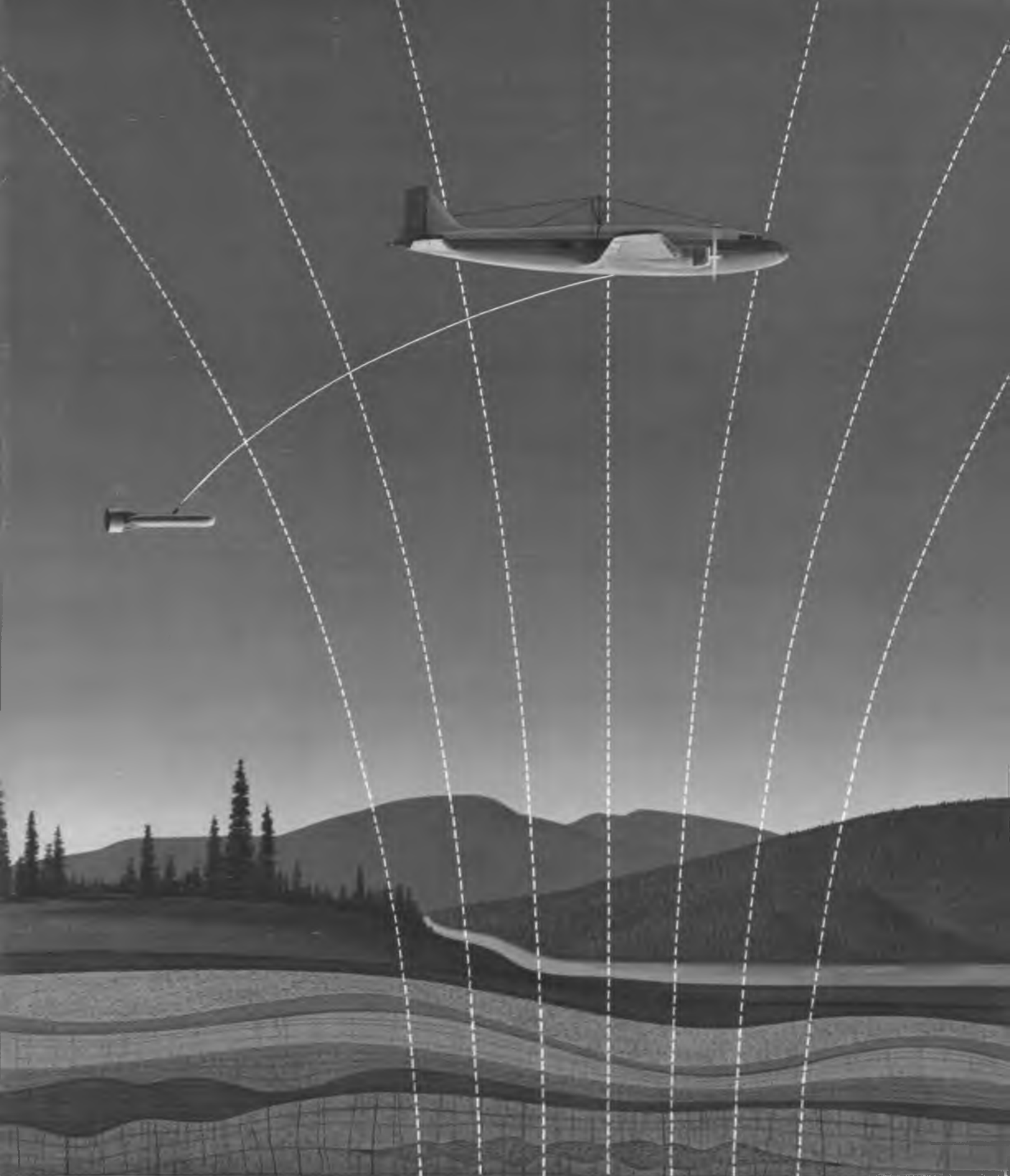


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Kennecott Copper Corporation

Annual Report • 1957

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WHERE COPPER IS USED

For 5,000 years copper has been an indispensable metal, and today its uses are more extensive than ever. It is the best commercial conductor of electricity, is corrosion resistant, has great heat conductivity, and is easily worked and joined. Because of the beauty of copper and its alloys, the metal has extensive uses in the home.

