

# MINERAL RESOURCES OF THE UNITED STATES.

CALENDAR YEAR 1886.

DAVID T. DAY,

*Chief of Division of Mining Statistics and Technology.*

## SUMMARY—1886.

### METALS.

*Iron.*—The principal statistics for 1886 were: Domestic iron ore consumed about 10,000,000 long tons; value at mines, \$28,000,000. Imported iron ore consumed, 1,039,433 long tons; total iron ore consumed, 11,039,433 long tons. Pig iron made, 5,683,329 long tons, an increase of 1,683,803 tons as compared with 1885; value at furnace, \$95,195,760, or \$30,483,360 more than in 1885. Total spot value of all iron and steel in the first stage of manufacture, excluding all duplications, \$142,500,000, an increase of \$49,500,000 as compared with 1885.

*Gold and silver.*—The total value of gold produced in 1886 was \$35,000,000, an increase of \$3,199,000 over 1885. The production of silver decreased from \$51,600,000 in 1885 to \$51,000,000 in 1886.

*Copper.*—The production in 1886, including 4,500,000 pounds from imported pyrites, amounted to 161,235,381 pounds, valued at \$16,527,651, a decrease of 9,727,226 pounds and \$1,765,348 in value from 1885. The average price of copper in 1886 declined to 10½ cents per pound. The copper sulphate made chiefly from ores and matte amounted to 13,400,000, valued at \$536,000 at 4 cents per pound.

*Lead.*—The total production increased to 135,629 tons in 1886, valued at \$12,667,749, at an average value of \$93.40 per short ton in New York. In 1885 the production was 129,412 tons, valued at \$10,469,431. The production of white lead in 1886 is estimated at 60,000 short tons; value, at 6½ cents per pound, \$7,500,000. The total value of the oxides of lead was about \$1,535,000.

*Zinc.*—Production, 42,641 short tons. Value, \$3,752,408, at \$88 per short ton; an increase of 1,953 short tons and \$212,552 in value over 1885. There are preparations for a further increase during 1887. Zinc oxide (zinc white) was also made directly from ores to the amount of 18,000 short tons, valued at \$1,440,000.

*Quicksilver.*—In 1886 the production in California was 29,981 flasks, or 2,291,547 pounds, valued at \$1,060,000. This is a decrease of 2,092 flasks, but the total value shows an increase of \$80,811. Utah produced 87 flasks of quicksilver in addition to the above. The production of quicksilver vermilion increased to 700,000 pounds, and its value to \$392,000 owing to the increase in price of quicksilver.

*Nickel.*—The production includes 182,345 pounds of metallic nickel, 122 tons of nickel and cobalt matte, 35 tons of exported ore, and 46,138 pounds of nickel-ammonium sulphate; total value, \$127,157.

*Cobalt.*—In addition to 8,689 pounds of cobalt oxide at \$2 per pound, ore and matte were produced making the total value \$36,878.

*Chromium.*—Production of chrome iron ore decreasing. In 1886 about 2,000 tons were sold, all from California, where its total value was \$30,000.

*Manganese.*—The production of manganese ores was 30,118 long tons, valued at \$277,527. In addition to this, 257,000 tons of iron ore, containing from 2 to 4 per cent. of manganese, were produced, and 60,000 tons of manganese ores containing from 4 to 20 per cent. of manganese that were used as fluxes in the silver region. The production of manganese ores in 1885 was 23,258 long tons, valued at \$190,281.

*Tin.*—Development work in the Black Hills resulted in the accumulation of considerable ore piles at the mines awaiting concentration.

*Antimony.*—Production, 35 tons of metallic antimony, valued at \$7,000. A small amount of sulphide of antimony was also sold for chemical manufacture.

*Aluminum.*—Aluminum bronze containing 10 per cent. aluminum was made to the extent of 50,000 pounds, valued at \$20,000 at 40 cents per pound. About 2,500 pounds of iron alloy containing 6 to 8 per cent. aluminum was also sold for \$7,000.

*Platinum and iridium.*—The production of platinum sand was only 50 ounces, valued at \$100. About 300 ounces of domestic iridosmine for pen points were sold in 1886 for \$1,000.

#### FUELS.

*Coal.*—The following statistics have been compiled principally from the direct returns of the operators of individual coal mines, supplemented by valuable contributions from State officials.

