UNITED STATES TARIFF COMMISSION

LEAD AND ZINC

Report to the Congress on Investigation No. 332 - 26 (Supplemental 2)

Under Section 332 of the Tariff Act of 1930

Made Pursuant to Senate Resolution 206, 87th Congress,

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UNITED STATES TARIFF COMMISSION

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C O N T E N T S

Introduction

This report [1] is made pursuant to Senate Resolution 206, 87th Congress, adopted on September 23, 1961, which directed the Tariff Commission to bring up to date its previous section 332 reports on the lead and zinc industries. [2] A copy of the Senate Resolution appears in appendix A.

On October 5, 1961, the Commission instituted an investigation of the lead and zinc industries. Public notice of the investigation and of a public hearing to be held in connection therewith was given by posting a copy of the notice in the office of the Commission in Washington, D.C., and at its office in New York City, and by publication of the notice in the Federal Register (26 F.R. 9610) and in the October 12, 1961, issue of Treasury Decisions. The public hearing was held on January 16 and 17, 1962.

Information in addition to that developed at the hearing and provided in the exhibits and briefs submitted therewith was obtained from

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1/ Commissioner Overton did not participate in the preparation of this report.

2/ The Commission has issued the following reports on lead and zinc during the past 8 years:

Lead and Zinc Industries: Report on Investigation Conducted Under Section 332 of the Tariff Act of 1930 . . ., Rept. No. 192, 2d ser., April 1954.

Lead and Zinc: Report to the President on Escape-Clause Investigation No. 27 . . ., May 1954 (processed).

Lead and Zinc: Report to the President on Escape-Clause Investigation No. 65, April 1958 (processed).

Lead and Zinc: Report to the Congress on Investigation No. 332-26 (Supplemental) Under Section 332 . . ., Made Pursuant to Senate Resolution 162, 86th Congress . . ., March 1960 (processed).

Lead and Zinc: Report to the President (1960) Under Executive Order 10401, October 1960 (processed).

Lead and Zinc: Report to the President (1961) Under Executive Order 10401, October 1961 (processed).

other U.S. Government agencies, from trade associations, through questionnaires received from companies engaged in lead and zinc mining and primary smelting and refining, and through numerous other written and oral communications from private concerns engaged in producing, importing, fabricating, or consuming lead and zinc.

U.S. Customs Treatment

This report by the Commission, as well as the reports referred to above, relates principally to "unmanufactured" lead and zinc; certain manufactured articles with a high lead or zinc content are discussed later in this report. The term "unmanufactured lead" refers to lead-bearing ores provided for under paragraph 391 of the Tariff Act of 1930, and to lead pigs and bars, lead dross, reclaimed lead, scrap lead, type metal, antimonial lead, antimonial scrap lead, and alloys or combinations of lead, not specially provided for, classifiable under paragraph 392. The term "unmanufactured zinc" covers zinc-bearing ores provided for under paragraph 393, zinc in blocks, pigs, or slabs, and zinc scrap, dross, and skimmings provided for under paragraph 394, and zinc fume, not provided for by name in the tariff act, but classifiable under paragraph 214 as "earthy or mineral substances wholly or partly manufactured." These articles were described in detail in the previous reports by the Commission to the Congress.

The rates of duty originally provided for in the Tariff Act of 1930, and the reduced rates now in effect for unmanufactured lead and zinc articles are shown in table 1 of the appendix. None of these lead and zinc articles were involved in the recent (1960-61) trade-agreement

negotiations at Geneva at which the United States granted tariff concessions to other countries. The current duties on the forms of lead and zinc accounting for the bulk of U.S. imports, are as follows:

On lead-bearing ores, 0.75 cent per pound on the lead content.
On lead pigs and bars, 1.0625 cents per pound on the lead content.
On zinc-bearing ores, 0.6 cent per pound on the zinc content.
On zinc blocks, pigs, or slabs, 0.7 cent per pound.

The average ad valorem equivalents of these duties, based on foreign value of imports in 1961, were as follows: 8.4 percent on lead-bearing ores; 11.2 percent on lead pigs and bars; 13.5 percent on zinc-bearing ores; and 6.4 percent on zinc blocks, pigs, or slabs (table 2). The average ad valorem equivalents of the current rates of duty, based on present-day values, are less than a fifth of the ad valorem equivalents of the rates of duty that were originally provided for in the Tariff Act of 1930 (and were still in effect in 1934) when based on the value of imports in 1934. The reduction in the average ad valorem equivalents of the duties largely reflects the substantial rise in the prices of lead and zinc since 1934.

The tariff protection for lead and zinc smelting and refining in the United States is a little less than $6 per short ton for lead metal and somewhat less than $1 per short ton for zinc metal. The amount of protection is indicated by the differences between the respective duties on the metals and the ores after allowances for the average percentages of each of the metals lost in processing.

Since October 1, 1958, imports of unmanufactured lead and zinc, except zinc fume, have been subject to absolute import quota restrictions,

in addition to import duties. 1/ These quotas, established by Presidential Proclamation No. 3257, are shown in table 3. The quotas limit the quantity of commercial imports of unmanufactured lead and zinc (except zinc fume) in each quarter to 80 percent of the average of such imports during the 5-year period 1953-57. Separate quarterly quotas were established for each of the metals imported in the form of ores and in metallic forms. Each of these quotas in turn was divided among the principal countries that supplied the United States with commercial imports of these materials during the base period 1953-57. By "commercial imports" is meant dutiable imports, i.e., excluding imports under bond for smelting, refining, and export, and excluding imports by or for the account of the U.S. Government. (See additional details in the notes to table 3.)

Recent Changes in U.S. Supplies and Distribution

Statistics on U.S. production (mine output and secondary output from scrap), producers' and consumers' stocks, imports 2/ (dutiable and free), domestic exports, industrial consumption, and average market prices are summarized, for unmanufactured lead, in table 12 and, for unmanufactured zinc (excluding zinc fume), in table 16 (and for zinc fume in table 17).

1/ Zinc fume, which is not subject to quota restriction, is dutiable at 15 percent ad valorem.

2/ Unless otherwise qualified, references in this report to the volume of U.S. imports pertain to aggregate "imports for consumption" as reported in official U.S. Government statistics, i.e., import entries for immediate consumption plus withdrawals of imported merchandise from bonded warehouses for consumption; these statistics include imports entered by commercial concerns for industrial use, imports by or for the account of the U.S. Government, and imports under bond for smelting, refining, and export.

Total U.S. supplies and components

U.S. lead and zinc supplies are derived from newly mined domestic ores, domestic scrap, and imports of ores and refined metals, and to a small extent, from other raw materials.

Lead.--Total U.S. supplies of lead, as measured by the recoverable lead contained in domestic ores mined, plus lead recovered in all forms from old and new scrap, plus imports of unmanufactured lead, averaged 1,097,600 tons per year during the past 3 calendar years, 1959-61--which is the period in which the import quotas were in effect (table 15). This average was 17 percent lower than the annual average of such supplies (1,324,000 tons) during the period (1953-57) that was used as a base for determining the import quotas established on October 1, 1958. 1/

Secondary production from scrap was the largest component, accounting for 41 percent of total U.S. supplies of lead during 1959-61; imports accounted for 36 percent and domestic mine output for the remaining 23 percent (table 19).

Each of the components of the U.S. lead supply was at a lower level during 1959-61 than during 1953-57. Average annual mine output declined by 25 percent between the two periods. The average annual production from scrap declined by 8 percent, and annual average imports, by 21 percent.

1/ Wherever practicable, annual averages of statistics for the period 1959-61 and annual averages for the period 1953-57 are presented to permit comparison of a representative period before import quota restrictions were imposed with one for the last 3 years under quotas.

Zinc.--Total U.S. supplies of zinc (as measured by the recoverable mine output of zinc, plus zinc recovered in all forms from old and new scrap, plus imports of unmanufactured zinc including zinc fume), averaged 1,312,000 tons per year during 1959-61 (table 18). This total represented a decline of 15 percent from the level of average annual supplies during 1953-57 (1,544,000 tons).

Imports comprised the largest component of U.S. zinc supplies in 1959-61, accounting for 46 percent of the total (table 19). Domestic mine production accounted for 34 percent of the total and zinc from scrap, much less important than lead from scrap, comprised the remaining 20 percent.

Each of the components of the U.S. zinc supply in 1959-61 was at a lower level than during 1953-57. Average annual mine output was 15 percent smaller. Average production from scrap was about 5 percent smaller, and imports averaged about 19 percent smaller.

Relation of U.S. supplies to consumption plus exports

U.S. supplies of lead and zinc exceeded U.S. industrial consumption plus exports of these metals in most years during the past decade. 1/ Both annual supplies of lead and zinc and industrial consumption plus exports were lower in 1959-61 than in 1953-57. However, the decline in the rate of consumption plus exports between the two periods--about 11 percent for lead and about 5 percent for zinc--was smaller than the decline in production plus imports. As a result, the average annual

1/ The term "U.S. industrial consumption" as used throughout this report refers to the quantities of lead or zinc in all forms put into process by industrial consumers, as reported by them to the U.S. Bureau of Mines.

excess of supplies during 1959-61 was substantially smaller than during 1953-57. The excess of U.S. supplies of lead over industrial consumption plus very minor exports averaged about 46,000 tons per year during 1959-61, compared with an average of about 147,000 tons per year during 1953-57. Similarly, the annual excess of U.S. supplies of zinc over industrial consumption plus relatively small exports averaged about 39,000 tons during 1959-61, compared with an annual average surplus of 206,000 tons during 1953-57.

Supplies of both metals were substantially larger during 1953-57 than during 1959-61, principally because of--

1. Substantial Government purchases during 1953-57 of lead and zinc from newly mined domestic ores for the Government stockpile. (New contracts for such purchases were discontinued early in 1958.)

2. Larger imports during 1953-57 of foreign lead and zinc (destined for the Government supplemental stockpile) than during 1959-61.

3. Larger annual imports of lead and zinc for industrial consumption during the earlier period than in 1959-61, when such imports were curbed by quotas.

U.S. Government acquisitions

Official statistics are presently available on the quantities of lead and zinc from foreign sources received by the General Services Administration under the various programs in each year 1956-61 (table 58). Most of the receipts from foreign sources during this period were in connection with the barter program. The rate of Government acquisitions from domestic sources is approximately indicated by data from

trade sources on annual shipments by domestic producers for U.S. Government account (tables 14 and 20).

Of the total U.S. lead supplies (from domestic production and imports) during 1953-57, about 7.3 percent apparently entered into U.S. Government stockpiles; during 1959-61, about 2.6 percent of total lead supplies were so diverted. Of the total U.S. zinc supplies during 1953-57, about 9.5 percent apparently went into U.S. Government stockpiles compared with only about 0.9 percent during 1959-61.

Data on the quantities of lead and zinc in U.S. Government inventories, as of December 31, 1961, were released to the public in March 1962 by the Senate Armed Services Subcommittee on the National Stockpile. These data are shown below (in short tons):

	Lead	Zinc
Held in inventories:		
Strategic stockpile	1,050,000	1,256,000
Defense Production Act inventory	8,000	-
Commodity Credit Corporation and supplemental stockpile	244,000	324,000
Total	1,302,000	1,580,000
Maximum objective	286,000	178,000
Surplus	1,016,000	1,402,000

The lead and zinc acquired under the Strategic and Critical Materials Stock Piling Act (60 Stat. 596), approved July 23, 1946, and now held in the strategic stockpile, as shown above, may not be disposed of without the express approval of Congress, unless in time of war or during a national emergency with respect to the common defense, when they may be released by Presidential order.

Ratio of U.S. commercial imports to industrial consumption

The data on imports of lead and zinc considered heretofore cover small amounts of lead in ores and substantial amounts of zinc in ores,

entered duty-free under bond for smelting, refining, and export (tables 56 and 57). The imports for processing and resale of metal abroad enable domestic smelters to utilize their facilities more fully than would otherwise be possible, and the metal so produced does not compete in the commercial market with metal produced from domestic ores. As previously noted, large quantities of lead and zinc metal were also imported for Government account and placed in either strategic or supplemental stockpiles, as were, for a time, large amounts of lead and zinc in ores under the barter program. Most, but not all, of these imports were imported free of duty. The import quotas established on October 1, 1958, were applied only to commercial imports.

Data on commercial imports, domestic production, exports, and industrial consumption of lead and zinc in recent years are shown in table 13.

Commercial imports of unmanufactured lead, which averaged 443,400 tons per year during the base period, 1953-57, averaged 352,000 tons during the 3 years under quotas, 1959-61. The import quotas were designed to reduce commercial imports to a level 20 percent below that of the base period, but the actual reduction was 20.6 percent. The slightly larger reduction reflects the fact that the import quota for lead ore from "all other" countries was not entirely filled in 1959 and 1960 (table 54). The ratio of commercial imports of unmanufactured lead to industrial consumption of lead, which was 37.9 percent in the base period, declined to 33.7 percent in 1959-61.

Commercial imports of unmanufactured zinc (including zinc fume) declined from an average of 660,300 tons per year during 1953-57 to an

average of 533,600 tons per year during 1959-61--representing a decline of 19.2 percent. The decline occurred notwithstanding that imports of zinc fume, which are not limited by quota restrictions, were much larger in 1959-61 than in the 5-year base period. The quotas for zinc in ores from Canada and Peru were not entirely filled in 1961 and the quotas for zinc metal from some of the countries were not entirely filled in each of the years 1959-61 (table 55). The ratio of commercial imports of unmanufactured zinc to industrial consumption of zinc declined from 50.4 percent in the base period to 43.8 percent in 1959-61.

World Production and Consumption

U.S. position

The United States continues to be the world's largest producer and consumer of lead and zinc, although this country has been outranked by Australia and the Soviet Union in recent years in mine output of lead. During 1959 and 1960 the United States accounted for about 10 percent of the world mine output of lead and for about 15 percent of the world production of primary lead metal. By contrast, it accounted for about 25 percent of world consumption of primary lead metal (table 21). The U.S. share of world production and consumption of lead has declined substantially from what it was in 1953-57. In that 5-year period the United States accounted for 14 percent of the world mine output, 22 percent of the world primary smelter output, and 34 percent of the world consumption of primary lead metal.

The U.S. share of the world mine output of zinc in 1959 and 1960 was about 12 percent; its share of the world smelter output of primary

zinc was about 25 percent; its share of the total world consumption of primary zinc metal, on the other hand, was about 28 percent (table 22). Corresponding U.S. shares of the world totals in the 5-year period, 1953-57, were about 16 percent, 32 percent, and 36 percent, respectively.

Recent changes in world production and consumption

The diminished U.S. share of world production and consumption of lead and zinc in 1959 and 1960 reflects two trends: Production and consumption declined in the United States, whereas both increased substantially outside the United States. Foreign mine production, and foreign production and consumption of primary metals, of both lead and zinc have increased since the end of World War II (tables 21 and 22). Such foreign production and consumption was higher in 1960, the latest year for which official statistics are available, than in any previous postwar year. Preliminary data for mine output in 1961 indicate that aggregate mine production of lead and zinc outside the United States established new record levels in that year.

Lead.--Whereas U.S. mine production of lead in 1960 was 27 percent below the annual average in 1953-57, mine output in foreign countries was 13 percent above the annual average in that period. U.S. smelter output of primary lead was about 24 percent smaller in 1960 than the average output in 1953-57; such production outside the United States in 1960 was 20 percent above the average in 1953-57. Although U.S. consumption of primary lead metal in 1960 was about 24 percent below the average in the base period, such consumption outside the United States in 1960 was about 32 percent above the average in the base period.

In 1960, 52 percent of the world mine output of lead was produced by five countries--Australia, the Soviet Union, the United States, Mexico, and Canada, in that order (table 27). The 1960 production in Australia and Canada was about 4 percent above the average annual output in these countries in 1953-57. On the other hand, mine production in Mexico in 1960 was 10 percent below the 1953-57 average. The principal foreign producers of lead ores that are also large exporters of these ores are Peru, Canada, the Union of South Africa, Australia, and Bolivia. All are U.S. suppliers.

The five largest producers of primary lead metal in 1960, accounting for 54 percent of the world total, were, in order of rank, the United States, the Soviet Union, Australia, Mexico, and West Germany (table 41). The production of primary lead metal in 1960 in the Soviet Union was 35 percent above, and that in Australia 6 percent above, the average annual output in those countries, respectively, in 1953-57, but the 1960 output in Mexico was 10 percent below the 1953-57 average. The principal foreign countries that produce substantial quantities of primary lead metal in excess of their requirements are Australia, Canada, Peru, Mexico, Yugoslavia, and Belgium; the latter country produces the metal from imported ores. All of these countries except Belgium are important suppliers of U.S. imports.

The five leading consumers of primary lead metal--the United States, the Soviet Union, West Germany, the United Kingdom, and France--accounted for 65 percent of world consumption in 1960 (table 10). All of these countries, with the possible exception of the Soviet Union, import substantial quantities of lead ores or metal, and all except the United

Kingdom are significant producers of either lead ores or lead metal. In all of these countries, except the United States, consumption of primary lead metal increased in 1960 above the average consumption in 1953-57--by 39 percent in the Soviet Union, 55 percent in West Germany, 7 percent in the United Kingdom, and 28 percent in France.

Zinc.--Whereas U.S. mine production of zinc in 1960 was 17 percent below the annual average during the base period 1953-57, mine output of zinc in foreign countries in 1960 was about 15 percent higher (table 22). Similarly, while U.S. production of primary zinc metal in 1960 was 14 percent lower than the average annual output in 1953-57, the production in foreign countries in 1960 was 22 percent higher. And while U.S. consumption of primary zinc metal in 1960 was 13 percent lower than the annual consumption in the 1953-57 period, the consumption in foreign countries in 1960 was 40 percent higher.

The world's five largest producers of zinc from mines are the United States, Canada, the Soviet Union, Australia, and Mexico (table 28). In 1960, these countries accounted for 52 percent of the world's total. 1/ In the following countries, mine production of zinc in 1960 exceeded the average annual output in 1953-57: In Australia, by about 10 percent; in the Soviet Union, by 32 percent; and in Mexico, by 8 percent. Production in Canada in 1960 was about the same as the 1953-57 average. The principal exporters of zinc ores are Mexico, Australia, Canada, Peru, and the Republic of the Congo (formerly the Belgian Congo). Mexico, Canada, and Peru are major U.S. suppliers.

1/ The same five countries, although ranking differently, also accounted for 52 percent of the world's mine output of lead--lead and zinc frequently being obtained from the same crude ores.

The world's five largest producers of primary zinc metal, accounting in 1960 for about 60 percent of the total, are the United States (producing far more than any other country), the Soviet Union, Belgium, Canada, and Japan (table 42). In all these countries, except the United States, production in 1960 was above the 1953-57 level--36 percent higher in the Soviet Union, 14 percent higher in Belgium, 3 percent higher in Canada, and 59 percent higher in Japan. Of these countries, Canada and Belgium are sizable producers of zinc metal for export and they both supply the United States with zinc metal.

The largest world consumers of primary zinc metal, in the order named, are the United States, the Soviet Union, West Germany, the United Kingdom, and Japan (table 11). In 1960 these countries accounted for 65 percent of world consumption. All of these countries have substantially increased their consumption of primary zinc metal in recent years. The increase of 1960 consumption over the 1953-57 annual average was about 63 percent for the Soviet Union, 47 percent for West Germany, 18 percent for the United Kingdom, and 75 percent for Japan. All of these countries produce a large part of the zinc metal they consume.

Production versus consumption of primary metal.--During 1953-57 the average annual production of primary lead metal in foreign countries exceeded their average consumption of such metal by about 326,000 tons (table 21). Much of this excess was apparently absorbed by U.S. imports for U.S. Government stockpiles and private accounts (tables 12, 21, and 58). The available data, covering about 84 percent of all free-world

stocks, show that in recent years there have been relatively small stocks of lead outside the United States (table 50). During 1960, foreign production exceeded foreign consumption of primary lead metal by 226,000 tons. In that year U.S. commercial imports of lead metal were restricted by quotas and U.S. Government acquisitions were virtually nil.

The average annual production of primary zinc metal in foreign countries also exceeded their average consumption of such metal in 1953-57. Much of the excess, which averaged 218,000 tons per year, was also absorbed by U.S. imports for U.S. Government stockpiles and private accounts (tables 16, 22, and 58). Data on foreign stocks of zinc metal for this period are not available. During 1960, foreign consumption of primary zinc metal exceeded foreign production of this metal by about 38,000 tons. Commercial stocks of zinc metal in foreign countries (which accounted for about 85 percent of the total stocks in the free world) remained almost unchanged during 1960, increased during the first three quarters of 1961, and dropped a little in the fourth quarter of that year (table 51).

International Lead and Zinc Study Group.--The imbalance between world production and world consumption of lead and zinc in recent years has continued to occupy the attention of the major producing and consuming countries.

The International Lead and Zinc Study Group, sponsored by the United Nations, has been analyzing statistics on lead and zinc production,

consumption, and stocks in the free world. 1/ On the basis of its analyses, the Study Group at its meeting in Mexico City in March 1961 concluded that there was a substantial world surplus of lead, though not of zinc, and that measures should be taken to reduce production and curtail stocks in the hands of producers. Some of the major producers volunteered to reduce production. The U.S. Government offered, under the barter program, to take over some of the excess foreign stocks and to place the metal in the supplemental stockpile, provided that the foreign producers would limit their production. Subsequently, arrangements were made by the U.S. Government to take over 105,000 short tons of lead held by certain producers in Canada and Australia. Only a part of these stocks were actually acquired by the U.S. Government by the end of 1961, the General Services Administration having received about 22,000 tons (table 58). It is expected that the remainder will be acquired by about the end of June 1962.

At another meeting, at Geneva in October 1961, the Study Group estimated that available supplies of lead for 1961 would be somewhat higher than those estimated earlier at Mexico City and that supplies would exceed consumption during 1961. A number of countries indicated that they would continue to curtail output of lead through the first quarter of 1962, and it was expected that such controls would result in an

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1/ That is, totals for the world minus the "centrally planned economies" (the Soviet bloc). These centrally planned economies include Albania, Bulgaria, Communist China, Czechoslovakia, East Germany, Hungary, North Korea, Poland, Rumania, and the U.S.S.R. Yugoslavia is not included in this group. In the Study Group analyses, account is taken not only of the net imports by the free world countries from the Soviet bloc countries but also of the transfer of metal from producers' stocks to noncommercial stocks (such as the U.S. Government supplemental stockpile) and of the disposal of metal to the trade from the United Kingdom stockpile.

approximate balance of consumption and new supply during that quarter. No attempt was made to reduce zinc production; it was expected that new supplies of zinc and zinc consumption would be in approximate balance in the first half of 1962.

The latest meeting of the Study Group was held in Geneva in March 1962. The following excerpts from a press release indicate the results of the Group's analysis: 1/

> For lead, the statistics examined showed a surplus in 1961 but preliminary figures for 1962 indicated a substantial improvement. However, the high level of stocks and the continued deterioration in prices led countries representing 70% of world production and consumption to agree, providing other important countries participated, to a programme of reductions in their metal production. Subject to the same conditions, the Soviet Union agreed to hold its exports of lead to the West in 1962 at the 1961 levels.
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> For zinc, the statistics indicated a surplus in 1961 and preliminary forecasts for 1962 showed a somewhat larger surplus. In view of the level of stocks and the continued deterioration of prices, several of the main producing countries, which together represent over 70% of world production and consumption, agreed on a programme to limit metal production providing a wider participation was achieved. The Soviet Union and Poland also agreed to study the possibility of co-operating in action to strengthen the zinc market.

Changes in world smelter facilities

According to testimony at the Commission's hearings and to trade reports, new lead and zinc smelters or refineries are under construction and some existing plants are being expanded in at least 16 foreign countries. It appears that the primary-lead-producing capacity of

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1/ Press Release No. EC/ZINC/12, Mar. 21, 1962, issued on behalf of the Study Group by the Information Service, European Office of the United Nations, Geneva.

The Study Group session adjourned until May 28, 1962 to afford an opportunity for various countries to consult their industries. It will then meet to consider further measures deemed necessary to meet the problem and to decide on action to be taken.

these plants may increase by some 160,000 tons per year by the end of 1964. Similarly, annual zinc smelter capacity may increase by possibly 300,000 tons by that time.

Canada is one of the largest suppliers of ores to U.S. smelters. A new electrolytic zinc plant, with an annual capacity of about 70,000 tons, is being erected near Montreal. Completion of this plant is expected in 1963. It is reported that construction will also begin on a lead-zinc smelter in eastern Canada, in the Bathurst area of New Brunswick. This smelter, like a number of others under construction, 1/ will employ a new process--recently developed in England--which produces both slab zinc and lead bullion at the same time in the same furnaces.

Two new zinc smelters are reported in the planning stage for northern Mexico--one by the Mexican affiliate (penoles) of the American Metal Climax Co., and another by a group with Government assistance. In Peru, the Cerro Corp. is expanding the smelting capacity of its lead and zinc plant. The construction of another zinc smelter, with a capacity of about 25,000 tons, will start in 1962. In Australia, a new IVF zinc smelter went into production in 1961.

A large new lead smelter is under construction in the Union of South Africa at the Tsumeb Mine, the only producing lead mine in South Africa. This smelter is to be completed in 1963. For years, half of the output of lead concentrates from this mine has been shipped to the El Paso, Tex., smelter of the American Smelting and Refining Co.

1/ Known as the IVF furnace (Imperial Vertical Furnace).

These shipments were the basis of the sizable U.S. import quota for lead ore from South Africa (29,760 tons of lead content on an annual basis). This quantity is equivalent to 22.5 percent of the total lead-ore quota from all countries. With the completion of the new lead smelter at the Tsumeb Mine, the flow of concentrates from the Union of South Africa will probably be terminated. Thus the total lead-ore import quota, unless changed, would be substantially reduced, for there are no other lead ores produced in the Union of South Africa.

In addition to those mentioned above, IVF-type zinc-lead smelters are reported under construction in France, Poland, and Southern Rhodesia, and one is reported planned in Rumania. Existing lead- and zinc-smelting capacity is being expanded in Japan and a new zinc smelter is being planned. Additional new zinc smelters have been reported started or authorized in Brazil, India, and Yugoslavia.

Much of the expansion of smelting capacity summarized above is in underdeveloped countries that have heretofore exported all or a large part of their lead and zinc in the form of ores rather than in the form of metal. The construction of new smelters reflects a desire on their part to export higher valued metals, rather than ores. To a large extent the new smelters are going to get their ores from existing mines.

On the other hand, many lead- and zinc-consuming countries want to import their lead and zinc in the forms of ores.

Import duties on lead and zinc in foreign countries

Most of the foreign countries in the free world that consume large quantities of lead and zinc have large smelting and refining facilities and they encourage the importation of ores and concentrates by

admitting them free of duty. The duties applied to imports of lead and zinc metal vary considerably among the principal consuming countries.

The major free-world consumers of primary lead and zinc (other than the United States) are the European Economic Community, the United Kingdom, and Japan. Together, they account for a little more than two-thirds of the total consumption of primary lead and zinc outside the United States and the Soviet-bloc countries. Among these countries, only Italy, which has a substantial domestic mine production of lead and zinc ores, imposes an import duty on those ores as well as on lead and zinc metals.

The European Economic Community (EEC), established by the Treaty of Rome (signed on March 25, 1957) is presently comprised of Benelux (Belgium, the Netherlands, and Luxembourg), France, West Germany, and Italy. These countries, as a group, are the largest producers and consumers of primary lead and zinc metals outside the United States. They depend upon imports, however, for about 70 percent of their lead ores and for more than 40 percent of their zinc ores.

The Treaty of Rome provides for the gradual elimination of trade barriers between the member countries, and the gradual adoption of a common external tariff on imports from other countries. These objectives are to be achieved not later than the end of 1969. The common external tariff for lead and zinc was agreed to by all the member countries on March 2, 1960. 1/ The agreement provides a rate that is

1/ Official Journal of the European Communities (French Language Edition), No. 80C, Dec. 20, 1960.

equivalent in U.S. currency to 0.6 cent per pound for lead or zinc metal, and duty-free entry for lead and zinc ores or concentrates. The projected duty of 0.6 cent per pound for lead or zinc metal represents a reduction from an estimated average duty of about 0.8 cent per pound for lead and 0.9 cent per pound for zinc applied by the member countries on January 1, 1957, before the EEC was established.

Initial steps toward the common external tariff have been taken. Adaptation to the common external tariff necessitates lowering duties by France and Italy and raising them by the Benelux countries and West Germany. Currently, the duty on imports of lead and zinc metals into the Benelux countries and West Germany from nonmember countries is equivalent to 0.18 cent per pound; these countries, however, are permitted temporarily to enter limited quantities of lead or zinc metal free of duty. The duty currently applied by France to imports from nonmember countries is equivalent to 0.7 cent per pound for lead metal and 0.9 cent per pound for zinc metal. Italy's tariff currently applicable to imports from nonmember countries is equivalent to about 2.5 cents per pound for lead metal and 1.8 cents per pound for zinc metal; in addition, Italy has a duty on ores of 2.8 percent ad valorem.

The United Kingdom, which is a large consumer of lead and zinc metals, imports more than half of the lead and zinc needed to meet its requirements, partly in the form of ores and partly in the form of metals. Its production of ores is insignificant. Its duties on lead and zinc are very low; imports from the Commonwealth countries (principally Canada and Australia), moreover, are free of duty. The duties on

imports from countries of the European Free Trade Association, of which the United Kingdom is a member, 1/ are equivalent to about 0.03 cent per pound for lead metal and 0.11 cent per pound for zinc metal. Imports into the United Kingdom from other countries are currently dutiable at about 0.05 cent per pound for lead metal and 0.19 cent per pound for zinc metal. The United Kingdom (as well as most other members of the European Free Trade Association) has applied for membership in the EEC.

Japan is also a large consumer of lead and zinc, and much of the metal consumed in Japan is smelted in that country. Japanese smelters depend upon imports for almost half of their lead ore supplies and for more than half of their zinc ore supplies. At the end of March 1962 Japan's imports of lead and zinc metal were subject to a duty of 10 percent ad valorem, equivalent to an estimated 0.8 cent per pound for lead metal and about 0.94 cent per pound for zinc metal. In addition, imports of these metals were restricted under a licensing system. 2/

1/ The other full members are Austria, Denmark, Norway, Sweden, Switzerland, and Portugal.

2/ Foreign Service Despatch, Tokyo, Jan. 10, 1962. According to this despatch the Japanese Government had under consideration measures that would liberalize the licensing controls and increase rates temporarily during the liberalization period. The Commission received confirmation on May 9, 1962, that the measures considered were adopted. The duty on lead metal is to be increased to about 1.6 cents per pound for a period of 2-1/2 years and then dropped to about 1.25 cents for an additional 2 years. The duty on zinc metal is to be increased to about 1.5 cents per pound for 2-1/2 years and then dropped to 1.25 cents per pound for an additional 2 years. The effective dates for these increased rates are to be designated by the Government by Mar. 31, 1963, for lead, and by Oct. 1, 1962, for zinc.

Market Prices

Recent changes in U.S. quoted prices 1/

U.S. producers' prices of lead (Common grade, New York), which averaged 14.7 cents per pound during the 5-year period 1953-57 (i.e., the years constituting the base period for determining the import quotas), declined to an average of 12.2 cents in 1959, to 11.9 cents in 1960, and to 10.9 cents in 1961 (table 12). The average in 1961 was about 26 percent below the average for the 5-year base period. The price on January 5, 1962, was 10 cents (table 4). On February 1 it dropped to 9.75 cents and on February 9, to 9.5 cents, the lowest price since 1946.

U.S. producers' prices of slab zinc (Prime Western, f.o.b. East St. Louis) averaged 11.7 cents per pound during 1953-57, compared with 11.4 cents in 1959, 12.9 cents in 1960, and 11.5 cents in 1961 (table 16). The price in 1961 was virtually the same as the average for 1953-57. The price was 12 cents per pound from December 4, 1961, until April 2, 1962, when a leading custom smelter reduced its price to 11.5 cents (table 5).

1/ The market prices discussed here are those published by the E & MJ Metal and Mineral Markets. These prices are based on firsthand sales by primary U.S. producers (or their agents) of domestically refined lead or zinc to domestic consumers. The prices are reduced to a cash basis (New York City or East St. Louis, Ill., as noted). The daily prices published by the above-mentioned source represent averages of sales on a fixed or flat-price basis; when there are sales at different prices, a weighted average of the prices is published for that day--weighted by the quantities sold at each price. Monthly averages are arithmetical averages of the daily prices, and yearly averages are arithmetical averages of the monthly prices. The prices do not reflect sales of lead or zinc metals by importers; and they do not reflect sales by secondary metal producers or by metal dealers that do not produce the metal they sell.

The 12-cent price noted above, which prevailed for 4 months, represented only the price at which domestic producers sold Prime Western grade zinc f.o.b. East St. Louis. Prices of other grades of slab zinc were less stable. About 40 percent of the slab zinc produced in the United States is Special High Grade, and about 8 percent is High Grade (table 46). These grades of zinc ordinarily command premiums above the price of Prime Western grade. In the 9 months prior to April 1962, however, these premiums were "nominal"; premiums lower than those usually obtained were negotiated between some of the sellers and buyers, especially for High Grade and Special High Grade zinc (which are sold on a delivered-price basis). The premiums for these grades, above the price of Prime Western grade, established in mid-May 1961 have been 0.85 cent per pound on High Grade and 1.0 cent per pound on Special High Grade. Thus a large part of the zinc metal sold in recent months was sold at prices lower than the prices which would include the "standard" premiums for the higher grades. With the recent reduction of the price of Prime Western zinc to 11.5 cents, however, domestic producers resumed selling the higher grades at the full standard premiums above the Prime Western grade.

Margin between U.S. and foreign market prices

Both the U.S. and foreign prices of lead and zinc are influenced, of course, by significant changes in world production and consumption and by Government acquisitions for noncommercial stockpiles or disposals therefrom. Aside from short-term fluctuations attributable to special supply-demand factors operative in either the domestic or the foreign

market, the respective trends of lead and zinc prices in the two markets are usually similar.

U.S. prices, however, generally exceed foreign prices by a margin roughly equal to the U.S. import duties plus the aggregate cost of transporting, insuring, and handling the lead or zinc from abroad to the U.S. market. 1/ U.S. import quotas also tend to widen the margin in much the same way as would import duties that were equally restrictive.

The amount by which the import quotas have in fact increased the spread between the U.S. and foreign prices is not necessarily indicated by the price spread observed. As indicated in the discussion that follows, other influences, such as the closure of U.S. smelters or refineries owing to labor disputes, were also operative.

Lead and zinc prices on the London Metal Exchange are sensitive to changes in supply and demand factors and are closely watched by trade observers.

Lead.--At mid-1961 the cost of transportation and insurance of lead metal from London to New York City plus the U.S. import duty (1-1/16 cents per pound) amounted to about 2.1 cents per pound. The transportation cost was slightly lower in 1953-57.

During 1953-57 the New York price of common lead metal averaged about 14.7 cents per pound, while the price on the London Metal Exchange during this period averaged about 12.7 cents (table 6). 2/

1/ The margin between U.S. prices and prices in a foreign country such as Mexico applying export taxes on lead and zinc metal tends to be still wider by the amount of the taxes.

2/ The comparison of New York and London prices presented here covers the period beginning with April 1953 because comparable data are not available for earlier months in 1953.

During the last 3 years under import quota restrictions, 1959-61, the New York price of lead averaged 11.7 cents, while the London price averaged 8.6 cents. Thus the average spread between the New York and London prices in those years was about 3.1 cents, or 1 cent more than the cost of transportation and insurance from London to New York plus the U.S. import duty.

The monthly average spread between the New York and London prices varied during the 3-year period 1959-61 from about 2.3 cents to 4.2 cents. The highest spread, equal in several months to 4 cents per pound, occurred in the last part of 1959, when a labor dispute closed down some large lead smelters and refineries in the United States, and the domestic price of lead increased. The average price margin widened again towards the end of 1960, when it ranged from 3.1 to 3.6 cents per pound. This widening was also attributable mainly to labor difficulties--a 5-month strike at a large U.S. lead refinery.
In recent months the average spread between the New York and London prices of lead has narrowed--from about 3.2 cents per pound in October 1961 to about 1.9 cents in March 1962, the latest month for which data are available.

Zinc.--The U.S. price of Prime Western zinc, delivered at New York, averaged about 12.3 cents per pound during the period 1953-57. 1/ During this period the London price averaged 10.7 cents per pound, indicating an average New York-London price differential of about 1.6

1/ The comparison of New York and London prices presented here covers the period beginning with August 1953 rather than January because comparable data are not available for earlier months in 1953.

cents per pound (table 7). At mid-1961 the cost of transportation and insurance from London to New York City, plus the U.S. import duty (0.7 cent per pound) amounted to about 1.8 cents per pound. The average cost of transportation was slightly lower in the 1953-57 period. Thus for zinc, as for lead, the price margin during 1953-57 was approximately equal to the cost of transportation, insurance, and the U.S. duty.

During the last 3 years, 1959-61, the New York price of zinc averaged 12.5 cents per pound while the London price averaged about 10.4 cents. The average New York-London price margin--2.1 cents per pound--exceeded the cost of transportation and insurance from London to New York plus the U.S. import duty by only about 0.3 cent per pound.

During 1959-61 the average monthly differential between the New York and London prices of zinc ranged from 0.8 to 3.6 cents per pound. The margin was unusually small during the last half of 1959, when the rise in the London price was more rapid than the rise in the U.S. price, apparently because of a more rapid increase in zinc consumption in Europe than in the United States. The differential was also small during February-May 1960. U.S. zinc smelters took advantage of the favorable foreign prices during these periods to negotiate the sale of substantial quantities of zinc metal in Europe, Japan, and India. 1/ These sales were reflected in larger U.S. exports of zinc metal than in previous years--87,326 tons in 1960 and 57,625 tons in

1/ Exports of zinc to India were in part stimulated by a loan made available to India through the Development Loan Fund, which required that part of the proceeds of the loan be used for purchasing slab zinc produced in the United States.

1961 (table 16). The metal was produced mostly from ores imported under bond for smelting, refining, and export. Ore imported for this purpose is not restricted by quotas.

The average spread between the New York and London prices of zinc rose steadily from about 1.4 cents per pound in March 1961 to 3.9 cents per pound in February 1962. In March 1962, the latest month for which data are available, the calculated margin amounted to 3.8 cents per pound and was more than sufficient to cover the costs of transportation and insurance from London to New York and the U.S. import duty.

The U.S. Industry

The major segments of the U.S. lead and zinc industry are the mining and milling (concentrating) of lead or zinc ore, the smelting and refining of the concentrates at primary smelters and refineries, and the recovery of lead or zinc from scrap, both old and new, at secondary smelters. Some of the ores and concentrates produced are used directly in the manufacture of pigments and other compounds.

Mining and milling

In 1960 a total of 258 mines (and associated mills), operated by 208 concerns, were engaged in producing ores or concentrates valued chiefly for their recoverable lead-plus-zinc content. These mines accounted for about 97 percent of the total mine output of lead and about 92 percent of the total mine output of zinc; the remainder was produced as a byproduct by mines engaged in producing ores valued chiefly for their content of other metals or minerals and in recovery

from slag dumps. In addition, 53 other mines, classed as lead-zinc mines, were reported to the Commission as nonproducing in 1960; however, employees were engaged at these mines in development, exploration, or maintenance work.

Many small mines are worked irregularly; they come into production only when market prices are favorable. Despite the large number of mines and mining concerns, the major portion of the mine output has always been supplied by a small number of large producers. For example, 13 of the 208 concerns mentioned above accounted in 1960 for about 86 percent of the total lead output and 92 percent of the total zinc output from lead-zinc mines. 1/ The 42 largest mines, those that produced 3,000 tons or more of recoverable lead plus zinc, accounted for more than 90 percent of the country's total mine output of each of the metals.

More than half of the domestic lead and zinc ores and concentrates received by U.S. smelters come from mines that are owned or controlled by the smelting companies or their subsidiaries. In 1961, 55.6 percent of lead ores and concentrates received from domestic sources and 52.0 percent of the zinc ores and concentrates received from domestic sources originated in mines owned or controlled by the smelting companies (table 39).

1/ These 13 concerns, each of which produced 10,000 tons or more of recoverable lead plus zinc in ores mined, accounted for 84 percent of the total U.S. mine output of each of the metals regardless of source, including output from mines producing ores valued chiefly for metals or minerals other than lead plus zinc.

Smelting and refining

Thirteen U.S. concerns and their subsidiaries are currently operating primary lead or zinc smelters and refineries. Three of them operate both lead and zinc smelters and refineries, though at different locations (tables 37 and 38).

Lead smelting and refining.--At present (May 1962) five concerns operate eight primary lead smelters and refineries. Of these plants, three are smelters producing lead bullion which is refined elsewhere, two engage only in lead refining, and three plants have both smelting and refining facilities. It is estimated that these plants have a total capacity of 512,000 short tons of refined lead, 1/ compared with the production in 1960 of 387,000 tons (including 28,700 tons in antimonial lead). Principal raw materials (foreign and domestic) treated by primary lead refineries are lead ores and concentrates, base bullion, and small quantities of scrap.

Since 1959, secondary lead production in the United States has exceeded primary metal production by a considerable margin (table 43). Secondary lead production in 1960 amounted to 470,000 tons compared with primary metal production of 385,000 tons in the same year. In 1960, according to information obtained from the U.S. Bureau of Mines, 235 secondary lead smelters recovered 86 percent of the total secondary lead; 4 primary lead smelters produced 7 percent of the total; and the remaining 7 percent was produced by various manufacturers, foundries, and

1/ Estimated from the capacity reported as of Dec. 31, 1960 (as shown in table 37), by subtracting therefrom the capacity of the plant at Barber (Perth Amboy), N.J. which has been shut down since then.

secondary copper smelters. The principal product of secondary plants is antimonial (hard) lead because the smelter feed is composed largely of hard lead, much of it in the form of battery scrap.

Some of the larger secondary lead smelters are operated by concerns that operate primary smelters and refineries.

Zinc smelting and refining.--Twelve concerns are presently engaged in primary zinc smelting and refining. These companies are currently operating 14 plants (4 electrolytic plants and 10 distillation plants). The estimated total annual capacity of these plants is 1,046,000 to 1,071,000 short tons of slab zinc, 1/ compared with the production, by all primary zinc smelters and refineries, of 843,700 tons in 1960. Raw materials processed by primary zinc smelters and refineries, from both foreign and domestic sources, are zinc ores and concentrates, zinc fume, and other zinc-bearing materials, and considerable amounts of zinc-base scrap. Their products, in addition to slab zinc, are zinc oxide, zinc dust, and zinc-base alloys.

In addition to the secondary zinc produced from zinc-base scrap at primary zinc smelters and refineries, about one-fourth of the total secondary zinc is produced by 10 secondary plants and by some manufacturers of chemicals, pigments, die-casting alloys, rolled zinc, and brass. The zinc-base scrap processed includes zinc dross and skimmings,

1/ According to the American Bureau of Metal Statistics (ABMS), total annual capacity for slab zinc at the end of 1960 was 1,190,700 short tons (table 38), but the annual capacity for slab zinc at the end of 1960 as reported by the U.S. Bureau of Mines was 1,165,400 short tons. The range of capacity given above was estimated by subtracting from each of these totals the capacity of 32,850 tons for the plant at La Salle, Ill., and 86,500 tons for the plant at Anaconda, Mont. These plants have been shut down.

die-cast alloys, old zinc articles, engravers' plates, new zinc clippings, and zinc-bearing chemical residues. The products are slab zinc, zinc pigments, zinc dust, and zinc alloys.

Other activities of U.S. lead and zinc producers

Many of the domestic concerns, or their subsidiaries, that operate lead or zinc mines or primary lead or zinc smelters or refineries in the United States also operate domestic secondary lead or zinc smelters, and lead and zinc fabricating plants (producing rolled, extruded, or cast products, pigments, and so forth). Many also produce other metals, and some are engaged in mining, smelting, or refining lead and zinc in foreign countries.

In 1960, 23 U.S. concerns and their subsidiaries operated the 25 largest lead mines and the 25 largest zinc mines in the United States; 1/ the same concerns were engaged in other operations as enumerated below:

In the United States--

5 in primary lead smelting and refining
6 in primary zinc smelting and refining
5 in secondary lead smelting
2 in secondary zinc smelting
6 in fabricating lead or zinc products
At least 15 in producing other metals

In foreign countries--

6 in mining lead or zinc, mostly in Mexico, Canada, Peru, and Australia; some others, in exploration activities in foreign countries
2 in smelting or refining lead or zinc in Mexico, Australia, Peru, or Argentina .

1/ The 25 largest lead mines and the 25 largest zinc mines, together with the names of the companies operating them, are listed in the lead and zinc chapters, respectively, of the U.S. Bureau of Mines Minerals Yearbook, 1960, vol. 1, Metals and Minerals (Except Fuels), 1961.

One of the large concerns is engaged in all of the foreign and domestic activities enumerated; eight others are engaged in three or more of these activities.

U.S. Mine Production

In 1960 a total of 15,275,000 short tons of crude ore and other materials (old tailings, mill cleanup material, and so forth), valued chiefly for their lead-plus-zinc content, was sold or treated by lead and zinc mining companies in the United States (table 26). The gross market value of the recoverable metals contained amounted to $175,254,000. 1/ The f.o.b. value of the ores and concentrates produced at mines and mills, of course, was considerably less. In 1952 the mine or mill value of the ores and concentrates represented about 68 percent of the gross market value, according to an analysis by the Tariff Commission.

About 59 percent of the gross market value of the recoverable metals contained in all the lead-zinc ores and materials sold or treated in 1960 was derived from the zinc content, 32 percent was derived from the lead content, and the remaining 9 percent came from the silver, copper, and gold content. About 98 percent of the gross market value of ores mined in the States east of the Mississippi River was attributable to the zinc content, and about 95 percent of that mined in southeastern Missouri to the lead content. The values of the ores mined in other major areas were more equally divided between lead and zinc. In the Western States, about 50 percent of the value was derived from the zinc content, 32 percent from the lead content, and 18 percent from the silver, copper, and gold content.

1/ Represents the aggregate of the recoverable metals contained multiplied by their average market values in 1960.

The above values reflect the differences in the recoverable metal content of the crude ore sold or treated in the various regions of the United States as shown for 1960 and for certain previous years in table 25. For the United States as a whole, the average recoverable metal content of crude ores sold or treated in 1960 was as follows: Zinc, 2.6 percent; lead 1.6 percent; copper, 0.1 percent; silver, 0.63 fine ounce per ton; and gold, 0.005 fine ounce per ton. 1/ These averages for the United States as a whole obscure the wide variations in the grades of ore mined in the different regions. On the basis of recoverable lead-plus-zinc content, the average grade of ores mined in the Western States is much higher than that of ores mined in other major areas. The average grade of ores mined in the West Central States is the lowest, and that of the ores mined in the States east of the Mississippi River is intermediate and close to the average for the country as a whole.

The ability of mines to produce under any given conditions of cost and price is affected not only by the grade of ores mined but also by the size, location, and character of the ore bodies and especially their amenability to the application of mass-production techniques.

