and emery ..... short tons..	2,120	113,246
22	Crystalline quartz ..... do....	6,000	18,000
23	Garnet for abrasive purposes ..... do....	.....	.....
24	Grindstones	.....	326,826
25	Infusorial earth and tripoli ..... short tons..	3,846	26,792
26	Millstones	.....	22,567
27	Oilstones, etc	.....	127,098
28	Borax ..... pounds..	13,508,000	675,400
29	Bromine ..... do....	546,580	144,501
30	Fluorspar ..... short tons..	6,500	52,000
31	Gypsum ..... do....	224,139	573,344
32	Marls ..... do....	60,000	30,000
33	Phosphate rock ..... long tons..	930,779	2,803,372
34	Pyrite ..... do....	115,483	320,163
35	Salt ..... barrels..	13,850,726	4,040,839
36	Sulphur ..... short tons..	5,260	87,200
37	Barytes (crude) ..... do....	17,068	46,513
38	Cobalt oxide ..... pounds..	10,700	15,301
39	Mineral paints ..... short tons..	48,032	530,455
40	Zinc white ..... do....	20,000	1,400,000
41	Asbestos ..... do....	504	6,100
42	Asphaltum ..... do....	80,503	577,563
43	Bauxite ..... long tons..	18,364	47,338
44	Chromic iron ore ..... do....	786	6,667
45	Clay (all other than brick) ..... short tons..	403,200	800,000
46	Feldspar ..... do....	10,203	35,200
47	Fibrous talc ..... do....	46,089	399,443
48	Flint ..... do....	12,458	24,226
49	Fullers earth ..... do....	9,872	59,360
50	Graphite (crystalline) ..... pounds..	535,858	48,460
51	Graphite (amorphous) ..... short tons..	760	
52	Limestone for iron flux ..... long tons..	4,120,102	2,060,000
53	Magnesite ..... short tons..	1,500	11,000
54	Manganese ore ..... long tons..	10,088	90,727
55	Mica (sheet) ..... pounds..	.....	65,441
56	Mica (scrap) ..... short tons..	.....	1,750
57	Mineral waters ..... gallons sold..	25,795,312	4,136,192
58	Monazite ..... pounds..	30,000	1,500
59	Ozocerite (refined) ..... do....	None.	None.
60	Precious stones	.....	97,850
61	Pumice stone ..... short tons..	.....	.....
62	Rutile ..... pounds..	100	350
63	Soapstone ..... short tons..	22,183	354,065
64	Total value of nonmetallic mineral products	.....	333,954,110
65	Total value of metallic products	.....	287,860,155
66	Estimated value of mineral products unspecified	.....	1,000,000
67	Grand total	.....	622,814,265

the calendar years 1880–1902—Continued.