The figures in the diagram represent the approximate percentages of total copper consumption that are used for the indicated purposes.

Data from Copper & Brass Research Association



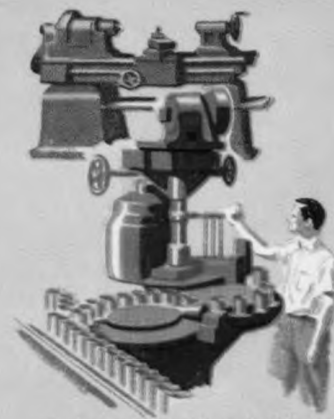
Electrical Equipment 17%



Light and Power Industry 16%



Building Construction 14%



Industrial Equipment 9%



Motor Vehicles 8%



Communication 5%



Household Appliances 3%



Railroad and Marine 3%



Electronics 2%



Scientific Equipment 2%



Military 17%



Miscellaneous 4%



KENNECOTT COPPER CORPORATION

43rd ANNUAL REPORT

FOR THE YEAR ENDED DECEMBER 31, 1957

General Offices: 161 East 42nd St., New York 17, N. Y.

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THE COVER: The International Geophysical Year has focused attention upon scientific methods designed to disclose secrets hidden in the depths of the earth. Kennecott is employing geophysical techniques in the search for ore deposits that exist beneath the earth's surface and seldom present visible evidence of their existence.

The device being towed by the plane pictured on the cover induces an electromagnetic field in the ground, as represented by the white dashed lines. Changes in this field caused by metallic ore bodies are recorded by special equipment in the plane. Through the use of these geophysical devices, exploration geologists can traverse in one day areas that would require months of work on the surface.

PRESIDENT'S LETTER



To the Stockholders:

Net income after taxes in 1957 was \$79,251,667, as compared with \$143,154,210 in the record year 1956. Per share earnings for the two years were \$7.32 and \$13.23, respectively. The amount distributed to stockholders in 1957 was \$6.00 a share versus \$9.25 in 1956.

The average price received for our copper in 1957 was 28.9 cents a pound, as compared with 41.6 cents in the previous year.

In 1957 we operated at capacity (except at Ray, Arizona). This was possible because we were able not only to dispose of our Chilean production in Europe, plus a substantial carry-over from the prior year, but some of our domestic production as well. We stopped selling domestic copper to Europe when the European price fell below 25 cents a pound, in the belief that the copper was worth more in the ground. Total sales of copper in 1957 were 552,944 tons, as compared with 495,219 tons in 1956. The increase was due entirely to increased foreign sales. Normally we sell approximately 20 per cent of our copper in the foreign market and 80 per cent in the United States; in 1957 this sales pattern changed, and 40 per cent of our copper was sold in the foreign market and only 60 per cent in the U. S.

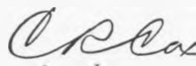
The domestic demand for copper in 1957 declined substantially. Our deliveries to fabricators decreased by 19 per cent. This was due to reduced buying of copper by a number of the most important copper-consuming industries, including the electrical, construction and automobile industries.

Whereas cash and government securities shown on the balance sheet amount to \$231,907,457, we have committed approximately \$100,000,000

for the company's program of integration of its copper producing facilities, and for expansion. This amount includes provision for the new smelter and additional mine and mill facilities at the Ray Mines Division, the new electrolytic refinery in the East, increased power facilities at Utah and Chino, and acquisition of the mining properties of Consolidated Coppermines Corporation adjacent to the properties of our Nevada Mines Division. Further commitments not included in the above amount to approximately \$29,000,000, the largest item of which is for additional investment in Allied-Kennecott Titanium Corporation. Thus, total monies committed to date amount to approximately \$129,000,000.

You will notice in reading the Review of Operations section of this report the important improvements in operations, and in manpower and materials utilization that have been accomplished. This effort has been essential to counteract the effects of rising costs of labor and materials.