1/ Data received from a large Canadian producer indicate that the recoverable metal content of ores mined by principal lead and zinc producers in Canada in 1960 averaged 3.6 percent lead, 3.3 percent zinc, 2.0 percent copper, and 2.2 ounces of silver per ton. Data obtained from a producer in Mexico (accounting for about 40 percent of the Mexican mine output of lead and zinc) indicate that the recoverable lead content of ores mined in that country in 1960 and 1961 averaged about 5 percent and the recoverable zinc content averaged about 4 percent. Although contents of other metals were not indicated, it is known that the lead and zinc ores in that country contain appreciable quantities of silver. Fragmentary data indicate that the grade of ore mined is probably at least as high in other principal foreign countries supplying lead and zinc to the United States--such as Australia, Peru, and Yugoslavia--as in Canada and Mexico.

Some ore bodies to which mass techniques can be applied are in the new lead mines in southeastern Missouri and the new zinc mines in Tennessee.

Recent changes in the mine output of lead

U.S. mine production of recoverable lead declined from an annual average of 339,000 tons during 1953-57 to an annual average of 254,000 tons in the 3 quota years, 1959-61--representing a decline of 25 percent (table 23). Annual output was as follows: 256,000 tons in 1959; 247,000 tons in 1960 (the lowest level since 1899); and 260,000 tons in 1961. The low output in 1960 is partly attributable to large interruptions of mine activities owing to labor disputes.

Lead is regularly mined in the United States in 17 States, but the following 4 States produced 86 percent of the total output during 1959-61: Missouri (which accounted for 41.5 percent of the total), Idaho (23.0 percent), Utah (15.2 percent), and Colorado (6.4 percent). In each of these States the mine production of lead averaged 15 percent less in 1959-61 than during 1953-57.

Recent changes in the mine output of zinc

Annual U.S. mine production of recoverable zinc, which averaged 522,000 tons during 1953-57, averaged 442,000 tons during 1959-61--representing a decline of 15 percent (table 24). Production increased steadily from 412,000 tons in 1958 (which was the lowest output in any year since 1933), to 425,000 tons in 1959, 435,000 tons in 1960, and 467,000 tons in 1961.

Zinc mining is less concentrated and more widely distributed throughout the country than lead mining. Zinc is regularly mined in 19 States, but in 1959-61 the following 10 States accounted for about

88 percent of the total output: Tennessee (19.8 percent of the total), New York (12.5 percent), Idaho (11.2 percent), Colorado (8.3 percent), Utah (8.1 percent), Arizona (7.7 percent), Illinois (6.2 percent), Virginia (5.3 percent), Washington (4.6 percent), and Pennsylvania (4.0 percent).

Notwithstanding the above-mentioned decline in total U.S. production of zinc in recent years, mine output increased in some of the important producing areas. The average annual mine production of zinc in Tennessee in 1959-61 was about double that in 1953-57. Average annual output in 1959-61, as compared with 1953-57, was 30 percent larger in Arizona, 42 percent larger in Illinois, and 24 percent larger in Virginia. All of the production in Pennsylvania in 1959-61 was new, for zinc was not mined in that State prior to 1958. On the other hand, between 1953-57 and 1959-61, the annual output declined 2 percent in New York, 16 percent in Idaho, about 7 percent in Colorado, 24 percent in Washington, and 5 percent in Utah. Production also declined sharply in the West Central States (primarily the Tri-State district embracing Oklahoma, Kansas, and part of Missouri). In 1953-57 the mines in these States accounted for 11.3 percent of the country's total output of zinc; by 1959-61 their share of the total had declined to 1.5 percent reflecting not only an unfavorable market condition, but more fundamentally the depletion of economic ore reserves.

U.S. Government assistance programs

The various Government purchase and assistance programs affecting the lead and zinc industry were discussed in the Commission's report of

March 1960. 1/ The U.S. Government program for the procurement of lead and zinc for the strategic stockpile had terminated at the end of 1958. In 1959 lead and zinc were omitted from the list of foreign commodities that would be accepted in barter transactions. However, as stated earlier in this report, Government acquisitions were resumed as a result of the International Lead and Zinc Study Group meeting in Mexico City in March 1961 (see p. 15). To date, 105,000 short tons of foreign lead have been earmarked for exchange for U.S. surplus agricultural commodities.

Government assistance to the domestic lead- and zinc-mining industry in the form of aid for exploration projects was authorized in 1958 by Public Law 85-701 (72 Stat. 700). At the end of 1961, nine Government contracts were in force in connection with projects for exploration of domestic lead-zinc and lead-zinc-copper ores. Government participation commitments for these contracts totaled $373,000, equivalent to 50 percent of the total authorized expenditures of $746,000.

The latest Government program of assistance to the mining segment of the domestic lead and zinc industry is provided for in Public Law 87-347, approved October 3, 1961. The act provides for limited payments of Government funds to eligible producers over a 4-year period ending with 1965. Aggregate payments may not exceed $4.5 million during each of the calendar years 1962 and 1963, $4 million during 1964, and $3.5 million during 1965.

1/ U.S. Tariff Commission, Lead and Zinc: Report to the Congress on Investigation No. 332-26 (Supplemental) Under Section 332 of the Tariff Act of 1930 Made Pursuant to Senate Resolution 162, 86th Congress, Adopted August 21, 1959, March 1960 (processed), pp. 59-65.

The law provides for so-called stabilization payments by the Secretary of the Interior to eligible producers on their sales of lead and zinc ores and concentrates mined subsequent to the approval of the act. Subject to specified limitations in the law, the rate of payments for the lead content (as determined by assay) of the ores and concentrates is fixed at 75 percent of the difference between 14-1/2 cents per pound and the average market price of lead (Common grade, New York) for the month in which the sale occurs; and for zinc content (as determined by assay), the rate of payments is fixed at 55 percent of the difference between 14-1/2 cents per pound and the average market price of zinc (Prime Western, East St. Louis).

Eligible producers are those that had not produced or sold ores or concentrates with a combined recoverable lead and zinc content of more than 3,000 tons during any 12-month period between January 1, 1956, and August 1, 1961. 1/ Payments may not be made on production from any property subsequently acquired unless the person or firm acquiring the property can qualify as a small domestic producer from such property during the specified period. In addition to confining the benefits to eligible small producers, the act limits the amount of stabilization payments to such producers in each of the 4 years 1962-65, during which the act will be in effect. Payments to any one producer are limited to 1,500 tons of lead or zinc in newly mined ores sold during the calendar year 1962, to 1,200 tons during 1963, to 900 tons during 1964, and to 600 tons during 1965.

1/ Recoverable content, for the purposes of the act, is computed as 95 percent of the lead content of the ores or concentrates and 85 percent of the zinc content of the ores or concentrates.

According to an estimate by the U.S. Department of the Interior (near the beginning of 1962), some 500 producers might be expected to apply for stabilization payments covering the production of 50,500 tons of recoverable lead and 83,000 tons of recoverable zinc in 1962 or 1963. 1/ Such subsidies, of course, would not cause U.S. mine output of lead and zinc to increase by this amount. It has been estimated that if subsidy payments were to be made for 50,500 tons of lead and 83,000 tons of zinc, they would amount to about $6.5 million (on the basis of 10 cents per pound for lead and 12 cents for zinc). With lower prices, such as the present 9-1/2 cents for lead and 11-1/2 cents for zinc, the estimated total cost of payments for the above quantities of lead and zinc would, of course, be higher. Since the law limits payments in each of the first 2 years to only $4.5 million, that amount would be insufficient to pay subsidies on the aforementioned quantities. At this writing, however, no funds for this purpose had been appropriated by the Congress.

In 1960, according to an estimate by the Department of the Interior, 273 units (mines) operated by almost as many producers, each produced ores containing less than 3,000 tons of recoverable lead plus zinc. 2/ The great bulk of these mines each produced ores containing less than 500 tons of recoverable lead plus zinc. In the aggregate they produced 21,000 tons of lead and 37,000 tons of zinc at prices that averaged 11.9 cents for lead and 12.9 cents for zinc.

1/ U.S. Congress, House Committee on Appropriations, Department of the Interior and Related Agencies Appropriations for 1963, Hearings Before a Subcommittee /Subcommittee on Department of the Interior and Related Agencies/ . . . (87th Cong., 2d sess.), 1962, p. 763.

The Commission was informed on May 9, 1962, that no applications for stabilization payments had been received by that date, although numerous inquiries from possible applicants had been received.

2/ Some of these mines produce ores valued chiefly for minerals other than lead and zinc.

U.S. Metal Production

Primary metal

The domestic production of primary lead, including the lead content of antimonial lead, amounted to 353,000 tons in 1959 and 385,000 tons in 1960, the last year for which data are available (table 43). Annual production in these 2 years was 29 percent less than the average annual output in 1953-57. About 37 percent of the total output in 1959 and 1960 was produced from foreign ores and base bullion, compared with 34 percent in the period 1953-57.

U.S. production of primary slab zinc was 799,000 tons in 1959 and 804,000 tons in 1960; annual output in these years was 14 percent below the annual average in 1953-57 (table 44). In 1959 and 1960, 57 percent of the domestic production of primary slab zinc was derived from imported ores and concentrates, compared with 47 percent in the period 1953-57.

Secondary metal

As stated earlier in this report, lead and zinc are produced in the United States from scrap (secondary output), as well as from ores and concentrates (primary output). Secondary lead production by U.S. smelters and refineries exceeded primary lead production in 1959 and 1960 by about 25 percent (table 43). Comparable data for 1961 are not yet available. Secondary zinc production by U.S. smelters and refineries has been much smaller than primary production; in 1959-60 it was equal to about one-third of primary output (table 44).

U.S. production of secondary lead declined from 493,000 tons per year during 1953-57 to 454,000 tons per year during 1959-61, amounting

to a decrease of about 8 percent (table 12). Most of the reduction was in lead produced from old scrap, the principal raw material of secondary lead producers.

Domestic production of secondary zinc, which is recovered principally from new scrap, averaged 270,000 tons per year during 1959-61. 1/ This was about 5 percent less than the annual average production of 283,000 tons during 1953-57 (table 16).

Operation of U.S. Primary Smelters and Refineries

The material in the following pages on changes in production capacity, metal production, producers' stocks, and other subjects relates principally to primary lead and zinc smelters and refineries. The raw materials processed by such plants consist primarily of ores and concentrates, but in part also of scrap materials. Their output of metals, therefore, includes not only all of the primary lead and zinc metal production, summarized above, but also a part of the secondary lead and zinc production.

Data on production capacity and on production and producers' inventories of refined metals are from trade sources--the American Bureau of Metal Statistics and the American Zinc Institute.

Recent changes in primary smelting and refining capacity

Production capacity of primary lead and zinc smelters and refineries in the United States has declined since the end of

1/ About 14 percent of this secondary zinc was recovered in chemical products.

1958.[1] The decline for lead plants has been large. At the end of 1958, the capacity of U.S. primary lead plants was reported at 746,000 tons of refined lead. Since then smelting or refining operations have been discontinued at Alton, Ill.; Galena, Kans.; Leadville, Colo.; and Barber (Perth Amboy), N.J. As a result, primary-plant capacity for the production of refined lead was reduced by about 234,000 tons, or by 31 percent, to about 512,000 at the present time (May 1962).

Similarly, the slab-zinc producing capacity of primary zinc plants has been reduced since the end of 1958 by about 119,350 tons, or about 10 percent. This resulted from the closure of a plant at Anaconda, Mont., and another at La Salle, Ill.

The shutdown of primary smelting and refining plants in recent years represents a reduction of excess smelting or refining capacity and the concentration of operations in the more efficient or more advantageously located plants. The capacity of primary lead smelters especially has been, for many years, far in excess of utilization. However, the shutdown of smelters presents difficulties for nearby mines which now must ship their ores to more distant smelters, and consequently

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1/ This decline is indicated by a comparison of data on capacities at the end of 1958 (as shown in the Commission's report to the Congress in March 1960) with similar data on capacities at the end of 1960 (tables 37 and 39), adjusted for known subsequent plant closings.

pay higher transportation costs. 1/ Rail freight rates on ores and concentrates were generally higher at the end of 1961 than at the end of 1957 (tables 29 and 30).

Smelter ore supplies

Data obtained by the Commission from individual smelting companies indicate the quantities of lead and zinc in ores and concentrates received at domestic smelters from foreign and domestic sources, total and by countries, and the extent to which the supplying mines were owned or controlled by the smelting companies (tables 39 and 40).

Receipts of lead ores in 1961.--A total of 433,000 tons of lead in ores and concentrates was received by domestic lead smelters in 1961--272,000 tons from domestic sources, and 160,000 tons from foreign sources (table 39). About 56 percent of the domestic ores and almost none of the foreign ores originated in mines owned or controlled by the smelting companies or their subsidiaries. Of the six primary-lead smelters that operated during 1961, two received domestic ores only, one received foreign ores only, and the remaining three received substantial quantities of both domestic and foreign ores.

1/ An example of a problem faced by some producers of lead concentrates in the Tri-State district was presented by the Commission's hearings. As a result of the discontinuance of lead smelting at Galena, Kans., and the closing of the lead smelter at Alton, Ill., small miners in the district experienced difficulty in marketing their lead concentrates. The company operating the nearby smelter at Herculaneum, Mo., using ores from its own domestic mines, was reluctant to buy additional concentrates because it already had excessive lead metal stocks. Another smelting company offered to buy these concentrates for smelting at El Paso, Tex., at the same price paid for other concentrates delivered at that smelter. However, delivery at that smelter would entail an additional cost of almost $30 per ton, representing the freight cost of moving the ore from the Tri-State district to El Paso, plus the cost of moving the metal back to the market.

Among the five lead smelters that received sizable quantities of domestic ores, the proportion of these ores originating in mines controlled by the smelting companies ranged from zero to almost 100 percent.

Receipts of zinc ores in 1961.--Zinc smelters received a total of 825,000 tons of zinc in ores and concentrates in 1961. The receipts of domestic and foreign ores were about equally divided. About 52 percent of the domestic ores and 14 percent of the foreign ores originated in mines owned or controlled by the smelting companies or their subsidiaries. Of the 16 primary zinc smelters that operated during at least part of 1961, 2 received domestic ores only, 3 received foreign ores only, and of the remaining 11 plants, the receipts of 1 were about equally divided between domestic and foreign ores, those of 5 were predominantly domestic ores, and those of 5 others were predominantly foreign ores.

Among the 8 zinc smelters that received sizable quantities of domestic ores, the proportion of these ores originating in mines owned or controlled by the smelting companies ranged from zero for 2 smelters to over 90 percent for 1 other. Among the 9 zinc smelters that received substantial amounts of zinc in foreign ores, the proportion of these receipts originating in mines owned or controlled by the smelting companies ranged from none for 6 smelters to more than half for 2 smelters.

Recent changes in smelter ore supplies.--U.S. supplies of lead and zinc ores [1] have diminished in recent years, because of both reduced domestic mine production and reduced imports. Annual U.S. supplies of lead in ores (U.S. mine production plus imports), which averaged 511,000 tons in 1953-57, declined 23 percent to an average of 391,000 tons per year during the 3 quota years 1959-61 (tables 15 and 62). Similarly, annual U.S. supplies of zinc in ores (and zinc fume) declined about 13 percent, from an average of 1,039,000 tons in 1953-57 to an average of 904,000 tons in 1959-61 (tables 17, 18, and 65).

Despite the reduction in U.S. supplies of lead and zinc ores in 1959-61 mentioned above, supplies were generally adequate for the smelting industry, considered as a whole, under the prevailing market conditions. Reduced U.S. production of primary lead and zinc reflected the reduced U.S. industrial consumption of metals in 1959-61, as well as the prior cessation of Government stockpiling of lead and zinc metals from domestic and foreign ores smelted and refined in the United States.

However, the reduction in total supplies of ores and concentrates affected some smelters more than others. The smelting concerns that processed principally domestic ores from their own mines were generally able to operate their facilities more nearly at capacity than were those that depended principally upon foreign ores, and the smelting concerns that did not own or control any substantial domestic ore supplies were in an even less favorable position.

1/ The great bulk of the ores is consumed by U.S. smelters, but a part of them, particularly of the zinc ores, is used directly in producing zinc oxides and other compounds in other establishments.

Some of the smelting companies wholly or largely dependent upon foreign ores sought to increase utilization of their smelting capacity in 1960 and 1961 by importing nonquota ores (especially zinc ores) for smelting and refining under bond and export of the metal produced. 1/ Many U.S. lead and zinc smelters are located inland, and for these plants imports of ore supplies, as well as exports of metals produced from these ores, involve large transportation costs. In the aggregate, imports of nonquota ores have been small, and the smelting and refining of such ores under bond for export has accounted for only a small part of domestic processing.

Recent changes in producers' stocks

Smelter stocks of ores.--Average yearend stocks of lead and zinc in ores and concentrates at U.S. smelters during 1959-61 were nearly the same as they were during 1953-57. However, stocks of lead in ores and mattes and in process at smelters declined from 100,000 tons at the end of September 1960 to 63,000 tons at the end of February 1962, the latest month for which data are available (table 47). Stocks of zinc in ores and other zinciferous materials held at zinc smelters also declined--from a peak index of 160.1 at the end of September 1960 to an index of 126.1 at the end of February 1962. The information respecting the actual quantities of zinc ore stocks is confidential (table 48).

As explained in the Commission's report to the Congress in March 1960, the imposition of import quotas resulted in the accumulation by

1/ Evidence presented at the Commission hearing indicated that two zinc-smelting companies which attempted this practice found it uneconomic and discontinued it.

domestic smelters of inventories of ores and concentrates in bond before the beginning of each new quarterly quota period. 1/ Although such accumulations provided each owner with increased power to bid for a share of each new quota, they also involved bonding and storage costs, immobilization of capital, and financial risk. Part of the increased accumulation in 1960 and 1961 represents material deliberately accumulated under bond for smelting, refining, and subsequent export of the metal produced. The individual smelting companies reported that lead in ores and concentrates held in bond amounted to about 8,700 tons at the end of 1958 and rose to 15,900 tons at the end of 1960, and to 28,600 tons at the end of 1961 (table 40). The quantities of zinc in ores and concentrates held in bond were larger; they increased from 9,700 tons at the end of 1958 to 62,000 tons at the end of 1960, and to about 68,600 tons at the end of 1961.

Producers' stocks of metals.--Yearend stocks of refined lead and antimonial lead held at U.S. primary lead refineries during 1953-57 averaged 67,500 tons and were equal to 12 percent of their average annual production during that period (table 47). In 1959-61, yearend stocks averaged 163,000 tons (142 percent more than in the earlier period) and were equal to 38 percent of the average annual production during the 3 years. Refinery stocks of lead metal increased from about 109,000 tons at the end of March 1960 to about 205,000 tons at the end of March 1962, the latest month for which data are available.

1/ For a more complete discussion of this development see Lead and Zinc: Report to the Congress on Investigation No. 332-26 (Supplemental) . . . op. cit., pp. 98-101.

Yearend stocks of primary and secondary slab zinc held at U.S. zinc smelters and refineries during 1953-57 averaged 116,300 tons and were equal to 12 percent of average annual production by the same smelters during that period (tables 46 and 49). During 1959-61, yearend stocks of slab zinc averaged 165,500 tons (42 percent more than in 1953-57) and were equal to 19 percent of average annual production during the 3 years. Smelter stocks of slab zinc increased from a level of about 137,000 tons at the end of March 1960 to a peak of 223,000 tons at the end of March 1961, and then declined to 139,000 tons at the end of March 1962, the latest month for which data are available.

Effect of import quota restrictions

The operation of the U.S. import quota restrictions, which had been in effect for about 15 months at the time of the Commission's report to the Congress in March 1960, were summarized therein. 1/ In that report the Commission concluded that import quotas had not proved to be a satisfactory means of curtailing imports of lead and zinc; that the quotas were discriminatory in their effects, favoring some concerns while creating unusual difficulties for others; and that they seriously interfered with normal trade relations. Two additional years of experience with the import quotas substantiate the above conclusions. The quotas have not appreciably improved conditions in the domestic lead- and zinc-mining industry. On the other hand, they have created difficulties for certain smelters, particularly the custom smelters, and for certain lead fabricators, as mentioned later in this report.

1/ Lead and Zinc: Report to the Congress on Investigation No. 332-26 (Supplemental) . . ., pp. 104-110.

Following the establishment of U.S. import quotas, Peru and Mexico subdivided the quotas for their countries among their producers to enable them to share the benefits of sales in the higher priced U.S. market. Both countries have endeavored to allocate the quotas equitably among their producers and to prevent evasion of the allotments. The Peruvian allocations of the U.S. quotas are reassigned every 6 months to take account of changing patterns of production. Inasmuch as ores from alternative sources of supply are not all suitable for the particular smelting facilities, these allocations of the U.S. quotas have presented U.S. smelters with a difficult and costly problem of readjustment. 1/

1/ For example, the Peruvian allocation of the U.S. quota forced a 50-percent reduction in the supply of concentrates from a mine in Peru, the total output of which had formerly been smelted in an electrolytic plant at Corpus Christi, Texas--both the mine and smelter being owned by the same U.S. concern. In order to replace the lost tonnage and continue to utilize the facilities of this efficient and fairly low-cost plant, the company diverted to it domestic concentrates which had formerly been treated at the company's smelter at Amarillo, Tex. The ore diversion involved an additional transportation cost of $3 per ton. These domestic concentrates, however, which were adequate for the retort smelter at Amarillo, proved to be unsuitable for the electrolytic plant at Corpus Christi. Impurities in the concentrates caused unforeseen metallurgical difficulties, reduced plant efficiency, and increased operating costs. Ultimately, the company rediverted the domestic concentrates to Amarillo. Since other suitable concentrates were not available to maintain operations at the Corpus Christi plant, the company took over the overquota balance of the concentrates from the Peruvian mine. This action necessitated carrying in bond or exporting the resulting production of slab zinc. The company calculated that up to the time of the hearing the additional cost of this experience had totaled about $200,000.

Employment and Wages in Primary Lead and Zinc Production

Information on employment and wages at domestic lead and zinc mines and mills and at primary lead and zinc smelters and refineries has been collected by the Commission from individual producing concerns for the past 9 years in connection with its investigations of lead and zinc. Comparable annual data are available for 1952, 1956, and for each of the years 1958-61. 1/ Additional data for mines and mills are available from the United States Census of Mineral Industries, 1954.

Employment and wage data are summarized in this report in appendix tables 31, 32, 33, 34, 35, and 36.

In 1961 the total number of all employees at U.S. lead and zinc mines and mills and primary lead and zinc smelters and refineries averaged 22,647, which is lower than the average in any other of the years 1952-60 for which comparable data are available. Included in this total are 9,312 employees at mines and mills, and 13,335 employees at primary smelters and refineries--2,946 at lead plants and 10,389 at zinc plants.

1/ The employment and wage statistics for lead and zinc mines and mills consistently cover establishments engaged in the production of ores or concentrates valued chiefly for their recoverable lead-plus-zinc content. They also cover lead and zinc operations that engaged only in maintenance and development work and therefore produced no ore.

Data on employment and wages at primary smelters and refineries include statistics on employment and wages in connection with their relatively small production of secondary metals as well. However, employment data for the numerous secondary plants recovering lead and zinc (and other metals) from scrap are not available. In view of the large production of secondary lead and zinc, especially lead, employment in such secondary production is probably substantial.

The following tabulation indicates the average number of employees in the various segments of the lead and zinc industry in specified years from 1952 to 1961:

Period	Total	At mines and mills	At primary smelters and refineries		
			Total	At lead plants	At zinc plants
1952	42,171	24,282	17,889	4,757	13,132
1954	1/	17,016	1/	1/	1/
1956	34,001	16,845	17,156	4,853	12,303
1958	24,141	10,500	13,641	3,778	9,863
1959	23,201	9,893	13,308	2,844	10,464
1960	22,733	9,430	13,303	3,030	10,273
1961	22,647	9,312	13,335	2,946	10,389
1959-61 average	22,860	9,545	13,315	2,940	10,375

1/ Comparable data not available.

Recent overall changes in employment

The average employment in 1961 was very much smaller than that in 1952, the first year for which data are available: about 62 percent smaller at mines and mills and about 26 percent smaller at primary smelters and refineries. However, 1952 was a year of unusually high activity, reflecting the stimulation of the Korean conflict. A more "representative" year with which to compare average employment during the 3 quota years is 1956, a year of fairly good activity. Average employment in 1959-61 remained nearly constant (although employment at mines and mills was 6 percent smaller in 1961 than in 1959).

The average number of employees at lead and zinc mines and mills during 1959-61 was 43 percent smaller than that in 1956. The average number of employees at primary smelters and refineries during 1959-61 was 22 percent smaller than that in 1956. Employment at primary lead smelters and refineries was 39 percent smaller, and that at primary zinc smelters and refineries was 16 percent smaller, in 1959-61 than in 1956. Employment levels in 1959-61 were affected not only by general economic conditions but also by interruptions of activities resulting from labor disputes. The unusually low level of employment at lead smelters and refineries in 1959 (as shown in the above tabulation) reflects the closure of seven plants during part of that year owing to labor disputes.

Employment at primary lead and zinc smelters and refineries has exceeded that at mines and mills since about 1956; during 1959-61 the difference averaged 3,770 employees.

Changes in the number of production and related workers, 1/ and in the man-hours worked by such workers, have been generally similar to the changes in total number of employees. However, the decline in employment has been somewhat more pronounced for production workers than for all employees. Also, the annual number of man-hours worked by production and related workers has declined somewhat more sharply than the number of such workers, reflecting less full-time employment.

1/ The difference between all employees and "production and related workers" is principally that the latter excludes officers, supervisory employees (above the working-foreman level), technical employees, salesmen, and general office workers. During 1959-61 the ratio of production and related workers to all employees was 84 percent at mines and mills, 77 percent at primary lead smelters and refineries, and 82 percent at primary zinc smelters and refineries.

Regional employment changes at mines and mills

Data on the average number of employees at lead and zinc mines and mills in 1956 and 1959-61 (as reported to the Commission by individual companies) are shown below, by regions: 1/

Region or States	1956	1959-61 average		
		Number	Decrease from 1956	
			Number	Percent decline
States east of the Mississippi River (N.Y., N.J., Pa., Tenn., Va., Ill., and Wis.), total	2,450	2,113	337	14
West Central States, total	4,552	2,501	2,051	45
Southeastern Missouri	3,221	2,330	891	28
Tri-State (Oklahoma, Kansas, and Southwest Missouri)	1,331	171	1,160	87
Western States, total	9,706	4,896	4,810	50
Colorado	1,495	1,115	380	25
Idaho	2,484	1,563	921	37
Montana	1,976	396	1,580	80
Utah	1,691	969	722	43
All other (Alaska, Arizona, California, Nevada, New Mexico, and Washington)	2,060	853	1,207	59

In 1959-61 the Western States, with an average of about 4,900 employees, accounted for about 52 percent of all the employment at lead and zinc mines and mills in the United States. The West Central States, with an average of about 2,500 employees, accounted for about

1/ The data in this tabulation (which are based on table 36) cover an estimated 99.2 percent of the total employment in 1956, and 99.6 percent of the total in 1959-61. For this reason the sums of the figures do not quite equal the U.S. totals previously shown, which included small estimates for unreported operations. However, these reported data are so nearly complete that they are indicative of the total employment changes that have occurred.

26 percent of the total, and the States east of the Mississippi River, with about 2,100 employees, for the remaining 22 percent.

All major producing areas had fewer employees in 1959-61 than in 1956. Of the total reduction in employment between the two periods, almost 7,200, about two-thirds occurred in the Western States. Most of the remaining reduction, in terms of number of employees, occurred in the West Central States, chiefly in the Tri-State district. Employment in the Western States declined 50 percent; that in the West Central States, 45 percent; and that in the States east of the Mississippi River, 14 percent.

Employment in smaller areas or individual States that had an average of 1,000 or more employees in either 1956 or 1959-61 declined between the two periods as follows: Southeastern Missouri, 28 percent; the Tri-State district, 87 percent; Colorado, 25 percent; Idaho, 37 percent; Montana, 80 percent; and Utah, 43 percent.

For the country as a whole, the decline in average employment from 1956 to 1959-61 (43 percent) was considerably greater than the decline in annual mine production of recoverable lead plus zinc (19 percent) between those periods. This disparity is attributable to the closing of the less efficient mines and the resulting concentration of production in the more efficient or more mechanized mines, the curtailment of development and exploration work, and the selective mining of higher grade ores.

Wages paid at mines and primary smelters and refineries

Total wages paid to production and related workers at mines and mills and at primary smelters and refineries averaged $92.3 million

during 1959-61. Of this total, $37.6 million was paid at mines and mills, 1/ and $54.7 million was paid at the smelters and refineries ($11.3 million at lead plants and $43.3 million at zinc plants). Recent changes in total wage payments to production and related workers in these segments of the lead and zinc industry are summarized below (in thousands of dollars):

Period	Total	At mines and mills	At primary smelters and refineries		
			Total	At lead plants	At zinc plants
1956	131,133	66,595	64,538	18,007	46,531
1958	89,026	38,089	50,937	14,067	36,870
1959	89,969	38,008	51,961	10,017	41,944
1960	92,629	37,207	55,422	12,049	43,373
1961	94,336	37,695	56,641	11,965	44,676
1959-61 average	92,312	37,637	54,675	11,344	43,331

Total annual wages paid to production and related workers during 1959-61 declined by a somewhat smaller percentage than the number of man-hours worked by such workers. Average hourly wage payments to production and related workers per man-hour actually worked at lead and zinc mines and mills increased from $2.19 in 1956 to $2.44 in 1961. Wage payments in 1961 for all hours paid for, including payments for holidays, sick leave, and vacations taken, averaged $2.31 per hour (table 34). Hourly wage payments to production and related workers at primary lead and zinc smelters and refineries for man-hours actually worked increased from $2.23 in 1956 to $2.60 in 1961. The average for 1961 based on all man-hours paid for was $2.43 per hour (table 33).

1/ Exclusive of payments at unreported lead and zinc mines and mills that accounted for less than one-half of 1 percent of mine production of lead and zinc.

Imports of Unmanufactured Lead and Zinc

Recent changes in total U.S. imports and in commercial imports only (which are restricted by import quotas), were reviewed in the first part of this report relating to changes in U.S. supplies of unmanufactured lead and zinc. This section is confined to a summary of the recent U.S. imports of unmanufactured lead and zinc, by types, by customs treatment, by country of origin, and by major ports of entry, as well as imports under the quotas.

Unmanufactured lead

During 1959-61, annual imports of unmanufactured lead averaged 389,000 short tons, or about 21 percent less than during 1953-57. Of the total imports in 1959-61, lead pigs and bars accounted for 62 percent; lead-bearing ores, flue dust, and mattes, for 35 percent; and lead in various other forms, for the remaining 3 percent (table 59).

During 1959-61, annual imports free of duty averaged 29,500 tons and accounted for about 8 percent of total imports. Of these duty-free imports, almost 6 percent were in the form of ores, flue dust, and mattes, and the remaining 94 percent were in various forms of lead metal (table 59). Imports for U.S. Government use accounted for 97 percent of all duty-free entries (table 56).

During 1953-57 the principal sources of imports of unmanufactured lead in all forms, in order of importance, were Mexico, Australia, Canada, Peru, Yugoslavia, and the Union of South Africa. During 1959-61, Canada displaced Australia as the second largest source, and Australia

ranked third (table 61). These six countries, combined, accounted for 89 percent of the quantity imported during 1953-57 and for 90 percent of that entered during 1959-61.

Principal sources of U.S. imports of lead-bearing ores, flue dust, and mattes during both the 1953-57 and 1959-61 periods were, in order of importance, Peru, the Union of South Africa, Canada, Australia, and Bolivia (table 62). During 1953-57 these five countries accounted for 89 percent, and during 1959-61 for 92 percent, of total imports of lead in ores, flue dust, and mattes, which averaged 171,000 tons per year during 1953-57 and 137,200 tons per year during 1959-61. All of the five countries mentioned above have individual quotas established for imports of ores, flue dust, and mattes into the United States (table 3).

Principal sources of U.S. imports of lead metal in forms other than ores, flue dust, and mattes, during both 1953-57 and 1959-61 were, in order of importance, Mexico, Australia, Canada, Yugoslavia, and Peru (table 63). During 1953-57 these five countries accounted for 92 percent, and during 1959-61 for 93 percent, of the total imports of unmanufactured lead metal in such forms, which averaged 320,300 tons per year during 1953-57, and 252,300 tons per year during 1959-61. The five countries mentioned above have individual quotas established for imports of lead metal into the United States (table 3).

Official statistics from the designated foreign countries indicate that of the total quantities of their exports of unmanufactured lead in 1960, the following proportions were exported to the United States: About 50 percent of the exports from each of the countries of Mexico and

the Union of South Africa; about 40 percent of the exports from each of the countries of Canada and Peru; about 23 percent of the total from Australia; and about 46 percent of the total from Yugoslavia.

In 1960 about 30 percent of the total quantity of imports of lead ores, flue dust, and mattes entered the United States through the customs district of Montana and Idaho; 23 percent entered through San Francisco; 16 percent, through El Paso; 15 percent, through Chicago; and the remaining 16 percent, through other customs districts.

In the same year, 26 percent of the total quantity of imports of lead in pigs and bars (the form in which most unmanufactured lead is imported), entered through the customs district of New York; 24 percent entered through Laredo; 19 percent, through Philadelphia; and the remaining 31 percent through other customs districts, principally Dakota, Galveston, New Orleans, San Francisco, and Washington.

Unmanufactured zinc

During 1959-61, imports of unmanufactured zinc, excluding zinc fume, averaged 564,900 short tons annually (table 64). Zinc-bearing ores accounted for 76 percent of this total and zinc blocks, pigs, and slabs for 24 percent (table 60). During the same period imports of zinc fume, also an unmanufactured zinc article, averaged 35,100 tons annually (table 17). Total annual imports for consumption of unmanufactured zinc during 1959-61 thus averaged 600,000 tons, which was 19 percent smaller than those in 1953-57.

During 1959-61, duty-free imports of unmanufactured zinc, excluding fume, averaged 49,700 tons annually, or 9 percent of the total annual

duty-free imports; 40,000 tons, or 80 percent of the total, was in the form of zinc ores; and the remaining 20 percent was in various forms of zinc metal (table 60). About 78 percent of all the duty-free imports were entered under bond for smelting, refining, and export, and the remainder, for U.S. Government use (table 57).

Annual imports of unmanufactured zinc (except in zinc fume) averaged 729,500 tons in 1953-57 and 564,900 tons in 1959-61 (table 64). During 1953-57, Canada supplied 39 percent of all imports of unmanufactured zinc (excluding zinc fume); Mexico supplied 29 percent; Peru, 14 percent; Belgium and Luxembourg, 3 percent; and the Belgian Congo, Italy, and Australia, about 2 percent each. Together these countries supplied 91 percent of U.S. imports in the 5-year period. During 1959-61, Canada accounted for 36.5 percent, Mexico for 32 percent, Peru for 15 percent, Australia for 3 percent, Spain for 2.5 percent, and the Belgian Congo, Belgium and Luxembourg, and Italy for about 2 percent each. These countries together supplied 95 percent of the total U.S. imports.

Annual imports of zinc in zinc-bearing ores averaged 508,200 short tons in 1953-57 and 426,800 tons in 1959-61 (table 65). During both periods Canada, Mexico, and Peru were the major sources of such imports, together accounting for 90 percent of the total during 1953-57, and for 88 percent of the total during 1959-61. There are individual quotas for imports of zinc-bearing ores from Canada, Mexico, and Peru (table 3).

Annual imports of zinc metal (blocks, pigs, slabs, scrap, dross, and skimmings) averaged 221,400 short tons during 1953-57, and 138,100

tons during 1959-61 (table 66). During 1953-57 Canada, Belgium and Luxembourg, Mexico, and the Belgian Congo were the major sources of such imports, together accounting for 77 percent of the total. During 1959-61, Canada, the Belgian Congo, Belgium and Luxembourg, and Peru were the four largest sources of imports, together accounting for 79 percent of the total. The United States has established individual quotas for imports of zinc metal from these countries, as well as from Mexico and Italy (table 3).

The principal source of imports of zinc fume in recent years has been Mexico (table 17).

Official statistics from the designated countries indicate that of their total exports of unmanufactured zinc in 1960, exports to the United States accounted for almost 90 percent of the Mexican exports, about 56 percent of the Canadian exports, 36 percent of the Peruvian exports, and about 9 percent of the Australian exports.

In 1960 about 50 percent of the total quantity of imports of zinc in zinc-bearing ores entered through the customs district of St. Louis, 10 percent through Pittsburgh, about 8 percent through Montana and Idaho, about 7 percent through Chicago, and the remaining 25 percent through 13 other customs districts.

In the same year about 40 percent of the total imports of zinc blocks, pigs, or slabs entered through the customs district of Dakota, about 29 percent through New York, 13 percent through Duluth and Superior, and the remaining 18 percent through 9 other customs districts.

Imports of lead under the quotas

The following tabulation (based on table 54) shows the lead import quotas of individual countries, on an annual basis, and the actual entries under the quotas in each of the years 1959-61, as tabulated by the U.S. Department of the Treasury (in short tons of lead content):

Item and country	Annual equivalent of quota	Actual imports under the import quotas in--		
		1959	1960	1961
Ores (lead content):				
Peru	32,320	32,320	32,320	32,320
Union of South Africa	29,760	29,760	29,760	29,760
Canada	26,880	26,880	26,880	26,880
Australia	20,160	20,160	20,160	20,160
Bolivia	10,080	10,080	10,080	10,080
All other	13,120	5,522	12,624	13,120
Total	132,320	124,722	131,824	132,320
Metal (lead content).				
Mexico	73,760	73,760	73,754	73,760
Australia	47,360	47,360	47,360	47,360
Canada	31,840	31,840	31,840	31,840
Yugoslavia	31,520	31,520	31,520	31,487
Peru	25,760	25,756	25,758	25,755
All other	12,160	12,160	12,160	12,160
Total	222,400	222,396	222,392	222,362

The tabulation indicates that, with the exception of the "All other"category for ores in 1959 and 1960, the quota allotments have been filled. The ore quota for "All other" countries went unfilled in 1959, and to a lesser extent in 1960, principally because a mine in Guatemala, a source of U.S. imports during the base period 1953-57, had closed down and no alternative source of lead ores was available for shipment to the United States. However, the lead-ore quota for

"All other" countries was almost filled in 1960, and completely filled in 1961, as Guatemala resumed shipments to the United States.

Imports of zinc under the quotas

The following tabulation (based on table 55) compares the zinc import quotas, on an annual basis, with actual entries under the quotas in each of the years 1959-61 (in short tons--zinc content of ores, gross weight of metals):

Item and country	Annual equivalent of quota	Actual imports under the import quotas in--		
		1959	1960	1961
Ores (zinc content):				
Mexico	140,960	140,960	140,960	140,866
Canada	132,960	132,960	132,960	110,173
Peru	70,240	70,240	70,240	67,535
All other	35,680	35,680	35,680	35,680
Total	379,840	379,840	379,840	354,254
Metal (gross weight):				
Canada	75,680	75,680	75,680	73,157
Belgium and Luxembourg	15,040	11,425	5,696	12,465
Mexico	12,640	9,412	8,601	8,498
Belgian Congo	10,880	10,880	9,618	10,876
Peru	7,520	7,517	7,518	7,517
Italy	7,200	7,200	3,614	883
All other	12,160	12,160	11,035	12,160
Total	141,120	134,274	121,762	125,556

Substantial parts of the zinc quotas were not filled. Although the zinc-ore quotas were filled in 1959 and 1960, entries under quotas in 1961 were 25,586 tons below the quota limit. Zinc-ore-quota entries from Canada alone in 1961 were 22,787 tons below the quota limit for that country. Deficits for Peru and Mexico accounted for the remainder of the shortage, the quota for "All other" countries having been filled in each of the 3 years.

Entries of zinc metal under quotas have been below the quota limits in each of the 3 years. In 1959, entries were 6,846 tons below the quota limit. In 1960 the shortage rose to 19,358 tons, and in 1961 it was 15,564 tons. The deficit for Belgium and Luxembourg accounted for 3,615 tons of the shortage in 1959 and that for Mexico accounted for 3,228 tons. Entries fell short of the quota in 1960 by 9,344 tons for Belgium and Luxembourg, by 4,039 tons for Mexico, by 3,586 tons for Italy, by 1,262 tons for the Belgian Congo, and by 1,125 tons for "All other" countries.

In 1961 only Peru, the Belgian Congo, and "All other" countries filled, or almost filled, their allotted quotas. The largest decrease in that year occurred in the imports from Italy, which declined to 883 tons, or to 12.3 percent of its quota of 7,200 tons.

The building of new lead and zinc smelters throughout the world, previously noted, may reduce the availability of foreign ores and concentrates to the United States. To a substantial degree the new smelters will utilize ores from existing mines. As a result, the U.S. import quotas for ores from some of the countries may not be filled. If they remain unfilled, the only way by which the United States can obtain the same amount of lead and zinc as now permitted by the quotas would be by adjusting the quotas to permit larger U.S. entries in the form of metals rather than ores.

Imports of Manufactured Lead and Zinc Articles

The import quotas on lead and zinc that were established on October 1, 1958, were limited to unmanufactured lead and zinc. Additional (compensatory) import restrictions were not applied at that time, nor have they been applied subsequently, to manufactured or semimanufactured lead or zinc articles. Some of these (such as lead or zinc compounds, mill products, or alloys) are composed entirely of lead or zinc, or their content of either of these metals is very high. The value per pound of some of these articles is only moderately higher than the value of their content of lead or zinc. To the extent that the import quotas on unmanufactured lead and zinc result in increased imports of lead and zinc in manufactured articles, not similarly restricted, the quotas tend to nullify the results they were intended to achieve, for they tend to reduce domestic production of these articles and the consumption of domestic lead and zinc in their manufacture.

This section is devoted principally to an analysis of (1) the amount of lead and zinc being imported in the form of manufactured and semimanufactured articles as compared with imports in unmanufactured forms, and (2) the recent trend of imports of lead and zinc in the manufactured forms. It should be apparent that the increase in imports of the manufactured articles cannot be attributed wholly, or even appreciably for zinc articles, to the operation of the import quotas, since the zinc quotas have not been filled. That there have been other influencing factors is also suggested by the fact that imports of some of the manufactured lead and zinc articles began to increase before the import

quotas were imposed on October 1, 1958 (tables 69 and 70), as well as by the fact that imports of zinc articles have increased at a greater rate than imports of lead articles, notwithstanding that the quota has had virtually no effect on the U.S. price of zinc.

Data on imports of unmanufactured lead articles, now subject to import quota restrictions, and on manufactured articles under the tariff paragraphs specified in Senate Resolution 162, adopted on August 21, 1959, are summarized for the years 1952-61, in tables 67 and 69. Similar data for zinc, shown in tables 68 and 70, include data for imports of zinc fume, which, although it is an unmanufactured form of zinc and a smelter raw material, is not subject to import quotas. Tables 67 and 68 show the average foreign unit values per pound (gross weight) of various imported articles; these data, in conjunction with those on the lead or zinc content of the articles and the unit values of imported pig lead and slab zinc, reveal the extent to which the values of the articles are attributable to their lead or zinc content.

Manufactured lead articles

The following tabulation, based on table 69, presents pertinent data on the total lead content of imports for consumption of both unmanufactured and manufactured articles, expressed in annual averages, for the periods 1953-57 and 1959-61: 1/

1/ For both periods, data exclude imports of the quantity of miscellaneous lead mill products, not separately segregated in official import statistics. Data for these articles are not available for the period 1953-57, and therefore, to preserve comparability, estimates which are available for these products for the period 1959-61 have been excluded from data for that period. Average annual imports of lead in these products during 1959-61 were estimated from an analysis of a sample of entry papers at 1,282 tons (table 67).

Item	Average 1953-57		Average 1959-61		Net change
	Quantity	Percent of total	Quantity	Percent of total	
	Short tons		Short tons		Short tons
All lead articles, total	498,270	100.0	408,563	100.0	-89,707
Unmanufactured lead articles, total	491,444	98.6	389,598	95.4	-101,846
Manufactured lead articles, total	6,826	1.4	18,965	4.6	+12,139
Lead pigments, total	2,886	.6	14,062	3.4	+11,176
Litharge	2,765	.6	12,417	3.0	+9,652
Other	121	1/	1,645	.4	+1,524
Babbitt metal and solder	701	.1	1,800	.4	+1,099
Lead pipe, sheet, shot, glaziers' lead, and lead wire	3,239	.7	3,103	.8	-136

1/ Less than 0.05 percent.

The tabulation shows that imports of lead in the manufactured articles listed are very small in relation to the sum of such imports and imports of lead in unmanufactured forms. The ratio was 1.4 percent in 1953-57 and 4.6 percent in 1959-61.

Annual imports for consumption of lead in manufactured articles rose from an average of about 6,800 short tons in 1953-57 to an average of about 19,000 tons in 1959-61--representing an increase of 12,100 tons, or 178 percent. The bulk of the increase--11,200 tons out of the 12,100

tons--is accounted for by imports of lead pigments, principally litharge from Mexico.

U.S. imports of lead in litharge (92.8 percent of the gross weight) increased from 553 tons in 1954 to 7,534 in 1957, dropped to 7,157 tons in 1958, and then increased to 10,562 tons in 1959, to 12,408 in 1960, and to 14,282 tons in 1961. Litharge is produced almost entirely from primary lead metal by a simple process of furnacing or corroding lead metal; the cost of the lead metal is the principal element in the cost of producing litharge. The Mexican producers have a substantial materials cost advantage. For example, in March 1962 they could buy pig lead for less than 6 cents per pound, while U.S. producers had to pay 9½ cents. A part of this difference is attributable to the U.S. duty and the import quota restrictions. Another important factor is the policy of the Mexican Government designed to encourage the fabrication of lead in Mexico and the exportation of manufactured rather than unmanufactured products; the Government regulations require, in effect, that lead be sold to Mexican fabricators at a price based on the price realized on sales of Mexican lead in export markets, less the average cost of delivery to the consuming points and less the amount of the export tax on refined lead metal. The current Mexican export tax rate on refined lead is 28 percent of the official valuation; the valuation is higher for lead exports to the U.S. market than for those to other countries. In March 1962 the tax on refined lead exported to the United States was equivalent to 2.1 cents per pound in U.S. currency. Since litharge is one of the manufactured lead articles the domestic production of which the Mexican

Government seeks to encourage, it is not subject to any export tax such as that imposed on unmanufactured lead articles.

At the Commission hearings, testimony along the following lines was presented on behalf of domestic manufacturers of litharge: That Mexican litharge is being sold in the United States at almost the same price per pound as domestic pig lead; that producing facilities in Mexico have recently been expanded; that such expansion was encouraged partly by the U.S. quotas on unmanufactured lead; that with completion of present construction, Mexican facilities for the production of litharge will have an estimated capacity of 50,000 tons or more annually in excess of Mexican requirements; and that annual U.S. imports of litharge could rise to as much as 50,000 tons. 1/

Data presented in table 71 indicate that U.S. imports of lead pigments have increased steadily since 1953, both actually and relative to domestic production. During 1953-57, average annual imports were equal to 1.0 percent of the average annual production, while during 1959-60 the ratio equaled 4.8 percent. It is estimated that in 1961 production remained at about the 1960 level and that imports equaled 6 percent of production.

During 1953-57, average annual imports of litharge were equivalent to about 2.2 percent of domestic production, whereas during 1959-60 the percentage was 12.1. Estimated production in 1961 was about the same as in 1960. Imports of litharge in 1961 of 15,390 tons (gross weight) were equal to about 16 percent of domestic production.

1/ The Commission has not made an independent study of the producing capacity of Mexican litharge plants.