1897.		1898.		1899.		
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
9,652,680	$95,122,299	11,773,934	$116,557,000	13,620,703	$245,172,654	1
53,860,000	69,637,172	54,438,000	70,384,485	54,764,500	70,806,626	2
2,774,935	57,363,000	3,118,398	64,463,000	3,437,210	71,053,400	3
494,078,274	54,080,180	526,512,987	61,865,276	568,666,921	101,222,712	4
212,000	14,885,728	222,000	16,650,000	210,500	18,945,000	5
99,980	8,498,300	115,399	10,385,910	129,051	14,840,865	6
26,648	993,445	31,092	1,188,627	30,454	1,452,745	7
4,000,000	1,500,000	5,200,000	1,716,000	5,200,000	1,716,000	8
3,061	442,300	3,238	532,101	2,861	559,189	9
23,707	7,823	11,145	3,956	22,541	8,566	10
None.	.....	None.	.....	None.	.....	11
150	900	225	1,913	300	1,800	12
.....	302,531,147	.....	343,748,268	.....	525,779,557	13
147,617,519	119,595,224	166,593,623	132,608,713	193,323,187	167,952,104	14
46,974,714	79,301,954	47,663,076	75,414,537	53,944,647	88,142,130	15
.....	13,826,422	.....	15,296,813	.....	20,074,873	16
60,475,516	40,874,072	55,364,233	44,193,359	57,070,850	64,603,904	17
.....	8,000,000	.....	9,000,000	.....	11,250,000	18
10,989,463	8,178,283	12,111,208	9,859,501	15,520,445	12,889,142	19
.....	34,667,772	.....	36,607,264	.....	44,090,670	20
2,165	106,574	4,064	275,064	4,900	150,600	21
7,500	22,500	8,312	23,990	13,600	39,000	22
2,554	80,853	2,967	86,850	2,765	98,325	23
.....	368,058	.....	489,769	.....	675,586	24
3,833	22,835	2,733	16,691	4,334	37,032	25
.....	25,932	.....	25,934	.....	28,115	26
.....	149,970	.....	180,738	.....	208,283	27
16,000,000	1,080,000	16,000,000	1,120,000	40,714,000	1,139,882	28
487,149	129,094	486,979	126,614	433,004	108,251	29
5,062	37,159	7,675	63,050	15,900	96,650	30
288,982	755,864	291,638	755,280	486,235	1,287,080	31
60,000	30,000	60,000	30,000	60,000	30,000	32
1,039,345	2,673,202	1,308,885	3,453,460	1,515,702	5,084,076	33
143,201	391,541	193,364	593,801	174,734	543,249	34
15,973,202	4,920,020	17,612,634	6,212,554	19,708,614	6,867,467	35
2,275	45,590	1,200	32,960	4,830	107,500	36
26,042	58,295	31,306	108,339	41,894	139,528	37
19,520	31,232	6,247	9,371	10,230	18,512	38
60,913	795,793	58,850	694,856	63,111	728,389	39
25,000	1,750,000	33,000	2,310,000	40,146	3,211,680	40
580	6,450	605	10,300	681	11,740	41
75,945	664,632	76,337	675,649	75,085	553,904	42
20,590	57,652	25,149	75,437	35,280	125,598	43
None.	None.	None.	None.	None.	None.	44
.....	1,000,000	.....	1,384,766	.....	1,645,328	45
12,516	43,100	13,440	32,395	24,202	211,545	46
57,009	396,936	54,356	411,430	54,655	438,150	47
13,466	26,227	21,425	42,670	29,852	180,345	48
17,113	112,272	14,860	106,500	12,381	79,644	49
1,254,402	54,277	2,360,000	75,200	2,900,732	167,106	50
1,108		890		2,324		51
4,247,688	2,124,000	5,275,819	2,638,000	6,707,435	4,695,205	52
1,143	13,671	1,263	19,075	1,280	18,480	53
11,108	95,505	15,957	129,185	9,935	82,278	54
82,676	80,774	129,520	103,534	108,570	70,587	55
740	14,452	3,999	27,564	1,505	50,878	56
23,255,911	4,599,106	28,853,464	8,051,833	39,562,136	6,948,030	57
44,000	1,980	250,776	13,542	350,000	20,000	58
None.	None.	None.	None.	None.	None.	59
.....	130,675	.....	160,920	.....	185,770	60
158	.....	600	13,200	400	10,000	61
100	350	140	700	230	1,030	62
21,923	365,629	22,231	287,112	24,765	330,805	63
.....	327,705,927	.....	353,848,520	.....	445,428,431	64
.....	302,531,147	.....	343,748,268	.....	525,779,557	65
.....	1,000,000	.....	1,000,000	.....	1,000,000	66
.....	631,237,074	.....	698,596,788	.....	972,208,008	67

Mineral products of the United States for the calendar years 1880–1902—Continued.