By order of the Board of Directors,

A handwritten signature in dark ink, appearing to be 'C. R. Cox', written in a cursive style.

President

March 10, 1958

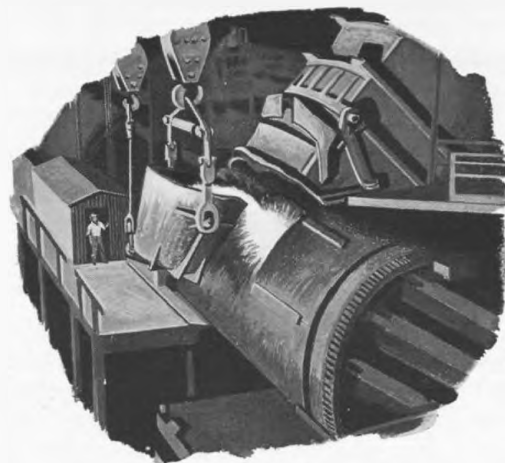
The annual meeting of stockholders of Kennecott Copper Corporation will be held at 11:00 a. m. (Eastern Daylight Time), Tuesday, May 6, 1958 in the Grand Ballroom of the Biltmore Hotel, Madison Avenue and 43rd Street, New York City. A formal notice of the meeting and proxy statement, together with a form of proxy, will be mailed to stockholders on or about April 4, 1958, at which time proxies will be solicited by the management.



RESULTS AT A GLANCE

	1957	1956
Copper Produced (Net Tons)	559,998	582,205
Copper Sold (Net Tons)	552,944	495,219
Average Copper Price Received	28.9c	41.6c
Total Revenue	\$480,200,000	\$578,067,000
Total Taxes	\$103,181,000	\$160,972,000
Total Taxes—Per Share	\$9.53	\$14.87
Net Income	\$ 79,252,000	\$143,154,000
Net Income—Per Share	\$7.32	\$13.23
Distributed to Stockholders	\$ 64,930,000	\$100,100,000
Distributed to Stockholders—Per Share	\$6.00	\$9.25
Retained Earnings	\$ 14,322,000	\$ 43,054,000
Expenditures for Plant and Equipment	\$ 27,332,000	\$ 21,244,000
Working Capital	\$329,330,000	\$328,370,000
Ratio Current Assets to Current Liabilities	6.0 to 1	4.0 to 1
Net Worth—Book Value	\$737,521,000	\$723,200,000
Book Value—Per Share	\$68.15	\$66.83
Average Number of Employees	26,752	27,886
Number of Stockholders	90,264	89,596

REVIEW OF OPERATIONS



All Divisions

In 1957 Kennecott concentrated its efforts on increasing the efficiency of operations so that the company could remain competitive in the face of lower copper prices and rising costs of labor, materials and services.

During the year, organization analyses, improved methods, and increased mechanization resulted in substantial savings. The use of new types of drills and the adoption of a recent development in blasting, whereby ammonium nitrate and fuel oil are used instead of conventional explosives, permitted reduced ore and waste breaking costs. Mine haulage improvements, including a new access tunnel, skip

MINING DIVISIONS

hoist installations, and replacement of trucks with larger, more efficient units, were completed or in progress. In the mills, the comparison of grinding, classifying and flotation procedures and equipment was continued; this work has led to improved metallurgical results in either metal recoveries or product grades.

Total ore mined and milled during the year was about 5 per cent less than in the previous year, and copper produced was less by about 4 per cent. The following table shows the amounts of copper produced and of ore mined and milled at the different divisions.