The available data pertaining to domestic production, imports, and exports of other manufactured lead articles are summarized in tables 72 and 73. Although imports of these articles increased between 1953-57 and 1959-61, they represent both singly or collectively only a small percentage of total imports of lead in all forms and were equivalent to only a small percentage of domestic production.

Manufactured zinc articles

The tabulation below, based on table 70, presents pertinent data on imports of zinc in both unmanufactured and manufactured articles (similar to the data previously shown for lead), in terms of annual averages, for the periods 1953-57 and 1959-61: 1/

1/ For both periods data exclude the quantity of imports of zinc wire, zinc plates engraved, and miscellaneous zinc alloys and mill products, not separately reported in official import statistics. Data for these articles are not available for the period 1953-57 and therefore, to preserve comparability, estimated data which are available for these products for the period 1959-61 have been excluded. Average annual imports of zinc in these articles during 1959-61 were estimated, from an analysis of a sample of entry papers, at 628 tons annually (table 68).

Item	Average 1953-57		Average 1959-61		Net change
	Quantity	Percent of total	Quantity	Percent of total	
	Short tons		Short tons		Short tons
All zinc articles, total	740,943	100.0	608,223	100.0	-132,720
Unmanufactured zinc, total	738,551	99.7	600,058	98.7	-138,493
Zinc fume	9,022	1.2	35,143	5.8	+26,121
Manufactured zinc, total	2,392	.3	8,165	1.3	+5,773
Zinc pigments, total	1,718	.2	7,102	1.2	+5,384
Zinc oxide and leaded zinc oxide	1,703	.2	7,087	1.2	+5,384
Zinc dust	260	1/	50	1/	-210
Zinc sheets, including unwrought zinc plate	414	.1	1,013	.1	+599

1/ Less than 0.05 percent.

Imports of zinc in the manufactured articles covered are very small in relation to the quantities of zinc imported in all forms. Such imports represented 0.3 percent of the imports in all forms in 1953-57 and 1.3 percent of the total in 1959-61. Annual imports of zinc in unmanufactured forms (including zinc fume) declined by 19 percent between the two periods; annual imports in the manufactured articles increased more than twofold. Of the total increase of 5,773 tons in average annual imports of zinc in manufactured articles, 5,384 tons represented the increase in imports of zinc in zinc oxide and leaded zinc oxide. Imports of zinc pigments during 1953-57 were equivalent to about 1.4 percent of domestic production of such pigments; the corresponding ratio for 1959-61 is estimated at 7 percent (table 74).

The available data on domestic production, imports, and exports of other manufactured zinc articles are summarized in tables 75, 76, and 77. With the exception of zinc sheet and plate (table 75), no significant changes have occurred in the trade in these articles in recent years.

Imports of zinc sheet and plate, although equivalent to only a small percentage of total imports of manufactured zinc articles in all years considered, have increased substantially relative to domestic production, which has declined steadily since 1952 (table 75).

Exports of Lead and Zinc

Exports of unmanufactured lead and zinc

Exports of both lead and zinc in unmanufactured forms have been very small in relation to imports. A large part of the exports, especially those of zinc, consists of metal derived from ores imported free of duty under bond for smelting, refining, and export. Imports entered duty-free for this purpose are not restricted by quotas, and, as previously noted, the increase in imports of zinc not subject to quotas is partly attributable to the effects of the quota restrictions. The following tabulation (based on tables 12, 16, 56, and 57) presents, for the periods 1953-57 and 1959-61, the average annual imports of lead and zinc materials for smelting, refining, and export, and total annual exports of unmanufactured lead and zinc (in short tons):

Item	Average 1953-57	Average 1959-61
Imports free of duty for smelting, refining, and export:		
Lead ores and metal	2,691	871
Zinc ores and metal	17,135	38,550
Total exports of unmanufactured metal:		
Lead	5,915	7,232
Zinc	28,325	55,971

Exports of manufactured articles with drawback of duties paid on imported lead and zinc used

Considerable quantities of lead and zinc are exported in various manufactured articles. For the most part, data on the quantities of lead and zinc so exported are not available. Exports of articles specified in Senate Resolution 162, for which such data are available, are shown in tables 71 through 77.

Some of the manufactured articles made from imported lead or zinc are exported with benefit of drawback of 99 percent of the duties paid on the imported lead or zinc used. However, an increase in the cost of lead or zinc resulting from quota restrictions, unlike an increase that results from import duties, is not offset by drawback of duties paid. Data on the quantities of imported lead and zinc contained in exported manufactured articles are shown in tables 78, 79, and 80.

The lead and zinc content of articles exported with benefit of drawback has been small in relation to total imports of lead and zinc metal. The lead content of manufactured articles exported with benefit of drawback averaged 21,126 tons annually during 1953-57 and

16,481 tons during 1959-61. The zinc content of such manufactured articles averaged 15,561 tons annually during 1953-57 and 10,748 tons during 1959-61 (table 78).

Zinc sheets, galvanized sheets, automobiles and parts, and zinc oxide were the principal articles exported that contained zinc on which duties were refunded (table 80).

Antiknock gasoline compounds (tetraethyl lead) accounted for the bulk of the lead content in articles exported with benefit of drawback of lead duties paid (table 79). The quantity of lead contained in such exports of antiknock compounds was about 8,900 tons in 1958; it declined to 6,100 tons in 1959, then rose to 10,600 tons in 1960 and to 13,800 tons in 1961. In 1961 the lead content of the antiknock compounds exported averaged 39.4 percent of their total weight (with fluids).

Industrial Consumption

From 1953-57 to 1959-61, the average annual consumption in the United States of lead declined by 11 percent, and of zinc by 7 percent.

In this report, data on industrial consumption relate to lead and zinc in all forms put into process, as reported by industrial users to the U.S. Bureau of Mines.

Consumption of lead

Total industrial consumption of lead in the United States increased from 986,000 tons in 1958 (a recession year), to 1,091,000 tons in 1959, and then dropped to about 1,022,000 tons in each of the years 1960 and 1961 (table 8).

According to data from the U.S. Bureau of Mines for 1960--the latest year for which such data are available--66 percent of the total quantity of lead in all forms consumed in the United States in that year was in the form of refined soft lead; 24 percent was lead in antimonial lead; 4 percent was lead in alloys; about 4 percent was lead that went directly from scrap to fabricated products; and the remaining 2 percent was mostly lead in copper-base scrap.

More than two-thirds of the total lead consumption in 1960 was consumed by industrial users in the following nine States, listed in the order of their importance as lead consumers: New Jersey, Louisiana and Texas combined, California, Illinois, Indiana, Pennsylvania, Missouri, and New York. In contrast to this geographic distribution of U.S. consumption of lead, the domestic capacity to produce primary refined lead was concentrated in Nebraska, Missouri, and Idaho.

Pertinent data on the annual consumption of lead, by principal uses, during 1953-57 and 1959-61 (based on table 8) are shown below:

Item	Average 1953-57		Average 1959-61		Percentage change
	Quantity	Percent of total	Quantity	Percent of total	
	Short tons		Short tons		
Total U.S. consumption	1,171,390	100.0	1,044,876	100.0	-10.8
Metal products, total	838,877	71.6	740,428	70.9	-11.7
Storage batteries	363,333	31.0	364,910	35.0	+.4
Cable covering	127,647	10.9	59,790	5.7	-53.2
Other	347,897	29.7	315,728	30.2	-9.2
Pigments, total	122,633	10.4	98,802	9.5	-19.4
Read lead and litharge	82,029	7.0	73,626	7.0	-10.2
Chemicals, total	176,584	15.1	167,533	16.0	-5.1
Tetraethyl lead	171,400	14.6	164,414	15.7	-4.1
Miscellaneous other uses, total	33,296	2.9	31,613	3.0	-5.1

About two-thirds of all the lead consumed in 1953-57 and in 1959-61 was accounted for by four major uses, which, in order of magnitude, were lead-acid storage batteries, tetraethyl lead, lead pigments, and cable covering. Although the annual consumption of lead for all uses was about 11 percent smaller in 1959-61 than in 1953-57, the quantity consumed for cable covering was 53 percent smaller, and that for lead pigments was 19 percent smaller. On the other hand, the annual consumption of lead for storage batteries remained virtually unchanged, and that for tetraethyl lead was smaller by only 4 percent.

Lead producers, both in the United States and in foreign countries, individually and through their trade associations, have been engaged in

recent years in many research and market development activities to expand the uses of lead. One of the new developments relates to improved lead-acid automotive batteries having longer life and reduced weight. A sealed, lead-acid rechargeable storage battery has also been developed for battery-powered portable tools and appliances. 1/

In the field of architecture a lead wall panel has been developed for sound absorption in offices; lead-asbestos pads have been developed for use in construction and heavy machinery to reduce vibration. In the paint pigment field, lead-chrome yellow paints have been developed for marking roads and for giving anticorrosive protection to farm and road-building machinery.

The lead industry anticipates that, with the continued expansion of electric-power transmission, there will be additional use of lead for sheathing, especially in low-voltage redistribution lines and in applications where corrosive conditions are encountered. In these applications lead is more satisfactory than either aluminum or plastic cable coverings.

Consumption of zinc

The total industrial consumption of zinc in all forms in the United States averaged 1,309,000 tons per year during 1953-57; during the next 4 years it ranged from 1,142,000 tons in 1958 to 1,278,000 tons in 1959 (table 9). In 1961, zinc consumption totaled 1,214,000 tons, about 5 percent more than in 1960.

1/ Recently a four-passenger electric vehicle, powered by automotive batteries, has gone into production. According to trade reports, this car can be operated advantageously by small business enterprises requiring stop-and-go delivery services.

During 1959-61, three-fourths of the total consumption was in the form of slab zinc; 17 percent was in new and old alloy scrap (mostly brass and bronze alloys) and in zinc dust or in chemical products; and the remaining 8 percent was in zinc ores used in the manufacture of chemical compounds and pigments.

Data obtained from the U.S. Bureau of Mines for 1960 indicate that about 80 percent of the slab zinc was consumed in nine States. Listed in order of magnitude of such consumption, they were Illinois, Ohio, Michigan, Pennsylvania, Indiana, New York, Connecticut, Texas, and California. Of these States, only Pennsylvania and Texas were also important U.S. producers of primary slab zinc. About 86 percent of the output of primary slab zinc in 1960 was produced in Pennsylvania, West Virginia, Texas, Oklahoma, and Montana.

The average annual quantities of zinc consumed, by principal uses, during 1953-57 and 1959-61 are shown in the following tabulation (based on table 9):

Item	Average 1953-57		Average 1959-61		Percentage change
	Quantity	Percent of total	Quantity	Percent of total	
	Short tons		Short tons		
Total U.S. consumption	1,309,355	100.0	1,217,110	100.0	-7.0
Slab zinc, total	986,890	75.4	914,332	75.1	-7.4
Galvanizing	413,699	31.6	367,130	30.2	-11.3
Brass products	133,817	10.2	118,336	9.7	-11.6
Zinc-base alloy, total	353,129	27.0	345,536	28.4	-2.2
Die castings	341,464	26.1	339,812	27.9	-.5
Rolled zinc	48,471	3.7	40,531	3.3	-16.4
Other	37,774	2.9	32,433	2.7	-14.1
Zinc ores consumed directly in chemicals and pigments	111,865	8.5	94,282	7.7	-15.7
Estimated zinc in new and old scrap consumed in alloys, zinc dust, or chemicals	210,600	16.1	208,496	17.2	-1.0

Slab zinc used in galvanizing, in zinc-base alloy die castings, and in brass products, and zinc in ores consumed directly in the manufacture of chemicals and pigments accounted for about three-fourths of total zinc consumed in each of the periods considered.

Although the annual consumption of zinc for all uses was 7 percent smaller during 1959-61 than during 1953-57, the annual consumption of zinc for die-casting alloys remained practically unchanged. For the following uses, however, the annual consumption of zinc declined by more

than 7 percent between the two periods: Galvanizing, by 11 percent; brass products, about 12 percent; chemicals and pigments, about 16 percent; and rolled zinc products, 16 percent.

Zinc-producing concerns also have engaged, individually and through their trade associations, in numerous research and market development projects designed to expand the use of their product. These efforts, in conjunction with those of concerns in foreign countries, have been intensified since 1955.

Increased use of zinc in automobiles is one of the most important recent developments. According to trade reports, 1962 models of standard automobiles will carry an average of 80 pounds of zinc per car, compared with 72.7 pounds used in 1961 models and 66.7 pounds in 1960 models. The 1962 models of compact cars will use from 30 to 55 pounds of zinc per car, which is about 20-25 percent more than in the 1960 models. Zinc has been used in automobiles mostly in the form of die castings. Recently, increased quantities of zinc have been used for automobiles in the form of galvanized steel sheets and in paints with a high zinc content. Shipments of hot-dip galvanized steel to automobile manufacturers increased from 49,000 tons in 1955 to 274,000 tons in 1961. The average weight of galvanized steel used per car increased from 12.4 pounds in 1955 to 51.7 pounds in 1960, and to 99.5 pounds in 1961. This widespread adoption of galvanized steel for automobiles was stimulated by the increased use of welded unitized body construction in compact cars, which created a need for an effective corrosion-resistant material of superior strength, available at moderate cost.

APPENDIX A

SENATE RESOLUTION 206

87TH CONGRESS
1ST SESSION

S. RES. 206

[Report No. 1103]

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 11, 1961

Mr. DIRKSEN (for himself, Mr. MANSFIELD, Mr. COOPER, Mr. MORTON, Mr. ALLOTT, and Mr. DWORSHAK) submitted the following resolution; which was referred to the Committee on Finance

SEPTEMBER 21, 1961

Reported by Mr. BYRD of Virginia, with amendments

SEPTEMBER 23, 1961

Considered, amended, and agreed to; preamble agreed to

RESOLUTION

Whereas, pursuant to a resolution of the Senate Committee on Finance, dated August 14, 1954, the United States Tariff Commission made an investigation under section 332 of the Tariff Act of 1930, of the domestic fluorspar industry and submitted a report of the results thereof to the said committee on June 6, 1955, and the Senate of the United States subsequently on August 21, 1959, by S. Res. 163, directed the United States Tariff Commission to bring up to date said report and to submit its findings not later than February 21, 1960; and

Whereas, pursuant to a resolution of the United States Senate adopted August 21, 1959, the United States Tariff Commission was directed to make a supplemental investigation of conditions in the lead and zinc industry and to bring up to date its report on lead and zinc which had previously been made on April 19, 1954; and

Whereas, pursuant to a resolution of the Senate Committee on Finance, dated March 17, 1958, the United States Tariff Commission made an investigation under section 332 of the Tariff Act of 1930, of the domestic mercury (quicksilver) industry and submitted a report of the results thereof to the said committee on December 1, 1958; and

Whereas the industries producing manganese, cobalt, and beryllium are becoming more and more distressed and such distress could have an effect on our national security: Now, therefore, be it

Resolved, That the United States Tariff Commission is hereby directed, pursuant to section 332 of the Tariff Act of 1930, to make further studies and bring up to date the reports on lead, zinc, mercury, and fluorspar and to report to the Congress on or before May 15, 1962, and to conduct investigations of conditions in the industries producing manganese, cobalt, and beryllium and report to Congress not later than August 31, 1962.

The supplemental reports and new reports shall include a summary of the facts obtained in the investigation, including a description of the domestic industry, domestic production, foreign production, imports, consumption, channels and methods of distribution, United States exports, and other factors affecting the competition between domestic and imported products. In the course of the investigations, the Commission shall hold hearings, giving adequate oppor-

tunity to interested parties to appear and be heard, except that in the case of lead, zinc, mercury, and fluorspar where reports are being brought up to date, the matter of further hearings shall be left to the discretion of the Tariff Commission.

APPENDIX B

STATISTICAL TABLES

TABLES

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39.--Lead and zinc ores and concentrates: Receipts by lead and zinc smelters in the United States from domestic and foreign sources, classified by whether or not the materials originated in mines owned or controlled by the smelting companies or their subsidiaries, quarterly average, January-September 1958, January-September 1959, and 1961

40.--Lead and zinc ores and concentrates: Receipts, imports under import quotas, and imports not under import quotas, by country of origin, quarterly averages for specified periods, 1958 to 1961, and ores and concentrates held in bond by lead and zinc smelters in the United States, as of Dec. 31, 1958, 1960, and 1961

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43.--Lead: Smelter and refinery production in the United States from primary and secondary sources, 1952-60

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Smelter capacity, ore receipts, and output--Continued

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48.--Zinc in ore and other zinciferous materials: Indexes of stocks held at zinc smelters in the United States at the end of each year, 1951-61, at the end of each quarter, 1958-61, and at the end of January and February 1962

49.--Slab zinc: Producers' primary and secondary stocks in the United States, by standard grades, at the end of each year, 1951-61, at the end of each quarter, 1958-61, and at the end of January, February, and March 1962

50.--Refined pig lead and lead content of antimonial lead: Stocks held at lead refineries in the United States and in certain countries of the free world outside of the United States, at the end of each year, 1953-61, and at the end of each quarter, 1959-61

51.--Slab zinc: Commercial stocks at zinc smelters in the United States and in certain countries or areas in the free world outside the United States, at the end of each year, 1958-61, and at the end of each quarter in 1960 and 1961

Imports of unmanufactured lead and zinc

52.--Unmanufactured lead: U.S. import quotas, effective Oct. 1, 1958, and imports for consumption (commercial only and total), by type of material, quarterly averages, 1953-57 and January-September 1958, and by quarters, October 1958-December 1961

53.--Unmanufactured zinc: U.S. import quotas, effective Oct. 1, 1958, and imports for consumption (commercial only and total), by type of material, quarterly averages, 1953-57 and January-September 1958, and by quarters, October 1958-December 1961

54.--Unmanufactured lead: U.S. commercial imports for consumption, by countries, quarterly averages, 1953-57 and January-September 1958; import quotas established on Oct. 1, 1958, by countries, and the extent to which, and the rapidity with which the quotas were filled in each calendar quarter, October 1958-March 1962

55.--Unmanufactured zinc: U.S. commercial imports for consumption, by countries, quarterly averages, 1953-57 and January-September 1958; import quotas established on Oct. 1, 1958, by countries, and the extent to which, and the rapidity with which, the quotas were filled in each calendar quarter, October 1958-March 1962

Imports of unmanufactured lead and zinc--Continued

Comparative imports: Unmanufactured and manufactured articles

Manufactured lead articles: Production and foreign trade

Manufactured zinc articles: Production and foreign trade

Drawback of duties paid on lead and zinc

78.--Drawback of import duties paid on imported unmanufactured lead and zinc contained in manufactured articles exported from the United States, average 1937-39, annual 1943 and 1946-61

79.--Manufactured articles exported from the United States with benefit of drawback of duties paid on the imported lead content, by types of manufactured articles exported, 1958-61

80.--Manufactured articles exported from the United States with benefit of drawback of duties paid on imported zinc content, by types of manufactured articles exported, 1958-61

Table 1.--Unmanufactured lead and zinc: U.S. rates of duty under the Tariff Act of 1930--the statutory rate, which was still in effect on July 1, 1934, and the reduced rates in effect on Apr. 1, 1962

Tariff paragraph and description	Statutory rate, 1/ which was still in effect July 1, 1934	Reduced rate in effect on Apr. 1, 1962 2/	
		Rate	Effective date
Unmanufactured lead:			
Par. 391:			
Lead-bearing ores, flue dust, and mattes of all kinds	1-1/2¢ per lb. on lead content.	3/4¢ per lb. on lead content; also subject to quota limitations. 3/	June 6, 1951.
Par. 392:			
Lead bullion or base bullion, lead in pigs and bars, lead dross, reclaimed lead, scrap lead, type metal, antimonial lead, antimonial scrap lead, and alloys or combinations of lead, not specially provided for.	2-1/8¢ per lb. on lead content.	1-1/16¢ per lb. on lead content; also subject to quota limitations. 3/	Do.
Unmanufactured zinc:			
Par. 214:			
Earthy or mineral substances wholly or partly manufactured and articles (crude or advanced in condition) wholly or in chief value of earthy or mineral substances, not specially provided for, whether susceptible of decoration or not:			
Zinc fume	30% ad val.	15% ad val.	Jan. 1, 1948.
Par. 393:			
Zinc-bearing ores of all kinds, except pyrites containing more than 3% zinc.	1-1/2¢ per lb. on zinc content.	3/5¢ per lb. on zinc content; also subject to quota limitations. 3/	June 6, 1951.
Par. 394:			
Zinc in blocks, pigs, or slabs	1-3/4¢ per lb.	7/10¢ per lb.; also subject to quota limitations. 3/	Do.
Old and worn-out zinc, fit only to be remanufactured, zinc dross, and zinc skimmings.	1-1/2¢ per lb.	3/4¢ per lb.; also subject to quota limitations. 3/	Jan. 1, 1948.

1/ Currently applicable to the products of Communist-dominated countries or areas designated by the President pursuant to sec. 5 of the Trade Agreements Extension Act of 1951.
2/ Pursuant to concessions granted in the General Agreement on Tariffs and Trade (GATT) effective on the dates designated.
3/ See table 3 for quarterly import quotas imposed upon lead and zinc by Presidential Proclamation No. 3257, effective Oct. 1, 1958.

Table 2.--Unmanufactured lead and zinc articles subject to U.S. specific rates of duty: U.S. imports, 1934 and 1961, specific rates in effect on July 1, 1934, and Apr. 1, 1962, and average ad valorem equivalents of those rates

Tariff par.	Article	Dutiable imports, 1934		Duty on July 1, 1934		Dutiable imports, 1961		Duty on Apr. 1, 1962	
		Quantity	Foreign value	Specific rate	Ad valorem equivalent based on 1934 imports	Quantity	Foreign value	Specific rate	Ad valorem equivalent based on 1961 imports
		Short tons	1,000 dollars		Percent	Short tons	1,000 dollars		Percent
	Unmanufactured lead (lead content):								
391	Lead-bearing ores, flue dust, and mattes.	10,760.0	558.6	1-1/2¢ per lb. on lead content.	57.8	133,033.4	23,718.4	3/4¢ per lb. on lead content.	8.4
392	Lead bullion or base bullion---	2,219.7	117.7	2-1/8¢ per lb. on lead content.	80.1	235.8	1,370.9	1-1/16¢ per lb. on lead content.	.4
392	Lead pigs and bars----------	-	-	2-1/8¢ per lb. on lead content.	1/	212,765.9	40,333.9	1-1/16¢ per lb. on lead content.	11.2
392	Reclaimed lead, scrap lead, and lead dross.	284.7	10.7	2-1/8¢ per lb. on lead content.	113.0	3,863.9	587.4	1-1/16¢ per lb. on lead content.	14.0
392	Type metal and antimonial lead.	94.2	6.8	2-1/8¢ per lb. on lead content.	59.0	4,157.3	1,018.2	1-1/16¢ per lb. on lead content.	8.7
392	Alloys or combinations of lead, not specially provided for.	-	-	2-1/8¢ per lb. on lead content.	1/	308.3	104.0	1-1/16¢ per lb. on lead content.	6.3
	Total or average----------	13,358.6	693.8	----------	62.4	354,364.6	67,132.8	----------	10.0
	Unmanufactured zinc:								
393	Zinc-bearing ores of all kinds, except pyrites containing more than 3% zinc (zinc content).	6,736.0	185.3	1-1/2¢ per lb. on zinc content.	109.1	356,695.0	31,812.8	3/5¢ per lb. on zinc content.	13.5
394	Zinc blocks, pigs, or slabs----	1,725.4	112.9	1-3/4¢ per lb.	53.5	124,099.4	27,270.2	7/10¢ per lb.	6.4
394	Zinc scrap, dross, and skimmings.	-	-	1-1/2¢ per lb.	1/	1,410.1	177.4	3/4¢ per lb.	11.9
	Total or average----------	8,461.4	298.2	----------	88.0	482,204.5	59,260.4	----------	10.2

1/ No imports in 1934.

Source: Compiled from official statistics of the U.S. Department of Commerce--final for 1934, preliminary for 1961.

Table 3.--Lead and zinc: U.S. import quotas established beginning Oct. 1, 1958, by countries 1/

(In short tons)

Item and country	Lead		Zinc	
	Quarterly quota	Annual equivalent	Quarterly quota	Annual equivalent
Ores (lead or zinc content): 2/				
Peru	8,080	32,320	17,560	70,240
Union of South Africa	7,440	29,760	3/	3/
Canada	6,720	26,880	33,240	132,960
Australia	5,040	20,160	3/	3/
Bolivia	2,520	10,080	3/	3/
Mexico	3/	3/	35,240	140,960
All other	3,280	13,120	8,920	35,680
Total	33,080	132,320	94,960	379,840
Metal: 4/				
Mexico	18,440	73,760	3,160	12,640
Australia	11,840	47,360	3/	3/
Canada	7,960	31,840	18,920	75,680
Yugoslavia	7,880	31,520	3/	3/
Peru	6,440	25,760	1,880	7,520
Belgium and Luxembourg	3/	3/	3,760	15,040
Belgian Congo	3/	3/	2,720	10,880
Italy	3/	3/	1,800	7,200
All other	3,040	12,160	3,040	12,160
Total	55,600	222,400	35,280	141,120
Total ores and metal	88,680	354,720	130,240	520,960

1/ The import quotas apply to dutiable imports for immediate consumption and to withdrawals from bonded warehouses (not to entries into bonded warehouses). Articles produced in any country not named in the list of countries shown in the above table, for each of the 4 categories shown, are subject to the quota for "All other" foreign countries. The proclamation specifically exempts the following from the quota restrictions imposed therein:

(1) Any article imported by or for the account of the U.S. Government; or any imported article which is under contract for delivery in the United States for the account of a corporation wholly owned by the U.S. Government.

(2) Any lead or zinc metal article described in footnote 4 below exported to the United States before Sept. 22, 1958.

(3) Lead-bearing ores, flue dust, and mattes of all kinds, and zinc-bearing ores of all kinds (except pyrites containing not over 3 percent of zinc) exported to the United States before Sept. 22, 1958. This exemption does not apply to withdrawals for consumption of "metal producible" from bonded smelters under sec. 312, Tariff Act of 1930.

(4) Any lead-bearing ore, flue dust, or matte (dutiable under par. 391) which contains less than 2 percent of lead.

(5) Any zinc-bearing ore (dutiable under par. 393) which contains less than 1 percent of zinc.

2/ Lead-bearing ores, flue dust, and mattes entered under par. 391, and zinc-bearing ores entered under par. 393 of the Tariff Act of 1930. The latter excludes zinc fume.

3/ Included in "All other."

4/ For lead, the lead content of lead or base bullion, lead pigs and bars, lead scrap and dross, antimonial lead, type metal, and all alloys or combinations of lead, not specially provided for, entered under par. 392 of the Tariff Act of 1930. For zinc, the gross weight of zinc blocks, pigs or slabs and zinc scrap, dross, and skimmings entered under par. 394 of the Tariff Act of 1930.

Source: Presidential Proclamation No. 3257, dated Sept. 22, 1958.

Table 4.--Common lead: Average market prices at New York, average 1937-39, annual averages 1946-50, and average daily prices in the United States since Jan. 1, 1951

(In cents per pound)

Period, or date of change	Average or new price	Date of change	New price	Date of change	New price
1937-39 average	5.267	1954--Continued:		1959:	
1946 average	8.109	Mar. 9	12.750	Jan. 22	12.000
1947 average	14.673	Mar. 10	13.000	Feb. 11	11.500
1948 average	18.043	Mar. 26	13.250	Feb. 20	11.073
1949 average	15.364	Mar. 29	13.500	Feb. 24	11.000
1950 average	13.296	Apr. 1	13.512	Mar. 5	11.059
1951:		Apr. 2	13.750	Mar. 6	11.500
Jan. 1	17.000	Apr. 12	14.000	Apr. 1	11.000
Oct. 2	19.000	June 2	14.250	Apr. 20	11.155
1952:		June 15	14.000	Apr. 21	11.500
Apr. 29	18.000	Aug. 25	14.250	May 7	11.830
May 2	17.000	Sept. 7	14.500	May 8	12.000
May 12	15.000	Sept. 15	14.700	Aug. 24	13.000
June 23	15.425	Sept. 16	14.750	Dec. 14	12.500
June 24	16.000	Oct. 4	14.775	Dec. 21	12.000
Oct. 7	15.000	Oct. 5	14.850	1960:	
Oct. 14	14.000	Oct. 6	15.000	Dec. 13	11.000
Oct. 22	13.500	1955:		1961:	
Nov. 3	13.625	Sept. 26	15.500	Nov. 1	10.500
Nov. 5	14.000	Dec. 29	16.000	Nov. 13	10.000
Nov. 10	14.125	1956:		Nov. 28	10.250
Nov. 20	14.250	Jan. 4	16.270	1962:	
Nov. 24	14.000	Jan. 5	16.500	Jan. 5	10.000
Dec. 22	14.250	Jan. 13	16.000	Feb. 1	9.750
Dec. 29	14.500	1957:		Feb. 9	9.500
Dec. 30	14.750	May 9	15.500		
1953:		May 16	15.000		
Jan. 7	14.500	June 11	14.000		
Jan. 12	14.000	Oct. 14	13.500		
Feb. 2	13.500	Dec. 2	13.000		
Mar. 4	13.000	1958:			
Mar. 10	13.500	Apr. 1	12.000		
Apr. 7	13.250	May 14	11.500		
Apr. 8	13.000	June 3	11.000		
Apr. 15	12.500	June 18	11.110		
Apr. 20	12.000	June 19	11.500		
Apr. 29	12.500	July 1	11.000		
May 18	12.750	Aug. 14	10.750		
May 19	13.000	Sept. 18	11.000		
May 26	13.250	Sept. 30	11.312		
June 11	13.500	Oct. 1	11.500		
June 20	13.750	Oct. 2	11.914		
July 23	14.000	Oct. 3	12.000		
Sept. 16	13.500	Oct. 8	12.268		
1954:		Oct. 9	12.500		
Jan. 18	13.000	Oct. 15	13.000		
Feb. 18	12.500				

Source: E & MJ Metal and Mineral Markets.

Note.--The daily quotations are based on sales on a flat-price basis of domestically refined lead sold to domestic consumers. The daily averages are weighted by the quantity of such sales. The price quotations reflect sales of all grades of lead sold converted to the basis of Common lead at New York. On April 1, 1962, Chemical grade commanded a premium of 0.1 cent per pound over the Common and Corroding grades.

Price ceilings on sales of lead in the United States were imposed on Jan. 26, 1951; the price ceilings were increased by 2 cents a pound on Oct. 2, 1951, and, in order to prevent domestic buyers from buying lead at higher prices in foreign countries (previously permitted), the Office of Price Stabilization prohibited any person in the United States from receiving foreign lead at a delivered cost in excess of the ceiling price. All price ceilings on lead in the United States were removed by the Office of Price Stabilization on Feb. 12, 1953.

Table 5.--Prime Western zinc: Average market prices at East St. Louis, average 1937-39, annual averages 1946-50, and average daily prices in the United States since Jan. 1, 1951

(In cents per pound)

Period, or date of change	Average or new price	Date of change	New price	Date of change	New price
1937-39 average	5.413	1953--Continued:		1958:	
1946 average	8.726	Jan. 27	12.000	Oct. 2	10.021
1947 average	10.500	Feb. 3	11.500	Oct. 3	10.500
1948 average	13.589	Feb. 25	11.375	Oct. 8	10.777
1949 average	12.144	Feb. 26	11.250	Oct. 9	11.000
1950 average	13.866	Mar. 5	11.000	Nov. 7	11.052
1951:		Aug. 1	10.730	Nov. 10	11.187
Jan. 1	17.500	Aug. 3	11.000	Nov. 12	11.500
Oct. 2	19.500	Aug. 5	10.890	1959:	
1952:		Aug. 6	10.900	Feb. 25	11.000
June 2	17.500	Aug. 7	11.000	Sept. 21	11.005
June 5	16.000	Sept. 2	10.500	Sept. 22	12.000
June 18	15.000	Sept. 11	10.000	Oct. 22	12.002
Aug. 6	13.500	1954:		Oct. 23	12.039
Aug. 11	13.640	Jan. 18	9.500	Oct. 26	12.500
Aug. 12	13.960	Feb. 15	9.250	Oct. 29	12.612
Aug. 13	13.980	Mar. 11	9.750	Oct. 30	12.563
Aug. 14	14.000	Mar. 29	10.200	Nov. 2	12.500
Sept. 12	14.300	Mar. 30	10.250	1960:	
Sept. 13	14.500	May 26	10.400	Jan. 8	12.532
Sept. 18	14.000	May 27	10.500	Jan. 11	13.000
Sept. 22	13.525	June 3	10.950	Dec. 13	12.500
Sept. 23	13.625	June 4	11.000	Dec. 19	12.000
Sept. 24	13.500	Sept. 3	11.040	1961:	
Sept. 25	13.825	Sept. 4	11.015	Jan. 10	11.500
Sept. 26	13.750	Sept. 7	11.155	Dec. 1	11.506
Sept. 27	13.500	Sept. 8	11.500	Dec. 4	12.000
Sept. 29	13.725	1955:		1962:	
Sept. 30	13.825	Apr. 5	11.550	Apr. 2	11.500
Oct. 1	13.525	Apr. 6	12.000		
Oct. 3	13.700	June 16	12.025		
Oct. 4	14.000	June 17	12.500		
Oct. 6	13.625	Sept. 6	12.700		
Oct. 7	13.600	Sept. 7	13.000		
Oct. 8	13.500	1956:			
Oct. 10	13.625	Jan. 6	13.264		
Oct. 11	13.500	Jan. 7	13.500		
Oct. 23	13.125	1957:			
Oct. 24	13.000	May 6	12.000		
Oct. 27	12.500	May 13	11.500		
1953:		June 4	11.000		
Jan. 2	12.800	June 20	10.500		
Jan. 3	13.000	July 1	10.079		
Jan. 14	12.500	July 2	10.049		
		July 3	10.000		

Source: E & MJ Metal and Mineral Markets.

Note.--The daily quotations are prices at which slab zinc was sold on a flat-price basis by primary producers in the United States, weighted by quantities sold. The price quotations reflect sales of all grades of zinc sold, converted to the basis of Prime Western zinc f.o.b. East St. Louis. At the end of 1961, other grades of zinc commanded the following premiums over the Prime Western grade (in cents per pound): Selected, 0.10 cent; Brass Special, 0.20 cent; Intermediate, 0.20 cent; High grade (sold on contract delivered to consumers' plants), 0.85 cent; Special High grade (sold on contract delivered to consumers' plants), 1.0 cent.

Price ceilings on sales of zinc in the United States were imposed on Jan. 26, 1951; the price ceilings were increased by 2 cents a pound on Oct. 2, 1951, and, in order to prevent domestic buyers from buying zinc at higher prices in foreign countries (previously permitted), the Office of Price Stabilization prohibited any person in the United States from receiving foreign zinc at a delivered cost in excess of the ceiling price. All price ceilings on zinc in the United States were removed by the Office of Price Stabilization on Feb. 12, 1953.

Table 6.--Lead metal: Average monthly market prices at New York and at London, April 1953-March 1962

(In cents per pound)

Year and month	New York price of Common lead	London Metal Exchange price 1/	Difference, New York price minus London price
1953:			
April	12.683	10.277	2.406
May	12.750	10.272	2.478
June	13.413	11.085	2.328
July	13.683	11.643	2.040
August	14.000	11.920	2.080
September	13.740	11.670	2.070
October	13.500	11.567	1.933
November	13.500	11.777	1.723
December	13.500	11.299	2.201
1954:			
January	13.260	10.808	2.452
February	12.818	10.344	2.474
March	12.935	10.794	2.141
April	13.904	11.693	2.211
May	14.000	11.800	2.200
June	14.106	12.182	1.924
July	14.000	11.962	2.038
August	14.058	12.114	1.944
September	14.598	12.668	1.930
October	14.965	13.586	1.379
November	15.000	13.512	1.488
December	15.000	13.027	1.973
1955:			
January	15.000	13.008	1.992
February	15.000	12.959	2.041
March	15.000	13.001	1.999
April	15.000	13.058	1.942
May	15.000	12.897	2.103
June	15.000	12.852	2.148
July	15.000	13.242	1.758
August	15.000	13.312	1.688
September	15.100	13.446	1.654
October	15.500	13.360	2.140
November	15.500	13.521	1.979
December	15.558	14.168	1.390
1956:			
January	16.151	14.821	1.330
February	16.000	14.922	1.078
March	16.000	15.141	.859
April	16.000	14.464	1.536
May	16.000	13.943	2.057
June	16.000	14.153	1.847
July	16.000	14.207	1.793
August	16.000	14.508	1.492
September	16.000	14.647	1.353
October	16.000	14.432	1.568
November	16.000	14.796	1.204
December	16.000	14.460	1.540
1957:			
January	16.000	14.532	1.468
February	16.000	14.144	1.856
March	16.000	14.138	1.862
April	16.000	13.984	2.016
May	15.385	12.433	2.952
June	14.320	11.461	2.859
July	14.000	11.327	2.673
August	14.000	11.466	2.534
September	14.000	11.230	2.770
October	13.692	10.738	2.954
November	13.500	10.396	3.104
December	13.000	9.152	3.848
1958:			
January	13.000	9.021	3.979
February	13.000	9.272	3.728
March	13.000	9.349	3.651
April	12.000	9.109	2.891
May	11.712	9.017	2.695
June	11.224	9.160	2.064
July	11.000	8.936	2.064
August	10.856	8.798	2.058
September	10.872	8.815	2.057
October	12.642	9.256	3.386
November	13.000	9.448	3.552
December	13.000	9.025	3.975
1959:			
January	12.667	8.981	3.686
February	11.560	8.746	2.814
March	11.412	8.689	2.723
April	11.189	8.631	2.558
May	11.897	8.850	3.047
June	12.000	8.708	3.292
July	12.000	8.781	3.219
August	12.286	9.180	3.106
September	13.000	8.840	4.160
October	13.000	8.827	4.173
November	13.000	9.018	3.982
December	12.523	9.087	3.436
1960:			
January	12.000	9.348	2.652
February	12.000	9.233	2.767
March	12.000	9.533	2.467
April	12.000	9.690	2.310
May	12.000	9.676	2.324
June	12.000	9.172	2.828
July	12.000	8.905	3.095
August	12.000	8.869	3.131
September	12.000	8.743	3.257
October	12.000	8.406	3.594
November	12.000	8.522	3.478
December	11.381	8.122	3.259
1961:			
January	11.000	7.975	3.025
February	11.000	8.167	2.833
March	11.000	8.242	2.758
April	11.000	8.384	2.616
May	11.000	8.330	2.670
June	11.000	8.087	2.913
July	11.000	8.107	2.893
August	11.000	8.086	2.914
September	11.000	7.999	3.001
October	11.000	7.828	3.172
November	10.203	7.548	2.655
December	10.250	7.559	2.691
1962:			
January	10.034	7.388	2.646
February	9.583	7.335	2.248
March	9.500	7.576	1.924

1/ Average of daily mean of bid and ask quotations for prompt lead at the morning session of the London Metal Exchange. Quotations in pounds sterling per long ton were converted to U.S. cents per pound, at the rate of 1 pound sterling=$2.80.

Source: E & MJ Metal and Mineral Markets.

Note.--At mid-1961 the cost of transportation and insurance from London to New York City plus the U.S. import duty of 1-1/16 cents per pound amounted to about 2.1 cents per pound.

Table 7.--Slab zinc: Average monthly market prices in the United States and at London, April 1953-March 1962

(In cents per pound)

Year and month	Prime Western grade: F.o.b. East St. Louis	Prime Western grade: Delivered New York City 1/	London Metal Exchange price 2/	Difference, New York price minus London price
1953:				
April	11.000	-	8.915	-
May	11.000	-	8.628	-
June	11.000	-	8.856	-
July	11.000	-	9.165	-
August	10.982	11.252	9.112	2.140
September	10.180	10.670	8.776	1.894
October	10.000	10.500	9.222	1.278
November	10.000	10.500	9.419	1.081
December	10.000	10.500	9.288	1.212
1954:				
January	9.760	10.260	9.128	1.132
February	9.375	9.875	9.028	.847
March	9.637	10.137	9.282	.855
April	10.250	10.750	9.956	.794
May	10.286	10.786	9.941	.845
June	10.960	11.460	9.990	1.470
July	11.000	11.500	9.695	1.805
August	11.000	11.500	9.415	2.085
September	11.408	11.908	10.077	1.831
October	11.500	12.000	10.316	1.684
November	11.500	12.000	10.152	1.848
December	11.500	12.000	10.340	1.660
1955:				
January	11.500	12.000	10.730	1.270
February	11.500	12.000	11.182	.818
March	11.500	12.000	11.031	.969
April	11.925	12.425	11.133	1.292
May	12.000	12.500	11.211	1.289
June	12.232	12.732	11.425	1.307
July	12.500	13.000	11.403	1.597
August	12.500	13.000	11.214	1.786
September	12.928	13.428	11.486	1.942
October	13.000	13.500	11.362	2.138
November	13.000	13.500	11.554	1.946
December	13.000	13.500	12.305	1.195
1956:				
January	13.431	13.931	12.604	1.327
February	13.500	14.000	12.551	1.449
March	13.500	14.000	12.695	1.305
April	13.500	14.000	12.280	1.720
May	13.500	14.000	11.852	2.148
June	13.500	14.000	11.751	2.249
July	13.500	14.000	11.685	2.315
August	13.500	14.000	11.950	2.050
September	13.500	14.000	12.043	1.957
October	13.500	14.000	11.966	2.034
November	13.500	14.000	12.596	1.404
December	13.500	14.000	12.671	1.329
1957:				
January	13.500	14.000	12.907	1.093
February	13.500	14.000	12.430	1.570
March	13.500	14.000	12.077	1.923
April	13.500	14.000	12.297	1.703
May	11.923	12.423	10.722	1.701
June	10.860	11.360	9.288	2.072
July	10.005	10.505	9.394	1.111
August	10.000	10.500	9.237	1.263
September	10.000	10.500	9.136	1.364
October	10.000	10.500	8.647	1.853
November	10.000	10.500	8.441	2.059
December	10.000	10.500	7.849	2.651
1958:				
January	10.000	10.500	7.821	2.679
February	10.000	10.500	7.982	2.518
March	10.000	10.500	7.936	2.564
April	10.000	10.500	7.797	2.703
May	10.000	10.500	7.732	2.768
June	10.000	10.500	8.022	2.478
July	10.000	10.500	7.950	2.550
August	10.000	10.500	7.979	2.521
September	10.000	10.500	8.129	2.371
October	10.838	11.338	8.808	2.530
November	11.367	11.867	9.409	2.458
December	11.500	12.000	9.293	2.707
1959:				
January	11.500	12.000	9.360	2.640
February	11.417	11.917	9.210	2.707
March	11.000	11.500	9.390	2.110
April	11.000	11.500	9.086	2.414
May	11.000	11.500	9.669	1.831
June	11.000	11.500	9.801	1.699
July	11.000	11.500	10.066	1.434
August	11.000	11.500	10.662	.838
September	11.334	11.834	10.759	1.075
October	12.129	12.629	11.421	1.208
November	12.500	13.000	11.867	1.133
December	12.500	13.000	11.899	1.101
1960:				
January	12.877	13.377	11.822	1.555
February	13.000	13.500	11.107	2.393
March	13.000	13.500	11.270	2.230
April	13.000	13.500	11.554	1.946
May	13.000	13.500	11.512	1.988
June	13.000	13.500	11.324	2.176
July	13.000	13.500	11.279	2.221
August	13.000	13.500	10.929	2.571
September	13.000	13.500	10.892	2.608
October	13.000	13.500	10.989	2.511
November	13.000	13.500	10.954	2.546
December	12.476	12.976	10.345	2.631
1961:				
January	11.529	12.029	9.904	2.125
February	11.500	12.000	10.345	1.655
March	11.500	12.000	10.572	1.428
April	11.500	12.000	10.489	1.511
May	11.500	12.000	10.299	1.701
June	11.500	12.000	9.880	2.120
July	11.500	12.000	9.737	2.263
August	11.500	12.000	9.559	2.441
September	11.500	12.000	9.243	2.757
October	11.500	12.000	8.986	3.014
November	11.500	12.000	8.696	3.304
December	11.975	12.475	8.920	3.555
1962:				
January	12.000	12.500	8.777	3.723
February	12.000	12.500	8.598	3.902
March	12.000	12.500	8.669	3.831

1/ Effective July 16, 1953, Prime Western zinc was also sold on a delivered basis (in addition to f.o.b. East St. Louis basis); the delivered price ranged from 1/4 to 1/2 cent per pound above the East St. Louis price. Beginning with October 1953, the delivered price was 1/2 cent above the East St. Louis price where freight from East St. Louis exceeded 1/2 cent per pound (freight from East St. Louis to New York City exceeded 1/2 cent per pound).

2/ Average of daily mean of bid and ask quotations for Good Ordinary brands (equivalent to U.S. Prime Western grade) per pound for prompt delivery at morning session of London Metal Exchange. Quotations in pounds sterling per long ton were converted to U.S. cents per pound, at the rate of 1 pound sterling =$2.80.

Source: E & MJ Metal and Mineral Markets.

Note.--At mid-1961 the cost of transportation and insurance from London to New York City, plus the U.S. import duty (7/10 cent per pound), amounted to about 1.8 cents per pound.

Table 8.--Lead: 1/ U.S. industrial consumption, by uses, 1952, average 1953-57, and annual 1958-61

(In short tons)

Use	1952	Average 1953-57	1958	1959	1960	1961
Total consumption	1,130,795	1,171,390	986,387	1,091,149	1,021,172	2/ 1,022,300
Metal products, total	827,472	838,877	695,547	788,252	722,927	710,106
Ammunition	36,182	43,823	40,215	45,328	43,577	45,832
Bearing metals	36,545	31,128	18,980	23,298	20,717	17,031
Brass and bronze	25,807	24,389	20,379	24,264	20,485	19,518
Cable covering	142,571	127,647	74,981	61,626	60,350	57,394
Calking lead	45,150	57,620	70,807	80,091	66,527	66,117
Casting metals	18,017	12,924	8,674	8,395	7,023	6,040
Collapsible tubes	10,095	10,943	8,432	9,442	8,705	11,171
Foil	2,124	4,695	4,586	3,745	3,684	2,950
Pipes, traps and bends	29,465	27,610	23,044	24,825	22,119	18,365
Sheet lead	28,697	28,936	25,104	28,158	26,607	26,253
Solder	72,664	76,918	59,653	68,871	60,013	51,774
Storage batteries (antimonial lead)	187,506	187,834	159,795	187,284	175,458	180,835
Storage batteries (oxides)	163,424	175,499	152,930	193,448	177,738	179,969
Terne metal	1,812	2,044	1,227	1,511	1,765	897
Type metal	27,413	26,867	26,740	27,966	28,159	25,960
Pigments, total	122,299	122,633	95,901	103,671	98,541	94,195
White lead	22,943	17,336	13,589	10,955	8,432	7,634
Red lead and litharge	76,742	82,029	64,892	74,116	74,901	71,862
Pigment colors	12,839	13,647	11,853	13,827	11,445	11,168
Other 3/	9,775	9,621	5,567	4,773	3,763	3,531
Chemicals, total	150,719	176,584	162,645	164,505	166,632	171,461
Tetraethyl lead	146,723	171,400	159,412	160,020	163,826	169,397
Miscellaneous chemicals	3,996	5,184	3,233	4,485	2,806	2,064
Miscellaneous uses, total	15,783	15,935	14,355	15,363	15,799	12,228
Annealing	5,084	5,442	5,114	5,129	5,153	4,477
Galvanizing	2,002	2,017	1,226	1,184	1,383	1,079
Lead plating	1,037	859	438	302	218	17
Weights and ballast	7,660	7,617	7,577	8,748	9,045	6,655
Other uses, unclassified	14,522	17,361	17,939	19,358	17,273	14,810

1/ Represents all unmanufactured lead from primary and secondary sources consumed (put into process by industrial consumers) as reported to the U.S. Bureau of Mines, including lead in lead-containing alloys, lead in ores consumed directly in the manufacture of lead pigments and salts, and lead that went directly (without remelting) from scrap to fabricated products.