Product.	1900.	
	Quantity.	Value.
METALLIC.		
Pig iron, spot value ..... long tons..	13,789,242	$259,944,000
Silver, coining value ..... fine ounces..	57,647,000	74,533,495
Gold, coining value ..... do....	3,829,897	79,171,000
Copper, value at New York City ..... pounds..	606,117,166	98,494,039
Lead, value at New York City ..... short tons..	270,824	23,561,688
Zinc, value at New York City ..... do....	123,886	10,654,196
Quicksilver, value at San Francisco ..... flasks..	28,317	1,302,586
Aluminum, value at Pittsburg ..... pounds..	7,150,000	1,920,000
Antimony, value at San Francisco ..... short tons..	4,226	837,896
Nickel, value at Philadelphia ..... pounds..	9,715	3,886
Tin ..... do....	None.	.....
Platinum, value (crude) at San Francisco ..... troy ounces....	400	2,500
Total value of metallic products	.....	550,425,286
NONMETALLIC (SPOT VALUES).		
Bituminous coal ..... short tons..	212,316,112	220,930,313
Pennsylvania anthracite ..... long tons..	51,221,353	85,757,851
Natural gas	.....	23,698,674
Petroleum ..... barrels..	63,620,529	75,989,313
Brick clay	.....	12,000,000
Cement ..... barrels..	17,231,150	13,283,581
Stone	.....	44,321,345
Corundum and emery ..... short tons..	4,305	102,715
Crystalline quartz ..... do....	14,461	40,705
Garnet for abrasive purposes ..... do....	3,185	123,475
Grindstones	.....	710,026
Infusorial earth and tripoli ..... short tons..	3,615	24,207
Millstones	.....	32,858
Oilstones, etc	.....	174,087
Borax ..... short tons..	[a] 1,602	170,036
	[b] 24,235	848,215
Bromine ..... pounds..	521,444	140,790
Fluorspar ..... short tons..	18,450	94,500
Gypsum ..... do....	594,462	1,627,203
Lithium ..... do....	520	.....
Marls ..... do....	60,000	30,000
Phosphate rock ..... long tons..	1,491,216	5,359,248
Pyrite ..... do....	204,615	749,991
Salt ..... barrels..	20,869,342	6,944,603
Sulphur ..... short tons..	3,525	88,100
Barytes (crude) ..... do....	67,680	188,089
Cobalt oxide ..... pounds..	6,471	11,648
Mineral paints ..... short tons..	72,222	881,363
Zinc white ..... do....	48,840	3,667,210
Asbestos ..... do....	1,054	16,310
Asphaltum ..... do....	54,389	415,958
Bauxite ..... long tons..	23,184	89,676
Chromic iron ore ..... do....	140	1,400
Clay (all other than brick)	.....	1,840,377
Feldspar ..... short tons..	24,821	180,971
Fibrous talc ..... do....	63,500	499,500
Flint ..... do....	32,495	86,351
Fuller's earth ..... do....	9,698	67,535
Graphite (crystalline) ..... pounds..	5,507,855	197,579
Graphite (amorphous) ..... short tons..	611	
Limestone for iron flux ..... long tons..	7,495,435	3,687,394
Magnesite ..... short tons..	2,252	19,333
Manganese ore ..... long tons..	11,771	100,289
Mica (sheet) ..... pounds..	456,283	92,758
Mica (scrap) ..... short tons..	5,497	55,202
Mineral waters ..... gallons sold..	47,558,784	6,245,172
Monazite ..... pounds..	908,000	48,805
Ozocerite (refined) ..... do....	None.	None.
Precious stones	.....	233,170
Pumice stone ..... short tons..	None.	None.
Rutile ..... pounds..	300	1,300
Soapstone ..... short tons..	27,943	383,541
Total value of nonmetallic mineral products	.....	512,252,767
Total value of metallic products	.....	550,425,286
Estimated value of mineral products unspecified	.....	1,000,000
Grand total	.....	1,063,678,053

[a] Refined. [b] Crude.

Mineral products of the United States for the calendar years 1880–1902—Continued.