Divisions	Total Copper Production From all Sources (Net Tons)		Ore Mined and Milled (Net Tons)	
	1957	1956	1957	1956
Chino Mines . . .	63,454	69,629	7,310,978	7,945,386
Nevada Mines . . .	31,823	31,274	4,390,275	4,316,148
Ray Mines . . .	56,879	53,248	4,751,463	5,852,742
Utah Copper . . .	235,135	248,158	30,919,900	32,321,100
Total Domestic . .	387,291	402,309	47,372,616	50,435,376
Chilean	172,707	179,896	10,919,452	10,767,314
Grand Total . . .	559,998	582,205	58,292,068	61,202,690

Production of the important by-products molybdenite, gold, silver and selenium was as follows:

	<i>Molybdenite (Tons)</i>	<i>Gold (Ounces)</i>	<i>Silver (Ounces)</i>	<i>Selenium (Pounds)</i>
1957	14,378	377,367	3,295,170	68,600
1956	16,269	403,381	3,213,559	148,455

Changes in the amounts produced of molybdenite, gold and silver were due to changes in the amount of ore milled and the metal content; the reduced amount of selenium produced was due to a decline in demand.

Domestic Divisions

The lower amount of ore mined and copper produced at the domestic divisions in 1957 was due to fewer days operated, principally because of shut downs for scheduled major maintenance.

The copper content of ore mined at the different domestic divisions in 1957 and in 1956 was as follows:

<i>Division</i>	<i>Pounds of Copper Per Ton of Ore Mined</i>	
	<i>1957</i>	<i>1956</i>
Chino Mines	16.3	17.4
Nevada Mines	17.3	16.4
Ray Mines	19.0	18.1
Utah Copper	16.5	16.6
Average	16.8	16.9

The nature of our open pit mining is such that as a pit is expanded a larger amount of waste per ton of ore has to be removed. As a result, the stripping ratio increased from 1.96 tons of waste per ton of ore in 1956 to 2.13 tons of waste in 1957.

In December it was decided to reduce production approximately 12 per cent at the Utah, Nevada and Chino divisions by reducing operations from a 7 days a week basis to 6 days a week, starting in January 1958.

(The Ray division was placed on a 6 days a week basis in April.)

CHINO MINES DIVISION—This division operated throughout 1957 on a 7 days a week basis, with the exception of 12 days when the power plant, mill and smelter were shut down for major maintenance.

On the upper levels of the pit the removal of waste by truck rather than train has been found to be the lower cost method, and during 1957 the necessary trucks were provided for that purpose. To meet increased power requirements the capacity of the power plant is being increased by 15,625 kilowatts. Churn drills and wagon drills are being replaced by rotary drills and tractor mounted air drills, respectively, with greatly increased drilling efficiencies.

NEVADA MINES DIVISION—Operations were suspended from June 30 until July 7 to permit installation of new car-dumping equipment. Otherwise, the division operated throughout the year on a 7 days a week basis.

The irregular nature of the ore body at this division complicates mining procedures, and results in comparatively high costs. Nevertheless, progress was made in 1957 in increasing efficiency of operations and reducing costs. Among the steps being taken to reduce costs is the installation of a skip hoist system, which will eliminate costly train haulage from the lower levels of the Liberty pit.

An important development was the recent acquisition by Kennecott of the White Pine County properties of Consolidated Coppermines Corporation. These properties are contiguous to those of the Nevada Mines Division, and this division milled and smelted the Coppermines' ore under contract. Operation by Kennecott of the two properties as one will permit a reduction in production costs and provide an increase in the ore reserves.



The new smelter under construction for the Ray Mines Division with the completed 600-foot stack. L-P-F plant is in right foreground.

RAY MINES DIVISION—On April 7, 1957 operations at this division were reduced from 7 days a week to 6 days, to eliminate overtime in the face of a shortage of manpower. In addition, the division was shut down from October 7 to October 20 for major maintenance. Despite this reduction in the number of days operated and the lesser amount of ore mined, the division produced more copper than in 1956, principally because of the increased production of low-cost precipitate copper obtained by leaching the caved areas of the old underground mine; production of copper from this source increased from 14,934 tons in 1956 to 17,712 tons in 1957.

The installation for increasing by 12 per

cent the amount of copper recovered from the ore of this division was placed in operation during the year. The object of the process, known as the leach-precipitate-float (L-P-F) process, is to recover a larger amount of the copper present in the ore in the form of oxides (in addition to that present in the form of sulphides, which is readily recoverable by the ordinary flotation process). Initial operation indicated that certain modifications in equipment and materials handling procedures would be required for maximum efficiency. These changes are being made. Results to date confirm the expectation that the process will permit additional recovery amounting to two pounds of copper per ton of ore.