2/ Preliminary. Includes 19,500 short tons of estimated undistributed consumption.

3/ Includes lead content of leaded zinc oxide production.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 9.--Zinc: 1/ U.S. industrial consumption, by uses, 1952, average 1953-57, and annual 1958-61

(In short tons of zinc content)

Use	1952	1953-57 average	1958	1959	1960	1961
Total consumption	1,211,648	1,309,355	1,142,165	1,278,376	1,158,938	2/ 1,214,016
Slab zinc consumed, total 3/	852,783	986,890	868,327	956,197	877,884	2/ 908,916
Galvanizing, total 4/	377,688	413,699	381,229	361,027	371,589	368,773
Sheet and strip	145,875	183,699	194,196	175,691	196,057	209,606
Wire and wire rope	48,645	43,312	35,638	35,602	35,262	36,696
Tubes and pipe	82,043	84,053	67,318	59,830	56,680	51,653
Fittings	10,366	10,409	8,904	10,239	9,258	5,707
Other	90,759	92,226	75,173	79,665	74,332	65,111
Brass products, total	155,608	133,817	101,375	129,278	99,023	126,707
Sheet, strip, and plate	71,706	64,748	46,967	61,234	45,870	59,463
Rod and wire	49,831	39,633	32,568	40,286	29,971	40,828
Tube	17,057	14,235	9,645	11,808	8,504	10,231
Castings and billets	7,262	6,663	4,423	4,967	4,699	3,190
Copper-base ingots	8,223	7,360	7,094	10,276	9,412	12,065
Other copper-base products	1,529	1,178	678	707	567	930
Zinc-base alloy, total	236,689	353,129	316,830	389,331	338,373	308,903
Die castings	225,877	341,464	309,408	383,358	331,112	304,965
Alloy dies and rod	9,235	9,444	5,400	3,745	3,442	1,568
Slush and sand castings	1,577	2,221	2,022	2,228	3,819	2,370
Rolled zinc, total	51,318	48,471	40,616	42,949	38,696	39,948
Zinc oxide, total	17,205	20,280	13,331	18,248	15,593	17,580
Other uses, total	14,275	17,494	14,946	15,364	14,610	15,905
Wet batteries	1,396	1,354	846	1,244	1,152	5/
Desilverizing lead	2,370	2,718	2,521	1,949	2,521	5/
Light-metal alloys	3,266	4,748	3,657	3,363	3,181	5/
Other 6/	7,243	8,674	7,922	8,808	7,756	5/
Zinc ores consumed directly in the manufacture of chemicals and pigments, total	109,277	111,865	94,938	108,070	88,275	86,500
Estimated zinc contained in new and old scrap consumed in the form of alloys, dust or chemicals, total	249,588	210,600	178,900	214,109	192,779	218,600
In zinc-base alloys	9,875	14,085	17,683	17,611	13,738	5/
In brass and bronze alloys	184,935	136,089	99,641	120,032	107,422	5/
In aluminum-base alloys	1,120	4,517	2,941	3,964	3,277	5/
In magnesium-base alloys	161	184	143	179	191	5/
In zinc dust	22,292	24,972	26,010	32,119	30,144	5/
In chemical products	31,205	30,753	32,482	40,204	38,007	5/
Recapitulation:						
Total consumption in all forms, by uses	1,211,648	1,309,355	1,142,165	1,278,376	1,158,938	2/ 1,214,016
Galvanizing	377,688	413,699	381,229	361,027	371,589	368,773
Brass and bronze	340,543	269,906	201,016	249,310	206,445	5/
Zinc-base alloys	246,564	367,214	334,513	406,942	352,111	5/
Rolled zinc	51,318	48,471	40,616	42,949	38,696	39,948
Light-metal alloys	4,547	9,449	6,741	7,506	6,649	5/
Chemicals, compounds and pigments	157,687	162,898	140,751	166,522	141,875	5/
Other uses	33,301	37,718	37,299	44,120	41,573	5/

1/ Represents all unmanufactured zinc from primary and secondary sources consumed (put into process by industrial consumers), including slab zinc, zinc in ores consumed directly in the manufacture of zinc pigments and chemicals, and the recoverable zinc content in old and new scrap that went directly into fabricated products and chemicals.

2/ Includes 31,100 short tons of estimated undistributed consumption.

3/ Excludes zinc used by some small consumers, probably not more than 4 percent of the total consumption of slab zinc shown. Includes remelt zinc.

4/ Includes zinc used in electrogalvanizing and electroplating, but excludes that used in sherardizing.

5/ Not available.

6/ Includes zinc used in making zinc dust, bronze powder, alloys, chemicals, and castings, and that employed in miscellaneous uses not elsewhere mentioned.

Source: Compiled from official statistics of the U.S. Bureau of Mines. Data for 1961 are preliminary.

Table 10.--Lead: World consumption of primary metal, by principal consuming countries or areas, 1952-60

(In thousands of short tons)

Area or country	1952	1953	1954	1955	1956	1957	1958	1959	1960
North America:									
United States 1/	781.9	784.2	763.5	809.9	742.9	702.5	706.9	671.6	581.7
Canada	53.4	67.7	67.9	69.4	68.0	64.5	62.2	49.4	44.5
Mexico	10.9	8.5	12.8	19.8	29.6	31.1	28.1	28.9	32.9
Total	846.2	860.4	844.2	899.1	840.5	798.1	797.2	749.9	659.1
Europe: 2/									
European Economic Community 3/	363.3	398.0	474.3	505.5	498.0	517.8	524.0	585.0	648.1
United Kingdom	115.8	174.2	215.1	237.5	193.0	189.0	186.8	197.0	215.2
All other	85.5	98.9	121.6	121.6	128.0	132.6	135.1	138.4	146.6
Total	564.6	671.1	811.0	864.6	819.0	839.4	845.9	920.4	1,009.9
U.S.S.R. and Soviet-sphere countries in Europe and Asia:									
U.S.S.R.	170.0	202.0	228.5	255.0	290.0	320.0	340.0	350.0	360.0
All other	72.2	89.6	108.4	119.5	129.5	147.8	164.2	197.9	210.3
Total	242.2	291.6	336.9	374.5	419.5	467.8	504.2	547.9	570.3
Australia-Asia:									
Australia and New Zealand	37.5	38.4	53.3	56.5	46.8	48.9	50.4	41.2	41.9
Japan	20.9	43.1	51.6	48.9	79.1	96.0	67.1	87.9	122.7
India	5.7	7.6	14.7	15.6	20.6	19.5	28.0	30.8	28.5
Total	64.1	89.1	119.6	121.0	146.5	164.4	145.5	159.9	193.1
South America:									
Argentina	4/ 30.9	4/ 14.3	4/ 28.7	4/ 27.6	4/ 22.0	26.5	35.3	34.7	32.0
Brazil	11.0	23.4	29.2	15.0	10.9	26.8	17.9	18.3	16.2
Total	41.9	37.7	57.9	42.6	32.9	53.3	53.2	53.0	48.2
Africa 5/	16.5	16.5	17.0	20.0	20.0	21.0	23.5	23.5	23.5
Grand total	1,775.5	1,966.4	2,186.6	2,321.8	2,278.4	2,344.0	2,369.5	2,454.6	2,504.1

1/ Mostly primary lead, although a small amount of secondary lead may be included. Does not include tonnages which went to Government stockpile.

2/ Excludes U.S.S.R. and Soviet-sphere countries in Europe.

3/ For France, variations in stock included. For West Germany, data represent production plus imports, minus exports, and include some secondary lead.

4/ Part of this may represent lead stockpiled, also secondary lead consumed.

5/ Estimated by the American Bureau of Metal Statistics.

Source: Compiled from data reported by the American Bureau of Metal Statistics.

Table 11.--Zinc: World consumption of primary metal, by principal consuming countries or areas, 1952-60

(In thousands of short tons)

Area or country	1952	1953	1954	1955	1956	1957	1958	1959	1960
North America:									
United States	852.8	985.9	884.3	1,119.8	1,008.8	935.6	868.3	956.2	861.1
Canada	51.6	50.7	45.8	66.7	59.2	50.7	59.9	66.0	53.5
Mexico	9.9	9.0	12.5	13.8	15.6	16.8	19.6	20.0	25.0
Total	914.3	1,045.6	942.6	1,200.3	1,083.6	1,003.1	947.8	1,042.2	939.6
Europe: 1/									
European Economic Community 2/	426.1	423.6	581.9	595.6	578.2	651.7	640.2	692.3	760.8
United Kingdom	191.4	216.2	269.2	281.5	257.0	259.7	250.3	276.9	304.1
All other	92.4	88.5	108.8	112.4	107.8	113.8	128.6	138.9	157.7
Total	709.9	728.3	959.9	989.5	943.0	1,025.2	1,019.1	1,108.1	1,222.6
U.S.S.R. and Soviet-sphere countries in Europe and Asia:									
U.S.S.R	205.0	233.5	250.0	260.0	310.0	330.0	360.0	420.0	450.0
All other	137.9	153.0	170.4	202.6	213.4	224.3	233.3	261.3	273.5
Total	342.9	386.5	420.4	462.6	523.4	554.3	593.3	681.3	723.5
Australia-Asia:									
Australia and New Zealand	56.8	66.1	70.7	81.5	79.3	89.8	83.3	89.5	103.1
Japan	74.7	94.6	112.9	119.3	126.3	142.5	151.1	170.5	208.7
India	26.8	23.7	28.6	38.8	39.8	53.4	69.0	52.3	66.2
Total	158.3	184.4	212.2	239.6	245.4	285.7	303.4	312.3	378.0
South America:									
Argentina	3/ 13.8	8.8	16.5	22.0	19.8	14.7	23.7	22.0	18.7
Brazil	10.9	14.4	23.3	15.4	21.3	17.2	25.6	24.1	7.3
Total	24.7	23.2	39.8	37.4	41.1	31.9	49.3	46.1	26.0
Africa	14.0	14.0	17.8	21.5	26.5	27.5	26.5	24.0	25.0
Grand total	2,164.1	2,382.0	2,592.7	2,950.9	2,863.0	2,927.7	2,939.4	3,214.0	3,314.7

1/ Excludes U.S.S.R. and Soviet-sphere countries in Europe.
2/ For West Germany, data represent production plus imports, less exports. For France, variations in stock included.
3/ May include some secondary metal.

Source: Compiled from data reported by the American Bureau of Metal Statistics.

Table 12.--Unmanufactured lead: U.S. production, stocks, imports, exports, consumption, and market prices, average 1937-39, annual 1943 and 1946-61, and by quarters, January 1960-December 1961

(In short tons of lead content, except as otherwise indicated)

Period	Production			Stocks at end of period		Imports for consumption 5/			Domestic exports 6/	Industrial consumption 7/	Average price per pound 8/
	Primary (mine output) 1/	Secondary 2/	Total	Producers' 3/	Consumers' 4/	Dutiable	Free	Total			
											Cents
Average 1937-39	416,199	247,167	663,366	148,079	9/	12,315	37,160	49,475	46,783	630,567	5.267
Annual:											
1943	453,313	342,094	795,407	129,540	9/	21,861	314,112	335,973	3,611	1,100,000	6.500
1946	335,475	392,787	728,262	188,829	9/	18,541	118,292	136,833	2,157	956,000	8.109
1947	384,221	511,970	896,191	127,954	91,344	180,267	45,538	225,805	4,707	1,172,000	14.673
1948	390,476	500,071	890,547	146,754	119,198	98,944	10/ 232,850	331,794	1,279	1,133,895	18.043
1949	409,908	412,183	822,091	201,526	97,267	116,538	10/ 298,542	415,080	4,396	957,674	15.364
1950	430,827	482,275	913,102	137,669	139,884	514,954	50,332	565,286	5,343	1,237,981	13.296
1951	388,164	518,110	906,274	124,080	102,760	191,649	36,657	228,306	3,473	1,184,793	17.500
1952	390,161	471,294	861,455	149,778	122,530	179,600	10/ 464,617	644,217	3,665	1,130,795	16.467
1953	342,644	486,737	829,381	196,340	113,763	409,004	48,054	457,058	5,118	1,201,604	13.489
1954	325,419	480,925	806,344	201,850	124,641	460,197	22,626	482,823	5,227	1,094,871	14.054
1955	338,025	502,051	840,076	150,822	117,458	424,413	28,961	453,374	4,234	1,212,644	15.138
1956	352,826	506,755	859,581	159,259	123,995	420,005	69,153	489,158	7,975	1,209,717	16.013
1957	338,216	489,229	827,445	207,912	129,310	512,289	62,518	574,807	7,021	1,138,115	14.658
1958	267,377	401,787	669,164	303,316	122,900	561,263	46,632	607,895	3,386	986,387	12.109
1959	255,586	451,387	706,973	230,328	126,496	368,449	44,810	413,259	4,121	1,091,149	12.211
1960	246,669	469,903	716,572	305,841	97,268	357,541	3,214	360,755	5,843	1,021,172	11.948
1961	260,348	440,000	700,348	312,402	95,968	354,365	40,415	394,780	11,733	1,022,300	10.871
1960:											
January-March	69,889	116,871	186,760	244,377	126,697	88,219	2,425	90,644	490	263,400	12.000
April-June	64,662	122,177	186,839	270,521	120,130	90,953	352	91,305	1,650	261,700	12.000
July-September	54,538	113,443	167,981	289,562	118,124	87,042	-	87,042	1,840	254,600	12.000
October-December	57,580	117,412	174,992	305,841	97,268	91,327	437	91,764	1,863	241,472	11.794
1961:											
January-March	68,875	106,671	175,546	314,466	94,766	85,863	49	85,912	1,223	246,700	11.000
April-June	67,842	111,257	179,099	307,485	106,372	91,011	3,870	94,881	3,046	252,400	11.000
July-September	61,999	107,752	169,751	304,133	107,690	89,717	3,854	93,571	4,650	251,500	11.000
October-December	61,632	114,320	175,952	312,402	95,968	87,774	32,642	120,416	2,814	271,700	10.484

1/ Recoverable lead content from ores and concentrates produced, and from old tailings, mine dumps, and smelter slag dumps reclaimed.

2/ Lead recovered in all forms from all types of scrap. Quarterly data for 1960-61 are estimated from preliminary monthly data.

3/ Lead in ore and matte and in process at smelters; lead in base bullion at smelters and refineries, in transit to refineries, and in process at refineries; refined pig lead; and antimonial lead.

4/ Lead in refined soft lead, antimonial lead, unmelted white scrap, percentage metals, copper-base scrap, drosses, residues, and so forth. Data for years prior to 1951 not strictly comparable with data for subsequent years because of an increase in the number of consumers convassed by the U.S. Bureau of Mines beginning in January 1951. Beginning with January 1956, data also include secondary smelter metal stocks.

5/ Lead content of lead-bearing ores and concentrates, flue dust, and mattes; lead bullion or base bullion; lead pigs and bars; type metal and antimonial lead; and reclaimed lead, lead scrap, and lead dross. Data for 1960 and 1961 are preliminary.

6/ Lead content of lead ores, concentrates, mattes, and base bullion; and the gross weight of lead pigs, bars, anodes, lead scrap, and type metal and antimonial lead prior to 1958. Beginning in 1958, exports of type metal and antimonial lead are not separately available and are not included. Data for 1960 and 1961 are preliminary.

7/ As reported to the U.S. Bureau of Mines; represents all unmanufactured lead from primary and secondary sources consumed (put into process by industrial concerns) including lead in lead-containing alloys, lead in ores consumed directly in the manufacture of lead pigments and salts, and lead that went directly (without remelting) from scrap to fabricated products. These data do not include withdrawals for the Government stockpiles. Data for 1961 are preliminary.

8/ Average price of common lead at New York.

9/ Not available.

10/ Duty on all imports was suspended from June 20, 1948, to June 30, 1949, inclusive (Public Law 725, 80th Cong.) and also from Feb. 12, 1952, to June 25, 1952, inclusive (Public Law 257, 82d Cong.).

Source: Production, consumers' stocks, and consumption, from official statistics of the U.S. Bureau of Mines, except as noted; producers' stocks, from the American Bureau of Metal Statistics; imports and exports, compiled from official statistics of the U.S. Department of Commerce; prices, from E & MJ Metal and Mineral Markets.

Table 13.--Unmanufactured lead and zinc: U.S. production, commercial imports for consumption, domestic exports, and industrial consumption, average 1953-57, and annual 1958-61

(In thousands of short tons)

Item	Average 1953-57	1958	1959	1960	1961
	Lead (lead content)				
U.S. production 1/	832.5	669.2	707.0	716.6	700.3
Commercial imports	443.4	529.2	347.1	354.2	354.7
Domestic exports	5.9	3.4	4.1	5.8	11.7
Industrial consumption	1,171.4	986.4	1,091.1	1,021.2	1,022.3
Ratio (percent) of commercial imports to industrial consumption	37.9	53.6	31.8	34.7	34.7
	Zinc (zinc content)				
U.S. production 2/	805.3	642.3	701.6	701.2	733.8
Commercial imports, including zinc fume	660.3	697.1	574.2	518.0	508.7
Domestic exports	28.3	7.4	23.0	87.3	57.6
Industrial consumption	1,309.4	1,142.2	1,278.4	1,158.9	1,214.0
Ratio (percent) of commercial imports to industrial consumption	50.4	61.0	44.9	44.7	41.9

1/ Mine output of recoverable lead plus lead recovered from all types of old and new scrap.

2/ Mine output of recoverable zinc plus zinc recovered in all forms from all types of old and new scrap.

Source: For lead, compiled from data on production, exports and consumption given in table 12, and from data on commercial imports (using Treasury Department data for period beginning Oct. 1, 1958) in table 52. For zinc, compiled from data on production, exports, and consumption given in table 16, and from data on commercial imports (using Treasury Department data for the period beginning Oct. 1, 1958) in table 53, and from data on imports of zinc fume in table 17.

Table 14.--Unmanufactured lead: Shipments of domestic and foreign lead for U.S. Government account, 1946-61

(In thousands of short tons of lead content)

Year	Domestic lead	Foreign lead	Total
1946	1/	115.3	1/
1947	1/	27.2	1/
1948	1/	-	1/
1949	105.0	24.3	129.3
1950	103.0	42.5	145.5
1951	2/	2/ 9.8	9.8
1952	3/ 82.2	143.8	4/ 226.0
1953	5/ 24.8	44.2	6/ 69.0
1954	64.2	15.4	79.6
1955	77.4	8.0	85.4
1956	7/ 64.0	8/ 29.9	93.9
1957	7/ 58.0	8/100.1	158.1
1958	32.0	46.0	78.0
1959	-	44.4	44.4
1960	-	3.0	3.0
1961	-	38.4	38.4

1/ Not available.

2/ Data are not available on U.S. Government acquisitions of domestic lead in 1951; it is known, however, that the U.S. Government released 17,000 tons of lead to consumers because of the lead shortage. This amount is subtracted from acquisitions of foreign lead.

3/ Acquisition for the strategic stockpile minus imports for U.S. Government use.

4/ Represents lead acquired during the year for the national strategic stockpile only; the Office of Defense Mobilization authorized the U.S. Tariff Commission to release this figure.

5/ Acquisition for the strategic stockpile in the first 6 months of 1953 minus imports for U.S. Government use during the entire year.

6/ Lead acquired during the first 6 months of 1953 only for the national strategic stockpile; the Office of Defense Mobilization authorized the U.S. Tariff Commission to release this figure.

7/ Pig lead shipped by primary producers for U.S. Government account as reported by trade sources minus 10 thousand tons in 1956 and 29 thousand tons in 1957--quantities of pig lead produced in the United States from foreign ores and acquired by the General Services Administration during those years; these quantities were deducted to avoid duplication with the amounts of such lead included in the figures of lead of foreign origin acquired by GSA under the barter program.

8/ Lead of foreign origin acquired under the barter program, as reported by the General Services Administration. This figure was used in lieu of data on duty-free imports for U.S. Government use because duty was paid on much of the lead acquired during 1956 and 1957 under the barter program.

Source: Except as noted, data for domestic lead represent shipments of pig lead by primary U.S. refineries as indicated by testimony at 2 U.S. Tariff Commission hearings beginning on Jan. 12, 1960, and Jan. 16, 1962, respectively. Except as noted, data on foreign lead represent imports free of duty for U.S. Government use as shown in table 56 of this report.

Table 15.--Unmanufactured lead: U.S. supplies and distribution, 1952, average 1953-57, and annual 1958-61

(In thousands of short tons of lead content)

Item	1952	Average 1953-57	1958	1959	1960 1/	1961 1/
U.S. supplies:						
Mine output of recoverable lead	390.2	339.4	267.4	255.6	246.7	260.3
Secondary output of lead	471.3	493.1	401.8	451.4	469.9	440.0
Imports for consumption	644.2	491.5	607.9	413.3	360.8	394.8
Total	1,505.7	1,324.0	1,277.1	1,120.3	1,077.4	1,095.1
U.S. distribution:						
Industrial consumption	1,130.8	1,171.4	986.4	1,091.1	1,021.2	1,022.3
Domestic exports	3.7	5.9	3.4	4.1	5.8	11.7
Total	1,134.5	1,177.3	989.8	1,095.2	1,027.0	1,034.0
Amount by which supplies exceeded consumption plus exports	371.2	146.7	287.3	25.1	50.4	61.1
Breakdown of above surplus:						
Net change in primary producers' stocks of ores, mattes, bullion, refined pig lead and antimonial lead	25.7	11.6	95.4	-73.0	75.5	6.6
Net change in consumers' stocks	19.8	1.4	-6.4	3.6	-29.2	-1.3
Shipments for U.S. Government account 2/	226.0	97.2	78.0	44.4	3.0	38.4
Net surplus not accounted for 3/	99.7	36.5	120.3	50.1	1.1	17.4
Total	371.2	146.7	287.3	25.1	50.4	61.1

1/ Data for imports for consumption and exports are preliminary.

2/ Except as noted in table 14, data represent shipments of pig lead for U.S. Government account by smelters and refineries in the United States as reported by trade sources (adjusted in 1956 and 1957 to exclude lead in such shipments produced from imported ores) plus imports for U.S. Government use as reported by the U.S. Department of Commerce.

3/ This surplus may reflect one or more of the following: (1) Possible understatement in available statistics on lead consumed by industry or acquired by the U.S. Government; (2) possible net increase in commercial stocks of lead in all forms not accounted for by the available statistics, such as stocks held by miners, dealers, importers, and other private concerns in the United States.

Source: Tables 12 and 14.

Table 16--Unmanufactured zinc: U.S. production, stocks of slab zinc, imports, exports, consumption, and market prices, average 1937-39, annual 1943 and 1946-61, and by quarters, January 1960-December 1961

(In short tons of zinc content, except as otherwise indicated)

Period	Production			Stocks of slab zinc at end of period		Imports for consumption 5/			Domestic exports 6/	Industrial consumption 7/	Average price per pound 8/
	Primary (mine output) 1/	Secondary 2/	Total	Producers' 3/	Consumers' 4/	Dutiable	Free	Total			
											Cents
Average 1937-39	575,624	150,599	726,223	108,941	9/	39,433	3,400	42,833	3,751	794,335	5.413
Annual:											
1943	744,196	368,488	1,112,684	170,606	90,356	9,888	598,663	608,551	97,441	1,243,409	8.250
1946	574,833	300,682	875,515	175,800	92,257	226,177	95,399	321,576	47,312	1,180,121	8.726
1947	637,608	310,793	948,401	68,011	80,049	244,836	144,704	389,540	108,074	1,173,733	10.500
1948	629,977	324,639	954,616	20,848	95,884	219,603	70,013	289,616	69,084	1,202,360	13.589
1949	593,203	237,813	831,016	94,221	81,801	213,702	82,300	296,002	63,203	974,515	12.144
1950	623,375	326,030	949,405	8,884	64,206	394,153	13,143	407,296	20,268	1,350,501	13.866
1951	681,189	314,377	995,566	21,901	50,071	285,618	48,431	334,049	44,212	1,326,082	18.000
1952	666,001	310,423	976,424	87,160	92,579	99,074	10/ 599,435	698,509	62,056	1,211,648	16.215
1953	547,430	294,678	842,108	180,443	84,863	653,832	44,064	697,896	21,811	1,342,389	10.855
1954	473,471	271,774	745,245	124,277	100,981	630,488	35,507	665,995	41,684	1,180,692	10.681
1955	514,671	304,775	819,446	40,979	123,544	569,639	33,443	603,082	39,506	1,469,080	12.299
1956	542,340	281,355	823,695	68,622	104,094	627,071	102,256	729,327	22,361	1,323,022	13.494
1957	531,735	264,104	795,839	166,660	88,188	881,953	69,394	951,347	16,262	1,231,593	11.399
1958	412,005	230,332	642,337	190,237	89,261	687,189	40,891	728,080	7,378	1,142,165	10.309
1959	425,303	276,254	701,557	154,419	99,577	558,993	43,868	602,861	22,962	1,278,376	11.448
1960	435,427	265,820	701,247	190,810	66,111	504,323	65,911	570,234	87,326	1,158,938	12.946
1961	466,576	267,245	733,821	151,189	89,314	482,204	39,446	521,650	57,625	1,214,016	11.542
1960:											
Jan.-Mar.	118,301	72,984	191,285	136,566	100,404	128,078	13,506	141,584	15,326	348,002	12.959
Apr.-June	121,844	63,798	185,642	187,686	74,471	125,827	17,597	143,424	18,775	289,692	13.000
July-Sept	102,439	63,593	166,032	192,466	67,463	122,151	17,943	140,094	23,506	260,273	13.000
Oct.-Dec.	92,843	65,445	158,288	190,810	66,111	128,267	16,865	145,132	29,719	267,858	12.819
1961:											
Jan.-Mar.	122,259	63,718	185,977	222,889	59,111	116,494	8,775	125,269	24,817	262,729	11.510
Apr.-June	118,969	68,772	187,741	207,820	59,511	117,322	11,912	129,234	10,332	308,252	11.500
July-Sept	112,694	63,037	175,731	165,064	62,922	113,714	9,978	123,692	13,573	308,462	11.500
Oct.-Dec.	112,654	71,718	184,372	151,189	89,314	134,674	8,781	143,455	8,903	334,573	11.658

1/ Recoverable zinc content of ores and concentrates produced, and of old tailings, mine dumps, and smelter slag dumps reclaimed.

2/ Zinc recovered in all forms from all types of scrap. Final totals for 1957-60 were distributed by quarters on the basis of preliminary monthly data for the aggregate quantity of secondary slab zinc produced and recoverable zinc content of zinc-base, copper-base, aluminum-base, and magnesium-base scrap consumed. Quarterly data for 1961 were estimated as equivalent to 96.9 percent of the quarterly aggregates of the preliminary monthly data; this is the ratio of the final to the preliminary total for 1960.

3/ As reported by the American Zinc Institute. Represents gross weight of zinc blocks, pigs, and slabs at primary and secondary smelters and refineries.

4/ Total stocks of slab zinc. Data for years prior to June 1951 not strictly comparable with data for subsequent years because of an increase in the number of consumers canvassed by the U.S. Bureau of Mines beginning with June 1951.

5/ Zinc content of zinc-bearing ores and concentrates and the gross weight of zinc blocks, pigs, slabs, scrap, dross, and skimmings. Imports of zinc fume are not included. Data for 1960 and 1961 are preliminary.

6/ Zinc content of zinc ores, concentrates, scrap, dross, and skimmings, and the gross weight of zinc blocks, pigs, and slabs. Data for 1960 and 1961 are preliminary.

7/ Slab zinc consumed, the zinc content of ores consumed directly in the manufacture of zinc pigments and chemicals, and the recoverable zinc in all forms of old and new zinc-bearing scrap (with the zinc content of redistilled and remelt zinc subtracted to eliminate duplication) as reported to the U.S. Bureau of Mines. These data do not include withdrawals for Government stockpiles. Data for 1961 are preliminary.

8/ Average price of Prime Western Zinc at East St. Louis as published by E & MJ Metal and Mineral Markets.

9/ Not available.

10/ Duty on all imports was suspended from Feb. 12 to July 23, 1952, inclusive (Public Law 258, 82d Cong.).

Source: Production, consumers' stocks, and consumption, from official statistics of the U.S. Bureau of Mines, except as noted; producers' stocks, from the American Zinc Institute; imports and exports, compiled from official statistics of the U.S. Department of Commerce; prices, from E & MJ Metal and Mineral Markets.

Table 17.--Zinc fume: U.S. production and imports for consumption, 1946-61

Year	Domestic production, zinc content	Imports for consumption 1/		
		Quantity, zinc content	Foreign value	
			Total	Average value per pound of zinc content
	Short tons	Short tons	1,000 dollars	Cents
1946	41,566	-	-	-
1947	56,025	-	-	-
1948	53,394	-	-	-
1949	65,854	-	-	-
1950	63,522	-	-	-
1951	74,700	-	-	-
1952	73,300	-	-	-
1953	79,200	423	57.4	6.8
1954	80,600	1,613	133.6	4.1
1955	85,700	6,012	542.5	4.5
1956	97,100	21,259	1,906.1	4.5
1957	105,200	15,804	1,415.1	4.5
1958	98,000	35,934	3,396.5	4.7
1959	73,300	60,050	5,494.3	4.6
1960	74,300	16,444	1,318.6	4.0
1961	2/	28,934	2,595.5	4.5

1/ Almost all the imports were from Mexico, but a small quantity came from Canada.

2/ Not available.

Source: Production, official statistics of the U.S. Bureau of Mines; imports, from reports of individual importers to the U.S. Tariff Commission.

Table 18.--Unmanufactured zinc, including zinc fume: U.S. supplies and distribution, 1952, average 1953-57, and annual 1958-61

(In thousands of short tons of zinc content)

Item	1952	Average 1953-57	1958	1959	1960 1/	1961 1/
U.S. supplies:						
Mine output of recoverable zinc	666.0	521.9	412.0	425.3	435.4	466.6
Secondary output of zinc	310.4	283.3	230.3	276.3	265.8	267.2
Imports for consumption, including zinc fume	698.5	738.6	764.0	662.9	586.7	550.6
Total	1,674.9	1,543.8	1,406.3	1,364.5	1,287.9	1,284.4
U.S. distribution:						
Industrial consumption	1,211.6	1,309.4	1,142.2	1,278.4	1,158.9	1,214.0
Domestic exports	62.1	28.3	7.4	23.0	87.3	57.6
Total	1,273.7	1,337.7	1,149.6	1,301.4	1,246.2	1,271.6
Amount by which supplies exceeded consumption plus exports	401.2	206.1	256.7	63.1	41.7	12.8
Breakdown of above surplus:						
Net change in producers' stocks of slab zinc	65.3	15.9	23.6	-35.8	36.4	-39.6
Net change in consumers' stocks of slab zinc	42.5	-.9	1.1	10.3	-33.5	23.2
Estimated zinc loss in smelting imported ores 2/	58.2	50.8	54.1	43.7	44.8	39.5
Shipments for U.S. Government account 3/	41.0	146.0	72.5	33.7	.7	2.1
Net surplus not accounted for 4/	194.2		105.4	11.2		
Net deficit not accounted for 5/		-5.7			-6.7	-12.4
Total	401.2	206.1	256.7	63.1	41.7	12.8

1/ Data for imports for consumption and exports are preliminary.

2/ Estimated at 10 percent of zinc content of zinc-bearing ores imported.

3/ Except as noted in table 20, data represent shipments by U.S. smelters for U.S. Government account as reported by the American Zinc Institute (adjusted in 1956 and 1957 to exclude zinc in such shipments produced from imported ores) plus imports for U.S. Government use as reported by the U.S. Department of Commerce.

4/ This surplus may reflect one or more of the following: (1) Possible understatement in available statistics on zinc consumed by industry or acquired by the U.S. Government; (2) increase in smelters' stocks of ore and other zinciferous materials (these data, compiled by the American Zinc Institute, are confidential); (3) possible net increase in other commercial stocks of zinc in all forms not accounted for by the available statistics--such as stocks held by miners, dealers, importers, and other private concerns in the United States.

5/ In 1961 the deficit reflects a reduction in smelters' stocks of ores and other zinciferous materials.

Source: Tables 16, 17, and 20.

Table 19.--Unmanufactured lead and zinc: U.S. supplies, by kinds, 1946-61

Year	Lead				Zinc (including zinc fume)			
	Production		Imports for consumption	Total	Production		Imports for consumption	Total
	Mine output	Secondary output			Mine output	Secondary output		
	Quantity (short tons of lead or zinc content)							
1946	335,475	392,787	136,833	865,095	574,833	300,682	321,576	1,197,091
1947	384,221	511,970	225,805	1,121,996	637,608	310,793	389,540	1,337,941
1948	390,476	500,071	331,794	1,222,341	629,977	324,639	289,616	1,244,232
1949	409,908	412,183	415,080	1,237,171	593,203	237,813	296,002	1,127,018
1950	430,827	482,275	565,286	1,478,388	623,375	326,030	407,296	1,356,701
1951	388,164	518,110	228,306	1,134,580	681,189	314,377	334,049	1,329,615
1952	390,161	471,294	644,217	1,505,672	666,001	310,423	698,509	1,674,933
1953	342,644	486,737	457,058	1,286,439	547,430	294,678	698,319	1,540,427
1954	325,419	480,925	482,823	1,289,167	473,471	271,774	667,608	1,412,853
1955	338,025	502,051	453,374	1,293,450	514,671	304,775	609,094	1,428,540
1956	352,826	506,755	489,158	1,348,739	542,340	281,355	750,586	1,574,281
1957	338,216	489,229	574,807	1,402,252	531,735	264,104	967,151	1,762,990
1958	267,377	401,787	607,895	1,277,059	412,005	230,332	764,014	1,406,351
1959	255,586	451,387	413,259	1,120,232	425,303	276,254	662,911	1,364,468
1960	246,669	469,903	1/ 360,755	1,077,327	435,427	265,820	1/ 586,678	1,287,925
1961	260,348	440,000	1/ 394,780	1,095,128	466,576	267,245	1/ 550,584	1,284,405
	Percent of total							
1946	38.8	45.4	15.8	100.0	48.0	25.1	26.9	100.0
1947	34.3	45.6	20.1	100.0	47.7	23.2	29.1	100.0
1948	32.0	40.9	27.1	100.0	50.6	26.1	23.3	100.0
1949	33.1	33.3	33.6	100.0	52.6	21.1	26.3	100.0
1950	29.2	32.6	38.2	100.0	46.0	24.0	30.0	100.0
1951	34.2	45.7	20.1	100.0	51.2	23.7	25.1	100.0
1952	25.9	31.3	42.8	100.0	39.8	18.5	41.7	100.0
1953	26.6	37.9	35.5	100.0	35.6	19.1	45.3	100.0
1954	25.2	37.3	37.5	100.0	33.5	19.2	47.3	100.0
1955	26.1	38.8	35.1	100.0	36.0	21.3	42.7	100.0
1956	26.1	37.6	36.3	100.0	34.4	17.9	47.7	100.0
1957	24.1	34.9	41.0	100.0	30.2	15.0	54.8	100.0
1958	20.9	31.5	47.6	100.0	29.3	16.4	54.3	100.0
1959	22.8	40.3	36.9	100.0	31.2	20.2	48.6	100.0
1960	22.9	43.6	1/ 33.5	100.0	33.8	20.6	1/ 45.6	100.0
1961	23.8	40.2	1/ 36.0	100.0	36.3	20.8	1/ 42.9	100.0

1/ Preliminary.

Source: Tables 12, 16, and 17.

Table 20.--Unmanufactured zinc: Shipments of domestic and foreign zinc for U.S. Government account, 1946-61

(In thousands of short tons of zinc content)

Year	Domestic zinc	Foreign zinc	Total
1946	62.0	44.8	106.8
1947	140.2	22.0	162.2
1948	57.6	6.7	64.3
1949	91.5	21.8	113.3
1950	128.3	-	128.3
1951	39.9	.4	40.3
1952	36.6	4.4	41.0
1953	42.3	22.3	64.6
1954	109.0	10.8	119.8
1955	87.2	9.9	97.1
1956	1/ 121.0	2/ 60.2	181.2
1957	1/ 73.5	2/ 193.9	267.4
1958	34.5	38.0	72.5
1959	3.0	30.7	33.7
1960	-	.7	.7
1961	-	2.1	2.1

1/ Slab zinc shipped by primary smelters for U.S. Government account minus 36 thousand tons in 1956 and 106 thousand tons in 1957--the quantities of zinc metal produced in the United States from foreign ores and acquired by the General Services Administration during those years; these quantities were deducted to avoid duplication with the amounts of such zinc included in the figures on zinc of foreign origin acquired by GSA under the barter program.

2/ Zinc of foreign origin acquired under the barter program, as reported by the General Services Administration. This figure is used in lieu of statistics on duty-free imports for U.S. Government use because duty was paid on much of the zinc acquired during 1956 and 1957 under the barter program.

Source: Data for domestic zinc represent shipments of slab zinc by U.S. smelters for U.S. Government account as reported by the American Zinc Institute, Inc., except as noted. Data on foreign zinc represent imports free of duty for U.S. Government use as shown in table 57, except as noted.

Table 21.--Lead: Mine output, smelter output of primary metal, and consumption of primary metal in the United States, outside the United States, and in the world, average 1937-38, annual 1946-60

Period	Mine output			Primary smelter output			Consumption of primary metal			Ratio of United States to world--		
	United States 1/	Outside United States	World 2/	United States 3/	Outside United States	World 4/	United States 5/	Outside United States	World 6/	Mine output	Smelter output	Consumption
	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	Percent	Percent	Percent
Average 1937-38	418	1,484	1,902	416	1,440	1,856	476	1,370	1,846	22.0	22.4	25.8
Annual:												
1946	335	933	1,268	338	842	1,180	542	810	1,352	26.4	28.6	40.1
1947	384	1,114	1,498	441	1,047	1,488	744	861	1,605	25.6	29.6	46.4
1948	390	1,181	1,571	400	1,138	1,538	745	833	1,578	24.8	26.0	47.2
1949	410	1,299	1,709	476	1,209	1,685	579	899	1,478	24.0	28.2	39.2
1950	431	1,419	1,850	505	1,346	1,851	885	1,037	1,922	23.3	27.3	46.0
1951	388	1,502	1,890	415	1,395	1,810	678	1,131	1,809	20.5	22.9	37.5
1952	390	1,640	2,030	472	1,518	1,990	782	994	1,776	19.2	23.7	44.0
1953	343	1,757	2,100	468	1,592	2,060	784	1,182	1,966	16.3	22.7	39.9
1954	325	1,945	2,270	487	1,723	2,210	764	1,423	2,187	14.3	22.0	34.9
1955	338	2,092	2,430	479	1,771	2,250	810	1,512	2,322	13.9	21.3	34.9
1956	353	2,137	2,490	542	1,858	2,400	743	1,535	2,278	14.2	22.6	32.6
1957	338	2,272	2,610	533	1,982	2,515	702	1,642	2,344	13.0	21.2	29.9
1958	267	2,293	2,560	469	2,021	2,490	707	1,663	2,370	10.4	18.8	29.8
1959	256	2,274	2,530	341	2,069	2,410	672	1,783	2,455	10.1	14.1	27.4
1960	247	2,313	2,560	382	2,148	2,530	582	1,922	2,504	9.6	15.1	23.2

1/ Recoverable content of ores and concentrates produced.
2/ Partly estimated; data represent principally lead content of ores and concentrates produced.
3/ Refined lead from domestic and foreign ores; refined lead produced from foreign base bullion not included.
4/ Partly estimated; includes some production from scrap.
5/ Not including tonnages which went to the Government permanent stockpile. The figures represent mostly primary lead, although a small amount of secondary lead may be included.
6/ Partly estimated; includes some consumption of secondary lead.

Source: Mine and smelter output, compiled from official statistics of the U.S. Bureau of Mines; consumption, from American Bureau of Metal Statistics, except as noted.

Table 22.--Zinc: Mine output, smelter output of primary metal, and consumption of primary metal in the United States, outside the United States, and in the world, average 1937-38, annual 1946-60

Period	Mine output			Primary smelter output			Consumption of primary metal			Ratio of United States to world--		
	United States 1/	Outside United States	World 2/	United States 3/	Outside United States	World 4/	United States 5/	Outside United States	World 6/	Mine output	Smelter output	Consumption
	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	Percent	Percent	Percent
Average 1937-38	572	1,364	1,936	502	1,256	1,758	514	1,216	1,730	29.5	28.6	29.7
Annual:												
1946	575	1,170	1,745	728	806	1,534	801	896	1,697	33.0	47.5	47.2
1947	638	1,312	1,950	802	961	1,763	786	1,055	1,841	32.7	45.5	42.7
1948	630	1,418	2,048	788	1,093	1,881	818	1,078	1,896	30.8	41.9	43.1
1949	593	1,512	2,105	815	1,197	2,012	712	1,123	1,835	28.2	40.5	38.8
1950	623	1,747	2,370	844	1,326	2,170	967	1,222	2,189	26.3	38.8	44.2
1951	681	1,919	2,600	882	1,478	2,360	934	1,338	2,272	26.2	37.5	41.1
1952	666	2,184	2,850	904	1,556	2,460	853	1,311	2,164	23.4	36.7	39.4
1953	547	2,393	2,940	916	1,684	2,600	986	1,396	2,382	18.6	35.2	41.4
1954	473	2,457	2,930	802	1,898	2,700	884	1,709	2,593	16.1	29.7	34.1
1955	515	2,685	3,200	964	1,966	2,930	1,120	1,831	2,951	16.1	32.9	38.0
1956	542	2,888	3,430	984	2,116	3,100	1,009	1,854	2,863	15.8	31.7	35.2
1957	532	2,908	3,440	986	2,204	3,190	936	1,992	2,928	15.5	30.9	32.0
1958	412	2,908	3,320	781	2,209	2,990	868	2,071	2,939	12.4	26.1	29.5
1959	425	2,935	3,360	799	2,291	3,090	956	2,258	3,214	12.6	25.9	29.7
1960	435	3,075	3,510	804	2,416	3,220	861	2,454	3,315	12.4	25.0	26.0

1/ Recoverable content of ores and concentrates produced.
2/ Partly estimated; data represent principally zinc content of ores and concentrates produced.
3/ Primary slab zinc from both domestic and foreign ores.
4/ Partly estimated; includes some production from scrap.
5/ Represents consumption of slab zinc, beginning in 1946, as reported by the U.S. Bureau of Mines.
6/ Partly estimated; includes some consumption of secondary slab zinc.

Source: Mine and smelter output, compiled from official statistics of the U.S. Bureau of Mines; consumption, from American Bureau of Metal Statistics, except as noted.