The total production of all kinds of coal in 1886, exclusive of that consumed at the mines known as colliery consumption, was 107,682,209 short tons, valued at \$147,112,755 at the mines. This may be divided into Pennsylvania anthracite, 36,696,475 short or 32,764,710 long tons, valued at \$71,558,126; all other coals, including bituminous, brown coal, lignite, and small lots of anthracite produced in Rhode Island, Arkansas and Colorado, 70,985,734 short tons, valued at \$75,554,629. The colliery consumption at the individual mines varies from nothing to 8 per cent. of the product, being greatest at special Pennsylvania

anthracite mines and lowest at those bituminous mines where the bed is nearly horizontal and where no steam power or ventilating furnaces are employed. The averages for the different States vary from 3 to 6 per cent., the latter being the average in the Pennsylvania anthracite region.

The total production including colliery consumption was: Pennsylvania anthracite, 34,853,077 long or 39,035,446 short tons; all other coals 73,707,957 short tons, making the total absolute production of all coals in the United States 112,743,403 short tons, valued as follows: Anthracite, \$76,119,120; bituminous, \$78,481,056; total value, \$154,600,176. The total production of Pennsylvania anthracite, including colliery consumption, was 699,473 short tons in excess of that produced in 1885, but its value was \$552,828 less. The total production of bituminous coal was 1,086,408 short tons greater than in 1885, while its value was \$3,866,592 less. The total production of all kinds of coal shows a gain of 1,785,881 short tons compared with 1885, but a decrease in spot value of \$4,419,420.

*Coke.*—The total production of coke in 1886 was 6,835,068 short tons, valued at the ovens at \$11,552,781. This is the largest production ever reached in the United States, the nearest approach to it being in 1883, when 5,464,721 tons were made. This declined in 1884 to 4,873,805 tons. The year 1885 showed a gain upon 1884, the total being 5,106,696 tons. The production for 1886 shows a gain on that of 1885 of 1,728,372 tons, or nearly 34 per cent. The total increase in value was \$3,923,663. The production of 1886 is 1,370,347 tons, or 25 per cent. greater than the maximum of previous years.

*Petroleum.*—The total production was 28,110,115 barrels of 42 gallons each, of which the Pennsylvania and New York fields produced 25,798,000 barrels. The total value, at an average of 71½ cents, the average value of the Pennsylvania and New York petroleum, was \$20,028,457. The production showed an increase of 6,268,074 barrels over the production of 1885.

*Natural gas.*—No record is kept of the yield in cubic feet. It is estimated that the amount of coal displaced by natural gas in 1886 was 6,353,000 tons, valued at \$9,847,150. In 1885 the amount of coal displaced by natural gas was 3,161,600 tons, valued at \$4,854,200.

#### STRUCTURAL MATERIALS.

*Building stone.*—Value estimated to be about the same as in 1885—\$19,000,000.

*Brick and tile.*—Value, \$38,500,000. This value represents an increase of 10 per cent. over last year. The increase in production was slightly greater than 10 per cent. There was some falling off in value during a part of the year.

*Lime.*—The production is estimated at 42,500,000 barrels, with an average value of 50 cents per barrel.

*Cement.*—Production of cement from natural rock was 4,350,000 barrels, valued at \$3,697,500. Artificial Portland cement, 150,000 barrels, valued at \$292,500. The total production of cement of all kinds was 4,500,000 barrels, valued at \$3,990,000.

## ABRASIVE MATERIALS.

*Buhrstones.*—The total value of the finished buhrstones was \$275,000. The increased use of roller mills affected the French buhrstones more than the domestic stones.

*Grindstones.*—Total value, \$250,000; produced mainly in Ohio and Michigan.

*Corundum.*—The production in the past few years has been quite steady; in 1886 it was 645 short tons, valued at \$116,190.

*Novaculite.*—The rough whetstones amounted to 1,160,000 pounds, valued at \$15,000. The value of the stones is greatly increased by cutting.

*Infusorial earth.*—The production for the year amounted to 1,200 short tons, with a spot value of \$6,000; all from Maryland.

## MISCELLANEOUS.

*Precious stones.*—The value of the rough gems sold in 1886 was \$79,056. In addition, gold quartz was sold for specimens and for gems to the value of \$40,000. The value of this, when cut, is \$100,000.

*Phosphate rock.*—Total production was 430,549 long tons—all from South Carolina except experimental lots from Alabama, Mississippi, and Florida. The total value was \$1,872,936. The production decreased 7,307 long tons and the value \$973,128 from 1885.