Plans for expanding the productive capacity of this division by 20,000 tons of copper annually include (1) enlarging the pit and relocating various surface facilities, and (2) expanding the capacity of the mill. Plans also provide for the construction of a smelter to process the copper concentrates and precipitates produced at this division. (Smelting is presently done by a custom smelter on a cost-plus basis.) Completion of the program will mean additional personnel, and some 600 new houses are being erected. Construction of the smelter is well advanced and it is expected that it will be completed by the middle of 1958. Relocation of surface facilities to permit enlargement of the pit is well advanced and should be completed by early 1959. Expansion of the mill should be completed by the middle of 1959. The entire program will cost in the neighborhood of \$40,000,000.

UTAH COPPER DIVISION—Operations at this division were maintained throughout the year on a 7 days a week basis, with the exception of a period of eight days when the mine and mill were shut down during installation of new car-dumping equipment.

One of the principal projects for holding down mining costs is the \$11,000,000 ore haulage tunnel which is being driven to permit getting out the ore from the lower levels of the mine without hauling it considerable distances up grade. Construction of the tunnel is currently nearing the half way mark. When completed, the tunnel will be 18,000 feet long and will accommodate standard-size electric locomotives and 100-ton ore cars.

Engineering work was completed on another major project to increase the capacity of the present power plant. This is adequate for current needs but does not provide for future requirements. Bigger shovels, steeper grades, and longer hauls all mean greater power

consumption. Consequently, construction will start soon on a \$16,000,000 expansion at the central power plant. The project will increase power capacity from 100,000 kilowatts to 175,000 kilowatts and produce power at reduced cost per kilowatt hour. The new addition should be in operation early in 1960.

Chilean Division (Braden Copper Co.)

Power generation, dependent upon annual precipitation, determines productive capacity at this division. In 1957, favorable climatic conditions made possible a near record of ore mined and milled, despite a two-week strike coincident with negotiation of new labor contracts. The ore contained 39.3 pounds of copper per ton in 1957, as compared with 40.3 pounds in 1956.

At the concentrating plant, the replacement of old flotation machines with equipment of more modern design, begun in 1956, has been largely completed. The improvement in copper recovery has exceeded expectations. Other favorable results are ease of operation, lower power consumption, and reduced maintenance costs.

Chile continues to make progress in combating the inflation which has so long plagued that country. The recommendations of the Klein-Saks Mission, first applied in 1956, called for limitations in bank credit, the curbing of imports, and reduced government expenditures. The recommendations were aimed at slowing inflation through a flexible approach rather than attempting to halt it by rigid controls. The results thus far have been encouraging. As compared with the year 1955 when the cost of living increased 84 per cent, the increase in 1956 was 38 per cent, and that in 1957 was 17 per cent.

The sharp drop in copper prices has seriously affected Chile's economy. The income tax paid by the large copper producers is that country's chief source of dollar revenue. The

fact that these taxes in 1957 were substantially lower than in 1956 is making more difficult Chile's efforts to combat inflation.