Table 23.--Lead: Mine production in the United States, by regions and States, averages 1925-29 and 1946-51, annual 1952-61

(In short tons of recoverable lead)

Region and State	Average 1925-29	Average 1946-51	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961 1/
States east of the Mississippi River:												
Wisconsin	1,746	1,066	2,000	2,094	2/ 1,265	1,948	2,582	1,900	800	745	1,165	720
Illinois	552	3,266	4,262	3,391	3,232	4,544	3,832	2,970	1,610	2,570	3,000	3,760
Kentucky	135	148	60	52	80	-	228	411	516	409	558	560
Tennessee	250	88	18	9	-	-	5	-	-	-	-	-
New York	-	1,350	1,120	1,435	1,187	1,037	1,608	1,667	579	481	775	841
Virginia	3/ 2,357	3,494	3,792	2,788	4/ 4,324	4/ 2,999	4/ 3,045	4/ 3,152	2,934	2,770	4/ 2,576	4/ 4,232
Total	5,040	9,412	11,252	9,769	10,088	10,528	11,300	10,100	6,439	6,975	8,074	10,113
West Central States:												
Arkansas	38	14	4	-	-	-	-	-	-	38	-	-
Kansas	26,121	8,387	5,916	3,347	4,033	5,498	7,635	4,257	1,299	481	781	1,500
Missouri	202,240	126,583	129,245	125,895	125,250	125,412	123,783	126,345	113,123	105,165	111,948	99,200
Oklahoma	58,306	17,010	15,137	9,304	14,204	14,126	12,350	7,183	3,692	601	936	600
Total	286,705	151,994	150,302	138,546	143,487	145,036	143,768	137,785	118,114	106,285	113,665	101,300
Western States and Alaska:												
Alaska	982	155	-	9	-	1	1	9	2	-	23	-
Arizona	9,743	26,623	16,520	9,428	8,385	9,817	11,999	12,441	11,890	9,999	8,495	5,770
California	2,070	11,538	11,199	8,664	2,671	8,265	9,296	3,458	140	227	440	95
Colorado	30,112	24,179	30,066	21,754	17,823	15,805	19,856	21,003	14,112	12,907	18,080	18,050
Idaho	141,610	80,585	73,719	74,610	69,302	64,163	64,321	71,637	53,603	62,395	42,907	70,010
Montana	18,871	16,952	21,279	19,949	14,820	17,028	18,642	13,300	8,434	7,672	4,879	2,910
Nevada	9,807	8,549	6,790	4,371	3,041	3,291	6,384	5,979	4,150	1,357	987	1,600
New Mexico	6,730	5,597	7,021	2,943	887	3,296	6,042	5,294	1,117	829	1,996	2,500
Oregon	6	9	1	5	5	3	5	5	1	-	-	2
South Dakota	21	5	2	10	-	-	-	-	-	-	-	-
Texas	213	100	56	-	-	-	-	-	-	-	-	-
Utah	149,509	47,439	50,210	41,522	44,972	50,452	49,555	44,471	40,355	36,630	39,398	40,030
Washington	1,323	6,708	11,744	11,064	9,938	10,340	11,657	12,734	9,020	10,310	7,725	7,968
Total	370,997	228,439	228,607	194,329	171,844	182,461	197,758	190,331	142,824	142,326	124,930	148,935
United States, total	662,742	389,845	390,161	342,644	325,419	338,025	352,826	338,216	267,377	255,586	246,669	260,348

1/ Preliminary.
2/ Includes small quantity from Iowa.
3/ Average for 1925-27.
4/ Includes small quantity from North Carolina.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 24.--Zinc: Mine production in the United States, by regions and States, averages 1925-29 and 1946-51, annual 1952-61

(In short tons of recoverable zinc)

Region and State	Average 1925-29	Average 1946-51	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961 1/
States east of the Mississippi River:												
Illinois	1,174	16,461	18,816	14,556	14,427	21,700	24,039	22,185	24,940	26,815	29,550	26,378
Kentucky	644	1,098	3,280	489	458	-	417	837	1,258	673	869	870
New Jersey	93,839	64,431	59,190	45,700	37,416	11,643	4,667	12,530	607	-	-	-
New York	7,091	36,257	32,636	51,529	53,199	53,016	59,111	64,659	53,014	43,464	66,364	55,478
Pennsylvania	-	-	-	-	-	-	-	-	10,812	16,718	13,746	23,229
Tennessee	2/ 22,446	31,517	38,020	38,465	30,326	40,216	46,023	58,063	59,130	89,932	91,394	82,139
Virginia	3/ 5,629	13,745	13,409	16,676	16,738	18,329	19,196	23,080	18,472	20,334	19,885	29,730
Wisconsin	23,055	10,189	20,588	16,830	15,534	18,326	23,890	21,575	12,140	11,635	18,410	15,155
Total	153,878	173,698	185,939	184,245	168,098	163,230	177,343	4/ 202,931	180,373	209,571	240,218	232,979
West Central States:												
Arkansas	71	32	26	-	-	-	-	-	-	49	50	50
Kansas	114,323	35,048	25,482	15,515	19,110	27,611	28,665	15,859	4,421	1,017	2,117	3,200
Missouri	16,708	11,891	13,986	9,981	5,210	4,476	4,380	2,951	362	92	2,821	5,700
Oklahoma	226,968	51,443	54,916	33,413	43,171	41,543	27,515	14,951	5,267	1,049	2,332	1,000
Total	358,070	98,414	94,410	58,909	67,491	73,630	60,560	33,761	10,050	2,207	7,320	9,950
Western States and Alaska:												
Alaska	-	9	-	-	-	-	-	-	-	-	-	-
Arizona	2,628	56,154	47,143	27,530	21,461	22,684	25,580	33,905	28,532	37,325	35,811	29,200
California	3,999	6,996	9,419	5,358	1,415	6,836	8,049	2,969	51	78	465	260
Colorado	32,868	44,875	53,203	37,809	35,150	35,350	40,246	47,000	37,132	35,388	31,278	42,850
Idaho	29,128	80,568	74,317	72,153	61,528	53,314	49,561	57,831	49,725	55,699	36,801	56,640
Montana	72,519	54,828	82,185	80,271	60,952	68,588	70,520	50,520	33,238	27,848	12,551	11,110
Nevada	5,570	19,900	15,357	5,812	1,035	2,670	7,488	5,292	91	217	420	430
New Mexico	23,352	37,623	50,975	13,373	6	15,277	35,010	32,680	9,034	4,636	13,770	23,200
Oregon	-	5	1	-	-	-	-	-	-	-	-	-
South Dakota	-	8	-	-	-	-	-	-	-	-	-	-
Texas	-	15	3	-	-	-	-	-	-	-	-	-
Utah	44,386	36,687	32,947	29,184	34,031	43,556	42,374	40,846	44,982	35,223	35,476	37,360
Washington	574	13,584	20,102	32,786	22,304	29,536	25,609	24,000	18,797	17,111	21,317	22,597
Total	215,024	351,252	385,652	304,276	237,882	277,811	304,437	295,043	221,582	213,525	187,889	223,647
United States, total	726,972	623,364	666,001	547,430	473,471	514,671	542,340	4/ 531,735	412,005	425,303	435,427	466,576

1/ Preliminary.
2/ Includes Virginia in 1928-29.
3/ Average for 1925-27. Data for 1928-29 included with Tennessee.
4/ Includes 2 short tons produced in North Carolina.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 25.--Lead and zinc: Grade of ore mined in the United States in terms of recoverable metal content, by specified regions, specified years 1939 to 1960

Region and year	Crude ore sold or treated	Recoverable metal content				
		Lead	Zinc	Silver	Gold	Copper
	1,000 short tons	Percent	Percent	Fine ounces per ton	Fine ounces per ton	Percent
United States, total:						
1939	16,317	2.2	2.8	0.71	0.004	1/
1942	25,463	1.8	2.8	.71	.004	1/
1952	25,086	1.4	2.5	.73	.006	0.1
1954	18,624	1.6	2.3	.84	.006	.1
1956	21,403	1.5	2.4	.73	.005	.1
1958	14,898	1.7	2.5	.80	.006	.1
1960	15,270	1.6	2.6	.63	.005	.1
States east of the Mississippi River:						
1939	2,893	.2	6.5	.02	-	-
1942	3,600	.2	6.0	.01	1/	1/
1952	3,963	.2	4.5	.01	-	-
1954	3,469	.2	3.1	1/	-	-
1956	4,199	.2	3.9	.02	-	-
1958	4,135	.1	4.1	.02	-	-
1960	5,505	.1	4.0	1/	-	-
West Central States:						
1939	10,630	1.8	1.4	-	-	-
1942	16,452	1.4	1.3	1/	-	1/
1952	12,289	1.1	.7	.04	-	1/
1954	10,201	1.3	.6	.03	-	1/
1956	10,426	1.3	.6	.03	-	1/
1958	6,558	1.8	.1	.04	-	1/
1960	5,951	1.9	.1	1/	-	1/
Western States:						
1939	2,792	6.0	4.5	4.10	.022	.2
1942	5,412	4.3	5.1	3.30	.020	.1
1952	8,834	2.4	4.1	2.02	.016	.2
1954	4,954	3.3	4.3	3.07	.023	.2
1956	6,778	2.7	4.2	2.25	.017	.2
1958	4,205	3.2	4.8	2.75	.022	.2
1960	3,814	3.2	4.4	2.52	.019	.2

1/ Less than half of the smallest decimal fraction shown in this column.

Source: Data for 1939 and 1954 from the Census of Mineral Industries for those years (after small adjustments by the Tariff Commission to exclude materials other than crude ore); data for 1942, 1952, 1956, 1958, and 1960 compiled from data supplied by the U.S. Bureau of Mines.

Table 26.--Quantity and gross market value (at average market prices) of recoverable metals contained in material valued chiefly for its lead-plus-zinc content sold or treated by lead- and zinc-mining companies in the United States, 1958 and 1960 1/

Item	United States, total		States east of the Mississippi River		West Central States						Western States	
					Total		Southeastern Missouri		Tri-State district			
	1958	1960	1958	1960	1958	1960	1958	1960	1958	1960	1958	1960
Crude ore and other material sold or treated----------1,000 short tons--	15,394	15,275	4,135	5,507	7,038	5,951	6,426	5,898	612	52	4,221	3,817
Recoverable metal content: 2/												
Lead----------short tons--	259,443	239,807	5,283	5,337	118,088	113,602	113,097	111,885	4,991	1,717	136,072	120,868
Zinc----------do------	380,369	398,289	168,822	222,674	10,050	7,320	362	2,821	9,688	4,449	201,497	168,295
Silver----------1,000 fine ounces--	11,948	9,683	69	49	251	16	251	16	-	-	11,628	9,618
Gold----------do----------	93	72	-	-	-	-	-	-	-	-	93	72
Copper----------short tons--	10,331	7,932	-	-	1,429	1,087	1,429	1,087	-	-	8,902	6,845
Gross market value: 3/												
Lead----------1,000 dollars--	60,710	56,115	1,236	1,249	27,633	26,583	26,465	26,181	1,168	402	31,841	28,283
Zinc----------do----------	77,595	102,759	34,440	57,450	2,050	1,889	74	728	1,976	1,148	41,105	43,420
Silver----------do----------	10,814	8,764	62	44	227	14	227	14	-	-	10,525	8,706
Gold----------do----------	3,253	2,523	-	-	-	-	-	-	-	-	3,253	2,523
Copper----------do----------	5,434	5,093	-	-	751	698	751	698	-	-	4,683	4,395
Total----------do----------	157,806	175,254	35,738	58,743	30,661	29,184	27,517	27,621	3,144	1,550	91,407	87,327
Percent of total gross market value derived from--												
Lead----------	38.5	32.0	3.4	2.1	90.1	91.1	96.2	94.8	37.1	25.9	34.8	32.4
Zinc----------	49.2	58.7	96.4	97.8	6.7	6.5	.3	2.6	62.9	74.1	45.0	49.7
Silver----------	6.8	5.0	.2	.1	.7	4/	.8	.1	-	-	11.5	10.0
Gold----------	2.1	1.4	-	-	-	-	-	-	-	-	3.6	2.9
Copper----------	3.4	2.9	-	-	2.5	2.4	2.7	2.5	-	-	5.1	5.0

1/ Data are for operations that were engaged during 1958 or 1960 in producing ores or concentrates (including newly mined ore, old tailings, and material reclaimed from mine dumps and mill sites) valued chiefly for their lead-plus-zinc content (that is, material in which the value of the lead content plus the value of the zinc content was greater than the value of any other single metal contained).

2/ Represents metal content of ore mined (including old tailings and material reclaimed from mine dumps and mill sites) after deduction of estimated metal losses in milling, smelting, and refining.

3/ Computed by multiplying the quantities of recoverable metals by the following average yearly prices:

	Lead (per pound)	Zinc (per pound)	Silver (per fine ounce)	Gold (per fine ounce)	Copper (per pound)
1958-------	$0.117	$0.102	$0.905	$35.00	$0.263
1960-------	.117	.129	.905	35.00	.321

4/ Less than 0.05 percent.

Source: Compiled from data supplied to the U.S. Tariff Commission by the U.S. Bureau of Mines.

Note.--The prices for lead, zinc, and copper represent the average weighted market prices of all grades of such primary metal sold by producers as computed by the U.S. Bureau of Mines; the price for gold is the price established under the authority of the Gold Reserve Act of Jan. 31, 1934; and the price for silver is the buying price of the U.S. Department of the Treasury for newly mined silver ($0.9050505).

Table 27.--Lead: World mine production, by countries, 1952-60

(In thousands of short tons)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960
Algeria	5.2	8.8	11.6	11.6	11.7	11.3	11.1	11.3	11.6
Argentina	21.0	17.6	22.3	26.5	31.2	32.1	32.0	33.0	31.5
Australia	260.7	274.3	319.0	331.5	335.4	373.3	366.7	354.2	341.1
Austria	5.8	5.7	5.4	5.3	5.3	6.0	6.0	5.9	5.8
Belgian Congo 1/	-	.1	.2	.1	2/.1	2/.2	-	-	-
Bolivia (exports)	33.1	26.2	20.1	21.1	23.8	28.9	25.1	24.3	23.6
Brazil	3.1	3.3	3/3.0	3/ 4.0	3/ 3.9	3/ 3.9	3/ 5.1	3/ 6.2	2/ 3/ 7.7
Bulgaria	2/ 11.0	2/ 11.0	53.8	53.2	63.6	69.6	2/ 77.9	2/ 88.7	2/ 92.6
Burma	2/ 3.3	8.8	15.7	18.9	17.5	16.4	21.2	21.2	19.5
Canada	168.8	193.7	4/ 218.5	4/ 202.8	4/ 188.9	4/ 181.5	4/ 186.7	4/ 186.7	4/ 204.9
Chile	2/ 4.4	2/ 3.5	3.3	4.4	3.6	3.2	2.8	2.6	2/ 3.3
China 2/	2.2	6.6	11.0	32.0	40.0	43.0	52.0	72.0	77.0
Czechoslovakia 2/	1.1	1.6	3.3	5.5	6.6	6.6	6.6	7.0	7.2
Ecuador	.1	.1	.1	.1	.1	.1	.1	.1	.1
Egypt 5/	6/	.3	.1	.1	.1	.3	2/ .3	2/ .8	2/ .8
Finland	.2	.2	.3	.9	1.6	2.6	2.5	2.1	1.8
France	13.6	13.7	12.3	10.1	9.8	13.5	14.7	18.8	19.8
French Equatorial Africa 7/	3.9	4.9	3.8	3.7	3.3	2.0	3.6	5.4	4.7
Germany:									
East Germany 2/	2.9	3.3	5.5	6.6	6.6	7.7	7.7	7.7	7.7
West Germany	56.5	69.1	74.2	74.3	72.2	78.4	67.1	57.9	55.0
Greece 8/	6.6	6.3	5.9	9.5	7.2	7.2	11.2	11.0	2/ 12.0
Greenland	-	-	-	-	5.0	8.2	9.6	11.6	7.3
Guatemala	4.6	7.8	2.6	5.1	9.0	12.5	8.8	6.4	9.4
Honduras	.6	.9	1.3	2.0	2.3	9/ 3.0	3.4	4.6	5.9
Hong Kong	.3	.3	.2	.2	.1	.1	6/	-	-
India	1.7	2.3	2.4	2.9	3.2	3.7	4.4	5.3	5.0
Iran 10/	18.0	8.8	2/ 13.3	2/ 19.9	2/ 18.7	2/ 18.7	2/ 18.7	2/ 16.5	2/ 16.5
Ireland	2.1	1.0	1.5	2.9	2.6	2.1	.4	1.7	1.6
Italy	44.2	44.6	47.4	56.1	53.2	59.3	61.7	54.6	54.2
Japan	19.3	20.6	25.2	28.9	32.5	39.5	40.4	39.8	43.9
Korea:									
North Korea 2/	11/	11/	3.3	8.8	16.0	18.7	18.7	18.7	18.7
Republic of Korea	.2	.2	.1	.8	1.6	1.0	1.3	.3	1.0
Mexico	271.2	244.2	238.8	232.4	220.0	236.9	222.6	210.2	210.2
Morocco:									
Northern Zone	.8	.7	.5	.9	.7	.9	102.7	100.6	104.3
Southern Zone	92.2	88.6	90.8	98.0	93.9	101.3			
Norway	.5	.6	.8	.8	.9	1.0	2.4	2.5	2.9
Peru	105.6	126.3	121.3	130.9	142.3	151.2	147.9	127.0	142.1
Republic of the Philippines	2.5	2.7	2.0	2.6	2.4	.9	1.4	.4	.1
Poland	3/ 22.0	3/ 23.5	3/ 35.2	3/ 37.7	36.4	33.1	36.5	39.0	2/ 45.0
Portugal	2.1	1.9	1.9	1.6	1.4	1.5	1.0	6/	-
Rhodesia and Nyasaland (Federation):									
Northern Rhodesia 3/	14.1	12.9	16.8	18.0	17.0	16.8	14.2	16.1	16.2
Rumania 2/ 3/	10.5	11.0	11.6	12.2	13.2	13.2	13.2	13.2	13.2
Spain	46.7	59.8	61.0	69.0	66.8	72.2	76.7	77.3	75.1
Sweden	22.7	28.1	32.7	35.5	36.1	40.2	46.6	53.3	60.5
Tanganyika (exports)	2.7	3.1	2.4	4.0	5.7	5.4	5.0	6.9	6.7
Thailand	1.2	4.0	5.5	5.9	4.4	3.3	1.0	1.5	2.0
Tunisia	25.6	26.5	29.0	29.4	25.8	25.4	25.9	20.0	19.9
Turkey	2/ 1.1	2/ 1.5	2.2	3.0	5.0	4.5	3.2	2.3	.8
Union of South Africa 12/	4/ 59.2	4/ 65.9	4/ 77.3	4/ 101.3	4/ 90.0	4/ 90.0	4/ 83.8	4/ 77.7	71.6
U.S.S.R. 2/	3/ 170.0	3/ 202.0	3/ 228.5	3/ 255.0	3/ 290.0	310.0	330.0	340.0	340.0
United Kingdom	6.4	9.0	9.7	8.3	8.1	9.1	4.8	2.6	1.5
United States 4/	390.2	342.6	325.4	338.0	352.8	338.2	267.4	255.6	246.7
Yugoslavia	87.0	93.9	92.7	99.3	96.3	99.3	99.0	101.9	2/ 105.8
Total 2/ 13/	2,030.0	2,100.0	2,270.0	2,430.0	2,490.0	2,610.0	2,560.0	2,530.0	2,560.0

1/ Beginning June 30, 1960, Republic of the Congo.
2/ Estimated by the U.S. Bureau of Mines.
3/ Smelter production; mine output data not available.
4/ Recoverable lead content of ore.
5/ Beginning Feb. 1, 1958, Egypt region, United Arab Republic.
6/ Less than 50 short tons.
7/ Beginning Aug. 15, 1960, Republic of Congo.
8/ Includes lead content of zinc-lead sulfides, 1952-55.
9/ U.S. imports from Honduras.
10/ Data are for years ending on Mar. 21 of years following those indicated by column headings.
11/ Not available; estimate by the U.S. Bureau of Mines included in total.
12/ For 1953-59 includes lead content of lead-vanadium concentrates. Data represent mostly production of South-West Africa.
13/ Data for Hungary (for 1952 only; not available for other years), Cuba, Colombia, Nigeria, El Salvador (1952-57 only; not available for other years), and Uganda are included in total. Amounts are insignificant.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 28.--Zinc: World mine production, by countries, 1952-60

(In thousands of short tons)

Country 1/	1952	1953	1954	1955	1956	1957	1958	1959	1960
Algeria	13.2	20.5	31.5	36.0	35.7	32.7	36.7	40.0	43.3
Argentina	17.0	17.7	20.8	23.3	26.3	32.4	40.1	44.1	38.2
Australia	221.0	265.5	283.0	287.4	311.5	326.6	294.6	278.6	325.5
Austria	5.5	4.8	5.1	5.8	5.9	6.3	6.5	6.5	7.2
Belgian Congo 2/	109.1	138.7	92.9	74.7	129.6	117.7	125.6	77.1	120.2
Bolivia 3/	39.3	26.4	22.4	23.5	18.8	21.7	15.7	3.7	4.4
Bulgaria 4/	5/	5/	33.5	35.2	39.4	50.0	55.0	61.3	64.8
Burma	2.4	4.3	6.4	9.1	8.1	10.2	12.1	12.1	11.0
Canada 6/	371.8	401.8	376.5	433.4	422.6	413.7	425.1	396.0	405.6
Chile	3.6	3.5	4/ 1.6	3.2	3.0	2.7	1.3	1.1	4/ .1
Cuba	-	-	-	1.1	1.6	.8	4/ .1	7/ .2	7/ .1
Egypt 8/	1.0	.3	.3	.8	.7	-	-	-	-
Finland	7.7	3.5	5.0	23.3	43.0	47.4	51.8	59.6	46.3
France	16.1	14.6	12.5	12.1	13.9	13.6	13.8	15.5	18.9
Germany:									
East Germany 4/	5/	5/	7.2	7.7	7.7	7.7	7.7	7.7	7.7
West Germany	89.0	100.6	103.9	101.6	101.9	104.0	94.1	90.5	95.1
Greece	8.0	8.3	7.9	13.5	10.0	10.7	17.3	13.3	17.2
Greenland 4/	-	-	-	-	6.0	9.4	6.7	8.4	11.0
Guatemala	9.0	6.7	4.4	10.4	12.0	10.3	5.3	-	11.1
Honduras 9/	.3	.6	.8	1.4	2.3	2.6	1.4	1.4	4.7
India	2.5	2.9	2.6	2.9	4.2	4.5	4.3	6.0	5.8
Iran 10/	5.5	6.2	5.8	6.3	5.2	5.0	9.9	7.4	7.7
Ireland	1.9	1.8	1.7	2.8	1.8	1.8	.5	1.4	1.4
Italy	124.5	117.1	129.7	132.1	137.6	143.4	150.8	145.2	141.4
Japan	96.4	106.5	120.6	119.8	135.6	149.9	157.6	156.9	172.5
Korea:									
North Korea 4/	5/	5/	-	16.5	55.0	55.0	66.0	66.0	66.0
Republic of Korea	.6	11/	-	-	.4	.3	.4	9/	11/
Mexico	250.6	249.7	246.4	297.0	274.4	267.9	247.0	290.9	289.3
Morocco: Southern Zone	31.3	38.9	37.9	47.7	46.5	53.9	54.3	71.3	56.1
Norway	6.2	5.7	5.9	7.4	7.0	7.7	10.0	10.9	10.9
Peru	140.9	153.3	174.8	183.1	193.0	170.3	149.1	157.7	148.6
Republic of the Philippines	1.8	.8	-	-	1.0	.3	-	9/	5.5
Poland 4/	110.0	130.0	129.0	139.0	167.0	144.6	135.3	142.5	158.8
Rhodesia and Nyasaland (Federation):									
Northern Rhodesia	41.1	43.4	38.7	38.1	38.1	40.4	38.0	46.5	49.2
South-West Africa 6/	17.2	17.4	22.0	23.2	23.7	25.3	15.9	12.4	13.1
Spain	95.0	92.0	97.3	101.8	96.1	89.1	90.8	94.6	91.9
Sweden	42.4	49.7	64.4	64.8	72.8	74.5	77.8	86.5	77.5
Thailand	.6	2.0	3.0	3.2	2.4	1.8	.6	.8	1.2
Tunisia	3.9	4.0	5.7	6.3	5.2	3.9	4.6	3.6	4.6
Turkey 4/	1.0	4.4	6.1	.8	1.1	2.1	2.1	1.6	3.0
U.S.S.R. 4/ 12/	214.0	241.0	258.0	300.0	310.0	330.0	360.0	370.0	380.0
United Kingdom	1.7	3.2	3.9	3.2	1.6	1.1	.3	-	-
United States 6/	666.0	547.4	473.5	514.7	542.3	531.7	412.0	425.3	435.4
Yugoslavia	52.7	66.1	63.1	65.8	63.4	64.0	66.2	66.9	62.2
Total 1/ 4/	2,850.0	2,940.0	2,930.0	3,200.0	3,430.0	3,440.0	3,320.0	3,360.0	3,510.0

1/ In addition to countries listed, China, Czechoslovakia, and Rumania also produced zinc, but production data are not available; estimates for these countries are included in total.
2/ Beginning June 30, 1960, Republic of the Congo.
3/ Data represent exports.
4/ Estimated by the U.S. Bureau of Mines.
5/ Data not available; estimate by the U.S. Bureau of Mines included in total.
6/ Recoverable zinc content of ore.
7/ U.S. imports from Cuba.
8/ Beginning Feb. 1, 1958, Egypt region, United Arab Republic.
9/ U.S. imports from Honduras.
10/ Data are for years ending on Mar. 21 of years following those indicated by column headings.
11/ Less than 50 short tons.
12/ Smelter production.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 29. -Lead ores and concentrates: Changes in average freight rates per ton, from typical U.S. mining districts to smelters at representative locations in the United States, specified years 1939 to 1961

Mining district of origin	Destination	Carload rail freight rates per short ton 1/								
		1939	1946	1947	1948	1949	1953	1957	1959 2/	1961
Darwin, Calif. 3/	Tooele, Utah	$7.48	$7.48	$8.98	$9.28	$10.02	$12.29	4/ $14.18	4/ $14.43	4/ $14.58
Leadville, Colo	do	3.55	3.55	4.26	4.56	4.92	5.66	5/	-	-
Pioche, Nev	do	3.50	3.50	4.20	4.53	4.89	5.44	6/ 6.46	6/ 6.71	6/ 6.81
Redcliff, Colo. 7/	Leadville, Colo	-	2.00	2.40	2.70	8/ 2.92	3.10	3.32	3.72	9/
Creede, Colo. 10/	do	-	5.00	6.00	6.30	8/ 6.80	7.21	11/ 8.21	5.25	9/
Animas, Colo. 12/	do	-	5.70	6.84	7.14	8/ 7.71	8.17	9.87	10.78	9/
Coeur d'Alene, Idaho 13/	East Helena, Mont	4.95	4.95	5.94	6.24	6.74	7.75	8.72	8.97	9.07
Alder Creek, Idaho 6/	Selby, Calif	-	-	-	11.15	11.58	13.32	15.81	16.06	14/
Illinois-Wisconsin	Alton, Ill	-	2.84	3.42	3.63	4.11	4.72	5.70	9/	-
Tri-State	Herculaneum, Mo	3.40	3.40	4.00	4.30	4.60	5.29	6.20	6.45	6.55
	Alton, Ill	3.40	3.40	4.00	4.30	4.60	5.29	6.20	9/	-
Bonne Terre, Mo	Herculaneum, Mo	-	.69	.83	.83	1.08	1.24	1.11	1.25	1.35
Fredericktown, Mo	do	-	.88	1.06	1.06	1.37	1.58	1.48	1.66	1.76
Central, N. Mex	El Paso, Tex	1.10	1.10	1.32	1.58	1.71	1.97	5/	-	-
St. Lawrence County, N.Y	Herculaneum, Mo	7.23	7.23	8.68	8.98	9.87	11.37	13.48	13.71	11.75
West Mountain, Utah	Midvale, Utah	-	1.91	2.30	2.30	2.60	2.60	5/	--	-
Austinville, Va	Herculaneum, Mo	6.78	6.78	8.15	8.44	9.28	10.68	12.34	15/ 12.90	15/ 13.10
	Alton, Ill	5.80	5.80	6.96	7.26	7.99	9.18	10.61	9/	--

1/ Rates given are those which were applicable on Dec. 31 of the years shown, except as noted.
2/ Rates in effect Dec. 10, 1959.
3/ Rates shown applicable to ores and concentrates valued from $50 to $100 per short ton, except as noted.
4/ Rates shown applicable to ores and concentrates valued from $50 to $70 per short ton. Rates applicable to ores and concentrates valued at $70 to $100 per short ton were $20.50 in 1957, $20.75 in 1959, and $14.58 in 1961.
5/ Rail movement discontinued.
6/ Rates shown applicable to ores and concentrates valued from $50 to $60 per short ton.
7/ Rates shown applicable to ores and concentrates valued from $60 to $100 per short ton.
8/ Rate shown reflects intrastate rate increase effective May 1, 1950.
9/ Smelter closed.
10/ Rates shown applicable to ores and concentrates valued from $100 to $200 per short ton, except as noted.
11/ Rate shown applicable to ores and concentrates valued from $100 to $125 per short ton. Rate applicable on Dec. 31, 1957, to ores and concentrates valued from $126 to $200 per short ton was $8.70 per short ton.
12/ Rates shown applicable to ores and concentrates valued from $80 to $90 per short ton.
13/ Rates shown applicable to ores and concentrates valued from $70 to $80 per short ton.
14/ Concentrate movement discontinued.
15/ Rate applicable to concentrates only. Rate on ores was $12.56 per short ton in 1959 and $12.76 in 1961.

Source: Compiled from data supplied the U.S. Tariff Commission by the American Zinc Institute, Inc.

Table 30--Zinc ores and concentrates: Changes in average freight rates per ton, from typical U.S. mining districts to smelters and refineries at representative locations in the United States, specified years 1939 to 1961

Mining district of origin	Destination	Carload rail freight rates per short ton 1/								
		1939	1946	1947	1948	1949	1953	1957	1959 2/	1961
Warren, Ariz	Amarillo, Tex	$5.50	$5.50	$5.76	$6.06	$6.54	$7.52	$8.93	$9.18	$8.76
	Anaconda and Black Eagle, Mont	12.00	12.00	14.40	14.70	15.88	18.26	21.68	21.93	22.13
Leadville, Colo	Palmerton, Pa	11.00	11.00	13.12	13.42	14.78	17.00	20.18	20.43	20.63
	Depue, Ill	6.60	6.60	7.92	8.22	8.96	10.30	12.23	12.48	12.58
	Amarillo, Tex	4.00	4.00	4.80	5.10	5.51	6.34	7.53	7.78	7.88
	Corpus Christi, Tex	6.60	6.60	7.92	8.22	8.88	10.21	12.12	12.37	12.47
Coeur d'Alene, Idaho	Kellogg, Idaho	-	.57	.68	.82	.88	.88	1.08	1.08	1.08
Tri-State	Josephtown, Pa	6.50	6.50	7.71	8.01	8.84	10.17	12.07	12.29	12.49
	East St. Louis, Ill	3.40	3.40	4.00	4.30	4.60	5.29	6.20	6.45	6.35
	La Salle, Ill	4.00	4.00	4.80	5.10	5.60	6.44	7.65	7.85	7.95
	Fort Smith, Ark	1.76	1.76	2.11	2.41	2.60	2.99	3.55	3.73	3.83
Summit Valley, Mont	Anaconda, Mont	-	.30	.36	.40	.40	.40	.50	.50	.50
	Black Eagle, Mont	-	1.11	1.33	1.60	1.73	1.99	1.99	2.48	2.58
Pioche, Nev	Anaconda, Mont	5.15	5.15	6.18	6.48	7.00	8.05	9.55	9.80	9.90
	Black Eagle, Mont	5.80	5.80	6.96	7.26	7.84	9.02	10.71	10.96	11.06
Ogdensburg, N.J	Palmerton, Pa	.98	.98	1.18	1.48	1.63	1.88	1.97	2.07	1.65
Central and Magdalena, N. Mex	Palmerton, Pa	11.05	11.05	13.26	13.56	14.86	17.09	20.29	20.54	20.74
	Depue, Ill	6.60	6.60	7.92	8.22	8.96	10.30	12.23	12.48	12.58
	Amarillo, Tex	3.85	3.85	4.62	4.92	5.31	6.11	7.26	7.51	7.61
	Anaconda and Black Eagle, Mont	12.00	12.00	14.40	14.70	15.88	18.26	21.68	19.81	20.01
New York	Josephtown, Pa	3.54	3.54	4.24	4.54	5.00	5.75	6.57	6.51	6.61
Eastern Tennessee	Donora, Pa	5.83	5.83	7.00	7.30	8.03	9.23	8.94	3/	-
	East St. Louis, Ill	5.57	5.57	6.68	6.98	7.68	8.83	8.07	8.32	8.42
Tooele County, Utah	Anaconda, Mont	3.03	3.03	3.64	3.94	4.26	4.90	5.81	6.06	6.16
Virginia	Palmerton, Pa	3.54	3.54	4.24	4.54	5.00	5.75	6.29	6.51	6.61

1/ Rates given are those which were applicable on Dec. 31 of the years shown, except as noted. Different rates from within the same district to the same smelters or refineries were simply averaged.

2/ Rates in effect Dec. 10, 1959.

3/ Movement to Donora, Pa., discontinued upon closure of the smelter.

Source: Compiled from data supplied the U.S. Tariff Commission by the American Zinc Institute, Inc.

Table 31.--Lead and zinc: Average number 1/ of all employees at lead and zinc mines and mills, and at primary lead and zinc smelters and refineries in the United States, specified years 1952 to 1961

Year	Total	Lead and zinc mines and mills 2/ 3/	Primary smelters and refineries 2/ 4/		
			Total	Lead	Zinc
1952	42,171	24,282	17,889	4,757	13,132
1954	5/	17,016	5/	5/	5/
1956	34,001	16,845	17,156	4,853	12,303
1958	24,141	10,500	13,641	3,778	9,863
1959	23,201	9,893	13,308	2,844	10,464
1960	22,733	9,430	13,303	3,030	10,273
1961	22,647	9,312	13,335	2,946	10,389

1/ Average number of all employees was calculated for each year by dividing the total of actual number of employees on the payroll in pay period ending nearest the 15th of each month of the year by 12.

2/ Data include a small number of construction workers (on the payroll of the companies) that were engaged in modernizing or making additions to the mines, mills, smelting and refining plants, and auxiliary works.

3/ Data for lead and zinc mines and mills cover operations engaged in producing ores or concentrates (including newly mined ore, old tailings, and material reclaimed from mine dumps and mill sites) in which the value of lead-plus-zinc content was greater than the value of any other single metal contained, and nonproducing lead and zinc operations engaged in maintenance, development, or construction work. Data include proprietors and partners.

Data shown for lead and zinc mines and mills (as defined above) were adjusted to include estimated employment for those concerns that did not report employment data. The estimated additional employment was computed on the basis of known production for unreported operations in each State and on the assumption that productivity for these operations was the same as for those that reported employment in those States.

Reports received by the U.S. Tariff Commission on lead and zinc mining and milling operations accounted for the following percentages of total production of recoverable lead and zinc from materials valued chiefly for their lead-plus-zinc content:

Year	Lead	Zinc
1952 (of newly mined ore only)	91.9	92.9
1956	99.1	99.3
1958	96.7	98.3
1960	99.7	99.8

4/ For lead smelters and refineries data are for 13 plants in 1952-56; for 12 in 1958; 11 in 1959; 10 in 1960; and 9 in 1961. One smelter shut down production operations from August 1959 through February 1960. For zinc smelters and refineries data through 1956 are for 18 plants. For 1958-61, data cover 16 primary zinc smelting and refining plants plus 3 roasting and sintering plants and 1 slag-treating plant. 1 plant shut down production operations for 10 months in 1960, and 1 shut down operations beginning February 1961.

5/ Comparable data not available.

Source: Data for 1954 from the 1954 Census of Mineral Industries; data for other years from reports to the U.S. Tariff Commission by companies engaged in the mining, milling, and primary smelting and refining of lead and zinc.

Table 32.--Lead and zinc smelting and refining: Average number 1/ of all employees at primary lead and zinc smelters and refineries in the United States classified by plants processing mostly domestic materials and plants processing mostly imported materials, specified years 1952 to 1961

Year	Primary lead and zinc smelters and refineries			Primary lead smelters and refineries 2/ 3/			Primary zinc smelters and refineries		
	Total	At plants processing mostly--		Total	At plants processing mostly--		Total	At plants processing mostly--	
		Domestic materials	Imported materials		Domestic materials	Imported materials		Domestic materials	Imported materials
1952	17,889	13,942	3,947	4,757	3,577	1,180	13,132	10,365	2,767
1956	17,156	9,957	7,199	4,853	3,572	1,281	12,303	6,385	5,918
1958	13,641	7,663	5,978	3,778	2,520	1,258	9,863	5,143	4,720
1959	13,308	7,134	6,174	2,844	1,962	882	10,464	5,172	5,292
1960	13,303	6,636	6,667	3,030	1,903	1,127	10,273	4,733	5,540
1961	13,335	6,906	6,429	2,946	1,975	971	10,389	4,931	5,458

1/ Average number of all employees was calculated for each year by dividing the total of the actual number of employees on the payroll in pay period ending nearest the 15th of each month of the year by 12.

2/ Data are for 13 plants in 1952 and 1956; for 12 in 1958; for 11 in 1959; for 10 in 1960; and for 9 in 1961. 1 smelter was inactive from August 1959 through February 1960.

3/ Data include a small number of construction workers (on the payroll of the smelting and refining companies) that were engaged in modernizing or making additions to the plants and auxiliary works.

4/ Data are for 18 plants in 1952 and 1956. For 1958-61, data cover 16 primary zinc smelting and refining plants plus 3 roasting and sintering plants and 1 slag-treating plant. 1 plant shut down production operations for 10 months in 1960, and 1 shut down operations beginning February 1961.

Source: Compiled from reports by primary lead and zinc smelting and refining companies to the U.S. Tariff Commission.

Note.--Employment was reduced because of labor difficulties, as follows: In 1959, 6 lead plants reduced employment from approximately mid-August to mid-December, and 1 plant had reduced employment from mid-June to mid-September; in 1960, 1 lead plant reduced employment from early May to mid-December. In 1959, 2 zinc smelters reduced employment from 2 to 3 months owing to labor disputes. Another plant was closed from September 1959 to March 1960. In 1960, 1 zinc plant was struck from early May to mid-December and another from early August to the end of November. In 1961, 1 zinc plant reduced employment during July-September due to labor difficulties.

Table 33.--Lead and zinc smelting and refining: Employment, 1/ wages, and man-hours worked at primary lead and zinc smelters in the United States, specified years 1952 to 1961

Year	All employees (average number)	Production and related workers				Average wages paid per hour	
		Average number 2/	Total wages paid	Man-hours: Actually worked	Man-hours: Total 3/	Actually worked	Total 3/
	Lead smelters and refineries 4/						
1952	4,757	3,885	5/	5/	5/	5/	5/
1956	4,853	3,939	$18,007,255	8,128,324	5/	$2.22	5/
1958	3,778	3,009	14,066,950	5,854,801	6,320,327	2.40	$2.23
1959	2,844	2,156	10,017,433	4,040,086	4,369,206	2.48	2.29
1960	3,030	2,334	12,048,706	4,733,566	5,068,957	2.55	2.38
1961	2,946	2,323	11,965,251	4,616,997	4,952,805	2.59	2.42
	Zinc smelters and refineries 6/						
1952	13,132	11,135	5/	5/	5/	5/	5/
1956	12,303	10,190	$46,530,879	20,867,275	5/	$2.23	5/
1958	9,863	7,852	36,870,125	15,542,213	16,582,372	2.37	$2.22
1959	10,464	8,647	41,943,742	17,184,471	18,348,856	2.44	2.29
1960	10,273	8,418	43,373,309	16,988,768	18,214,231	2.55	2.38
1961	10,389	8,620	44,676,374	17,161,534	18,402,069	2.60	2.43

1/ The average number of all employees and production and related workers was calculated for each year by dividing the total of actual number of employees on the payroll in pay period ending nearest the 15th of each month of the year by 12.

2/ For 1956-61, companies were instructed to report as production and related workers those employees who were engaged directly in production, and other employees engaged in maintenance, repairs, shipping, power plant, record keeping, and related activities, excluding officers, supervisory employees (above the working-foreman level), technical employees, salesmen, general office workers, and force-account construction workers utilized as a separate work force.

3/ Includes man-hours paid for holidays, sick leave, and vacations taken.

4/ Statistics through 1956 are for 13 plants: 2 in Utah, and 1 each in California, Colorado, Idaho, Illinois, Indiana, Kansas, Nebraska, New Jersey, Missouri, Montana, and Texas. Data are for 12 plants in 1958 (plant in Kansas closed in 1957); 11 plants in 1959 (1 plant in Utah closed in 1958); 10 plants in 1960 (plant in Illinois closed in 1959); and 9 plants in 1961 (plant in Colorado closed in 1960).

5/ Comparable data not available.

6/ Statistics through 1956 are for 18 plants: 1 each in Arkansas, Idaho, and West Virginia; 2 in Montana; 3 each in Oklahoma, Pennsylvania, and Texas; and 4 in Illinois. Data for 1958-61 are for 16 primary smelting and refining plants (1 plant closed in Pennsylvania and 1 plant in Illinois changed to roasting of concentrates only) plus 3 roasting and sintering plants, located in Kansas, Colorado, and Illinois respectively, and 1 slag-treating plant located in Montana.

Source: Compiled from data submitted to the U.S. Tariff Commission by primary lead and zinc smelting and refining companies.

Note.--Employment was reduced because of labor difficulties, as follows: In 1959, 6 lead plants reduced employment from approximately mid-August to mid-December, and 1 plant reduced employment from mid-June to mid-September; in 1960, 1 lead plant reduced employment from early May to mid-December. In 1959, 2 zinc smelters reduced employment from 2 to 3 months, and another plant was closed from September 1959 to March 1960; in 1960, 1 zinc plant was struck from early May to mid-December and another from early August to the end of November; in 1961, 1 zinc plant reduced employment during July-September.

One lead smelter was inactive from August 1959 through February 1960, 1 zinc plant was inactive for 10 months in 1960, and 1 plant shut down operations beginning in February 1961, for reasons other than labor difficulties.

Table 34.--Lead and zinc mining and milling: Average number of production and related workers, wages paid, and man-hours worked in the United States, specified years 1952 to 1961 1/

Year	Average number of production and related workers employed and proprietors and firm members performing manual labor 2/			Production and related workers 2/					
				Total wages paid 3/	Man-hours		Average wages paid per hour		Hours actually worked per man per month 6/
	Total	Production and related workers	Proprietors and firm members		Actually worked 4/	Total 5/	Actually worked 4/	Total 5/	
				1,000 dollars	1,000 man-hours	1,000 man-hours			
1952	19,747	7/	7/	85,187	43,791	7/	$1.95	7/	7/
1954	13,935	13,592	343	53,676	27,554	7/	1.95	7/	7/
1956	14,457	14,251	206	66,595	30,351	7/	2.19	7/	177
1958	8,631	8,566	65	38,089	16,357	17,430	2.33	2.19	159
1959	8,248	8,155	93	38,008	15,985	16,928	2.38	2.25	163
1960	7,872	7,752	120	37,207	15,308	16,228	2.43	2.29	165
1961	7,903	7,803	100	37,695	15,459	16,345	2.44	2.31	165

1/ Data are for operations which were engaged in producing ores or concentrates in which the value of recoverable lead-plus-zinc content was greater than the value of any other single metal contained, and for nonproducing lead and zinc operations engaged in maintenance, development, and construction work. Operations which were engaged in producing lead and zinc ores and concentrates (as defined above) and which reported to the U.S. Tariff Commission, accounted for the following percentages of total production of recoverable lead and zinc from ores or concentrates valued chiefly for their lead-plus-zinc content:

Year	Lead	Zinc
1952 (of newly mined ore only)	91.9	92.9
1956	99.1	99.3
1958	96.7	98.3
1960	99.7	99.8

Data have not been adjusted to account for unreported operations.

2/ Companies were instructed to report as production and related workers those employees who were engaged directly in production, and other employees engaged in development, exploration, maintenance, repairs, shipping, power plant, record keeping, and related activities, excluding officers, proprietors, partners, supervisory employees (above the working-foreman level), technical employees, salesmen, general office workers, and force-account construction workers utilized as a separate work force. The average number of workers was calculated for each year by dividing the total of actual number of workers reported on payroll in pay period ending nearest the 15th of each month of the year by 12.

3/ Companies were instructed that wages paid production and related workers should be their gross earnings before deductions were made for employees' contributions for old-age and unemployment insurance, withholding tax, bonds, union dues, etc., but after deductions for cost of smithing, explosives, fuses, electric cap lamps, and mine supplies used in production and development work but charged to employees and deducted from their wages. In addition, they were instructed that wages paid should include pay for sick leave, holidays, and vacations taken; but wages paid should not include cash payments for vacations not taken, retroactive pay not earned during the month reported, company contributions to welfare funds and insurance or pension plans, and bonuses unless earned and paid regularly each month.

4/ Companies were instructed that man-hours reported should represent the hours for which wages (as defined in footnote 3) were paid, except that they should exclude hours paid for holidays, sick leave, and vacations taken. They were further instructed not to convert overtime hours to equivalent straight-time hours.

5/ Includes man-hours paid for holidays, sick leave, and vacation taken.

6/ Computed from unrounded figures.

7/ Comparable data not available.

Source: Data for 1954 from the 1954 Census of Mineral Industries; data for other years compiled from reports by companies engaged in lead and zinc mining and milling to the U.S. Tariff Commission.

Table 35.--Lead and zinc mining and milling: Production and average number of all employees in the United States, by principal metal in ores produced, specified years 1952 to 1961 1/

Item	Total, all lead and zinc mines and mills	Chiefly lead or lead-zinc				Chiefly zinc or zinc-lead			
		Total	Predominantly lead 2/	All other: Chiefly lead 3/	All other: Chiefly lead-zinc 4/	Total	Predominantly zinc 5/	All other: Chiefly zinc 6/	All other: Chiefly zinc-lead 7/
Crude ore mined:									
1952-------1,000 short tons--	22,919	8,150	6,037	8/ 2,113	9/	14,769	9,921	10/ 4,848	11/
1956----------do--------	21,244	9,129	6,628	2,270	231	12,115	6,599	5,516	12/
1958----------do--------	14,279	6,946	5,972	974	-	7,333	4,388	2,945	-
1960----------do--------	15,139	6,733	5,915	776	42	8,406	6,012	2,394	-
Old tailings and other material reclaimed: 13/									
1956-------1,000 short tons--	1,518	1,377	1,224	153	-	141	139	2	-
1958----------do--------	480	480	480	12/	-	-	-	-	-
1960----------do--------	104	2	12/	2	-	102	1	99	2
Recoverable metal contained in ores mined and in other material reclaimed: 14/									
Recoverable lead:									
1952---------short tons--	346,359	224,471	124,835	8/ 99,636	9/	121,888	34,235	10/ 87,653	11/
Percent of total-------	100.0	64.8	36.0	8/ 28.8	9/	35.2	9.9	10/ 25.3	11/
1956---------short tons--	337,404	229,693	122,859	99,475	7,359	107,711	20,624	87,084	3
Percent of total-------	100.0	68.1	36.4	29.5	2.2	31.9	6.1	25.8	15/
1958---------short tons--	250,977	185,675	116,014	69,661	-	65,302	6,087	59,215	-
Percent of total-------	100.0	74.0	46.2	27.8	-	26.0	2.4	23.6	-
1960---------short tons--	239,137	179,999	114,055	65,482	462	59,138	6,976	52,141	21
Percent of total-------	100.0	75.3	47.7	27.4	0.2	24.7	2.9	21.8	15/
Recoverable zinc:									
1952---------short tons--	596,185	57,723	3,744	8/ 53,979	9/	538,462	334,945	10/ 203,517	11/
Percent of total-------	100.0	9.7	0.6	8/ 9.1	9/	90.3	56.2	10/ 34.1	11/
1956---------short tons--	507,372	67,227	4,017	52,902	10,308	440,145	243,108	197,032	5
Percent of total-------	100.0	13.3	0.8	10.4	2.1	86.7	47.9	38.8	15/
1958---------short tons--	373,730	40,709	707	40,002	-	333,021	179,698	153,323	-
Percent of total-------	100.0	10.9	0.2	10.7	-	89.1	48.1	41.0	-
1960---------short tons--	397,461	37,012	3,001	33,839	172	360,449	246,211	114,214	24
Percent of total-------	100.0	9.3	0.8	8.5	15/	90.7	62.0	28.7	15/
Average number of all employees: 16/									
1952------------------------	22,582	7,790	3,641	8/ 4,149	9/	14,792	7,063	10/ 7,729	11/
1956------------------------	16,708	6,713	3,231	3,150	332	9,995	3,729	6,263	3
1958------------------------	10,304	4,852	2,928	1,924	-	5,452	2,306	3,146	-
1959------------------------	9,855	4,595	2,597	1,952	46	4,838	2,127	2,711	-
1960------------------------	9,394	4,131	2,473	1,532	126	4,890	2,368	2,520	2
1961------------------------	9,281	4,050	2,107	1,881	62	4,760	2,320	2,440	-

1/ Data are for operations which were engaged in producing ores or concentrates in which the value of recoverable lead-plus-zinc content was greater than the value of any other single metal contained. Operations which were engaged in producing lead and zinc ores or concentrates (as defined above) and which reported to the U.S. Tariff Commission accounted for the following percentages of total production of recoverable lead and zinc from ores or concentrates valued chiefly for their lead-plus-zinc content:

Year	Lead	Zinc
1952 (of newly mined ore only)	91.9	92.9
1956	99.1	99.3
1958	96.7	98.3
1960	99.7	99.8

2/ So classified when the gross market value (at average prices in years designated) of recoverable lead content of the ores produced was 75 percent or more of the total gross market value of all recoverable metals contained.

3/ So classified, if not predominantly lead (as defined in footnote 2), when the gross market value of the recoverable lead content of the ores was greater than the gross market value of the recoverable content of any other single metal.

4/ So classified if the gross market value of the recoverable lead-plus-zinc content of the ores was greater than the gross market value of the recoverable content of any other single metal contained (but the value of the lead content alone was not) and the value of the lead was greater than the value of the zinc.

5/ So classified when the gross market value of the recoverable zinc content of the ores produced was 75 percent or more of the total gross market value of all recoverable metals contained.

6/ So classified, if not predominantly zinc (as defined in footnote 5), when the gross market value of the recoverable zinc content of the ores was greater than the gross market value of the recoverable content of any other single metal.

7/ So classified if the gross market value of the recoverable zinc-plus-lead content of the ores was greater than the gross market value of the recoverable content of any other single metal contained (but the value of the zinc content alone was not) and the value of the zinc was greater than the value of the lead.

8/ Combined data for "Chiefly lead" and "Chiefly lead-zinc."

9/ Included with "Chiefly lead."

10/ Combined data for "Chiefly zinc" and "Chiefly zinc-lead."

11/ Included with "Chiefly zinc."

12/ Less than 500 short tons.

13/ Includes old tailings and material reclaimed from mine dumps and mill sites. No data were reported or 1952.