*Marls.*—The main production is from New Jersey and is comparatively steady at 800,000 short tons, valued at \$400,000. Considerable local use is also made of many small deposits in North and South Carolina, Alabama, Mississippi, and Florida.

*Salt.*—The total production increased from 7,038,653 barrels (of 280 pounds each) in 1885 to 7,707,081 barrels in 1886. The total value, however, decreased slightly. In 1886 it was \$4,736,585, and in 1885 \$4,825,345.

*Bromine.*—Both the production and the average price of bromine increased markedly in 1886. The total production was 428,334 pounds in 1886, and 310,000 in 1885. The total value in 1886 was \$141,350, and in 1885, \$89,900.

*Phosphorus.*—Production, 30,000 pounds, valued at \$20,000.

*Borax.*—Production, 9,778,290 pounds, all from California and Nevada. Total value \$488,915, at 5 cents per pound for concentrated.

*Sulphur.*—The production amounted to 2,500 short tons, valued at \$75,000.

*Pyrites.*—About 55,000 long tons were produced, valued at \$247,500, at \$4.50 per long ton at the mines. In addition 57,000 tons were imported.

*Barytes.*—Estimated production, 10,000 short tons of crude, valued at \$50,000.

*Gypsum.*—Estimated total production of crude gypsum was 95,250 short tons, valued at \$428,625. From this, 50,000 short tons of land plaster and 26,000 short tons of calcined plaster were made. In addition 122,270 tons of crude gypsum were imported, chiefly from Nova Scotia.

*Mica.*—The production decreased to 40,000 pounds, valued at \$70,000. This is exclusive of 1,000 tons of waste, valued at \$10,000.

*Feldspar.*—Production, 14,900 long tons, valued at \$74,500, at \$5 per ton for the crude material, without being ground. This is an increase of 1,300 long tons over 1885. The price has remained constant.

*Flint.*—About 30,000 long tons, having a spot value of \$120,000, were used in pottery manufacture, besides a considerable amount for sand-paper.

*Asbestos.*—The domestic production was about 200 short tons, valued at \$30 per ton at the mines. The production is decreasing, owing to importation of a better quality from Canada.

*Asphaltum.*—The production increased to 3,500 tons, valued at \$14,000 at the deposits in California. In 1885 the value was \$10,500.

*Ocher.*—Production, including "metallic" paint, umber, and sienna, 15,800 short tons, valued at \$285,000.

*Graphite.*—The production in 1886 was 415,525 pounds, valued at \$33,242. In 1885 the production was 327,883 pounds, valued at \$26,230. The price remained constant at 8 cents per pound. This is exclusive of 500 tons of impure graphite mined at Cranston, Rhode Island, for metallurgical purposes.

*Alum.*—Production, 90,000,000 pounds, valued at \$1,350,000. About three-fourths is made from imported cryolite, bauxite, aluminous shale, and other raw materials.

*Copperas.*—Production, 22,000,000 pounds, or 11,000 short tons; value, at 50 cents per hundredweight, \$110,000.

*Fluorspar.*—The annual production for the past three years has been about 5,000 tons, valued at the mines in Indiana at \$4.50 per ton, or \$22,500 in all.

*Rutile.*—Production, for coloring artificial teeth, about 600 pounds, valued at \$2,000.

*Mineral waters.*—Considering only the amount sold, the production was 8,950,317 gallons, valued at \$1,284,070. This shows a slight total decrease since 1885. This may be only apparent. If all the springs had reported, the figures would probably have shown a total increase, although some large springs undoubtedly sold less.

*Lithographic stones.*—Considerable effort is being made to develop the industry in Tennessee and Kentucky. About 50 tons were taken

out and dressed. The use of the stones has proved quite satisfactory, and will probably increase.

*Magnesite.*—Heretofore the raw materials for making magnesium compounds have been imported chiefly from Germany. The annual imports of magnesite vary from 100,000 to 2,000,000 pounds. In 1886 the production of magnesite was begun on Cedar mountain, Alameda county, California; the product, amounting to several tons, was shipped to New York.