Product.		1901.	
		Quantity.	Value.
METALLIC.			
Pig iron, spot value	long tons..	15,878,354	$242,174,000
Silver, coining value	fine ounces..	55,214,000	71,387,800
Gold, coining value	do....	3,805,500	78,666,700
Copper, value at New York City	pounds..	602,072,519	87,300,515
Lead, value at New York City	short tons..	270,700	23,280,200
Zinc, value at New York City	do....	140,822	11,265,760
Quicksilver, value at San Francisco	flasks..	29,727	1,382,305
Aluminum, value at Pittsburg	pounds..	7,150,000	2,238,000
Antimony, value at San Francisco	short tons..	2,639	539,002
Nickel, value at Philadelphia	pounds..	6,700	3,551
Tin	do....	None.	.....
Platinum, value (crude) at San Francisco	troy ounces..	1,408	27,526
Total value of metallic products		.....	518,266,259
NONMETALLIC (SPOT VALUES).			
Bituminous coal	short tons..	225,828,149	236,422,049
Pennsylvania anthracite	long tons..	60,242,560	112,504,020
Natural gas		.....	27,067,500
Petroleum	barrels..	69,389,194	66,417,335
Brick clay		.....	13,800,000
Cement	barrels..	20,068,737	15,786,789
Stone		.....	55,615,926
Corundum and emery	short tons..	4,305	146,040
Crystalline quartz	do....	14,050	41,500
Garnet for abrasive purposes	do....	4,444	158,100
Grindstones		.....	580,703
Infusorial earth and tripoli	short tons..	4,020	52,950
Millstones		.....	57,179
Oilstones, etc		.....	158,300
Arsenous oxide	short tons..	300	18,000
Borax	do....	a 5,344 b 17,887	697,307 314,811
Bromine	pounds..	552,043	154,572
Fluorspar	short tons..	19,586	113,803
Gypsum	do....	633,791	1,506,641
Lithium	do....	1,750	43,200
Marls	do....	99,880	124,880
Phosphate rock	long tons..	1,483,723	5,316,403
Pyrite	do....	241,691	1,257,879
Salt	barrels..	20,566,661	6,617,449
Sulphur		(c)	(c)
Barytes (crude)	short tons..	49,070	157,844
Cobalt oxide	pounds..	13,360	24,048
Mineral paints	short tons..	61,460	789,962
Zinc white	do....	46,500	3,720,000
Asbestos	do....	747	13,498
Asphaltum	do....	63,134	555,335
Bauxite	long tons..	18,905	79,914
Chromic iron ore	do....	368	5,790
Clay (all other than brick)		.....	2,576,932
Feldspar	short tons..	34,741	220,422
Fibrous talc	do....	69,200	483,600
Flint	do....	34,420	149,297
Fuller's earth	do....	14,112	96,835
Graphite (crystalline)	pounds..	3,967,612	167,714
Graphite (amorphous)	short tons..	809	
Limestone for iron flux	long tons..	8,540,168	4,659,836
Magnesite	short tons..	13,172	43,057
Manganese ore	long tons..	11,995	116,722
Mica (sheet)	pounds..	360,060	98,859
Mica (scrap)	short tons..	2,171	19,719
Mineral waters	gallons sold..	55,771,188	7,586,962
Monazite	pounds..	748,736	59,262
Ozocerite (refined)	do....	None.	None.
Precious stones		.....	289,050
Pumice stone	short tons..	None.	None.
Rutile	pounds..	44,250	5,710
Soapstone	short tons..	28,643	424,888
Uranium and vanadium	do....	375	.....
Total value of nonmetallic mineral products		.....	567,318,592
Total value of metallic products		.....	518,266,259
Estimated value of mineral products unspecified		.....	1,000,000
Grand total		.....	1,086,584,851

a Refined. *b* Crude. *c* Combined with pyrite.

Mineral products of the United States for the calendar years 1880–1902—Continued.