14/ Represents recoverable metal content of ore mined (including old tailings and material reclaimed from mine dumps and mill sites) after deduction of estimated metal losses in milling, smelting, and refining.

15/ Less than 0.05 percent.

16/ Average based on number on payroll in pay period ending nearest the 15th of each month; includes proprietors and partners. Data have not been adjusted to include employment at unreported operations. Data through 1958, by principal metal in ores produced and total, include employment at nonproducing lead and zinc operations which were engaged in maintenance, development or construction work. For 1959-61 only the total includes employment at nonproducing lead and zinc mines; data by type of mine were not available.

Source: Compiled from reports by lead- and zinc-mining and milling companies to the U.S. Tariff Commission.

Table 36.--Lead and zinc mining and milling: Production, and average number of all employees in the United States, by principal producing regions and States, specified years 1952 to 1961 1/

Item	United States, total reported	Principal producing regions and States					
		States east of the Mississippi River			West Central States		
		Total	Northern Illinois and Wisconsin	New York, New Jersey, Pennsylvania, Tennessee, and Virginia	Total	Southeastern Missouri	Tri-State (Oklahoma, Kansas, and Southwest Missouri)
Crude ore mined:							
1952----------1,000 short tons--	22,919	3,889	1,145	2,744	11,697	5,987	5,710
1956----------do----------	21,244	4,169	1,313	2,856	10,361	6,841	3,520
1958----------do----------	14,279	4,152	1,071	3,081	6,454	5,926	528
1960----------do----------	15,139	5,530	1,329	4,201	5,970	5,899	71
Old tailings and other material reclaimed: 2/							
1956----------1,000 short tons--	1,518	139	139	-	1,224	1,224	-
1958----------do----------	480	-	-	-	480	480	-
1960----------do----------	104	1	1	-	98	-	98
Recoverable metal contained in ores mined and other material reclaimed: 3/							
Recoverable lead:							
1952----------short tons--	346,359	8,089	3,177	4,912	143,598	122,222	21,376
Percent of total----------	100.0	2.3	0.9	1.4	41.5	35.3	6.2
1956----------short tons--	337,404	8,946	4,303	4,643	143,367	123,226	20,141
Percent of total----------	100.0	2.6	1.2	1.4	42.5	36.5	6.0
1958----------short tons--	250,977	5,283	1,770	3,513	117,702	113,097	4,605
Percent of total----------	100.0	2.1	0.7	1.4	46.9	45.1	1.8
1960----------short tons--	239,137	5,337	2,410	2,927	113,482	111,885	1,597
Percent of total----------	100.0	2.2	1.0	1.2	47.5	46.8	0.7
Recoverable zinc:							
1952----------short tons--	596,185	173,515	30,573	142,942	89,539	3,602	85,937
Percent of total----------	100.0	29.1	5.1	24.0	15.0	0.6	14.4
1956----------short tons--	507,372	162,816	37,734	125,082	59,409	3,345	56,064
Percent of total----------	100.0	32.1	7.4	24.7	11.7	0.7	11.0
1958----------short tons--	373,730	168,822	30,680	138,142	9,677	362	9,315
Percent of total----------	100.0	45.2	8.2	37.0	2.6	0.1	2.5
1960----------short tons--	397,461	222,674	38,735	183,939	6,801	2,821	3,980
Percent of total----------	100.0	56.0	9.7	46.3	1.7	0.7	1.0
Average number of all employees: 4/							
1952----------	22,582	3,340	524	2,817	5,655	3,465	2,189
1956----------	16,708	2,450	517	1,933	4,552	3,221	1,331
1958----------	10,304	2,181	264	1,917	3,146	2,823	323
1959----------	9,855	2,017	298	1,719	2,632	2,513	119
1960----------	9,394	2,181	369	1,812	2,609	2,420	189
1961----------	9,281	2,140	313	1,827	2,263	2,058	205

See footnotes at end of table.

Table 36.--Lead and zinc mining and milling: Production, and average number of all employees in the United States, by principal producing regions and States, specified years 1952 to 1961 1/--Continued

Item	Western States										Alaska and Washington
	Total	Arizona	California	Colorado	Idaho	Montana	Nevada	New Mexico	Utah		
Crude ore mined:											
1952---------1,000 short tons--	7,333	461	158	1,246	1,760	1,414	250	620	683		741
1956----------do---------	6,714	367	168	955	1,241	1,513	102	481	635		1,252
1958----------do---------	3,673	361	2	737	877	333	6	65	452		840
1960----------do---------	3,639	357	2	734	669	244	5	212	456		960
Old tailings and other material reclaimed: 2/											
1956---------1,000 short tons--	155	-	3	-	114	-	-	-	38		-
1958----------do---------	5/	5/	-	-	-	-	-	-	5/		-
1960----------do---------	5	5/	2	5/	-	2	5/	-	-		-
Recoverable metal contained in ores mined and other material reclaimed: 3/											
Recoverable lead:											
1952----------short tons--	194,672	10,959	10,575	25,322	63,866	14,850	5,475	5,711	46,314		11,600
Percent of total---------	56.2	3.2	3.1	7.3	18.4	4.3	1.6	1.6	13.4		3.3
1956----------short tons--	185,091	11,764	8,854	18,328	60,091	17,687	3,380	5,980	47,487		11,520
Percent of total---------	54.9	3.5	2.6	5.4	17.8	5.3	1.0	1.8	14.1		3.4
1958----------short tons--	127,992	9,182	81	12,818	49,701	7,433	3,484	709	35,572		9,012
Percent of total---------	51.0	3.6	6/	5.1	19.8	3.0	1.4	0.3	14.2		3.6
1960----------short tons--	120,318	8,329	404	17,840	40,702	4,114	588	1,801	38,793		7,747
Percent of total---------	50.3	3.5	0.2	7.5	17.0	1.7	0.2	0.8	16.2		3.2
Recoverable zinc:											
1952----------short tons--	333,131	31,866	8,171	50,365	66,050	64,289	12,693	49,944	30,699		19,054
Percent of total---------	55.9	5.3	1.4	8.4	11.1	10.8	2.1	8.4	5.2		3.2
1956----------short tons--	285,147	22,708	7,841	39,434	43,261	65,728	7,270	34,989	38,668		25,248
Percent of total---------	56.2	4.5	1.5	7.8	8.5	13.0	1.4	6.9	7.6		5.0
1958----------short tons--	195,231	26,217	37	37,073	42,356	27,507	75	8,575	34,595		18,796
Percent of total---------	52.2	7.0	6/	9.9	11.3	7.4	6/	2.3	9.3		5.0
1960----------short tons--	167,986	27,009	152	31,245	35,106	6,909	258	13,679	32,311		21,317
Percent of total---------	42.3	6.8	6/	7.9	8.9	1.7	0.1	3.4	8.1		5.4
Average number of all employees: 4/											
1952----------	13,587	996	345	1,959	3,256	2,865	501	1,160	2,074		432
1956----------	9,706	558	322	1,495	2,484	1,976	200	622	1,691		358
1958----------	4,977	308	2	894	1,792	636	36	112	947		250
1959----------	5,206	345	12	1,049	1,794	611	29	136	990		240
1960----------	4,604	355	14	1,118	1,197	412	41	231	978		258
1961----------	4,878	326	9	1,179	1,700	166	19	280	939		260

1/ Except as noted in footnote 5, data are for operations which were engaged in producing ores or concentrates in which the value of recoverable lead-plus-zinc content was greater than the value of any other single metal contained. Operations, as defined above, which reported to the U.S. Tariff Commission in each of the years shown, accounted for the following percentages of total production of recoverable lead and zinc from ores or concentrates valued chiefly for their lead-plus-zinc content (as defined above):

Year	Lead	Zinc
1952 (of newly mined ore only)----	91.9	92.9
1956----------	99.1	99.3
1958----------	96.7	98.3
1960----------	99.7	99.8

2/ Includes old tailings and material reclaimed from mine dumps and mill sites. No data were reported for 1952.

3/ For 1952, data represent metal content of ore mined only. For other years data represent metal content of ore mined, of old tailings, and of material reclaimed from mine dumps and mill sites. Data have been adjusted downward to allow for estimated metal losses in milling, smelting, and refining.

4/ Based on number on payroll in pay period ending nearest the 15th of each month. Data include employment at nonproducing lead and zinc operations engaged in maintenance, development, or construction work. Data also include proprietors and partners.

5/ Less than 500 short tons.

6/ Less than 0.05 percent.

Source: Compiled from reports of lead- and zinc-mining and milling companies to the U.S. Tariff Commission.

Table 37.--Primary lead smelters and refineries in the United States, and their capacity as of Dec. 31, 1960

Company	Location of plant	Capacity	
		Smelter 1/	Refiner 2/
		Tons of charge	Tons of refined lead
American Smelting & Refining Co	East Helena, Mont	360,000	-
	El Paso, Tex	360,000	-
	Leadville, Colo 3/	180,000	-
	Selby, Calif	192,000	72,000
	Perth Amboy, N.J 4/	-	96,000
	Omaha, Nebr	-	180,000
Bunker Hill Co	Kellogg, Idaho	300,000	100,000
International Smelting & Refining Co	Tooele, Utah	300,000	-
U.S.S. Lead Refinery, Inc	East Chicago, Ind	-	40,000
St. Joseph Lead Co	Herculaneum, Mo	5/	5/ 120,000
Total		6/ 1,692,000	608,000

1/ Nominal estimates by proprietors. A plant of a certain blast-furnace capacity may not have the ore available with which to run it. Even with adequate ore, roasting and sintering capacity may be the governing factor, rather than blast-furnace capacity. For such reasons some of the estimates would have to be reduced to 80 percent of those shown. Smelters are rated according to tons of charge, that is, ore plus flux but not including fuel. Production of base bullion, the product of all smelters (except the 3 for which smelter capacity data are not given) varies according to the lead in the charge.

2/ Most of this refining is done by the Parkes process, but the electrolytic process is used by the U.S.S. Lead Refinery, Inc.

3/ Plant permanently closed Jan. 1, 1961.

4/ Plant permanently closed in July 1961.

5/ Smelting and refining is done in the same plant. The smelting is of a high grade of galena concentrate which is generally low in silver content.

6/ Exclusive of smelter at Herculaneum, Mo.

Source: American Bureau of Metal Statistics. Information on plant closures from individual reports of lead smelting and refining companies.

Table 38.--Primary zinc smelters in the United States, by types, and their capacity as of Dec. 31, 1960

Type of smelter and company	Location of plant	Annual capacity for slab zinc 1/
		Short tons
Electrolytic plants:		
American Smelting & Refining Co	Corpus Christi, Tex	105,000
American Zinc Co. of Illinois	Monsanto, Ill	60,000
Anaconda Copper Mining Co	Great Falls, Mont	162,000
	Anaconda, Mont. 2/	86,500
Bunker Hill Co	Kellogg, Idaho	74,000
Total, electrolytic		487,500
Distillation plants:		
Horizontal retort: 3/		
American Metal Climax, Inc	Blackwell, Okla	97,090
American Smelting & Refining Co	Amarillo, Tex	58,400
American Zinc Co. of Illinois	Dumas, Tex	50,000
Athletic Mining & Smelting Co	Fort Smith, Ark	29,200
Eagle-Picher Co	Henryetta, Okla	54,750
Matthiessen & Hegeler Zinc Co	La Salle, Ill	32,850
National Zinc Co. Inc	Bartlesville, Okla	41,600
Total, horizontal retort		363,890
Vertical retort:		
The Meadowbrook Corp	Meadowbrook, W. Va	4/
New Jersey Zinc Co	Depue, Ill	4/
New Jersey Zinc Co. of Pa	Palmerton, Pa	4/
St. Joseph Lead Co	Josephtown, Pa	4/
Total, vertical retort 5/		339,310
Total, distillation		703,200
Total, electrolytic and distillation		6/ 1,190,700

1/ Estimated.
2/ Plant shut down beginning February 1961.
3/ Annual capacities shown were computed from daily capacities reported by the American Bureau of Metal Statistics.
4/ Not available.
5/ Derived by subtraction of the estimated horizontal retort capacity from total capacity by distillation processes.
6/ The U.S. Bureau of Mines reported a total annual capacity for slab zinc of 1,165,400 short tons.

Source: American Bureau of Metal Statistics, except as noted.

Table 39.--Lead and zinc ores and concentrates: Receipts by lead and zinc smelters in the United States from domestic and foreign sources, classified by whether or not the materials originated in mines owned or controlled by the smelting companies or their subsidiaries, quarterly average, January-September 1958, January-September 1959, and 1961

(In short tons of lead or zinc content)

Item	Quarterly average		
	Jan.-Sept. 1958	Jan.-Sept. 1959	1961
Lead ores and concentrates 1/			
From domestic sources:			
Originating in mines owned or controlled by smelting companies or their subsidiaries	34,114	34,630	37,869
Originating in mines not owned or controlled by smelting companies or their subsidiaries	33,635	28,223	30,277
Total from domestic sources	67,749	62,853	68,146
From foreign sources:			
Originating in mines owned or controlled by smelting companies or their subsidiaries	1,820	1,757	638
Originating in mines not owned or controlled by smelting companies or their subsidiaries	48,225	32,598	39,402
Total from foreign sources	50,045	34,355	40,040
Grand total from domestic and foreign sources	117,794	97,208	108,186
Zinc ores and concentrates 2/			
From domestic sources:			
Originating in mines owned or controlled by smelting companies or their subsidiaries	44,551	43,002	54,371
Originating in mines not owned or controlled by smelting companies or their subsidiaries	39,936	38,683	50,095
Total from domestic sources	84,487	81,685	104,466
From foreign sources:			
Originating in mines owned or controlled by smelting companies or their subsidiaries	15,257	21,382	14,238
Originating in mines not owned or controlled by smelting companies or their subsidiaries	98,666	104,193	87,454
Total from foreign sources	113,923	125,575	101,692
Grand total from domestic and foreign sources	198,410	207,260	206,158

1/ Valued chiefly for their lead content.
2/ Valued chiefly for their zinc content.

Source: Reports to the U.S. Tariff Commission from individual smelting companies.

Table 40.--Lead and zinc ores and concentrates: Receipts, imports under import quotas, and imports not under import quotas, by country of origin, quarterly averages for specified periods, 1958 to 1961, and ores and concentrates held in bond by lead and zinc smelters in the United States, as of Dec. 31, 1958, 1960, and 1961

(In short tons)

Item	Receipts of foreign ores or concentrates (quarterly average)			Imports for consumption (quarterly average)				Ores and concentrates held in bond as of Dec. 31--		
				Quantity entered under import quotas 1/		Quantity entered not under import quotas				
	Jan.-Sept. 1958	Jan.-Sept. 1959	1961	Jan.-Sept. 1959	1961	Jan.-Sept. 1959	1961	1958	1960	1961
	Lead content									
Lead ores and concentrates (ores and concentrates valued chiefly for their lead content) from foreign sources, total	50,045	34,355	40,040	30,480	32,384	3,169	1,154	8,727	15,936	28,613
From individual countries for which separate import quotas were established:										
Peru	18,787	9,044	7,955	8,082	8,063	2,196	190	3,254	3,016	831
Union of South Africa	11,003	7,535	10,896	7,440	7,440	-	160	4,040	7,562	11,919
Australia	5,789	6,269	5,541	5,005	5,019	951	-	830	1,318	2,247
Canada	5,467	7,630	8,534	6,510	6,537	-	804	603	2,958	7,103
Bolivia	4,539	2,774	2,906	2,520	2,604	-	-	-	432	897
From other countries, total	4,460	1,103	4,208	923	2,721	22	-	-	650	5,616
Honduras	911	758	1,552	609	1,123	18	-	-	517	1,735
Philippine Republic	319	114	41	114	29	-	-	-	8	43
Mexico	552	131	325	101	224	4	-	-	125	417
Guatemala	1,426	52	2,100	51	1,214	-	-	-	-	3,239
Colombia	241	47	184	47	129	-	-	-	-	182
Argentina	30	1	-	1	-	-	-	-	-	-
Greenland	865	-	-	-	-	-	-	-	-	-
Korea	80	-	-	-	-	-	-	-	-	-
Ecuador	36	-	-	-	-	-	-	-	-	-
Chile	-	-	2	-	2	-	-	-	-	-
Morocco	-	-	4	-	-	-	-	-	-	-
	Zinc content									
Zinc ores and concentrates (ores and concentrates valued chiefly for their zinc content) from foreign sources, total	113,923	125,575	101,692	2/ 94,439	88,397	3,051	12,272	9,740	61,902	68,567
From individual countries for which separate import quotas were established:										
Mexico	42,430	47,275	46,629	35,240	34,779	1,451	8,977	959	13,725	25,124
Canada	39,788	43,164	28,999	33,240	28,566	111	97	1,812	12,379	14,606
Peru	22,080	18,877	16,981	17,453	16,690	1,453	875	6,969	6,927	5,918
From other countries, total	9,625	16,259	9,083	8,506	8,362	36	2,323	-	28,871	22,919
Spain	-	4,392	-	3,054	1,754	11	523	-	10,224	1,117
Italy	-	2,908	-	2,280	374	-	-	-	2,189	695
Australia	-	5,112	-	1,688	1,169	-	420	-	6,702	345
West Germany	-	1,097	-	763	3/	-	3/	-	2	1
Union of South Africa	6,506	962	1,541	344	407	25	206	-	823	4,537
Bolivia	1,628	488	-	233	-	-	-	-	-	-
Guatemala	1,490	144	3,366	144	1,717	-	268	-	3,983	9,495
Sweden	-	1,156	-	-	-	-	-	-	-	-
Colombia	1	-	-	-	-	-	-	-	-	-
Honduras	-	-	1,306	-	1,608	-	-	-	1,210	-
Philippine Republic	-	-	793	-	1,049	-	11	-	3,738	2,625
Miscellaneous	-	-	2,077	-	284	-	895	-	-	4,104

1/ For periods indicated totals, and in some instances data for individual countries, are less than those reported by the U.S. Bureau of Customs. Data in this table differ from those reported by the U.S. Bureau of Customs (tables 54 and 55) chiefly because (1) lead contained in zinc and copper ores, and zinc contained in lead and copper ores are excluded, and (2) individual concerns were instructed to exclude the lead and zinc content of ores and concentrates used directly in the manufacture of lead and zinc pigments and salts.

2/ Adjusted on basis of U.S. Bureau of Customs data for Canada and Mexico because it was apparent that reports from individual concerns to the U.S. Tariff Commission for these 2 countries involved duplication and amounted to more than that which was permissible under the quotas.

3/ Less than 1 ton.

Source: Compiled from reports to the U.S. Tariff Commission from individual smelting companies.

Table 41.--Lead: World smelter production of primary metal, by countries where smelted, 1952-60

(In thousands of short tons)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960
Argentina	21.8	14.3	28.7	19.8	26.8	28.6	36.2	34.2	28.3
Australia 1/	217.7	231.3	267.2	251.5	265.2	268.0	278.5	266.4	272.1
Austria 2/	11.4	13.1	13.3	12.7	12.3	13.2	13.8	13.6	13.7
Belgium 2/	87.6	84.2	79.3	91.2	112.7	109.4	105.7	97.5	102.2
Brazil	2.1	3.2	3.0	4.0	3.9	3.9	5.1	6.2	3/ 7.7
Bulgaria	-	3.0	5.0	5.6	6.6	21.3	28.8	36.0	44.0
Burma	2.9	9.6	12.3	21.4	21.9	21.8	19.2	21.8	19.4
Canada	183.4	166.4	166.4	149.8	149.3	144.0	134.8	140.9	160.1
China 3/	6.6	10.0	16.5	24.0	28.0	31.0	40.0	63.0	70.0
Czechoslovakia 3/	6.6	8.8	8.8	8.8	9.9	9.9	9.9	10.0	10.0
France	56.8	60.4	68.9	73.4	69.8	81.3	77.9	77.1	82.1
Germany:									
East Germany 2/ 3/	19.8	24.2	33.0	33.0	27.5	24.8	27.5	27.5	27.5
West Germany	102.2	118.8	121.5	118.6	128.4	151.9	148.0	164.8	162.8
Greece	2.7	2.6	3.0	2.8	3.8	4.0	4.3	4.0	3/ 4.0
Guatemala	.3	.8	3/ .1	-	.1	-	-	-	.2
India	1.3	1.9	2.0	2.5	2.8	3.6	3.7	4.4	4.1
Iran 4/	.6	.5	1.0	1.4	1.6	3/ .8	1.0	3/ 1.0	5/
Italy	37.8	41.9	40.8	46.8	43.1	43.7	52.9	49.6	48.1
Japan	16.7	19.6	28.9	31.9	41.2	50.2	42.4	67.2	76.3
Korea:									
Republic of Korea	.1	.1	3/ .1	-	-	-	-	-	-
North Korea 3/	-	2.2	3.3	8.8	16.0	18.7	18.7	18.7	18.7
Mexico	261.7	237.0	230.6	224.5	213.9	231.7	218.3	206.1	205.3
Morocco: Southern Zone	33.2	30.2	29.4	29.4	31.0	34.4	36.5	31.4	34.9
Netherlands 3/	1.6	1.1	4.0	-	-	-	-	-	-
Peru	53.6	65.0	63.6	67.4	66.5	76.2	71.0	62.6	80.4
Poland	22.0	23.5	35.2	37.7	38.8	39.4	39.5	42.6	43.8
Portugal	1.2	1.0	1.1	2.2	.9	.8	.7	.9	1.0
Rhodesia and Nyasaland (Federation): Northern Rhodesia	14.1	12.9	16.8	18.0	17.0	16.8	14.2	16.1	16.2
Rumania 3/	10.5	11.0	11.6	12.2	13.2	13.2	13.2	13.2	13.2
Spain	51.3	56.5	64.6	68.1	72.5	65.0	77.7	75.5	78.3
Sweden	12.6	17.8	22.1	23.4	25.6	27.4	36.5	40.6	49.1
Tunisia 6/	28.1	30.1	30.0	30.1	26.6	27.1	27.7	24.0	21.9
Turkey	5/	5/	3/ 1.6	3/ 1.8	3/ 2.0	3/ 2.0	3/ 3.0	1.8	.4
U.S.S.R. 3/	170.0	202.0	228.0	255.0	290.0	320.0	340.0	350.0	350.0
United Kingdom	3/ 5.3	3/ 7.4	3/ 7.6	3/ 6.8	7.5	8.3	4.2	1.6	1.2
United States (refined lead) 7/	472.3	467.7	486.6	479.0	542.3	533.5	469.4	340.9	382.4
Yugoslavia	74.1	78.0	73.6	83.3	83.5	86.5	92.9	94.1	98.3
Total 3/	1,990.0	2,060.0	2,210.0	2,250.0	2,400.0	2,515.0	2,490.0	2,410.0	2,530.0

1/ Includes lead content of lead bullion, figures for which are as follows (in short tons): 1952--42,234; 1953--38,137; 1954--42,723; 1955--41,879; 1956--46,657; 1957--52,518; 1958--64,032; 1959--56,745; 1960--59,466.

2/ Includes production from scrap.

3/ Estimated by the U.S. Bureau of Mines.

4/ Data are for years ending Mar. 21 of years following those indicated by column headings.

5/ Not available.

6/ Lead bars only; does not include lead contained in antimonial lead or in solders.

7/ Figures cover lead refined from domestic and foreign ores; refined lead produced from foreign base bullion not included.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 42.--Zinc: World smelter production of primary metal, by countries where smelted, 1952-60

(In thousands of short tons)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960
Argentina	11.0	12.8	1/ 12.0	14.9	16.2	16.2	17.4	14.1	1/ 19.7
Australia	97.9	101.0	117.1	113.2	117.6	123.6	128.5	130.4	134.7
Austria	-	-	-	1.5	7.9	10.3	11.7	12.6	12.7
Belgian Congo 2/	-	8.6	35.3	37.4	46.4	54.2	58.9	60.4	58.8
Belgium 3/	205.9	213.2	234.9	233.6	254.3	259.8	236.7	247.2	272.9
Bulgaria	-	-	-	1.5	6.4	8.3	9.0	9.9	18.7
Canada	222.2	251.0	253.4	256.5	255.6	247.3	252.1	255.3	261.0
China 1/ 4/	.2	.4	3/ 13.8	29.0	38.0	41.0	45.0	66.0	77.0
France	88.3	89.2	122.2	123.6	124.1	143.9	165.2	162.3	165.5
Germany (Federal Republic)	162.3	163.4	184.8	197.0	205.0	202.5	146.8	152.0	156.3
Italy	60.5	66.2	72.1	75.2	79.8	82.1	78.7	83.5	87.5
Japan	77.2	87.3	112.3	124.1	150.2	152.2	155.4	147.6	198.9
Mexico	55.5	58.5	60.5	61.9	62.1	62.4	63.3	61.4	58.3
Netherlands	28.6	27.8	28.7	31.3	32.0	33.1	29.3	35.4	39.8
Norway	43.2	42.8	49.0	50.2	53.8	53.3	50.2	53.8	48.0
Peru	5.8	9.8	16.9	18.8	10.4	32.5	32.0	29.6	35.4
Poland 1/	132.0	152.6	156.6	172.2	169.0	175.0	179.3	185.3	193.5
Rhodesia and Nyasaland (Federation): Northern Rhodesia	25.6	28.4	29.7	31.2	32.4	33.0	33.9	33.5	33.4
Spain	23.5	25.5	25.7	26.3	25.4	24.1	27.2	27.0	30.9
U.S.S.R 1/	214.0	241.0	258.0	260.0	310.0	330.0	360.0	370.0	380.0
United Kingdom	77.0	81.4	91.0	91.1	91.2	86.1	83.5	81.7	83.2
United States	904.5	916.1	802.4	963.5	983.6	985.8	781.2	798.7	803.7
Yugoslavia	15.9	16.0	15.0	15.2	21.9	32.5	34.4	35.2	39.6
Total 1/ 5/	2,460.0	2,600.0	2,700.0	2,930.0	3,100.0	3,190.0	2,990.0	3,090.0	3,220.0

1/ Estimated by the U.S. Bureau of Mines.
2/ Beginning June 30, 1960, Republic of the Congo.
3/ Includes production from reclaimed scrap.
4/ Refined zinc production.
5/ Includes estimates for Czechoslovakia and Rumania.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 43.--Lead: Smelter and refinery production in the United States from primary and secondary sources, 1952-60

(In short tons of lead content)

Item	1952	1953	1954	1955	1956	1957	1958	1959	1960
Primary production									
Refined lead:									
From domestic ores and base bullion	383,358	328,012	322,271	321,132	349,188	347,675	269,082	225,270	228,899
From foreign ores and base bullion	89,494	139,879	164,441	158,025	193,120	185,858	201,074	115,661	153,537
Total	472,852	467,891	486,712	479,157	542,308	533,533	470,156	340,931	382,436
Antimonial lead:									
From domestic ores	12,993	10,366	5,136	5,259	6,739	10,271	8,256	6,447	1,216
From foreign ores	5,673	10,721	7,661	9,327	6,918	9,599	8,190	5,955	1,169
Total	18,666	21,087	12,797	14,586	13,657	19,870	16,446	12,402	2,385
Refined lead and antimonial lead:									
From domestic ores and base bullion	396,351	338,378	327,407	326,391	355,927	357,946	277,338	231,717	230,115
From foreign ores and base bullion	95,167	150,600	172,102	167,352	200,038	195,457	209,264	121,616	154,706
Total from primary sources	491,518	488,978	499,509	493,743	555,965	553,403	486,602	353,333	384,821
Secondary production									
From new scrap:									
Lead base	51,380	49,902	49,657	45,828	54,435	51,536	53,456	52,101	55,856
Copper base	8,083	8,085	6,281	7,037	6,205	5,487	4,779	6,098	5,214
Tin base	1/	1/	1/	1/	599	323	283	426	436
Total	59,463	57,987	55,938	52,865	61,239	57,346	58,518	58,625	61,506
From old scrap:									
Battery lead plates	254,827	247,332	258,438	264,126	260,757	255,208	202,007	241,639	255,879
All other lead base	130,302	152,897	143,825	160,379	161,439	146,265	123,461	129,848	134,011
Copper base	26,679	28,498	22,708	24,670	23,313	30,404	17,795	21,272	18,502
Tin base	23	23	16	11	7	6	6	3	5
Total	411,831	428,750	424,987	449,186	445,516	431,883	343,269	392,762	408,397
From new and old scrap:									
As refined lead	140,102	126,574	120,007	128,320	133,392	126,571	116,057	125,379	148,219
In antimonial lead	222,951	236,555	238,839	247,703	252,582	240,151	182,953	204,346	205,487
In other lead alloys	93,048	92,379	98,584	107,016	92,448	95,132	90,059	96,282	101,258
In copper-base alloys	14,479	30,826	23,341	18,627	28,205	27,279	12,673	25,342	14,897
In tin-base alloys	714	403	154	385	128	96	45	38	42
Total from secondary sources	471,294	486,737	480,925	502,051	506,755	489,229	401,787	451,387	469,903

1/ Data on years prior to 1956 not compiled.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 44.--Zinc: Production of primary slab zinc and secondary zinc in the United States, by sources, 1952-60

(In short tons of zinc content)

Item	1952	1953	1954	1955	1956	1957	1958	1959	1960
Primary production, slab zinc:									
From domestic ores	575,828	1/ 495,436	1/ 380,312	582,913	1/ 470,093	539,692	346,240	348,443	336,875
From foreign ores	1/ 328,651	1/ 420,669	1/ 422,113	1/ 380,591	1/ 513,517	446,104	435,006	450,223	466,845
Total	904,479	916,105	802,425	963,504	983,610	985,796	2/ 781,246	2/ 798,666	2/ 803,720
Secondary production:									
From new scrap:									
Zinc base	108,273	110,774	109,236	114,215	116,198	108,319	87,566	106,420	116,222
Copper base	126,625	117,611	88,291	101,988	88,623	75,933	71,312	93,909	79,351
Aluminum base	820	1,985	1,526	4,948	2,728	3,004	1,490	2,024	1,802
Magnesium base	40	73	64	75	60	59	38	53	76
Total	235,758	230,443	199,117	221,226	207,609	187,315	160,406	202,406	197,451
From old scrap:									
Zinc base	24,997	19,622	27,558	33,974	35,184	42,207	38,643	38,532	38,056
Copper base	49,312	42,888	43,760	47,642	36,912	32,899	29,754	33,487	28,866
Aluminum base	226	1,604	1,279	1,845	1,545	1,585	1,436	1,734	1,381
Magnesium base	130	121	60	88	105	98	93	95	66
Total	74,665	64,235	72,657	83,549	73,746	76,789	69,926	73,848	68,369
From new and old scrap:									
As metal:									
By distillation:									
Slab zinc	54,560	50,344	3/ 67,381	3/ 65,477	3/ 71,420	3/ 71,737	3/ 46,150	3/ 57,227	3/ 68,010
Zinc dust	22,292	22,185	23,893	25,112	4/ 27,415	4/ 26,255	4/ 26,010	4/ 32,119	4/ 30,144
By remelting	6,275	6,116	7,247	8,165	9,091	6,705	5,282	4,918	5,031
In zinc-base alloys	9,875	8,535	12,506	17,772	15,972	15,640	17,683	17,611	13,738
In brass and bronze	184,935	168,951	131,602	152,252	122,204	105,437	99,641	120,032	107,422
In aluminum-base alloys	1,120	3,673	2,854	6,888	4,413	4,758	2,941	3,964	3,277
In magnesium-base alloys	161	194	213	192	165	157	143	179	191
In chemical products	31,205	34,680	26,078	28,917	30,675	33,415	32,482	40,204	38,007
Total	310,423	294,678	271,774	304,775	281,355	264,104	230,332	276,254	265,820

1/ Includes a small tonnage of slab zinc further refined into high-grade metal.
2/ Includes production of zinc used directly in alloying operations.
3/ Includes zinc content of redistilled slab made from remelt die-cast slab.
4/ Includes zinc content of dust made from other than scrap.

Source: Compiled from official statistics of the U.S. Bureau of Mines.

Table 45.--Pig lead: Sales in the United States by primary refiners and importers, by grades, 1952-61

(In short tons)

Year	Corroding	Common 1/	Chemical	Antimonial	Total
1952 2/	520,862	156,545	76,409	56,457	810,273
1953 2/	441,049	153,030	62,187	61,682	717,948
1954	513,017	149,254	45,436	64,557	772,264
1955	548,745	160,100	61,449	89,628	859,922
1956	535,789	141,133	51,094	69,109	797,125
1957	543,284	126,842	44,864	66,851	781,841
1958	438,528	145,942	27,710	50,655	662,835
1959	426,424	145,064	33,490	40,867	645,845
1960	296,637	165,207	29,349	28,701	519,894
1961	440,902	119,216	12,146	42,088	614,352

1/ Common lead sales include sales of acid or copper lead.
2/ Approximate.

Source: Lead Industries Association.

Table 46.--Primary and redistilled secondary slab zinc: U.S. production by primary and secondary smelters in the United States, by grades, annual 1952-61, by quarters, 1958-61 and January and February 1962

(In short tons)

Period	Special high grade 1/	High grade (ordinary)	Intermediate	Brass Special	Select	Prime Western	Total
1952	295,801	182,125	17,903	48,817	13,608	401,336	959,590
1953	312,810	180,188	14,720	56,219	1,930	403,113	968,980
1954	270,159	132,980	19,284	52,662	1,233	394,120	870,438
1955	378,215	138,597	23,792	80,209	3,904	404,829	1,029,546
1956	356,756	162,467	37,691	96,291	2,400	400,132	1,055,737
1957	354,042	152,317	32,262	84,291	1,150	434,215	1,058,277
1958	298,442	86,859	19,388	81,841	1,300	340,021	2/ 827,851
1959	331,312	71,792	17,493	75,305	1,414	359,168	2/ 856,484
1960	360,907	71,834	15,841	83,507	73	340,289	2/ 872,451
1961	3/	3/	3/	3/	3/	3/	896,921
1958:							
January-March	80,430	25,143	5,585		111,813		222,971
April-June	74,447	21,001	4,049		108,702		208,199
July-September	68,883	9,771	3,943		109,154		191,751
October-December	79,544	11,729	6,680		108,028		205,981
Total	303,304	67,644	20,257		437,697		828,902
1959:							
January-March	86,658	17,764	5,426		117,725		227,573
April-June	90,837	16,973	4,310		117,306		229,426
July-September	81,220	14,627	2,811		106,413		205,071
October-December	76,784	12,049	1,194		105,923		195,950
Total	335,499	61,413	13,741		447,367		858,020
1960:							
January-March	104,085	15,672	1,983		112,352		234,092
April-June	96,999	21,129	2,572		118,460		239,160
July-September	76,328	10,294	3,896		107,080		197,598
October-December	76,173	12,556	3,843		104,207		196,779
Total	353,585	59,651	12,294		442,099		867,629
1961:							
January-March	100,443	15,454	2,094		107,578		225,569
April-June	89,445	19,343	2,019		108,506		219,313
July-September	68,050	15,585	3,926		115,954		203,515
October-December	98,458	22,366	3,928		123,772		248,524
Total	356,396	72,748	11,967		455,810		896,921
1962:							
January	34,721	6,608	1,746		40,883		83,958
February	30,320	10,139	1,305		37,479		79,243

1/ 99.99 percent zinc.
2/ Includes production of zinc used directly in alloying operations.
3/ Not available.

Source: Annual data (in upper part of table), from U.S. Bureau of Mines; monthly data, from American Zinc Institute, Inc.

Table 47.--Lead: Producers' stocks, by kinds, at primary smelters and refineries in the United States, at the end of each year, 1951-61, at the end of each quarter, 1958-61, and at the end of January, February, and March 1962

(In short tons)

Date	In ores and mattes and in process at smelters (lead content)	In base bullion (lead content)--			Refined pig lead (gross weight)	Antimonial lead (gross weight)	Total
		At smelters and refiners	In transit to refiners	In process at refiners			
At end of--							
1951	67,817	11,315	3,909	15,700	18,518	6,821	124,080
1952	65,771	17,583	3,105	19,759	31,405	12,155	149,778
1953	67,688	17,920	2,867	26,713	65,036	16,116	196,340
1954	62,074	18,170	1,723	27,164	77,930	14,789	201,850
1955	71,812	16,532	3,764	27,625	21,196	9,893	150,822
1956	77,918	12,222	2,846	25,092	29,435	11,746	159,259
1957	79,362	11,019	2,779	23,154	79,741	11,857	207,912
1958	72,378	10,917	1,767	19,746	185,913	12,595	303,316
1959	73,381	16,955	3,085	16,914	108,002	11,991	230,328
1960	89,502	30,852	887	24,451	149,034	11,115	305,841
1961	65,877	17,289	190	19,489	198,423	11,134	312,402
1958, at end of--							
March	83,185	10,692	2,187	21,766	116,610	12,144	246,584
June	80,060	9,012	1,570	22,092	150,648	12,856	276,238
September	72,724	14,797	2,223	18,125	159,662	11,004	278,535
December	72,378	10,917	1,767	19,746	185,913	12,595	303,316
1959, at end of--							
March	68,433	14,352	350	20,575	198,459	12,065	314,234
June	58,451	13,270	943	19,468	120,914	12,321	225,367
September	61,910	17,925	-	14,932	109,527	7,769	212,063
December	73,381	16,955	3,085	16,914	108,002	11,991	230,328
1960, at end of--							
March	96,716	17,043	867	20,603	96,469	12,679	244,377
June	99,230	15,371	1,461	24,600	116,638	13,221	270,521
September	100,073	27,328	2,106	21,471	126,696	11,888	289,562
December	89,502	30,852	887	24,451	149,034	11,115	305,841
1961, at end of--							
March	84,910	18,030	-	22,758	176,028	12,740	314,466
June	76,037	14,225	485	19,912	184,037	12,789	307,485
September	71,536	20,531	225	20,535	181,565	9,741	304,133
December	65,877	17,289	190	19,489	198,423	11,134	312,402
1962, at end of--							
January	58,237	12,497	1,707	18,334	197,411	10,193	298,379
February	63,384	13,716	-	16,551	191,586	9,690	294,927
March	57,363	14,740	-	20,969	196,039	8,807	297,938

Source: Compiled from data supplied the U.S. Tariff Commission by the American Bureau of Metal Statistics.

Table 48.--Zinc in ore and other zinciferous materials: Indexes of stocks held at zinc smelters in the United States at the end of each year, 1951-61, at the end of each quarter, 1958-61, and at the end of January and February 1962

(Stocks at end of 1951=100 1/)

Date	Zinc content of stocks of--			
	Domestic ore	Foreign ore	Other zinciferous materials	Total
At end of--				
1951	100.0	100.0	100.0	100.0
1952	141.4	132.2	143.2	137.9
1953	140.2	175.6	187.3	156.1
1954	150.5	182.7	210.5	165.7
1955	139.0	141.6	243.6	144.7
1956	118.5	141.2	177.6	130.0
1957	81.5	148.1	202.2	112.8
1958	51.7	190.6	278.0	116.0
1959	57.0	190.0	364.1	122.5
1960	114.1	197.2	377.4	158.2
1961	104.2	181.4	247.6	140.7
1958, at end of--				
March	64.7	204.0	214.3	125.7
June	60.7	212.3	204.0	126.2
September	59.7	199.2	203.6	120.6
December	51.7	190.6	278.0	116.0
1959, at end of--				
March	47.9	206.6	342.7	122.9
June	50.4	207.0	270.4	121.3
September	47.0	217.2	273.2	123.5
December	57.0	190.0	364.1	122.5
1960, at end of--				
March	66.4	196.3	437.5	133.6
June	77.6	203.7	435.4	142.8
September	103.8	216.5	381.1	160.1
December	114.1	197.2	377.4	158.2
1961, at end of--				
March	116.5	179.3	360.6	151.8
June	113.1	166.5	370.6	145.4
September	113.6	189.0	296.3	151.1
December	104.2	181.4	247.6	140.7
1962, at end of--				
January	100.3	164.9	235.9	131.5
February	96.7	157.2	227.9	126.1

1/ Index numbers are based on data compiled by the American Zinc Institute, Inc., which represented stocks of zinc ore (including sinter) and of other zinciferous materials held at smelters, at electrolytic plants, and in storage in the United States, suitable for the manufacture of metal, regardless of ownership, and including any Government-owned stocks, but excluding material in the operating circuit; data exclude stocks at mines and at old-slab and residue piles or dumps, and material that is awaiting conversion into pigments and is suitable and definitely earmarked for that purpose. Data on actual tonnages of zinc-ore stocks are confidential; permission was granted the U.S. Tariff Commission by the American Zinc Institute, however, to publish such data in terms of index numbers which reflect changes in stocks.

Source: Compiled from data supplied the U.S. Tariff Commission by the American Zinc Institute, Inc.

Table 49.--Slab zinc: Producers' primary and secondary stocks in the United States, by standard grades, at the end of each year, 1951-61, at the end of each quarter, 1958-61, and at the end of January, February, and March 1962

(In short tons)

Date	Special high grade	High grade	Intermediate	Prime Western 1/	Total
At end of--					
1951	5,321	4,262	719	11,559	21,901
1952	29,959	15,183	1,805	40,040	87,160
1953	44,785	46,177	2,417	87,464	180,843
1954	27,999	23,794	823	71,661	124,277
1955	6,355	2,828	611	31,185	40,979
1956	22,234	4,477	2,015	39,896	68,622
1957	40,177	11,014	5,910	109,559	166,660
1958	52,921	9,236	3,874	124,206	190,237
1959	12,512	4,442	1,928	135,537	154,419
1960	61,627	12,268	4,400	112,515	190,810
1961	75,953	6,226	1,868	67,142	151,189
1958, at end of--					
March	58,364	12,647	6,423	126,207	203,641
June	87,003	20,987	5,346	139,643	252,979
September	82,269	17,738	1,131	136,978	238,116
December	52,921	9,236	3,874	124,206	190,237
1959, at end of--					
March	61,733	6,889	3,916	133,545	206,083
June	44,104	2,875	3,194	119,213	169,386
September	38,636	4,089	2,700	147,611	193,036
December	12,512	4,442	1,928	135,537	154,419
1960, at end of--					
March	19,812	7,629	1,988	107,137	136,566
June	57,187	15,674	1,822	113,003	187,686
September	55,877	13,865	3,151	119,573	192,466
December	61,627	12,268	4,400	112,515	190,810
1961, at end of--					
March	95,386	11,077	3,157	113,269	222,889
June	102,721	10,707	1,953	92,439	207,820
September	87,786	4,401	2,103	70,774	165,064
December	75,953	6,226	1,868	67,142	151,189
1962, at end of--					
January	70,204	6,125	1,961	71,973	150,263
February	61,788	7,880	1,800	73,251	144,719
March	55,243	6,792	1,418	75,233	138,686

1/ Including Select and Brass Special grades.

Source: Compiled from data supplied the U.S. Tariff Commission by the American Zinc Institute, Inc.

Table 50.--Refined pig lead and lead content of antimonial lead: Stocks held at lead refineries in the United States and in certain countries of the free world outside of the United States, at the end of each year, 1953-61, and at the end of each quarter, 1959-61

(In thousands of short tons)

Date	United States 1/	Free world outside the United States 2/	Total 3/
At end of--			
1953	93.6	112.3	205.9
1954	101.1	103.4	204.5
1955	35.9	69.2	105.1
1956	45.5	73.0	118.5
1957	103.3	85.7	189.0
1958	252.5	82.0	334.5
1959	165.9	126.9	292.8
1960	198.8	182.5	381.3
1961	246.4	152.4	398.8
1959, at end of--			
March	260.9	121.8	382.7
June	190.0	115.4	305.4
September	171.2	133.1	304.3
December	165.9	126.9	292.8
1960, at end of--			
March	170.4	143.0	313.4
June	183.1	172.1	355.2
September	183.1	176.7	359.8
December	198.8	182.5	381.3
1961, at end of--			
March	227.8	176.0	403.8
June	237.2	182.1	419.3
September	228.5	168.3	396.8
December	246.4	152.4	398.8

1/ These figures are larger than those given in table 47, principally because table 47 excludes U.S. inventories of refined lead refined outside the United States.

2/ Includes data for Australia, Canada, France, Morocco, Tunisia West Germany, Mexico, Peru, and Belgium only.

3/ Estimated to cover about 84 percent of all such stocks in the free world or 70 percent of the total in the entire world.

Source: Compiled from statistics of the American Bureau of Metal Statistics.

Table 51.--Slab zinc: Commercial stocks at zinc smelters in the United States and in certain countries or areas in the free world outside the United States, at the end of each year, 1958-61, and at the end of each quarter in 1960 and 1961

(In thousands of short tons)

Period	United States	Free world outside the United States			Free world total 3/
		OEEC countries 1/	Other countries 2/	Total	
At end of--					
1958	190,237	4/	48,061	4/	4/
1959	154,419	4/	42,579	4/	4/
1960	190,810	53,806	58,997	112,803	303,613
1961	151,189	67,582	66,554	134,136	285,325
1960, at end of--					
March	136,566	50,265	50,943	101,208	237,774
June	187,686	63,494	53,779	117,273	304,959
September	192,466	58,848	58,554	117,402	309,868
December	190,810	53,806	58,997	112,803	303,613
1961, at end of--					
March	222,889	49,453	71,047	120,500	343,389
June	207,820	65,848	76,518	142,366	350,186
September	165,064	82,773	69,329	152,102	317,166
December	151,189	67,582	66,554	134,136	285,325

1/ Comprised of the following 9 countries of the Organization of European Economic Cooperation: Austria, Belgium, France, Germany (Federal Republic), Italy, Netherlands, Norway, Spain, United Kingdom.

2/ Includes data for only part of Africa, part of Argentina, Australia, Canada, Mexico, and Peru.

3/ Estimated to cover about 85 percent of all such stocks in the free world or 72 percent of the entire world.

4/ Not available.

Source: Compiled from statistics of the American Bureau of Metal Statistics.

Note.--Data beginning with September 1960 for OEEC countries are not strictly comparable with data for preceding periods.

Table 52.--Unmanufactured lead: U.S. import quotas, effective Oct. 1, 1958, and imports for consumption (commercial only and total), by type of material, quarterly averages, 1953-57 and January-September 1958, and by quarters, October 1958-December 1961 1/

(In short tons)

Period	Lead bearing ores (lead content) 2/				Lead metal (lead content) 4/				Total, lead bearing ores and lead metal (lead content)			
		Commercial imports 3/				Commercial imports 3/				Commercial imports 3/		
	Quarterly quotas	U.S. Treasury Department data	U.S. Commerce Department data	Total imports for consumption	Quarterly quotas	U.S. Treasury Department data	U.S. Commerce Department data	Total imports for consumption	Quarterly quotas	U.S. Treasury Department data	U.S. Commerce Department data	Total imports for consumption
Quarterly averages:												
1953-57 5/	-	6/	41,678	42,784	-	6/	69,168	80,076	-	6/	110,846	122,860
1958: January-September	-	6/	62,896	63,092	-	6/	85,518	100,864	-	6/	148,414	163,956
By quarters:												
1958: October-December	33,080	30,277	52,610	52,613	55,600	53,720	63,413	63,413	88,680	83,997	116,023	116,026
1959:												
January-March	33,080	31,095	41,667	41,964	55,600	55,599	61,320	72,005	88,680	86,694	102,987	113,969
April-June	33,080	31,051	29,348	29,396	55,600	55,600	59,600	91,074	88,680	86,651	88,948	120,470
July-September	33,080	31,031	33,162	33,249	55,600	55,597	56,229	58,229	88,680	86,628	89,391	91,478
October-December	33,080	31,545	32,349	32,353	55,600	55,600	54,774	54,989	88,680	87,145	87,123	87,342
1960:												
January-March	33,080	33,080	33,829	33,839	55,600	55,594	54,391	56,805	88,680	88,674	88,220	90,644
April-June	33,080	33,080	35,752	35,817	55,600	55,600	55,202	55,488	88,680	88,680	90,954	91,305
July-September	33,080	32,584	32,629	32,629	55,600	55,599	54,413	54,413	88,680	88,183	87,042	87,042
October-December	33,080	33,080	35,093	35,255	55,600	55,599	56,233	56,509	88,680	88,679	91,326	91,764
1961:												
January-March	33,080	33,080	31,583	31,631	55,600	55,599	54,280	54,280	88,680	88,679	85,863	85,911
April-June	33,080	33,080	34,249	36,908	55,600	55,599	56,762	57,973	88,680	88,679	91,011	94,881
July-September	33,080	33,080	34,149	34,593	55,600	55,598	55,569	58,978	88,680	88,678	89,718	93,571
October-December	33,080	33,080	33,052	34,117	55,600	55,566	54,721	86,299	88,680	88,646	87,773	120,416

1/ Import data for 1960 and 1961, except for those from the U.S. Treasury Department, are preliminary.