*Totals.*—As was remarked in the report for 1883-1884, it is impossible to state the total mineral product in any form which shall not be open to just criticism. It is evident that the production statistics of such incongruous substances as iron ore, metallic gold and silver, the spot value of coal mined and the market value of metallic copper after having been transported hundreds of miles, the spot value of a crude substance like unground, unrefined barytes, and the value of a finished product like brick (in which the cost of manufacture is the leading item) cannot well be taken as items in a general summary. The statistics have been compiled with a view to giving information on those points which are of most interest and utility, and are presented in the form usual in the several branches of trade statistics. The result is that the values stated for the different products are necessarily taken at different stages of production or transportation, etc. Theoretically perfect statistics of mineral products would include, first of all, the actual net spot value of each substance in its crudest form, as taken from the earth; and yet for practical purposes such statistics would have little interest other than the fact that the items could be combined in a grand total in which each substance should be rated on a fairly even basis. The following groupings, therefore, are presented with a full realization of the incongruity of many of the items. The grand total might be considerably reduced by substituting the value of the iron ore mined for that of the pig iron made, by deducting the discount on silver, and by considering lime, salt, cement, borax, etc., as manufactures. It will also be remarked that the spot values of copper, lead, zinc, and chrome iron ore are much less than their respective values after transportation to market. Still the form adopted seems to be the only one which admits of a comparison of the total values of the mineral products from year to year.

Comparing the totals since 1882, a continuous decrease in value is evident in 1883 and 1884. The year 1885 shows a slight increase, while notably increased production and also an increase in value have been the general characteristics of the mineral industries during 1886. The total value of the mineral products increased from, roundly, \$428,000,000 in 1885 to \$465,000,000 in 1886. The main factor in this gain of \$37,000,000 was the increased production of pig iron from 4,044,525 long tons in 1885 to 5,683,329 long tons in 1886, and an appreciation

of 75 cents in the average value per ton, making a total gain of \$30,483,360 in this industry alone.

*Metallic products of the United States in 1886.*

	Quantity.	Value.
Pig iron, spot value..... long tons..	5,683,329	\$95,195,760
Silver, coining value..... troy ounces..	39,445,312	51,000,000
Gold, coining value..... do....	1,881,250	35,000,000
Copper, value at New York City (a)..... pounds..	161,235,381	16,527,651
Lead, value at New York City..... short tons..	135,629	12,667,749
Zinc, value at New York City..... do....	42,641	3,752,408
Quicksilver, value at San Francisco..... flasks..	29,981	1,060,000
Nickel, value at Philadelphia..... pounds..	214,992	127,157
Aluminum, value at Philadelphia..... troy ounces..		27,000
Antimony, value at San Francisco..... short tons..	35	7,000
Platinum, value, crude, at New York City..... troy ounces..	50	100
Total .....		\$215,364,825

a Including copper from imported pyrites.

*Non-metallic mineral products of the United States in 1886 (spot values).*

	Quantity.	Value.
Bituminous coal, brown coal, lignite, and anthracite mined elsewhere than in Pennsylvania..... long tons..	65,810,076	\$73,481,056
Pennsylvania anthracite..... do....	34,853,077	76,119,120
Lime..... barrels..	42,500,000	21,250,000
Petroleum..... do....	28,110,115	20,028,457
Building stone.....		19,000,000
Natural gas.....		9,847,150
Salt..... barrels..	7,707,081	4,736,585
Cement..... do....	4,500,000	3,990,000
Limestone for iron flux..... long tons..	4,717,163	2,830,297
South Carolina phosphate rock..... do....	430,549	1,872,936
Zinc white..... short tons..	18,000	1,440,000
Mineral waters..... gallons sold..	8,950,317	1,284,070
Concentrated borax..... pounds..	9,778,290	488,915
Gypsum..... short tons..	95,250	428,625
New Jersey marls..... do....	800,000	400,000
Ocher..... long tons..	15,800	285,000
Manganese ore..... do....	30,193	277,636
Pyrites..... long tons..	55,000	247,500
Bromine..... pounds..	428,334	141,350
Flint..... long tons..	30,000	120,000
Corundum..... short tons..	645	116,190
Precious stones.....		79,056
Sulphur..... short tons..	2,500	75,000
Feldspar..... long tons..	14,900	74,500
Mica..... pounds..	40,000	70,000
Crude barytes..... long tons..	10,000	50,000
Gold quartz souvenirs, jewelry, etc.....		40,000
Cobalt oxide, ore, and matte.....		36,878
Graphite..... pounds..	415,525	33,242
Slate ground as a pigment..... long tons..	3,000	30,000

*Non-metallic mineral products of the United States in 1886 (spot values)—Continued.*

	Quantity.	Value.
Chrome iron ore .....long tons..	2,000	\$30,000
Fluorspar .....short tons..	5,000	22,500
Novaculite .....pounds..	1,160,000	15,000
Asphaltum .....short tons..	3,500	14,000
Asbestos .....long tons..	200	6,000
Rutile .....pounds..	600	2,000
Total .....		243,963,063

*Résumé of the values of the metallic and non-metallic mineral substances produced in the United States in 1886.*

Metals.....	\$215,364,825
Mineral substances named in the foregoing table.....	243,963,063
	459,327,888
Estimated value of mineral products unspecified.....	6,000,000
Grand total.....	465,327,888



Summary of the mineral products of the United States, calendar years 1882 to 1886, inclusive.