Product.		1902.	
		Quantity.	Value.
METALLIC.			
Pig iron (spot value)	long tons	17,821,307	$372,775,000
Silver, coining value	fine ounces	55,500,000	71,757,575
Gold, coining value	do	3,870,000	80,000,000
Copper, value at New York City	pounds	659,508,644	76,568,954
Lead, value at New York City	short tons	270,000	22,140,000
Zinc, value at New York City	do	156,927	14,625,596
Quicksilver, value at San Francisco	flasks	[a] 34,291	1,467,848
Aluminum, value at Pittsburg	pounds	7,300,000	2,284,590
Antimony, value at San Francisco	short tons	3,561	634,506
Nickel, value at Philadelphia	pounds	5,748	2,701
Tin	do	None.	
Platinum, value (crude) at San Francisco	troy ounces	94	1,814
Total value of metallic products			642,258,584
NONMETALLIC (SPOT VALUES).			
Bituminous coal	short tons	260,216,844	290,858,483
Pennsylvania anthracite	long tons	36,940,710	76,173,586
Natural gas			30,867,668
Petroleum	barrels	[b] 88,766,916	71,178,910
Brick clay			15,000,000
Cement	barrels	25,753,504	25,366,380
Stone			64,559,099
Corundum and emery	short tons	4,251	104,605
Crystalline quartz	do	15,104	[c] 84,335
Garnet for abrasive purposes	do	3,926	132,820
Grindstones			667,431
Infusorial earth and tripoli	short tons	5,655	53,244
Millstones			59,808
Oilstones, etc			[c] 221,762
Arsenious oxide	short tons	1,353	81,180
Borax (refined)	do	[d] 17,404	[d] 2,447,614
Borax (crude)	do	2,600	91,000
Bromine	pounds	513,890	128,472
Fluorspar	short tons	[e] 48,018	271,832
Gypsum	do	816,478	2,089,341
Lithium	do	1,245	25,750
Marls	do	12,439	12,741
Phosphate rock	long tons	[f] 1,490,314	4,693,444
Pyrite	do	207,874	947,089
Salt	barrels	23,849,221	5,668,636
Sulphur	short tons	[g]	[g]
Barytes (crude)	short tons	61,668	203,154
Cobalt oxide	pounds	3,730	6,714
Mineral paints	short tons	[h] 73,049	944,332
Zinc white	do	52,645	4,016,499
Asbestos	do	[i] 1,005	16,200
Asphaltum	do	[j] 105,458	765,048
Bauxite	long tons	29,222	128,206
Chromic iron ore	do	315	4,567
Clay (all other than brick)	short tons	1,455,357	2,061,072
Feldspar	do	45,287	250,424
Fibrous talc	do	71,100	615,350
Flint	do	36,365	144,209
Fuller's earth	do	11,492	98,144
Glass sand	do	943,135	807,797
Graphite (crystalline)	pounds	[k] 3,936,824	182,108
Graphite (amorphous)	short tons	4,739	
Limestone for iron flux	long tons	11,878,675	5,271,252

[a] In addition the census reports 11,727 short tons of cinnabar, valued at $82,242, as mined but not marketed in 1902.

[b] In addition the census reports 508,386 barrels of petroleum, valued at $218,829, as produced but not marketed in 1902.

[c] Value of crude production as reported by the census: Crystalline quartz, $43,085; oilstones, $113,968.

[d] Production in 1902, as reported by the census, 19,142 short tons, valued at $2,383,614.

[e] In addition the census reports 800 short tons of fluorspar, valued at $3,850, as mined but not marketed in 1902.

[f] The total quantity of phosphate rock mined in 1902 was 1,548,720 long tons, valued at $4,922,943.

[g] Included under pyrite.

[h] Production of crude material of mineral paints was 35,479 short tons, valued at $360,885.

[i] In addition, 1,500 short tons of crude asbestos, valued at $30,000, are reported by the census as mined but not marketed in 1902.

[j] The production of the crude material is reported by the census as 66,238 short tons, valued at $236,728.

[k] In addition, graphite to the value of $45,400 is reported as mined but not marketed in 1902.

Mineral products of the United States for the calendar years 1880–1902—Continued.

Product.	1902.	
	Quantity.	Value.
NONMETALLIC (SPOT VALUES)—Continued.		
Magnesite.....short tons..	[a] 3,466	$21,362
Manganese ore.....long tons..	16,477	177,911
Mica (sheet).....pounds..	373,266	83,843
Mica (scrap).....short tons..	1,400	35,006
Mineral waters.....gallons sold..	64,859,451	8,793,761
Monazite.....pounds..	802,000	64,160
Ozocerite (refined).....do....	None.	.....
Precious stones.....	.....	328,450
Pumice stone.....short tons..	700	2,750
Rutile.....pounds..	[b]	.....
Soapstone.....short tons..	26,854	525,157
Uranium and vanadium.....do....	3,810	48,125
Total value of nonmetallic mineral products.....	.....	617,380,831
Total value of metallic products.....	.....	642,258,584
Estimated value of mineral products unspecified.....	.....	1,000,000
Grand total	.....	1,260,639,415

[a] The magnesite actually mined in 1902 is reported as 3,086 short tons, valued at $19,639.
[b] Included under estimated unspecified products.