2/ Lead bearing ores, flue dust, and mattes entered under par. 391 of the Tariff Act of 1930.

3/ Commercial imports are those to which import quotas apply. Data from the U.S. Treasury Department represent actual amounts entered per quarter under quota since quotas were established on Oct. 1, 1958. The other data indicate approximate commercial imports as calculated from data of the U.S. Department of Commerce; data for 1956-57 were adjusted using supplemental data from the U.S. General Services Administration (GSA). Commercial imports are approximately equal to dutiable imports for 1953-55 and 1958-61. In 1956-57, however, some of the dutiable imports were for U.S. Government account under the barter program; commercial imports for 1956-57, therefore, were computed from total imports by subtracting therefrom duty-free imports for smelting, refining, and export, and quantities of lead of foreign origin received by the GSA under the barter program for those years.

4/ Lead or base bullion, lead pigs and bars, lead scrap and dross, antimonial lead, type metal, and all alloys or combinations of lead not specially provided for, entered under par. 392 of the Tariff Act of 1930.

5/ Represents the 5-year base period used in determining the import quotas that went into effect on Oct. 1, 1958. The quarterly import quota for lead-bearing ores and metal combined (88,680 tons) represents 80 percent of the calculated commercial imports per quarter (110,846 tons) during the base period, 1953-57.

6/ Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted; quotas, as given in Presidential Proclamation No. 3257, dated Sept. 22, 1958.

Note.--Data on commercial imports compiled from official import statistics of the U.S. Department of Commerce differ from statistics compiled by the U.S. Department of the Treasury for several reasons. The statistics compiled by the Treasury Department indicate accurately the quantities of lead entered into the United States under the quota limitations. They exclude, for example, certain imports of lead that were exported to the United States prior to Sept. 22, 1958, the date of Presidential Proclamation No. 3257 (in accordance with a provision for such exclusion in the proclamation); such exports on or prior to Sept. 22, 1958, were either en route to the United States or were already in bonded warehouses in the United States, where they could remain for 3 or more years before being withdrawn and counted as imports for consumption. Import statistics from the 2 agencies differ also because of differences in the method of recording import entries. Some of the imports actually entered in a given quarter may not be recorded by the Department of Commerce until later.

Table 53.--Unmanufactured zinc: U.S. import quotas, effective Oct. 1, 1958, and imports for consumption (commercial only and total), by type of material, quarterly averages, 1953-57 and January-September 1958, and by quarters, October 1958-December 1961 1/

(In short tons)

Period	Zinc bearing ores (zinc content) 2/				Zinc metal (zinc content) 4/				Total, zinc bearing ores and zinc metal (zinc content)			
	Quarterly quotas	Commercial imports 3/		Total imports for consumption	Quarterly quotas	Commercial imports 3/		Total imports for consumption	Quarterly quotas	Commercial imports 3/		Total imports for consumption
		U.S. Treasury Department data	U.S. Commerce Department data			U.S. Treasury Department data	U.S. Commerce Department data			U.S. Treasury Department data	U.S. Commerce Department data	
Quarterly averages:												
1953-57 5/	-	6/	118,695	127,042	-	6/	44,124	55,340	-	6/	162,819	182,382
1958: January-September	-	6/	141,201	141,989	-	6/	36,072	48,752	-	6/	177,273	190,741
By quarters:												
1958: October-December	94,960	94,057	114,962	115,449	35,280	35,280	40,408	40,408	130,240	129,337	155,370	155,857
1959:												
January-March	94,960	94,960	107,797	109,269	35,280	35,279	35,489	38,390	130,240	130,239	143,286	147,659
April-June	94,960	94,960	116,137	120,179	35,280	35,280	34,494	42,883	130,240	130,240	150,631	163,062
July-September	94,960	94,960	101,100	102,297	35,280	34,695	37,498	44,544	130,240	129,655	138,598	146,841
October-December	94,960	94,960	95,887	105,515	35,280	29,020	30,591	39,784	130,240	123,980	126,478	145,299
1960:												
January-March	94,960	94,960	95,499	109,005	35,280	33,507	32,579	32,579	130,240	128,467	128,078	141,584
April-June	94,960	94,960	95,463	112,840	35,280	30,109	30,364	30,584	130,240	125,069	125,827	143,424
July-September	94,960	94,960	94,377	111,824	35,280	28,297	27,774	28,270	130,240	123,257	122,151	140,094
October-December	94,960	94,960	97,571	114,436	35,280	29,849	30,696	30,696	130,240	124,809	128,267	145,132
1961:												
January-March	94,960	86,994	85,365	93,700	35,280	31,166	31,129	31,569	130,240	118,160	116,494	125,269
April-June	94,960	87,341	88,841	100,602	35,280	28,572	28,481	28,632	130,240	115,913	117,322	129,234
July-September	94,960	84,959	80,357	89,839	35,280	32,967	33,357	33,853	130,240	117,926	113,714	123,692
October-December	94,960	94,960	102,132	110,913	35,280	32,821	32,542	32,542	130,240	127,781	134,674	143,455

1/ Import data for 1960 and 1961, except those from the U.S. Treasury Department, are preliminary.

2/ Zinc-bearing ores entered under par. 393 of the Tariff Act of 1930. Does not include zinc fume.

3/ Commercial imports are those to which import quotas apply. Data from the U.S. Treasury Department represent actual amounts entered per quarter under quota since quotas were established on Oct. 1, 1958. The other data indicate approximate commercial imports as calculated from data of the U.S. Department of Commerce; data for 1956-57 were adjusted using supplemental data from the U.S. General Services Administration (GSA). Commercial imports are approximately equal to dutiable imports for 1953-55 and 1958-61. In 1956-57, however, some of the dutiable imports were for U.S. Government account under the barter program; commercial imports for 1956-57, therefore, were computed from total imports by subtracting therefrom duty-free imports for smelting, refining, and export, and quantities of zinc of foreign origin received by the GSA under the barter program for those years.

4/ Zinc blocks, pigs, or slabs and zinc scrap, dross, and skimmings entered under par. 394 of the Tariff Act of 1930.

5/ Represents the 5-year base period used in determining the import quotas that went into effect on Oct. 1, 1958. The quarterly import quota for zinc-bearing ores and metal combined (130,240 tons) represents 80 percent of the calculated commercial imports per quarter (162,819 tons) during the base period, 1953-57.

6/ Not available.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted; quotas, as given in Presidential Proclamation No. 3257, dated Sept. 22, 1958.

Note.--Data on commercial imports compiled from official import statistics of the U.S. Department of Commerce differ from statistics compiled by the U.S. Department of the Treasury for several reasons. The statistics compiled by the Treasury Department indicate accurately the quantities of zinc entered into the United States under the quota limitations. They exclude, for example, certain imports of zinc that were exported to the United States prior to Sept. 22, 1958, the date of Presidential Proclamation No. 3257 (in accordance with a provision for such exclusion in the proclamation); such exports on or prior to Sept. 22, 1958, were either en route to the United States or they were already in bonded warehouses in the United States, where they could remain for 3 or more years before being withdrawn and counted as imports for consumption. Import statistics from the 2 agencies differ also because of differences in the method of recording import entries. Some of the imports actually entered in a given quarter may not be recorded by the Department of Commerce until later.

Table 54.--Unmanufactured lead: U.S. commercial imports for consumption, by countries, quarterly averages, 1953-57 and January-September 1958; import quotas established on Oct. 1, 1958, by countries, and the extent to which, and the rapidity with which the quotas were filled in each calendar quarter, October 1958-March 1962

(Quantity data in short tons)

Item and period	Lead ores (lead content) 1/							Lead metal (lead content) 2/							Grand total (lead ores and lead metal)
	Peru	Union of South Africa	Canada	Australia	Bolivia	All other	Total	Mexico	Australia	Canada	Yugoslavia	Peru	All other	Total	
Commercial imports, 3/ quarterly average:															
1953-57	10,170	9,421	8,396	6,285	3,153	4,253	41,678	23,028	14,804	9,938	9,836	8,001	3,561	69,168	110,846
1958: Jan.-Sept	24,651	9,967	7,466	9,464	6,793	4,555	62,896	30,020	18,843	10,282	7,075	11,071	8,227	85,518	148,414
Quarterly quota	8,080	7,440	6,720	5,040	2,520	3,280	33,080	18,440	11,840	7,960	7,880	6,440	3,040	55,600	88,680
Number of calendar days after beginning of each calendar quarter before quotas were filled 4/ and total quantities entered for each category of material by quarters:															
1958: Oct.-Dec	62	71	90	91	(1,714)	(1,283)	30,277	90	91	70	(6,000)	83	10	53,720	83,997
1959:															
Jan.-Mar	26	78	64	16	26	(1,295)	31,095	78	83	89	61	(6,439)	2	55,599	86,694
Apr.-June	77	73	55	24	1	(1,251)	31,051	77	79	90	56	91	1	55,600	86,651
July-Sept	85	49	42	70	58	(1,231)	31,031	73	56	90	42	(6,437)	1	55,597	86,628
Oct.-Dec	79	69	37	40	68	(1,745)	31,545	61	68	89	91	82	1	55,600	87,145
1960:															
Jan.-Mar	89	68	4	4	62	76	33,080	(18,434)	43	88	67	84	4	55,594	88,674
Apr.-June	90	43	1	13	49	74	33,080	88	70	88	77	88	1	55,600	88,680
July-Sept	85	32	1	12	39	(2,784)	32,584	90	61	55	91	(6,439)	1	55,599	88,183
Oct.-Dec	89	3	7	38	26	59	33,080	89	81	62	53	(6,439)	3	55,599	88,679
1961:															
Jan.-Mar	83	24	58	75	88	24	33,080	88	75	89	90	(6,439)	3	55,599	88,679
Apr.-June	89	3	38	80	38	3	33,080	70	63	88	83	(6,439)	3	55,599	88,679
July-Sept	90	18	24	59	24	3	33,080	68	83	87	(7,879)	(6,438)	3	55,598	88,678
Oct.-Dec	89	2	2	55	44	2	33,080	88	79	79	(7,848)	(6,438)	87	55,566	88,646
1962: Jan.-Mar	86	2	2	57	24	2	33,080	(18,412)	88	85	(7,879)	(3,700)	2	52,831	85,911

1/ Lead-bearing ores, flue dust, and mattes entered under par. 391 of the Tariff Act of 1930.

2/ Lead or base bullion, lead pigs and bars, lead scrap and dross, antimonial lead, type metal, and all alloys or combinations of lead, not specially provided for, entered under par. 392 of the Tariff Act of 1930.

3/ Commercial imports are those to which import quotas apply. Data from the U.S. Treasury Department represent actual amounts entered per quarter under quotas since they were established on Oct. 1, 1958. The other data indicate approximate commercial imports as calculated from U.S. Department of Commerce data and, for 1956-57, from supplemental data from the U.S. General Services Administration (GSA). Commercial imports are approximately equal to dutiable imports for 1953-55 and for 1958-61. In 1956-57, however, some of the dutiable imports were for U.S. Government account under the barter program; commercial imports for 1956-57, therefore, were computed from total imports by subtracting therefrom duty-free imports for smelting, refining and export, and quantities of lead of foreign origin received by the GSA under the barter program for those years.

4/ If the quota for a calendar quarter was unfilled, tons entered during the quota period are given in parentheses.

Source: Data on commercial imports compiled from official statistics of the U.S. Department of Commerce, except as noted; quotas, as given in Presidential Proclamation No. 3257, dated Sept. 22, 1958; and imports subject to quotas, from the U.S. Department of the Treasury.

Table 55.--Unmanufactured zinc: U.S. commercial imports for consumption, by countries, quarterly averages, 1953-57 and January-September 1958; import quotas established on Oct. 1, 1958, by countries, and the extent to which, and the rapidity with which, the quotas were filled in each calendar quarter, October 1958-March 1962

(Quantity data in short tons)

Item and period	Zinc ores and concentrates (zinc content) 1/					Zinc metal (zinc content) 2/							Grand total (zinc ores and zinc metal)
	Mexico	Canada	Peru	All other	Total	Canada	Belgium and Luxembourg	Mexico	Belgian Congo	Peru	Italy	All other	Total	
Commercial imports, 3/ quarterly average:														
1953-57	43,954	41,518	22,057	11,166	118,695	23,652	4,699	3,946	3,378	2,336	2,264	3,849	44,124	162,819
1958: January-September	54,646	44,861	28,937	12,757	141,201	16,638	4,207	4,055	5,723	2,218	816	2,415	36,072	177,273
Quarterly quota	35,240	33,240	17,560	8,920	94,960	18,920	3,760	3,160	2,720	1,880	1,800	3,040	35,280	130,240
Number of calendar days, after beginning of each calendar quarter, before quotas were filled 4/ and total quantities entered for each category of material by quarters:														
1958: October-December	92	90	76	(8,017)	94,057	90	16	91	70	84	49	44	35,280	129,337
1959:														
January-March	90	71	89	12	94,960	89	2	63	70	(1,879)	13	2	35,279	130,239
April-June	86	69	84	1	94,960	86	71	85	57	84	1	1	35,280	130,240
July-September	79	48	92	1	94,960	91	(3,708)	(2,627)	80	(1,879)	1	1	34,695	129,655
October-December	91	43	92	1	94,960	84	(196)	(465)	77	(1,879)	1	1	29,020	123,980
1960:														
January-March	76	41	90	4	94,960	89	(1,987)	88	82	83	89	88	33,507	128,467
April-June	74	35	88	1	94,960	89	(1,820)	89	(1,461)	88	(953)	(1,915)	30,109	125,069
July-September	77	54	85	1	94,960	92	(168)	(1,186)	(2,718)	(1,879)	(386)	60	28,297	123,257
October-December	73	60	76	3	94,960	88	(1,721)	(1,095)	(2,719)	(1,879)	(475)	3	29,849	124,809
1961:														
January-March	90	(25,274)	83	3	86,994	(17,870)	(3,366)	(1,740)	(2,719)	(1,879)	(552)	3	31,166	118,160
April-June	90	(25,621)	90	3	87,341	(17,825)	(2,013)	(1,095)	(2,719)	82	(0)	3	28,572	115,913
July-September	(35,146)	(26,038)	(14,855)	3	84,959	(18,542)	(3,326)	88	(2,719)	(1,879)	(331)	3	32,997	117,956
October-December	88	88	76	2	94,960	83	58	(2,503)	(2,719)	(1,879)	(0)	2	32,821	127,781
1962: January-March	(35,009)	72	86	2	94,729	78	9	(3,159)	(2,719)	(1,879)	(0)	2	33,477	128,206

1/ Zinc-bearing ores entered under par. 393 of the Tariff Act of 1930. Does not include zinc fume.

2/ Zinc blocks, pigs, or slabs and zinc scrap, dross, and skimmings entered under par. 394 of the Tariff Act of 1930.

3/ Commercial imports are those to which import quotas apply. Data from the U.S. Treasury Department represent actual amounts entered per quarter under quotas since they were established on Oct. 1, 1958. The other data indicate approximate commercial imports as calculated from U.S. Department of Commerce data and, for 1956-57, from supplemental data from the U.S. General Services Administration (GSA). Commercial imports are approximately equal to dutiable imports for 1953-55, and 1958-61. In 1956-57, however, some of the dutiable imports were for U.S. Government account under the barter program; commercial imports for 1956-57, therefore, were computed from total imports by subtracting therefrom duty-free imports for smelting, refining, and export, and quantities of zinc of foreign origin received by the GSA under the barter program for those years.

4/ If the quota for a calendar quarter was unfilled, tons entered during the quota period are given in parentheses.

Source: Data on commercial imports compiled from official statistics of the U.S. Department of Commerce, except as noted; quotas, as given in Presidential Proclamation No. 3257, dated Sept. 22, 1958; and imports subject to quotas from the U.S. Department of the Treasury.

Table 56.--Unmanufactured lead: U.S. imports for consumption, free of duty, by kinds of duty-free provision, 1946-61

(In short tons of lead content)

Year	For U.S. Government use		For smelting, refining, and export		Under certain public laws 1/		Other 2/		Total	
	Ore	Metal	Ore	Metal	Ore	Metal	Ore	Metal	Ore	Metal
1946	13,291	102,017	381	62	-	2,539	3	-	13,675	104,618
1947	7,518	19,677	2,711	7	30	15,139	23	432	10,282	35,255
1948	-	-	44	38	22,224	208,831	15	1,700	22,283	210,569
1949	-	24,317	377	3	119,651	153,002	214	979	120,242	178,301
1950	-	42,535	1,066	291	-	5,447	949	44	2,015	48,317
1951	-	26,818	968	62	-	8,017	789	2	1,757	34,899
1952	-	143,798	1,473	68	101,175	215,561	2,446	96	105,094	359,523
1953	-	44,235	555	248	-	36	2,980	-	3,535	44,519
1954	-	15,372	1,113	220	-	3,759	2,160	2	3,273	19,353
1955	-	8,006	444	178	-	17,698	2,635	-	3,079	25,882
1956	1,222	45,367	4,880	700	-	16,985	-	-	6,102	63,052
1957	-	57,281	3,414	1,703	-	120	-	-	3,414	59,104
1958	-	46,039	593	-	-	-	-	-	593	46,039
1959	-	44,374	436	-	-	-	-	-	436	44,374
1960 3/	-	2,977	237	-	-	-	-	-	237	2,977
1961 3/	3,885	34,561	331	1,608	-	30	-	-	4,216	36,199

1/ Duty suspended from June 20, 1948, to June 30, 1949, inclusive (Public Law 725, 80th Cong.), and again from Feb. 12, 1952, to June 25, 1952, inclusive (Public Law 257, 82d Cong.). Duty on scrap lead was suspended for practically the entire period from Mar. 14, 1942, to June 30, 1952, and the duty on antimonial scrap lead from Mar. 14, 1942, to June 30, 1956 (Public Law 497, 77th Cong.; Public Law 384, 80th Cong.; Public Law 613, 80th Cong.; Public Law 869, 81st Cong.; Public Law 66, 82d Cong.; Public Law 535, 82d Cong.; Public Law 221, 83d Cong.; Public Law 678, 83d Cong.; and Public Law 66, 84th Cong.).

2/ All from the Philippine Republic. Dutiable at reduced rate beginning 1956.

3/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--The term "ore" refers to lead-bearing ores; the term "metal" refers to lead pigs and bars, lead or base bullion, type metal and antimonial lead, lead scrap (including antimonial lead scrap), and alloys or combinations of lead, not specially provided for.

Table 57.--Unmanufactured zinc: U.S. imports for consumption, free of duty, by kind of duty-free provision, 1946-61

(In short tons--zinc content of ores, gross weight of other materials)

Year	For U.S. Government use		For smelting, refining, and export		Under certain public laws 1/		Other 2/		Total	
	Ore	Metal	Ore	Metal	Ore	Metal	Ore	Metal	Ore	Metal
1946	41,060	3,713	46,539	-	-	4,087	-	-	87,599	7,800
1947	5,733	16,317	117,549	-	-	5,106	-	-	123,282	21,423
1948	4,111	2,595	53,034	-	-	10,266	-	7	57,145	12,868
1949	-	21,756	57,170	-	-	3,373	-	1	57,170	25,130
1950	-	-	11,539	-	-	1,561	42	-	11,581	1,561
1951	-	441	41,402	-	-	6,502	86	-	41,488	6,943
1952	-	4,367	39,652	-	503,267	50,539	1,610	-	544,529	54,906
1953	2,376	19,938	14,596	-	-	5,050	2,104	-	19,076	24,988
1954	-	10,847	22,702	1,150	-	363	444	-	23,146	12,360
1955	-	9,856	22,311	780	-	30	465	-	22,776	10,666
1956	-	80,486	21,620	-	-	150	-	-	21,620	80,636
1957	199	66,679	2,517	-	-	-	-	-	2,716	66,679
1958	-	38,041	2,850	-	-	-	-	-	2,850	38,041
1959	3,212	27,529	13,127	-	-	-	-	-	16,339	27,529
1960 3/	-	716	65,167	-	28	-	-	-	65,195	716
1961 3/	1,002	1,087	37,357	-	-	-	-	-	38,359	1,087

1/ Duty on zinc-bearing ores and zinc in blocks, pigs, and slabs suspended from Feb. 12, 1952 to July 23, 1952, inclusive (Public Law 258, 82d Cong.), and the duty on zinc scrap suspended for practically the entire period from Mar. 14, 1942, to June 30, 1953, inclusive (Public Law 497, 77th Cong.; Public Laws 384 and 613, 80th Cong.; Public Law 869, 81st Cong.; and Public Laws 66 and 535, 82d Cong.).

2/ All from the Philippine Republic.

3/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--The term "ore" refers to zinc-bearing ores; the term "metal" refers to zinc blocks, pigs, and slabs, and to zinc scrap, dross, and skimmings.

Table 58--Lead and zinc from foreign sources: Quantities received by the General Services Administration under various programs, 1956-61

(In short tons)

Item and year	For the national stockpile	For defense production	For the Commodity Credit Corporation 1/	Total
Lead				
1956	6,742	758	29,899	37,399
1957	9,266	3,401	100,075	112,742
1958	4,723	4,067	41,686	50,476
1959	4,556	1,876	50,335	56,767
1960	589	-	-	589
1961	276	-	21,749	22,025
Zinc				
1956	445	-	60,162	60,607
1957	3,872	-	193,929	197,801
1958	386	-	40,216	40,602
1959	-	-	27,787	27,787
1960	936	-	1,340	2,276
1961	937	-	-	937

1/ Acquisitions under the barter program destined for the U.S. supplemental stockpile.

Source: Compiled from official statistics of the General Services Administration.

Note.--There has been no payment of U.S. import duty on material during the period Jan. 1, 1958, to Sept. 30, 1959. Deliveries to the national stockpile and Commodity Credit Corporation are exempt by law from duty. Deliveries under the Defense Production Act of 1950 are subject to duty; however, payment of duty is deferred until such time as the materials are sold and removed from bonded warehouses.

Table 59.--Unmanufactured lead: U.S. imports for consumption, by kinds of material and by customs treatment, 1952-61

(In short tons of lead content)

Year	Lead-bearing ores, flue dust, and mattes		Lead metal							Total, ores and metal	
								Total, lead metal			
	Dutiable	Free	Lead or base bullion	Lead pigs and bars	Type metal and antimonial lead	Reclaimed lead, scrap, and dross	Lead alloys, chief value lead	Dutiable	Free	Dutiable	Free
1952 1/	4,040	105,094	2,951	510,718	9,415	11,426	573	175,560	359,523	179,600	464,617
1953	64,050	3,534	742	379,119	5,017	3,908	688	344,954	44,520	409,004	48,054
1954	193,894	3,273	41	274,286	3,367	7,437	525	266,303	19,353	460,197	22,626
1955	153,799	3,078	-	264,104	13,213	18,995	185	270,614	25,883	424,413	28,961
1956	190,081	6,101	31	262,204	8,500	21,163	1,078	229,924	63,052	420,005	69,153
1957	234,464	3,414	25	321,708	4,858	9,279	1,059	277,825	59,104	512,289	62,518
1958	241,297	593	416	351,759	4,524	8,619	687	319,966	46,039	561,263	46,632
1959	136,526	436	34	262,632	5,021	7,897	713	231,923	44,374	368,449	44,810
1960 2/	137,302	237	293	213,347	3,915	5,598	63	220,239	2,977	357,541	3,214
1961 2/	133,033	4,216	236	247,328	5,765	3,894	308	221,332	36,199	354,365	40,415

1/ Duty on all imports was suspended from Feb. 12 to June 25, 1952, inclusive (Public Law 257, 82d Cong.).
2/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 60.--Unmanufactured zinc: U.S. imports for consumption, by kinds of material and by customs treatment, 1952-61

(In short tons--zinc content of ores, gross weight of other materials)

Year	Zinc-bearing ores		Zinc metal					Total, ores and metals	
			Zinc blocks, pigs and slabs	Zinc scrap	Dross and skimmings	Total, zinc metal			
	Dutiable	Free				Dutiable	Free	Dutiable	Free
1952 1/	37,438	544,529	113,053	470	3,019	61,636	54,906	99,074	599,435
1953	445,252	19,075	227,654	2,990	2,925	208,580	24,989	653,832	44,064
1954	480,474	23,146	161,288	771	316	150,014	12,361	630,488	35,507
1955	384,183	22,776	195,839	176	108	185,456	10,667	569,639	33,443
1956	462,379	21,620	244,726	185	417	164,692	80,636	627,071	102,256
1957	679,218	2,715	268,824	227	363	202,735	66,679	881,953	69,394
1958	538,565	2,850	185,693	236	736	148,624	38,041	687,189	40,891
1959	420,921	16,339	164,463	183	955	138,072	27,529	558,993	43,868
1960 2/	382,910	65,195	120,925	105	1,099	121,413	716	504,323	65,911
1961 2/	356,695	38,359	125,186	303	1,107	125,509	1,087	482,204	39,446

1/ Duty on all imports was suspended from Feb. 12 to July 23, 1952, inclusive (Public Law 258, 82d Cong.).
2/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 61.--Unmanufactured lead: U.S. imports for consumption, by principal sources, 1952-61

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
	Quantity (short tons of lead content)									
Peru	74,403	73,000	54,312	67,087	92,480	86,070	135,062	68,183	59,033	58,815
Mexico	134,205	137,905	73,347	108,887	96,172	114,546	128,041	88,896	77,671	78,572
Australia	98,415	77,495	83,564	76,772	118,497	142,547	113,252	76,821	66,921	75,174
Canada	120,336	61,538	123,484	88,589	51,410	62,969	74,437	73,715	59,926	90,014
Yugoslavia	54,709	51,929	38,575	35,659	38,901	40,262	36,789	32,376	30,159	30,130
Bolivia	22,103	2,912	16,955	9,131	19,771	16,323	22,681	10,939	10,581	10,496
Union of South Africa	16,370	11,631	48,796	28,008	36,409	66,166	41,386	28,939	30,785	29,849
Morocco	6,670	11,888	17,555	5,593	5,428	9,018	9,760	5,032	6,480	4
Spain	5,509	-	5,580	11,080	6,700	3,119	9,505	11,270	6,388	8,786
Guatemala	4,893	5,419	2,765	2,940	5,644	12,129	4,944	158	1,520	5,538
Chile	6,320	5,356	3,307	5,654	2,957	1,758	422	113	27	400
United Kingdom	4,792	1,765	2,519	187	294	2,809	8,556	1,048	150	57
West Germany	6,107	4,006	856	499	538	1,718	3,286	2,693	655	911
Denmark	334	1,738	4,277	3,036	3,293	3,189	2,188	625	319	208
Honduras	763	34	1,330	699	3,044	6,108	3,811	3,649	4,457	4,803
All other	2/ 88,288	10,442	5,601	9,553	7,620	6,076	3/ 13,775	8,802	5,683	1,023
Total	644,217	457,058	482,823	453,374	489,158	574,807	607,895	413,259	360,755	394,780
	Foreign value (1,000 dollars)									
Peru	23,156	18,790	12,615	16,330	24,671	22,470	28,430	13,207	12,121	10,153
Mexico	45,884	35,378	18,938	30,960	28,872	31,445	27,184	18,339	16,743	16,908
Australia	31,213	17,093	19,310	19,244	31,999	35,857	21,069	13,986	12,763	11,994
Canada	38,558	16,139	30,864	22,385	13,934	15,776	15,531	15,262	11,901	16,076
Yugoslavia	18,480	13,753	10,602	10,644	12,386	11,660	7,865	7,745	7,402	6,202
Bolivia	6,699	720	4,107	2,274	5,465	4,208	5,126	2,101	2,274	1,760
Union of South Africa	6,136	3,293	13,050	8,358	11,195	20,260	10,229	6,475	7,203	6,712
Morocco	2,255	2,797	4,344	1,507	1,561	2,421	2,125	1,058	1,118	1
Spain	2,094	-	1,360	2,796	1,777	779	1,613	2,347	1,135	1,469
Guatemala	476	583	365	514	993	1,996	620	39	246	1,123
Chile	2,912	1,125	702	1,208	568	348	132	15	7	63
United Kingdom	1,391	475	623	76	94	739	1,595	240	40	15
West Germany	1,886	920	247	136	284	403	813	745	154	149
Denmark	109	474	1,086	933	1,377	1,371	690	280	108	64
Honduras	283	9	355	193	838	1,819	953	896	957	906
All other	2/ 25,498	2,474	1,149	2,195	1,999	1,384	3/ 2,394	1,923	1,144	133
Total	207,030	114,023	119,717	119,753	138,013	152,936	126,369	84,658	75,316	73,728

1/ Preliminary.
2/ Includes 76,346 short tons, valued at 21,991 thousand dollars, from France.
3/ Includes 5,276 short tons, valued at 793 thousand dollars, from Greenland, and 4,684 short tons, valued at 925 thousand dollars, from Belgium.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 62.--Lead-bearing ores, flue dust, and mattes: U.S. imports for consumption, by principal sources, 1952-61

(In short tons of lead content)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
Peru	30,436	19,568	33,352	42,302	58,430	50,992	92,182	38,872	33,600	32,518
Mexico	4,432	1,207	4,275	2,013	3,929	7,494	3,650	806	1,151	1,194
Australia	12,631	4,833	23,444	21,826	36,526	45,295	33,829	22,291	20,894	20,160
Canada	8,513	11,636	58,867	41,165	26,748	31,087	31,393	28,632	27,944	31,520
Bolivia	21,459	2,692	16,955	9,131	19,771	14,722	22,501	10,822	10,581	10,496
Union of South Africa	16,370	11,531	48,796	28,008	35,560	65,440	41,386	28,939	30,785	29,736
Guatemala	4,627	4,683	2,765	2,916	5,613	12,129	4,944	158	1,519	5,527
Chile	6,320	5,313	3,307	5,654	2,957	1,758	88	113	27	400
Honduras	763	34	1,330	699	3,044	6,108	3,811	3,649	4,457	4,803
All other	3,583	6,088	4,076	3,163	3,604	2,852	8,106	2,680	6,581	895
Total	109,134	67,585	197,167	156,877	196,182	237,877	241,890	136,962	137,539	137,249

1/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 63.--Lead metal: 1/ U.S. imports for consumption, by principal sources, 1952-61

(In short tons of lead content)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 2/	1961 2/
Peru	43,967	53,432	20,960	24,785	34,050	35,078	42,880	29,311	25,433	26,297
Mexico	129,773	136,698	69,072	106,874	92,243	107,052	124,391	88,090	76,520	77,378
Australia	85,784	72,662	60,120	54,946	81,971	97,252	79,423	54,530	46,027	55,014
Canada	111,823	49,902	64,617	47,424	24,662	31,882	43,044	45,083	31,982	58,494
Yugoslavia	54,339	51,929	38,575	35,659	38,901	40,262	36,789	32,376	30,159	30,130
Morocco	6,670	9,258	17,555	5,593	5,428	9,018	9,760	5,032	1,243	4
Spain	5,509	-	5,580	11,080	6,700	3,119	9,505	11,270	6,388	8,786
United Kingdom	4,792	1,765	2,519	187	294	2,809	8,556	1,035	150	57
West Germany	6,052	4,006	856	499	538	1,718	3,286	2,667	655	911
Denmark	334	1,738	4,277	3,036	3,293	3,189	2,188	625	319	208
All other	3/ 86,040	8,083	1,525	6,414	4,896	5,551	6,183	6,278	4,340	252
Total	535,083	389,473	285,656	296,497	292,976	336,930	366,005	276,297	223,216	257,531

1/ Lead or base bullion, lead pigs and bars, lead scrap and dross, antimonial lead, type metal, and miscellaneous alloys or combinations of lead (except Babbitt metal and solder).

2/ Preliminary.

3/ Includes 76,346 short tons, imported from France.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 64.--Unmanufactured zinc: U.S. imports for consumption, by principal sources, 1952-61

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
	Quantity (short tons--zinc content of ores, gross weight of other materials)									
Canada	250,912	278,177	285,129	270,738	265,796	323,272	265,800	227,082	208,763	183,486
Mexico	296,121	174,690	196,853	186,329	215,135	285,463	231,383	170,123	199,360	175,669
Peru	55,273	77,835	100,258	70,579	104,043	169,999	120,109	93,438	82,843	80,188
Union of South Africa	14,543	5,875	10,879	7	2,302	20,119	28,007	4,629	10,409	6,290
Belgian Congo 2/	-	8,820	13,895	15,228	17,782	33,007	20,991	12,790	9,308	11,420
Belgium and Luxembourg	6,674	21,728	8,422	19,294	33,214	34,163	17,969	11,648	5,724	12,381
Australia	3,888	15,737	5,286	6,614	23,050	15,234	8,327	25,878	15,164	9,254
Bolivia	15,383	16,323	15,590	1,058	5,661	8,674	6,838	1,704	1,690	1,018
Guatemala	10,372	6,395	1,819	8,137	13,272	10,337	6,093	10	1,811	8,088
Italy	5,314	29,332	8,690	6,333	13,486	10,010	5,816	17,104	8,478	4,009
Yugoslavia	4,054	14,677	4,881	-	500	10,572	5,009	3,384	5,640	3,277
Norway	276	6,323	716	504	-	-	2,600	329	7	-
West Germany	6,958	14,368	3,108	6,642	15,257	8,780	2,035	7,952	1,619	1,444
Japan	963	3/	628	-	4,883	2,887	1,734	355	-	-
Honduras	643	8	613	79	691	3,562	1,478	1,116	2,140	4,119
Spain	13,656	17,501	-	-	-	-	-	13,476	14,598	14,833
All other	13,479	9,907	9,228	11,540	14,255	15,268	3,891	11,843	2,680	6,174
Total	698,509	697,896	665,995	603,082	729,327	951,347	728,080	602,861	570,234	521,650
	Foreign value (1,000 dollars)									
Canada	57,981	48,978	44,989	45,980	50,195	52,646	38,014	35,117	33,978	26,931
Mexico	57,144	16,702	14,683	14,467	19,540	32,846	15,162	10,122	14,781	11,714
Peru	11,793	9,486	14,961	10,023	16,283	28,451	15,742	10,354	9,972	9,127
Union of South Africa	4,904	917	1,988	2	496	4,591	4,043	796	1,563	1,543
Belgian Congo 2/	-	168	2,942	3,696	4,849	7,471	4,179	2,689	2,438	2,426
Belgium and Luxembourg	1,749	4,507	1,718	4,574	8,764	8,439	3,300	2,306	1,321	2,601
Australia	1,274	1,722	1,017	1,402	4,059	3,767	1,474	3,226	1,518	1,351
Bolivia	3,637	1,889	1,955	134	772	1,094	639	192	145	199
Guatemala	987	196	70	986	1,537	1,320	734	3	217	930
Italy	2,150	5,336	1,336	1,501	3,512	2,318	1,081	2,244	1,787	657
Yugoslavia	943	1,334	226	-	118	2,682	902	661	1,352	766
Norway	130	1,405	165	110	-	-	459	67	1	-
West Germany	1,674	2,916	855	1,528	3,614	2,407	400	710	420	332
Japan	204	4/	55	-	1,047	828	361	58	-	-
Honduras	240	2	136	22	166	965	329	245	597	854
Spain	1,959	1,980	-	-	-	-	-	1,350	2,057	2,075
All other	3,771	3,014	1,323	1,800	3,289	3,493	703	2,198	411	895
Total	150,540	100,552	88,419	86,225	118,241	153,318	87,522	72,338	72,558	62,401

1/ Preliminary.
2/ Beginning June 30, 1960, Republic of the Congo.
3/ Less than 1/2 short ton.
4/ Less than $500.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 65.--Zinc-bearing ores: U.S. imports for consumption, by principal sources, 1952-61

(In short tons of zinc content)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
Canada	178,046	168,171	179,284	157,063	148,342	218,745	171,535	137,545	133,391	110,460
Mexico	278,945	144,892	186,397	166,849	198,206	261,774	208,579	160,394	190,685	167,142
Peru	53,673	71,654	91,294	60,813	97,453	147,051	110,373	81,101	75,326	72,707
Union of South Africa	14,543	5,875	10,879	7	622	20,119	28,007	4,331	10,409	6,282
Belgium and Luxembourg	-	-	-	1,546	861	-	-	-	-	-
Australia	3,888	8,200	1,815	2,581	15,768	5,711	6,054	16,737	14,714	8,225
Bolivia	15,383	16,323	15,590	1,058	5,661	8,674	6,838	1,704	1,690	1,018
Guatemala	10,372	6,395	1,819	8,137	13,272	10,337	6,093	10	1,811	8,088
Italy	1,552	5,061	3,659	-	-	-	-	9,931	4,241	2,189
Yugoslavia	1,267	12,777	4,881	-	-	-	-	-	-	-
West Germany	-	1	-	-	-	8	-	7,290	-	12
Japan	741	-	628	-	-	-	26	-	-	-
Honduras	643	8	613	79	691	3,562	1,478	1,116	2,140	4,119
Spain	13,540	17,501	-	-	-	-	-	13,476	11,788	10,273
All other	9,373	7,470	6,761	8,826	3,123	5,952	2,433	3,625	1,910	4,539
Total	581,966	464,328	503,620	406,959	483,999	681,933	541,416	437,269	448,105	395,054

1/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 66.--Zinc metal: 1/ U.S. imports for consumption, by principal sources, 1952-61

(In short tons, gross weight)

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960 2/	1961 2/
Canada	72,866	110,006	105,845	113,675	117,454	104,527	94,265	89,537	75,372	73,026
Mexico	17,176	29,798	10,456	19,480	16,929	23,689	22,804	9,729	8,675	8,527
Peru	1,600	6,181	8,964	9,766	6,590	22,948	9,736	12,337	7,517	7,581
Union of South Africa	-	-	-	-	1,680	-	-	298	-	8
Belgian Congo 3/	-	8,820	13,895	15,228	17,782	33,007	20,991	12,790	9,308	11,420
Belgium and Luxembourg	6,674	21,728	8,422	17,748	32,353	34,163	17,969	11,648	5,724	12,381
Australia	-	7,537	3,471	4,033	7,282	9,523	2,273	9,141	450	1,029
Italy	3,762	24,271	5,031	6,333	13,486	10,010	5,816	7,173	4,237	1,820
Yugoslavia	2,787	1,900	-	-	500	10,572	5,009	3,384	5,640	3,277
Norway	276	6,323	716	504	-	-	2,600	329	7	-
West Germany	6,958	14,567	3,108	6,642	15,257	8,772	2,035	662	1,619	1,432
Japan	222	4/	-	-	4,883	2,887	1,708	355	-	-
All other	4,222	2,437	2,467	2,714	11,132	9,316	1,458	8,218	3,580	6,095
Total	116,543	233,568	162,375	196,123	245,328	269,414	186,664	165,601	122,129	126,596

1/ Includes zinc blocks, pigs, and slabs, and zinc scrap, dross, and skimmings.
2/ Preliminary.
3/ Beginning June 30, 1960, Republic of the Congo.
4/ Less than 1/2 short ton.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 67.--Lead articles: U.S. imports for consumption, by kinds, 1958-61

(Quantity data for lead pipe, sheet, shot, wire, glaziers' lead, and lead mill products in terms of gross weight; for others in terms of lead content)

Item and year	Unmanufactured lead				Other lead articles									Grand total or average
					Lead pigments									
	Lead-bearing ores	Lead pigs and bars	All other 1/	Total or average	Litharge	Red lead	White lead	Other lead pigments	Total or average	Babbitt metal and solder	Lead pipe, sheet, shot, wire and glaziers' lead	Lead mill products, not elsewhere specified 2/	Total or average other lead articles	
Tariff paragraph	391	392	392		72	72	72	72		392	392	397		
1958:														
Quantity--short tons	241,890	351,759	14,246	607,895	7,157	58	580	2	7,797	1,006	2,625	986	12,414	620,309
Percent of total	39.0	56.7	2.3	98.0	1.1	3/	0.1	3/	1.2	0.2	0.4	0.2	2.0	100.0
Foreign value														
1,000 dollars	51,856	71,404	3,109	126,369	1,509	13	236	1	1,759	2,375	596	159	4,889	131,258
Percent of total	39.5	54.4	2.4	96.3	1.1	3/	.2	3/	1.3	1.8	0.5	0.1	3.7	100.0
Average value per pound 4/--cents	5/ 10.7	10.1	10.9	10.4	9.8	10.3	16.3	15.5	10.3	56.6	11.4	8.1	17.2	10.5
1959:														
Quantity--short tons	136,962	262,632	13,665	413,259	10,562	425	859	29	11,875	2,849	3,608	737	19,069	432,328
Percent of total	31.7	60.7	3.2	95.6	2.4	0.1	0.2	3/	2.7	0.7	0.8	0.2	4.4	100.0
Foreign value														
1,000 dollars	27,132	54,667	2,859	84,658	2,218	95	323	4	2,640	14,772	850	122	18,384	103,042
Percent of total	26.3	53.1	2.8	82.2	2.2	0.1	0.3	3/	2.6	14.3	0.8	0.1	17.8	100.0
Average value per pound 4/--cents	9.9	10.4	10.5	10.2	9.7	10.1	15.1	8.0	10.2	73.5	11.8	8.3	35.0	11.7
1960: 6/														
Quantity--short tons	137,540	213,347	9,868	360,755	12,408	487	1,199	22	14,116	1,449	2,855	1,210	19,630	380,385
Percent of total	36.1	56.1	2.6	94.8	3.3	0.1	0.3	3/	3.7	0.4	0.8	0.3	5.2	100.0
Foreign value														
1,000 dollars	27,911	45,065	2,340	75,316	2,581	111	461	9	3,162	15,982	696	232	20,072	95,388
Percent of total	29.3	47.2	2.5	79.0	2.7	0.1	0.5	3/	3.3	16.8	0.7	0.2	21.0	100.0
Average value per pound 4/--cents	10.1	10.6	11.9	10.4	9.7	10.3	15.4	19.6	10.2	87.0	12.2	9.6	51.1	12.5
1961: 6/														
Quantity--short tons	137,249	247,328	10,203	394,780	14,282	414	1,499	1	16,196	1,101	2,845	1,900	22,042	416,822
Percent of total	32.9	59.3	2.5	94.7	3.4	0.1	0.4	3/	3.9	0.3	0.7	0.4	5.3	100.0
Foreign value														
1,000 dollars	24,458	45,863	3,407	73,728	2,791	88	535	7/	3,414	14,103	641	319	18,477	92,205
Percent of total	26.5	49.8	3.7	80.0	3.0	0.1	0.6	3/	3.7	15.3	0.7	0.3	20.0	100.0
Average value per pound 4/--cents	8.9	9.3	16.7	9.3	9.1	9.6	14.3	8/	9.6	92.9	11.3	8.4	41.9	11.1

1/ Includes lead bullion, scrap, alloys and combinations of lead, not specially provided for, type metal, and antimonial lead.

2/ Data estimated on sample analysis of consumption entry documents for all lead manufactures, not specially provided for, entered under par. 397 of the Tariff Act of 1930. In 1958, 1959, and 1960, imports of lead mill products consisted principally of lead in balls, and in 1961 of lead powder and lead in balls. Data for 1960 include an estimated 39 short tons of lead wire, valued at 14.6 thousand dollars, and those for 1961, an estimated 46 short tons of lead wire, valued at 15.7 thousand dollars, erroneously classified under par. 397.

3/ Less than 0.05 percent.

4/ Per pound gross weight except for unmanufactured lead; the average unit values for the latter represent averages per pound of lead content.

5/ Appears to reflect errors in reported value of ores; since imports are subject to specific duties on lead content, reported values are apt to be less reliable than quantity data on lead content.

6/ Preliminary.

7/ Less than $500.

8/ Imports too small to yield significant average unit value.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 68.--Zinc articles: U.S. imports for consumption, by kinds, 1958-61

(Quantity data for zinc ores, zinc pigments, and zinc fume in terms of zinc content; for others in terms of gross weight)

Item and year	Unmanufactured zinc				Other zinc articles										Grand total or average
					Zinc pigments										
	Zinc-bearing ores	Zinc blocks, pigs or slabs	Zinc scrap, dross, and skimmings	Total or average	Zinc oxide and leaded zinc oxides	Other 1/	Total or average all zinc pigments	Zinc fume	Zinc wire 2/	Zinc plates, engraved 3/	Zinc dust	Zinc sheets, including unwrought zinc plates	Zinc alloys and mill products not elsewhere specified 4/	Total or average, other zinc articles	
Tariff paragraph	393	394	394		77	77		214	316(a)	341	394	394	397		
1958:															
Quantity															
short tons	541,416	185,693	971	728,080	6,334	16	6,350	35,934	109	5/	96	6/ 823	393	43,705	771,785
Percent of total	70.1	24.1	0.1	94.3	0.8	1/	0.8	4.7	1/	1/	1/	0.1	0.1	5.7	100.0
Foreign value															
1,000 dollars	51,902	35,512	108	87,522	2,264	9	2,273	3,396	39	9	14	6/ 262	130	6,123	93,645
Percent of total	55.5	37.9	0.1	93.5	2.4	1/	2.4	3.6	0.1	1/	1/	0.3	0.1	6.5	100.0
Average value per pound 8/--cents	4.8	9.6	5.6	6.0	9.6	6.8	9.6	4.7	17.8	9/	7.1	15.9	16.5	6.2	6.0
1959:															
Quantity															
short tons	437,260	164,463	1,138	602,861	8,915	18	8,933	60,050	151	5/	44	951	468	70,597	673,458
Percent of total	64.9	24.4	0.2	89.5	1.3	1/	1.3	8.9	1/	1/	1/	0.2	0.1	10.5	100.0
Foreign value															
1,000 dollars	38,200	33,996	142	72,338	3,301	9	3,310	5,494	54	8	6	311	167	9,350	81,688
Percent of total	46.8	41.6	0.2	88.6	4.0	1/	4.0	6.7	0.1	1/	1/	0.4	0.2	11.4	100.0
Average value per pound 8/--cents	4.4	10.3	6.2	6.0	10.0	6.0	10.0	4.6	17.8	9/	7.3	16.4	17.9	6.6	6.1
1960: 10/															
Quantity															
short tons	448,105	120,925	1,204	570,234	6,828	12	6,840	16,444	202	5/	19	905	860	25,270	595,504
Percent of total	75.3	20.3	0.2	95.8	1.1	1/	1.1	2.8	1/	1/	1/	0.2	0.1	4.2	100.0
Foreign value															
1,000 dollars	42,729	29,639	190	72,558	2,632	8	2,640	1,319	81	8	7	302	254	4,611	77,169
Percent of total	55.4	38.4	0.2	94.0	3.4	1/	3.4	1.7	0.1	1/	1/	0.4	0.4	6.0	100.0
Average value per pound 8/--cents	4.8	12.3	7.9	6.4	10.4	6.5	10.3	4.0	20.0	9/	17.2	16.7	14.8	9.1	6.5
1961: 10/															
Quantity															
short tons	395,054	125,186	1,410	521,650	5,520	14	5,534	28,934	136	5/	86	1,183	67	35,940	557,590
Percent of total	70.3	22.5	0.3	93.6	1.0	1/	1.0	5.2	1/	1/	1/	0.2	1/	6.4	100.0
Foreign value															
1,000 dollars	34,683	27,541	177	62,401	1,962	9	1,971	2,596	55	8	28	354	23	5,035	67,436
Percent of total	51.4	40.8	0.3	92.5	2.9	1/	2.9	3.9	0.1	1/	1/	0.6	1/	7.5	100.0
Average value per pound 8/--cents	4.4	11.0	6.3	6.0	9.6	6.0	9.6	4.5	20.0	9/	16.4	15.0	17.2	7.0	6.0

1/ Lithopone and other combinations of zinc sulfide and barium sulfate.
2/ Data for all years estimated on the basis of a sample analysis of consumption entry documents for all wire that was classified under par. 316(a).
3/ Data for all years estimated on the basis of a sample analysis of consumption entry documents for all printing plates engraved or otherwise prepared for printing, classified under par. 341.
4/ Data for all years estimated on the basis of a sample analysis of consumption entry documents covering imports of "manufactures of zinc, not specially provided for" dutiable under par. 397. In order of importance, imports consisted of zinc sticks, zinc strip, and zinc alloys in 1958; zinc sticks and zinc alloys in 1959; zinc alloys, zinc in bars, and zinc strip in 1960; and zinc strip, zinc alloys and zinc anodes in 1961.
5/ Estimated at less than 1/2 short ton.
6/ Data of U.S. Department of Commerce after downward adjustment to exclude articles entered as sheet and so tabulated by the agency but subsequently classified as strip by the U.S. Bureau of Customs.
7/ Less than 0.05 percent.
8/ Gross weight per pound except for zinc-bearing ores and zinc fume; the average unit values for the latter represent average values per pound of zinc content.
9/ Estimated at $30 per pound.
10/ Preliminary.