Products.	1882.		1883.		1884.		1885.		1886.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>METALLIC.</b>										
1 Pig-iron, spot value.....long tons..	4,623,323	\$106,350,429	4,595,510	\$91,910,200	4,097,868	\$73,761,624	4,044,525	\$61,712,400	5,683,320	\$95,195,760
2 Silver, coinage value.....troy ounces..	36,197,095	48,800,000	35,733,623	46,200,000	37,744,605	48,800,000	39,910,270	51,000,000	39,445,312	51,000,000
3 Gold, coinage value.....do.....	1,572,185	32,500,000	1,451,249	30,000,000	1,489,949	30,800,000	1,538,376	31,801,000	1,881,250	35,000,000
4 Copper, value at New York City...pounds.	91,646,232	16,638,091	117,151,795	18,064,807	147,805,407	18,106,162	170,962,607	18,292,999	161,235,381	16,527,651
5 Lead, value at New York City...short tons.	132,890	12,624,550	143,957	12,322,719	139,897	10,537,042	129,412	10,469,431	135,629	12,067,749
6 Zinc, value at New York City...do.....	33,765	3,646,020	36,872	3,311,106	38,544	3,422,707	40,688	3,539,856	42,641	3,752,408
7 Quicksilver, value at San Francisco flasks	52,732	1,487,042	46,725	1,253,032	31,913	936,327	32,073	979,189	29,981	1,060,000
8 Nickel, value at Philadelphia...pounds.	281,616	300,777	58,806	52,920	64,550	64,550	277,904	191,753	214,992	127,157
9 Antimony, value at San Francisco...short tons.	60	12,000	60	12,000	60	12,000	50	10,000	35	7,000
10 Platinum, value (crude) at New York City, troy ounces.	200	600	200	600	150	450	250	187	50	100
11 Aluminum, value at Philadelphia, troy ounces.	.....	.....	1,000	875	1,800	1,350	3,400	2,550	.....	27,000
Total value metallic products.....	.....	219,755,109	.....	203,128,859	.....	186,426,074	.....	181,590,365	.....	215,364,825
<b>NON-METALLIC (SPOT VALUES).</b>										
12 Bituminous coal.....long tons..	60,861,190	70,076,487	68,531,500	82,237,800	73,730,539	77,417,666	64,849,668	82,347,648	65,810,676	78,481,056
13 Pennsylvania anthracite.....do.....	31,358,264	70,556,094	34,336,469	77,257,055	33,175,756	66,351,512	34,228,548	76,671,948	34,853,077	76,119,120
14 Petroleum.....barrels.....	30,053,506	23,704,638	23,490,229	25,740,252	24,089,758	29,476,294	21,842,041	19,193,694	23,119,115	20,028,457
15 Limestone.....do.....	31,000,000	21,700,000	32,000,000	19,200,000	37,000,000	18,500,000	40,000,000	20,000,000	42,500,000	21,250,000
16 Building stone.....do.....	.....	21,000,000	.....	29,000,000	.....	19,000,000	.....	19,000,000	.....	19,000,000
17 Salt.....barrels.....	6,412,373	4,340,140	6,192,231	4,211,042	6,514,937	4,197,734	7,038,658	4,825,345	7,707,021	4,736,585
18 Cement.....do.....	3,250,000	3,672,750	4,190,000	4,293,500	4,600,000	3,720,000	4,150,000	3,492,500	4,500,000	3,990,000
19 Limestone for iron flux.....long tons.	3,850,000	2,310,000	3,814,273	1,997,135	3,401,930	1,709,965	3,356,956	1,678,478	4,717,163	2,830,297
20 South Carolina phosphate rock.....do.....	332,077	1,992,462	378,380	2,270,280	431,779	2,374,784	437,856	2,846,064	430,549	1,872,930
21 New Jersey marls.....short tons..	1,080,000	540,000	972,000	486,000	875,000	437,500	875,000	437,500	800,000	400,000
22 Borax.....pounds.....	4,236,291	338,503	6,590,000	583,000	7,000,000	490,000	8,000,000	489,000	9,778,200	188,915
23 Mica.....do.....	180,000	250,000	114,000	283,000	147,419	368,325	92,900	161,000	40,000	70,000
24 Ochre.....long tons..	7,000	105,000	7,000	84,000	7,000	81,000	3,950	43,575	15,800	283,000
25 Crude barytes.....long tons..	20,000	80,000	27,000	108,000	25,000	100,000	15,000	75,000	10,000	50,000
26 Precious stones.....do.....	.....	75,000	.....	74,050	.....	82,975	.....	69,900	.....	79,658
27 Gold-quartz souvenirs, jewelry, etc.	.....	75,000	.....	115,000	.....	140,000	.....	140,000	.....	40,900
28 Pyrites.....long tons..	12,000	72,000	25,000	137,500	35,000	175,000	49,000	220,500	55,000	247,500
29 Manganese ore.....do.....	3,500	52,500	8,000	120,000	10,000	120,000	23,258	190,281	39,193	277,632
30 Chrome iron ore.....do.....	2,500	50,000	3,000	60,000	2,000	35,000	2,790	40,000	2,000	30,000
31 Asbestos.....short tons..	1,200	36,000	1,000	30,000	1,000	30,000	300	9,000	200	6,000

SUMMARY

Summary of the mineral products of the United States, etc.—Continued.

Products.	1882.		1883.		1884.		1885.		1886.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
NON-METALLIC (SPOT VALUES)—continued.										
32 Graphite.....pounds..	425,600	34,000	575,000	46,000	.....	.....	327,883	26,231	415,525	33,242
33 Cobalt oxide.....do..	11,633	32,046	1,096	2,795	2,000	5,100	68,723	65,373	.....	36,878
34 Slate ground as a pigment.....long tons..	2,000	24,000	2,000	24,000	2,000	20,000	1,975	24,687	3,000	30,000
35 Sulphur.....short tons..	600	21,000	1,000	27,000	500	12,000	715	17,875	2,500	75,000
36 Asphaltum.....do.....	3,000	10,500	3,000	10,500	3,000	10,500	3,000	10,500	3,500	14,000
37 Corundum.....do.....	500	80,000	550	100,000	600	108,000	650	108,000	615	116,190
38 Feldspar.....long tons..	14,000	70,000	14,100	71,112	10,900	55,112	13,600	68,000	14,800	74,500
39 Zinc-white.....short tons..	10,000	700,000	12,000	840,000	13,000	910,000	45,000	1,650,000	18,000	1,440,000
40 Bromine.....pounds..	250,000	75,000	301,100	72,264	281,100	67,464	310,000	89,000	428,334	141,350
41 Mineral waters.....gallons sold..	.....	.....	7,529,423	1,119,603	10,215,328	1,459,143	9,148,401	1,312,845	8,050,317	1,284,070
42 Natural gas.....	.....	215,000	.....	475,000	.....	1,400,000	.....	4,854,200	.....	9,847,150
43 Gypsum.....short tons..	.....	.....	.....	.....	.....	.....	90,405	405,600	95,250	428,625
44 Flint.....long tons..	25,000	100,000	25,000	100,000	30,000	120,000	30,000	120,000	30,000	120,000
45 Fluorspar.....short tons..	4,000	20,000	4,000	20,000	4,000	20,000	5,000	22,500	5,000	22,500
46 Novaculite.....pounds..	.....	.....	.....	.....	.....	.....	1,000,000	15,000	1,100,000	15,000
47 Rutile.....pounds..	500	1,800	550	2,000	600	2,000	600	2,000	600	2,000
Total value non-metallic mineral products.....	.....	328,410,380	.....	242,111,889	.....	220,050,674	.....	340,114,544	.....	243,963,063
Total value metallic products.....	.....	219,755,169	.....	203,128,859	.....	186,426,674	.....	181,599,385	.....	215,364,825
Estimated value of mineral products unspecified.....	.....	8,000,000	.....	8,000,000	.....	7,000,000	.....	7,000,000	.....	6,000,000
Grand total.....	.....	456,165,489	.....	453,240,748	.....	413,476,748	.....	428,713,929	.....	465,327,888