Source: Data for zinc fume, from reports of individual importers to the U.S. Tariff Commission; other data, compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 69.--Lead articles: U.S. imports for consumption, 1952-61

Article	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
	Quantity (short tons)									
Unmanufactured lead:										
Lead-bearing ores-------lead content--	109,134	67,585	197,167	156,877	196,182	237,877	241,890	136,962	137,540	137,249
Lead pigs and bars----------do----	510,718	379,119	274,286	264,104	262,204	321,708	351,759	262,632	213,347	247,328
All other (lead bullion, scrap, type metal, antimonial lead, and all alloys or combinations of lead, not specially provided for) lead content--	24,365	10,354	11,370	32,393	30,772	15,222	14,246	13,665	9,868	10,203
Total----------do----	644,217	457,058	482,823	453,374	489,158	574,807	607,895	413,259	360,755	394,780
Other lead articles:										
Lead pigments:										
Litharge----------gross weight--	621	60	596	751	5,371	8,118	7,712	11,382	13,371	15,390
Litharge----------lead content--	576	56	553	697	4,984	7,534	7,157	10,562	12,408	14,282
Red lead----------gross weight--	2	2/	2	3	113	258	64	468	537	457
Red lead----------lead content--	2	2/	2	3	102	234	58	425	487	414
White lead----------gross weight--	390	2/	-	-	20	92	724	1,073	1,497	1,872
White lead----------lead content--	312	2/	-	-	16	74	580	859	1,199	1,499
Other lead pigments---gross weight--	53	5	28	39	78	34	2	30	23	2
Other lead pigments---lead content--	51	4	27	36	75	33	2	29	22	1
Total----------gross weight--	1,066	65	626	793	5,582	8,502	8,502	12,953	15,428	17,721
Total----------lead content--	941	60	582	736	5,178	7,874	7,797	11,875	14,116	16,196
Babbitt metal and solder gross weight--	578	811	1,049	1,067	1,560	1,369	2,099	10,053	9,184	7,591
Babbitt metal and solder lead content--	325	434	743	667	861	802	1,006	2,849	1,449	1,101
Lead pipe, sheet, shot, glaziers' lead, and lead wire----gross weight--	11	178	397	2,048	7,654	5,917	2,625	3,608	2,855	2,845
Lead mill products, not elsewhere specified----------gross weight--	3/	3/	3/	3/	3/	3/	4/ 986	4/ 737	4/ 1,210	4/ 1,900
Total, other lead articles lead content 5/--	3/	3/	3/	3/	3/	3/	12,414	19,069	19,630	22,042
Grand total----------do 5/---	3/	3/	3/	3/	3/	3/	620,309	432,328	380,385	416,822
	Foreign value (1,000 dollars)									
Unmanufactured lead:										
Lead-bearing ores----------	33,240	15,391	48,306	38,272	51,666	63,442	51,856	27,132	27,911	24,458
Lead pigs and bars----------	165,019	95,285	68,420	73,058	77,719	85,146	71,404	54,667	45,065	45,863
All other (lead bullion, scrap, type metal, antimonial lead, and all alloys or combinations of lead, not specially provided for)----------	8,771	3,347	2,991	8,423	8,628	4,348	3,109	2,859	2,340	3,407
Total----------	207,030	114,023	119,717	119,753	138,013	152,936	126,369	84,658	75,316	73,728
Other lead articles:										
Lead pigments:										
Litharge----------	274	15	134	175	1,389	1,794	1,509	2,218	2,581	2,791
Red lead----------	1	6/	1	1	31	60	13	95	111	88
White lead----------	140	6/	-	-	6	26	236	323	461	535
Other lead pigments----------	36	6/	14	19	39	17	1	4	9	6/
Total----------	451	15	149	195	1,465	1,897	1,759	2,640	3,162	3,414
Babbitt metal and solder----------	752	1,119	882	1,028	1,635	1,398	2,375	14,772	15,982	14,103
Lead pipe, sheet, shot, glaziers' lead, and lead wire----------	8	58	129	535	2,017	1,377	596	850	696	641
Lead mill products, not elsewhere specified----------	3/	3/	3/	3/	3/	3/	4/ 159	4/ 122	4/ 232	4/ 319
Total, other lead articles----------	3/	3/	3/	3/	3/	3/	4,889	18,384	20,072	18,477
Grand total----------	3/	3/	3/	3/	3/	3/	131,258	103,042	95,388	92,205

1/ Preliminary.
2/ Less than 1/2 ton.
3/ Not available.
4/ Estimate based on a sample analysis of consumption entry documents for all lead manufactures, not specially provided for, entered under par. 397 of the Tariff Act of 1930. For 1960, data include an estimated 39 short tons of lead wire, valued at 14.6 thousand dollars, erroneously classified under par. 397. For 1961, data include an estimated 46 short tons of lead wire, valued at 15.7 thousand dollars, erroneously classified under par. 397.
5/ Represents gross weight of lead pipe, sheet, shot, glaziers' lead, lead wire, and lead mill products, not elsewhere specified, plus the lead content of all other items.
6/ Less than $500.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 70.--Zinc articles: U.S. imports for consumption, 1952-61

Article	1952	1953	1954	1955	1956	1957	1958	1959	1960 1/	1961 1/
	Quantity (short tons)									
Unmanufactured zinc:										
Zinc-bearing ores--------zinc content--	581,966	464,328	503,620	406,959	483,999	681,933	541,416	437,260	448,105	395,054
Zinc blocks, pigs, or slabs gross weight--	113,053	227,654	161,288	195,839	244,726	268,824	185,693	164,463	120,925	125,186
Zinc scrap, dross, and skimmings gross weight--	3,490	5,914	1,087	284	602	590	971	1,138	1,204	1,410
Total----------	698,509	697,896	665,995	603,082	729,327	951,347	728,080	602,861	570,234	521,650
Other zinc articles:										
Zinc pigments:										
Zinc oxide and leaded zinc oxide gross weight--	173	1,186	2,348	3,320	3,667	5,245	11,729	16,510	12,695	10,222
Zinc oxide and leaded zinc oxide zinc content--	93	640	1,268	1,793	1,980	2,832	6,334	8,915	6,828	5,520
Lithopone and other combinations of zinc sulfide and barium sulfate gross weight--	10	29	65	30	143	58	68	73	62	74
Lithopone and other combinations of zinc sulfide and barium sulfate zinc content--	2	6	16	7	34	14	16	18	12	14
Total, zinc pigments gross weight--	183	1,215	2,413	3,350	3,810	5,303	11,797	16,583	12,757	10,296
Total, zinc pigments zinc content--	95	646	1,284	1,800	2,014	2,846	6,350	8,933	6,840	5,534
Zinc fume 2/----------do-----	-	423	1,613	6,012	21,259	15,804	35,934	60,050	16,444	28,934
Zinc wire----------gross weight--	3/	3/	3/	3/	3/	3/	4/ 109	4/ 151	4/ 202	4/ 136
Zinc plates engraved or otherwise prepared for printing-gross weight--	5/	5/	5/	5/	5/	5/	5/	5/	5/	5/
Zinc dust----------do-----	133	1,045	-	72	72	112	96	44	19	86
Zinc sheets, including unwrought zinc plates----------gross weight--	47	196	259	431	6/ 450	732	6/ 823	951	905	1,183
Zinc alloys and mill products, not elsewhere specified-gross weight--	7/	7/	7/	7/	7/	7/	8/ 393	8/ 468	8/ 860	8/ 67
Total, other zinc articles zinc content--	7/	7/	7/	7/	7/	7/	43,705	70,597	25,270	35,940
Grand total 9/----------do-----	7/	7/	7/	7/	7/	7/	771,785	673,458	595,504	557,590
	Foreign value (1,000 dollars)									
Unmanufactured zinc:										
Zinc-bearing ores----------	113,785	49,714	54,329	39,556	53,110	89,100	51,902	38,200	42,729	34,683
Zinc blocks, pigs, or slabs----------	36,220	50,282	33,987	46,638	65,034	64,129	35,512	33,996	29,639	27,541
Zinc scrap, dross, and skimmings------	535	556	103	31	97	89	108	142	190	177
Total----------	150,540	100,552	88,419	86,225	118,241	153,318	87,522	72,338	72,558	62,401
Other zinc articles:										
Zinc pigments:										
Zinc oxide and leaded zinc oxide----	88	275	476	685	770	1,044	2,264	3,301	2,632	1,962
Lithopone and other combinations of zinc sulfide and barium sulfate-	2	6	7	4	20	8	9	9	8	9
Total zinc pigments----------	90	281	483	689	790	1,052	2,273	3,310	2,640	1,971
Zinc fume 2/----------	-	57	134	542	1,906	1,415	3,396	5,494	1,319	2,596
Zinc wire----------	3/	3/	3/	3/	3/	3/	4/ 39	4/ 54	4/ 81	4/ 55
Zinc plates engraved or otherwise prepared for printing----------	5/	5/	5/	5/	5/	5/	5/ 9	5/ 8	5/ 8	5/ 8
Zinc dust----------	39	162	-	18	18	28	14	6	7	28
Zinc sheets, including unwrought zinc plates----------	24	77	88	148	6/ 170	245	6/ 262	311	302	354
Zinc alloys and mill products, not elsewhere specified----------	7/	7/	7/	7/	7/	7/	8/ 130	8/ 167	8/ 254	8/ 23
Total, other zinc articles----------	7/	7/	7/	7/	7/	7/	6,123	9,350	4,611	5,035
Grand total----------	7/	7/	7/	7/	7/	7/	93,645	81,688	77,169	67,436

1/ Preliminary.
2/ As reported to the U.S. Tariff Commission by individual importers.
3/ Not available. Statistics on imports of zinc wire are not segregated in official import statistics but are included in statistics with other miscellaneous wire not of brass, bronze, or copper, and not coated. The total quantity of imports of zinc wire probably did not exceed 150 tons in any year designated.
4/ Estimated on the basis of a sample of consumption entry documents for wire that was classified under par. 316(a) of the Tariff Act of 1930.
5/ Statistics on imports of zinc plates engraved or otherwise prepared for printing, dutiable under par. 341 of the Tariff Act of 1930, are combined with printing plates of other materials. Estimates based on a sample analysis of consumption entry documents for all plates classified under par. 341 indicate, however, that the total quantity of zinc plates imported annually weighs less than 1/2 short ton. Values are estimated.
6/ Data represent official statistics revised downward to exclude material entered as zinc sheet by importers but subsequently classified as zinc strip by the U.S. Bureau of Customs.
7/ Not available.
8/ Estimate based on a sample analysis of consumption entry documents covering imports of "manufactures of zinc, not specially provided for" dutiable under par. 397 of the Tariff Act of 1930. In order of importance estimated imports in 1958 were comprised of zinc sticks, zinc strip, and zinc alloys; in 1959, of zinc sticks and zinc alloys; in 1960, of zinc alloys, zinc in bars, and zinc strip; in 1961, of zinc strip, zinc alloys and zinc anodes.
9/ The total is the sum of the zinc content of zinc pigments and the gross weight (virtually all zinc) of the other articles.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 71.--Lead pigments: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61

(Value of imports is foreign value)

Item and year	Quantity							Value of gross weight			
	Gross weight				Calculated lead content						
	Production	Imports		Exports	Production	Imports	Exports	Production	Imports		Exports
		Total	Ratio to production						Total	Unit value	
	Short tons	Short tons	Percent	Short tons	Short tons	Short tons	Short tons	1,000 dollars	1,000 dollars	Cents per pound	1,000 dollars
Litharge											
1952	144,564	621	0.4	1,233	134,155	576	1,144	50,308	274	22.0	527
1953	156,871	60	1/	1,238	145,576	56	1,149	44,708	15	12.6	426
1954	140,084	596	.4	1,284	129,998	553	1,192	42,445	134	11.3	457
1955	148,345	751	.5	1,458	137,664	697	1,353	48,417	175	11.7	558
1956	132,569	5,371	4.1	1,966	123,024	4,984	1,824	45,964	1,389	12.9	774
1957	110,303	8,118	7.4	2,502	102,361	7,534	2,322	35,445	1,794	11.0	888
1958	92,070	7,712	8.4	2/ 2,200	85,441	7,157	2/ 2,042	25,477	1,509	9.8	2/ 700
1959	105,686	11,382	10.8	3/	98,077	10,562	3/	29,030	2,218	9.7	3/
1960 4/	98,786	13,371	13.5	3/	91,673	12,408	3/	26,991	2,581	9.7	3/
1961 4/	3/	15,390	3/	3/	3/	14,282	3/	3/	2,791	9.1	3/
Red lead											
1952	32,620	2	1/	435	29,586	2	394	12,265	1	5/	184
1953	32,009	6/	1/	418	29,032	6/	379	9,987	7/	5/	154
1954	26,906	2	1/	335	24,404	2	304	8,691	1	5/	125
1955	29,017	3	1/	325	26,318	3	295	9,931	1	5/	134
1956	28,612	113	.4	351	25,951	102	318	10,417	31	13.6	148
1957	26,998	258	1.0	622	24,487	234	564	9,600	60	11.6	242
1958	21,934	64	.3	2/ 546	19,894	58	2/ 495	6,347	13	10.2	2/ 194
1959	21,949	468	2.1	3/	19,908	425	3/	6,803	95	10.1	3/
1960 4/	22,518	8/ 537	2.4	3/	20,424	487	3/	6,809	8/ 111	10.3	3/
1961 4/	3/	457	3/	3/	3/	414	3/	3/	88	9.6	3/
White lead											
1952	27,859	390	1.4	676	22,315	312	541	11,729	140	17.9	222
1953	25,793	6/	1/	818	20,660	6/	655	10,033	7/	5/	220
1954	25,838	-	-	951	20,696	-	762	10,309	-	-	290
1955	26,118	-	-	958	20,921	-	767	10,865	-	-	285
1956	24,451	20	.1	654	19,585	16	524	10,732	6	5/	200
1957	22,774	92	.4	812	18,242	74	650	9,870	26	13.9	273
1958	18,308	724	4.0	2/ 700	14,665	580	2/ 561	7,554	236	16.2	2/ 200
1959	18,892	1,073	5.7	3/	15,132	859	3/	7,789	323	15.1	3/
1960 4/	17,524	1,497	8.5	3/	14,037	1,199	3/	7,439	461	15.4	3/
1961 4/	3/	1,872	3/	3/	3/	1,499	3/	3/	535	14.3	3/

See footnotes at end of table.

Table 71.--Lead pigments: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61--Continued

(Value of imports is foreign value)

Item and year	Quantity							Value of gross weight			
	Gross weight				Calculated lead content						
	Production	Imports		Exports	Production	Imports	Exports	Production	Imports		Exports
		Total	Ratio to production						Total	Unit value	
	Short tons	Short tons	Percent	Short tons	Short tons	Short tons	Short tons	1,000 dollars	1,000 dollars	Cents per pound	1,000 dollars
Lead suboxide											
1952	76,000	53	0.1	3/	73,188	51	3/	9/ 26,448	36	34.3	3/
1953	82,000	1	1/	3/	78,966	1	3/	9/ 23,370	7/	5/	3/
1954	79,000	28	1/	3/	76,077	27	3/	9/ 23,937	14	25.7	3/
1955	113,874	33	1/	3/	109,661	32	3/	9/ 37,166	17	24.9	3/
1956	106,956	78	.1	3/	102,999	75	3/	9/ 37,083	39	25.2	3/
1957	127,583	33	1/	3/	122,862	32	3/	9/ 40,997	15	23.3	3/
1958	120,609	-	-	3/	116,146	-	3/	33,374	-	-	3/
1959	152,341	-	-	3/	146,704	-	3/	41,845	-	-	3/
1960 4/	139,847	22	1/	3/	134,673	21	3/	38,210	8	18.3	3/
1961 4/	3/	-	3/	3/	3/	-	3/	3/	-	-	3/
Total lead pigments 10/											
1952	287,043	1,066	.4	2,344	263,744	941	2,079	102,850	451	21.1	933
1953	302,673	65	1/	2,473	278,734	60	2,183	89,898	15	12.1	800
1954	277,828	626	.2	2,570	255,675	582	2,258	87,282	149	11.9	872
1955	323,354	793	.2	2,741	299,064	736	2,415	108,279	195	12.3	976
1956	298,588	5,582	1.9	2,972	276,059	5,178	2,666	106,196	1,465	13.1	1,092
1957	293,658	8,502	2.9	3,936	272,452	7,874	3,536	97,912	1,897	11.2	1,403
1958	258,921	8,502	3.3	3,446	240,646	7,797	3/	74,773	1,759	10.3	1,095
1959	304,868	12,953	4.2	3,178	279,821	11,875	3/	85,467	2,640	10.1	1,054
1960 4/	284,675	15,428	5.4	2,118	260,807	14,116	3/	79,449	3,162	10.2	705
1961 4/	3/	17,721	3/	3/	3/	16,196	3/	3/	3,414	9.6	3/

1/ Less than 0.05 percent.
2/ Estimated from data for total lead pigments, on the basis of distribution in 1957.
3/ Not available.
4/ Import and export data are preliminary.
5/ Imports too small to yield a significant average.
6/ Less than 1/2 ton.
7/ Less than $500.
8/ Includes 7 tons, valued at 2 thousand dollars, imported free for U.S. Government use.
9/ Estimated by assuming that unit value of lead suboxide is identical to that of litharge.
10/ Includes data on the production and imports of lead pigments, not specially provided for (principally basic sulfate white lead and lead silicates). The gross weight of the production of these items is estimated from trade information to have been 6,000 tons per year, of which the estimated lead content was 4,500 tons per year and the estimated value ranged from 1,800 thousand dollars to 2,100 thousand dollars. Imports averaged less than 2 tons per year during 1952-61 and amounted to 30 tons in 1959. Data on exports of lead suboxide, as well as of lead pigments, not specially provided for, are not available and are thus not included in the totals; however, such exports are believed to be small.

Source: Production, compiled from official statistics of the U.S. Bureau of Mines; imports and exports, compiled from official statistics of the U.S. Department of Commerce.

Table 72.--Lead pipe, sheet, and other extruded products: U.S. shipments, exports of domestic merchandise, and imports for consumption, 1952-61

Item	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
	Gross weight (quantities in short tons)									
Shipments by U.S. manufacturers:										
Domestic shipments of pipe, tubing, traps, bends, and other extruded products	31,573	27,807	1/ 27,169	28,636	27,405	22,397	1/ 19,736	21,681	19,742	19,342
Domestic shipments of sheet and strip	31,125	34,689	1/ 28,967	33,076	26,753	24,732	1/ 22,130	25,958	22,645	21,482
Exports of sheet, strip, and pipe	1,288	504	373	557	553	1,230	2/ 812	2/ 1,011	2/ 430	2/ 601
Total	63,986	63,000	56,509	62,269	54,711	48,359	42,678	48,650	42,817	41,425
Imports for consumption of lead pipe (excluding traps and bends), sheet, shot, glaziers' lead, and wire	11	178	397	2,048	7,654	5,917	2,625	3,608	2,855	2,845
Ratio (percent) of imports to total shipments by U.S. manufacturers	3/	0.3	0.7	3.3	14.0	12.2	6.2	7.4	6.7	6.9
	Lead content (short tons)									
Shipments by U.S. manufacturers:										
Domestic shipments of pipe, tubing, traps, bends and other extruded products	31,450	27,647	27,117	28,479	26,936	22,243	19,604	21,533	19,596	19,215
Domestic shipments of sheet and strip	30,424	34,048	28,310	32,385	26,397	24,387	21,907	25,605	22,233	21,078
Exports of sheet, strip, and pipe	1,271	497	368	549	545	1,216	2/ 806	2/ 1,000	2/ 427	2/ 597
Total shipments	63,145	62,192	55,795	61,413	53,878	47,846	42,317	48,138	42,256	40,890
Consumption of lead in U.S. manufacture of 4/--										
Pipes, traps, and bends	29,465	28,693	26,832	29,757	28,028	24,739	23,044	24,825	22,119	18,365
Sheet lead	28,697	30,476	26,014	30,466	30,249	27,474	25,104	28,158	26,607	26,253
Total consumption	58,162	59,169	52,846	60,223	58,277	52,213	48,148	52,983	48,726	44,618
	Value (1,000 dollars)									
Shipments by U.S. manufacturers:										
Domestic shipments of sheet and strip 5/	13,392	14,054	1/ 11,040	13,323	11,511	9,985	7,796	9,195	7,880	7,046
Exports of sheet, strip, and pipe	643	219	156	246	276	521	2/ 434	2/ 454	2/ 271	2/ 412
Imports for consumption of lead pipe (excluding traps and bends), sheet, shot, glaziers' lead, and wire 6/	8	58	129	535	2,017	1,377	596	850	696	641
	Average value (cents per pound, gross weight)									
Shipments by U.S. manufacturers:										
Domestic shipments of sheet and strip 5/	21.5	20.3	19.1	20.1	21.5	20.2	17.6	17.7	17.4	16.4
Exports of sheet, strip, and pipe	25.0	21.7	21.0	22.1	25.0	21.2	26.8	22.5	31.4	34.3
Imports for consumption of lead pipe (excluding traps and bends), sheet, shot, glaziers' lead, and wire 6/	7/	16.4	16.2	13.1	13.2	11.6	11.4	11.8	12.2	11.3

1/ The Census of Manufactures of the U.S. Department of Commerce reported shipments of lead products including interplant transfers, for 1954 and 1958 as follows:

Product	1954			1958		
	Quantity	Value	Average value	Quantity	Value	Average value
	Short tons	1,000 dollars	Cents per pound	Short tons	1,000 dollars	Cents per pound
Pipe, tubing, traps and bends	24,650	10,448	21.2	21,580	7,992	18.5
Plate, sheet and strip	26,078	9,947	19.1	19,005	6,432	16.9

2/ May include additional products such as lead wire, lead wool, granulated lead, and type metal.
3/ Less than 0.05 percent.
4/ Lead put into process including metal lost in process and recycled scrap.
5/ Value of domestic shipments of sheet and strip calculated from monthly average prices of lead sheet as listed in the monthly supplement of the Daily Metal Reporter for 1952-60 and from E & MJ Metal and Mineral Markets for 1961. Similar data on value of shipments of pipe, tubing, traps, bends, and other extruded products are not available (see also footnote 1 above).
6/ Value of imports is foreign value.
7/ Imports too small to yield a significant average.

Source: Domestic shipments by U.S. manufacturers from the Lead Industries Association, except as noted; exports and imports from official statistics of the U.S. Department of Commerce (preliminary for 1960-61); consumption data compiled by the U.S. Bureau of Mines.

Table 73.--Bearing metals and solder: U.S. shipments, exports of domestic merchandise, and imports for consumption, 1952-61

Item	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
	Gross weight (quantities in short tons)									
Shipments by U.S. manufacturers:										
Domestic shipments of bearing metals	59,102	61,915	42,488	52,999	53,661	47,599	34,812	42,677	36,196	31,214
Domestic shipments of solder	66,428	65,210	58,107	76,779	67,575	63,987	51,550	62,372	60,875	58,071
Exports of lead-base Babbitt metal	318	93	123	169	216	167	131	130	75	61
Exports of solder	-	219	323	482	413	456	320	365	299	357
Total	125,848	127,437	101,041	130,429	121,865	112,209	86,813	105,544	97,445	89,703
Imports for consumption of Babbitt metal and solder	578	811	1,049	1,067	1,560	1,369	2,099	10,053	9,184	7,591
Ratio (percent) of imports to total shipments by U.S. manufacturers	0.5	0.6	1.0	0.8	1.3	1.2	2.4	9.5	9.5	8.5
	Lead content (short tons)									
Shipments by U.S. manufacturers:										
Domestic shipments of bearing metals	27,923	29,077	19,752	24,987	25,092	22,575	17,475	20,153	17,760	15,372
Domestic shipments of solder	49,769	49,142	43,324	57,457	50,054	46,712	37,174	45,415	44,571	42,513
Exports of lead-base Babbitt metal	150	44	57	80	101	79	66	61	37	30
Exports of solder	-	165	241	361	306	333	231	266	219	261
Total	77,842	78,428	63,374	82,885	75,553	69,699	54,946	65,895	62,587	58,176
Consumption of lead in U.S. manufacture 1/ of--										
Bearing metals	36,545	38,591	27,166	34,567	28,321	26,997	18,980	23,290	20,717	17,031
Solder	72,664	78,743	71,122	88,749	75,290	70,684	59,653	68,871	60,013	51,774
Total	109,209	117,334	98,288	123,316	103,611	97,681	78,633	92,169	80,730	68,805
Imports for consumption of Babbitt metal and solder	325	434	743	667	861	802	1,006	2,849	1,449	1,101
	Value (1,000 dollars)									
Exports of--										
Lead-base Babbitt metal	587	128	132	202	227	229	195	192	116	92
Solder	-	227	320	423	464	506	339	402	319	371
Total	587	355	452	625	691	735	534	594	435	463
Imports for consumption of Babbitt metal and solder 2/	752	1,119	882	1,028	1,635	1,398	2,375	14,772	15,982	14,103
	Average value (cents per pound, gross weight)									
Exports of--										
Lead-base Babbitt metal	92.4	68.5	53.5	59.8	52.7	68.3	74.3	73.9	77.9	75.8
Solder	-	51.8	49.6	44.0	56.2	55.5	53.1	55.0	53.4	52.0
Babbitt metal and solder	92.4	56.8	50.7	48.1	55.0	58.9	59.3	60.0	58.2	55.5
Imports for consumption of Babbitt metal and solder 2/	65.0	69.0	42.0	48.2	52.4	51.0	56.6	73.5	87.0	92.9

1/ Lead put into process; the total includes losses of metal in process and recycled scrap.

2/ Value of imports is foreign value.

Source: Domestic shipments by U.S. manufacturers, from the Lead Industries Association; exports and imports, compiled from official statistics of the U.S. Department of Commerce (data for 1960-61, preliminary); consumption data, compiled by the U.S. Bureau of Mines.

Table 74.--Zinc pigments: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61

(Value of imports is foreign value)

Item and year	Quantity							Value of gross weight			
	Gross weight				Calculated zinc content						
	Production	Imports		Exports	Production	Imports	Exports	Production	Imports		Exports
		Total	Ratio to production						Total	Unit value	
	Short tons	Short tons	Percent	Short tons	Short tons	Short tons	Short tons	1,000 dollars	1,000 dollars	Cents per pound	1,000 dollars
Zinc oxide											
1952	137,057	1/	1/	1/	106,904	1/	1/	42,076	1/	1/	1/
1953	155,645	1/	1/	1/	121,403	1/	1/	41,090	1/	1/	1/
1954	135,908	1/	1/	1/	106,008	1/	1/	34,657	1/	1/	1/
1955	169,639	1/	1/	1/	132,318	1/	1/	43,767	1/	1/	1/
1956	158,982	1/	1/	1/	124,006	1/	1/	43,084	1/	1/	1/
1957	152,730	1/	1/	1/	119,129	1/	1/	41,390	1/	1/	1/
1958	132,564	1/	1/	1/	103,400	1/	1/	35,748	1/	1/	1/
1959	161,696	1/	1/	1/	126,123	1/	1/	43,467	1/	1/	1/
1960	138,128	1/	1/	1/	107,740	1/	1/	36,768	1/	1/	1/
1961	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Leaded zinc oxide											
1952	37,867	1/	1/	1/	20,449	1/	1/	11,853	1/	1/	1/
1953	39,819	1/	1/	1/	21,502	1/	1/	10,313	1/	1/	1/
1954	34,318	1/	1/	1/	18,532	1/	1/	8,854	1/	1/	1/
1955	29,725	1/	1/	1/	16,052	1/	1/	7,699	1/	1/	1/
1956	26,219	1/	1/	1/	14,158	1/	1/	7,394	1/	1/	1/
1957	26,420	1/	1/	1/	14,267	1/	1/	6,579	1/	1/	1/
1958	22,844	1/	1/	1/	12,336	1/	1/	6,008	1/	1/	1/
1959	23,550	1/	1/	1/	12,717	1/	1/	6,284	1/	1/	1/
1960	14,379	1/	1/	1/	7,765	1/	1/	3,869	1/	1/	1/
1961	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Total zinc oxides											
1952	174,924	173	0.1	7,615	127,353	93	4,112	53,929	88	2/	2,720
1953	195,464	1,186	.6	2,971	142,905	640	1,604	51,403	275	11.6	884
1954	170,226	2,348	1.4	3,111	124,540	1,268	1,680	43,511	476	10.1	897
1955	199,364	3,320	1.7	2,649	148,370	1,793	1,430	51,466	685	10.3	772
1956	185,201	3/ 3,667	2.0	2,748	138,164	1,980	1,484	50,478	3/ 770	10.5	847
1957	179,150	4/ 5,245	2.9	3,144	133,396	2,832	1,698	47,969	4/ 1,044	9.9	985
1958	155,408	5/ 11,729	7.5	2,543	115,736	6,334	1,373	41,756	5/ 2,264	9.6	790
1959	185,246	6/ 16,510	8.9	2,565	138,840	8,915	1,385	49,751	6/ 3,301	10.0	775
1960 7/	152,507	12,695	8.3	2,137	115,505	6,828	1,154	40,637	2,632	10.4	659
1961 7/	1/	10,222	1/	1/	1/	5,520	1/	1/	1,962	9.6	1/

See footnotes at end of table.

Table 74.--Zinc pigments: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61--Continued

(Value of imports is foreign value)

Item and year	Quantity							Value of gross weight			
	Gross weight				Calculated zinc content						
	Production	Imports		Exports	Production	Imports	Exports	Production	Imports		Exports
		Total	Ratio to production						Total	Unit value	
	Short tons	Short tons	Percent	Short tons	Short tons	Short tons	Short tons	1,000 dollars	1,000 dollars	Cents per pound	1,000 dollars
Lithopone											
1952	60,220	10	8/	9,985	14,453	2	2,396	8,250	2	2/	1,632
1953	54,593	29	8/	3,926	13,102	6	942	7,206	6	2/	584
1954	39,090	65	0.2	3,012	9,382	16	723	5,277	7	2/	454
1955	43,819	30	.1	1,892	10,517	7	454	6,135	4	2/	301
1956	36,639	143	.4	1,387	8,793	34	333	5,386	20	2/	240
1957	9/ 25,000	58	.2	991	9/ 6,000	14	238	9/ 4,000	8	2/	178
1958	9/ 25,000	68	.3	613	9/ 6,000	16	147	9/ 4,200	9	2/	122
1959	9/ 25,000	73	.3	577	9/ 6,000	18	138	9/ 4,200	9	2/	106
1960 7/	9/ 25,000	62	.2	190	9/ 4,800	12	37	9/ 4,200	8	6.5	35
1961 7/	9/ 25,000	74	.3	1/	9/ 4,800	14	1/	9/ 4,200	9	6.0	1/
Total zinc pigments											
1952	235,144	183	.1	17,600	141,806	95	6,508	62,179	90	2/	4,352
1953	250,057	1,215	.5	6,897	156,007	646	2,546	58,609	281	11.6	1,468
1954	209,316	2,413	1.2	6,123	133,922	1,284	2,403	48,788	483	10.0	1,351
1955	243,183	3,350	1.4	4,541	158,887	1,800	1,884	57,601	689	10.3	1,073
1956	221,840	3/ 3,810	1.7	4,135	146,957	2,014	1,817	55,864	3/ 790	10.4	1,087
1957	9/ 204,150	4/ 5,303	2.6	4,135	9/ 139,396	2,846	1,936	9/ 51,969	4/ 1,052	9.9	1,163
1958	9/ 180,408	5/ 11,797	6.5	3,156	9/ 121,736	6,350	1,520	9/ 45,956	5/ 2,273	9.6	912
1959	9/ 209,971	6/ 16,583	7.9	3,142	9/ 144,574	8,933	1,523	9/ 53,951	6/ 3,310	10.0	881
1960 7/	9/ 177,507	12,757	7.2	2,337	9/ 118,255	6,840	1,191	9/ 42,837	2,640	10.3	694
1961 7/	1/	10,296	1/	1/	1/	5,534	1/	1/	1,971	9.6	1/

1/ Not available.
2/ Imports too small to yield a significant average.
3/ Includes 307 short tons, valued at 77 thousand dollars, with a unit value of 12.5 cents per pound (gross weight), imported free of duty for U.S. Government use.
4/ Includes 745 short tons, valued at 101 thousand dollars, with a unit value of 6.8 cents per pound (gross weight), imported free of duty for U.S. Government use.
5/ Includes 225 short tons, valued at 46 thousand dollars, with a unit value of 10.2 cents per pound (gross weight), imported free of duty for U.S. Government use.
6/ Includes 376 short tons, valued at 74 thousand dollars, with a unit value of 9.8 cents per pound (gross weight), imported free of duty for U.S. Government use.
7/ Import and export data are preliminary.
8/ Less than 0.05 percent.
9/ Estimated.

Source: Production, compiled from official statistics of the U.S. Bureau of Mines, except as noted; imports and exports compiled from official statistics of the U.S. Department of Commerce.

Table 75.--Zinc sheet (including plate): U.S. production and sales, exports of domestic merchandise, and imports for consumption, 1952-61

Item	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
	Gross weight (quantities in short tons)									
Production:										
Zinc sheet	6,367	6,465	5,519	6,147	5,359	4,298	4,021	3,650	3,206	2,547
Zinc plate	1,284	986	1,135	908	1,215	585	430	432	171	150
Total	7,651	7,451	6,654	7,055	6,574	4,883	4,451	4,082	3,377	2,697
Domestic exports 1/	299	449	292	339	367	331	294	221	224	164
Imports for consumption	47	196	259	431	450	732	823	95	90	1,183
Ratio (percent) of imports to production	0.6	2.6	3.9	6.1	6.8	15.0	18.5	23.3	26.8	43.9
Sales of sheet and plate by manufacturers of zinc sheet: 3/										
Domestic sales	6,538	6,265	5,796	6,078	5,606	4,115	3,826	3,535	3,052	2,769
Export sales	299	449	292	339	367	331	294	221	224	164
Total	6,837	6,714	6,088	6,417	5,973	4,446	4,120	3,756	3,276	2,933
	Value (1,000 dollars)									
Imports for consumption (foreign value)	24	77	88	148	170	245	262	311	2/ 302	2/ 354
Sales of sheet and plate by manufacturers of zinc sheet: 3/										
Domestic sales	4,214	3,885	3,298	3,801	3,715	3,013	2,751	2,682	2,400	2,072
Export sales	205	299	254	272	283	275	245	168	175	123
Total	4,419	4,184	3,552	4,073	3,998	3,288	2,996	2,850	2,575	2,195
	Average value (cents per pound)									
Imports for consumption (foreign value)	25	20	17	17	19	17	16	16	17	15
Sales of sheet and plate by manufacturers of zinc sheet: 3/										
Domestic sales	32	31	29	31	33	37	36	38	39	37
Export sales	34	33	44	40	39	41	42	38	39	38
Average, all sales	32	31	29	32	34	37	37	38	39	37

1/ Excludes exports, if any, of zinc plate manufactured by concerns other than those producing zinc sheet. It is believed that such exports are nil or negligible.

2/ Preliminary.

3/ Excludes sales of plate manufactured by concerns other than those that produced zinc sheet. Production of rolled zinc plate by other concerns is estimated at 777 tons in 1952, 584 tons in 1953, 683 tons in 1954, 498 tons in 1955, 680 tons in 1956, 336 tons in 1957, 225 tons in 1958, 296 tons in 1959, 21 tons in 1960, and 50 tons in 1961.

Source: Production, sales, and export data, from reports received by the U.S. Tariff Commission from domestic producers of zinc sheet, and from data compiled by the American Zinc Institute; import data, compiled from official statistics of the U.S. Department of Commerce, after exclusion of items in some years originally entered as sheet but subsequently classified as zinc strip by the U.S. Bureau of Customs.

Table 76.--Zinc dust: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61

(Value of imports is foreign value)

Year	Production	Imports for consumption	Domestic exports
	Quantity (short tons)		
1952	25,113	133	1/
1953	25,297	1,045	502
1954	26,714	-	509
1955	30,118	72	445
1956	28,048	72	372
1957	26,715	112	595
1958	26,512	96	519
1959	32,758	44	521
1960	30,788	2/ 19	2/ 777
1961	2/ 34,788	2/ 86	2/ 717
	Value (1,000 dollars)		
1952	9,794	39	1/
1953	6,729	162	181
1954	7,266	-	151
1955	9,216	18	162
1956	9,368	18	136
1957	7,860	28	195
1958	7,254	14	170
1959	9,683	6	182
1960	10,283	2/ 7	2/ 267
1961	1/	2/ 28	2/ 224
	Average value (cents per pound)		
1952	19.5	14.7	1/
1953	13.3	3/ 7.7	18.0
1954	13.6	-	14.8
1955	15.3	12.5	18.2
1956	16.7	12.3	18.3
1957	14.7	12.6	16.4
1958	13.7	3/ 7.1	16.4
1959	14.8	3/ 7.3	17.4
1960	16.7	2/ 17.2	2/ 17.2
1961	1/	2/ 16.4	2/ 15.6

1/ Not available.
2/ Preliminary.
3/ Unusually low unit value may reflect inclusion in statistics of data on material other than zinc dust.

Source: Production, compiled from official statistics of the U.S. Bureau of Mines; imports and exports, compiled from official statistics of the U.S. Department of Commerce.

Table 77.--Zinc strip and zinc-base die-casting alloy: U.S. production, imports for consumption, and exports of domestic merchandise, 1952-61

Year	Zinc strip			Zinc-base die-casting alloy 4/	
	Production 1/	Imports for consumption 2/	Domestic exports 3/	Production 5/	Domestic exports 6/
	Quantity (short tons)				
1952	55,051	7/	2,730	240,300	752
1953	60,114	7/	2,740	316,250	908
1954	51,711	7/	2,570	297,550	630
1955	51,838	7/	2,260	444,000	845
1956	47,192	3	2,680	371,500	1,208
1957	45,295	7/	2,350	387,100	1,185
1958	43,953	78	8/	329,200	8/
1959	49,249	7/	8/	407,800	8/
1960	43,336	48	8/	352,200	8/
1961	45,571	7/	8/	324,400	8/
	Value (1,000 dollars)				
1952	25,455	7/	1,730	9/	796
1953	24,045	7/	1,397	9/	787
1954	20,290	7/	1,190	9/	601
1955	20,735	7/	1,046	9/	799
1956	19,820	2	1,435	9/	1,238
1957	19,025	7/	1,259	9/	1,350
1958	18,020	23	8/	9/	8/
1959	20,980	7/	8/	9/	8/
1960	18,288	17	8/	9/	8/
1961	19,322	12	8/	9/	8/

1/ Value of production estimated on the basis of producers' base selling prices in respective years except for 1960-61.

2/ Imports are not separately reported in official statistics. Data shown for 1956, 1958, 1960, and 1961 were estimated on the basis of a sample analysis of consumption entry documents. Value is foreign value.

3/ Estimate computed (except as noted) by subtracting reported exports of sheet and plate from data of the U.S. Department of Commerce on exports of sheet, plate, and strip. Exports of plate are believed to be negligible or nil.

4/ Data on imports are not available; but imports are believed to be small.

5/ Quantity estimated from data on zinc consumed in the production of zinc-base die-casting alloy as reported by the U.S. Bureau of Mines, taking into consideration the fact that the zinc content of such alloy averaged 94 percent.

6/ Data on exports of zinc-base die-casting alloy are not available but such exports were probably negligible or nil; statistics shown represent exports of zinc die castings.

7/ Separate statistics not available.

8/ Comparable data not available.

9/ Not available.

Source: Except as noted, production, derived from data compiled by the U.S. Bureau of Mines, American Zinc Institute, and from reports received by the U.S. Tariff Commission from domestic producers; imports for 1956, 1958, 1960 and 1961 estimated as noted; exports compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 78.--Drawback of import duties paid on imported unmanufactured lead and zinc contained in manufactured articles exported from the United States, average 1937-39, annual 1943 and 1946-61

Period	Drawback of import duties paid		Dutiable lead or zinc content of exported articles on which drawback was paid	
	Lead	Zinc	Lead content	Zinc content
			Short tons	Short tons
Average, 1937-39	$318,444	$400,861	9,373	12,338
Annual:				
1943	594,216	178,092	15,505	7,274
1946	200,440	153,044	10,936	8,325
1947	35,897	214,215	1,711	12,580
1948	445,678	289,366	11,040	18,209
1949	304,861	309,027	14,084	19,877
1950	430,001	211,603	22,100	13,133
1951	298,181	125,594	10,959	8,064
1952	655,522	139,738	21,787	9,076
1953	498,314	301,822	21,842	19,858
1954	590,364	288,912	28,279	22,012
1955	381,515	130,795	18,200	9,995
1956	420,719	202,175	19,723	15,395
1957	369,184	138,232	17,588	10,545
1958	256,478	174,731	13,083	13,242
1959	254,334	156,314	12,454	11,955
1960 1/	379,448	141,564	18,112	10,675
1961 1/	395,469	135,834	18,878	9,613

1/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Note.--Under sec. 313 of the Tariff Act of 1930, as amended, upon the exportation of articles manufactured or produced in the United States with the use of imported lead or zinc, 99 percent of the duties paid on such lead or zinc so used is refundable as drawback if the requirements of the statute and applicable regulations are met. Sec. 313 also provides that if imported lead or zinc and domestically produced lead or zinc are used in the manufacture or production of articles within a period not to exceed 3 years from the receipt of such imported lead or zinc by the manufacturer or producer of such articles, notwithstanding that none of the imported lead or zinc was used in the manufacture of the exported articles, an amount of drawback equal to that which would have been allowable had the lead or zinc used therein been imported is refundable.

Table 79.--Manufactured articles exported from the United States with benefit of drawback of duties paid on the imported lead content, by types of manufactured articles, exported, 1958-61

(In short tons of lead content on which drawback of duty was paid)

Article exported	1958	1959	1960 1/	1961 1/
Antiknock compound 2/	8,876	6,149	10,614	13,821
Batteries:				
Complete (6 and 12 volt)	1,152	235	497	163
Parts	43	-	-	-
Total	1,195	235	497	163
Paint pigments and paint:				
Litharge	465			
Red lead (dry and in oil) 3/	65	2,228	2,637	1,197
White lead (dry and in oil) 3/	18			
All other 3/	183	76	511	553
Total	731	2,304	3,148	1,750
Chemical products:				
Oxide	21	-	-	-
All other 4/	1,210	1,591	710	847
Total	1,231	1,591	710	847
Lead metal products:				
Pipe, sheet, strip, wire, etc. 5/	-	9	2	-
Base alloys	233	463	1,007	650
Solder	26	8	33	37
All other 6/	89	48	676	462
Total	348	528	1,718	1,149
Automobiles and trucks:				
Automobiles	253	495	204	53
Trucks	105	127	187	87
Parts	-	-	51	202
Total	358	622	442	342
Ammunition 7/	344	833	983	806
Diesel locomotives	-	133	-	-
Separators, electric	-	59	-	-
Grand total	13,083	12,454	18,112	18,878

1/ Preliminary.
2/ Tetraethyl lead.
3/ Primarily dry red and white lead. Data for "All other" (paint pigments and paint) includes the lead content of ready-mixed paints and paint pigments when listed collectively.
4/ Includes arsenate, industrial and chemical pigments, lithopone, sublimed lead, oxide, silicate, and salts. Industrial and chemical pigments are the most important articles in this group.
5/ Lead sheet is the most important article in this group.
6/ Includes miscellaneous and nonmetal manufactured articles.
7/ Includes cartridges, small arms and rifle ammunition, and buckshot shells.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 80.--Manufactured articles exported from the United States with benefit of drawback of duties paid on imported zinc content, by types of manufactured articles exported, 1958-61

(In short tons of zinc content on which drawback of duty was paid)

Article exported	1958	1959	1960 1/	1961 1/
Zinc metal products:				
Plate, rod, ribbon, sheet, strip, etc. 2/	4,104	3,879	2,552	2,532
Slug, screw, etc	289	151	273	-
Base alloys	149	133	184	106
Anodes, bars, and slab	3	33	66	58
All other 3/	315	28	188	1,148
Total	4,860	4,224	3,263	3,844
Steel products:				
Galvanized sheet	3,928	1,786	2,635	1,690
Other galvanized products	144	86	8	34
All other 4/	131	335	193	685
Total	4,203	2,207	2,836	2,409
Automobiles, trucks, and parts:				
Automobiles	1,707	3,486	2,103	397
Trucks	363	422	732	299
Parts	923	889	400	1,482
Total	2,993	4,797	3,235	2,178
Chemical products:				
Oxide	822	595	1,318	1,178
All other 5/	364	132	23	4
Total	1,186	727	1,341	1,182
Grand total	13,242	11,955	10,675	9,613

1/ Preliminary.
2/ Zinc sheet is the most important article in this group.
3/ Includes cartridges, photoengraving plates, and zinc dust.
4/ Includes bars and miscellaneous steel shapes and machinery.
5/ Includes lithopone, sulfate, and sulfide.

Source: Compiled from official statistics of the U.S. Department of Commerce.