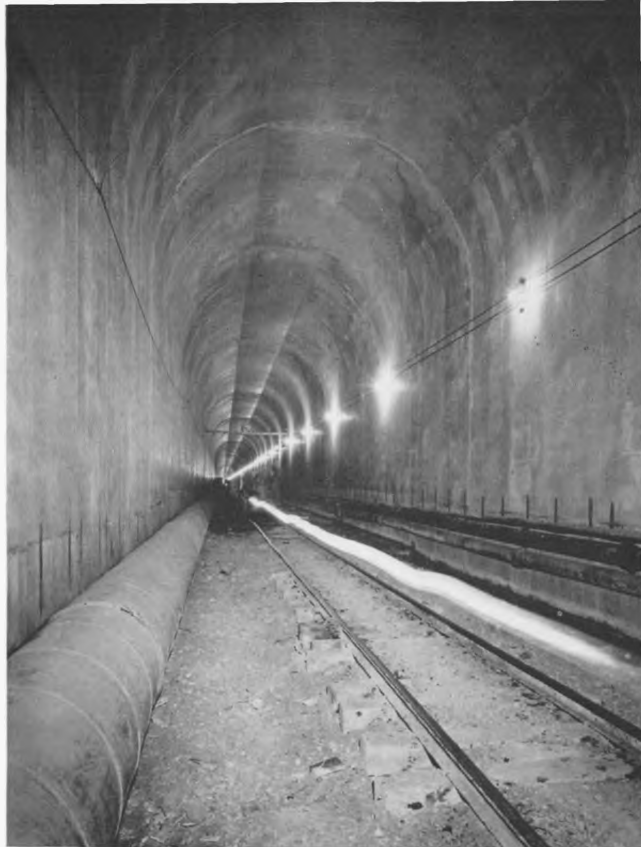
KENNECOTT REFINING CORPORATION

Announcement has been made of the plan to build a new electrolytic refinery in the East to provide the capacity needed to meet the increased demand for electrolytically refined in preference to fire refined copper. The refinery will be owned and operated by a recently formed subsidiary, Kennecott Refining Corporation. The original plan called for an installation with an initial capacity of 7,000 tons a month, costing approximately \$20,000,000.

Under contracts of many years standing much of Kennecott's smelting and electrolytic refining has been done by the American Smelting and Refining Company. However, in February 1958 an agreement was reached whereby Kennecott's refining commitments to that company will be reduced to 6,000 tons per month July 1, 1960, and terminated at the end of 1965. This agreement has permitted an increase in the initial capacity of our Eastern refinery to 16,500 tons a month.

The larger plant will cost approximately \$30,000,000 and will employ approximately 570 people. It will be located in Anne Arundel County, Maryland, and 200 acres of land on the Patapsco River have been acquired for the site. Plans call for buildings and equipment incorporating the latest techniques in electrolytic refining, copper casting including the continuous casting of billets, and materials handling. Operations are scheduled to begin in 1959.

Some of the copper from Kennecott's domestic mines, as well as copper from our Chilean subsidiary, will be used to supply the enlarged plant. The refinery will furnish electrolytic copper for markets in both Europe and the United States.



New 18,000 foot ore haulage tunnel at the Utah Copper Division. It will eliminate costly uphill haulage from lower pit levels.

EXPLORATION

Over the long term it is evident that requirements for mineral products will steadily increase. In the case of copper, the problem of supply is complicated by the continuing decline in the quantity of copper available from each ton of ore mined. It is important to realize that despite the present surplus of metal, the output from existing mines and extensions will be inadequate to meet future demands of industry. New deposits must be discovered to take up the increased load and replace deposits that become mined out.

Because the exposed surface of the earth in accessible areas has been studied and prospected for generations, and the easy-to-find

The KENNECOTT FAMILY... what it's composed of

	 COPPER MINE	 CONCENTRATING MILL	 SMELTER	 FIRE REFINERY	 ELECTROLYTIC REFINERY	 RAILROAD	 SULPHURIC ACID PLANT	
CHINO MINES DIVISION NEW MEXICO					†			
NEVADA MINES DIVISION NEVADA								
RAY MINES DIVISION ARIZONA			**		*			
UTAH COPPER DIVISION UTAH		2	*					
BRADEN COPPER COMPANY CHILE (100% owned)					†			
	 ELECTROLYTIC REFINERY	 FABRICATING PLANT	 IRON-TITANIUM MINE	 ORE TREATMENT PLANT	 RAILROAD	 COLUMBIUM MINE	 CONCENTRATING MILL	
KENNECOTT REFINING CORPORATION MARYLAND (100% owned)	**							
CHASE BRASS & COPPER CO. INC. CONNECTICUT AND OHIO (100% owned)		3						
KENNECOTT WIRE AND CABLE COMPANY RHODE ISLAND (100% owned)								
QUEBEC IRON AND TITANIUM CORP. QUEBEC (66-2/3% owned)								
TIN & ASSOCIATED MINERALS LTD. NIGERIA (52% owned)								
	 COLUMBIUM DEPOSIT	 TITANIUM PLANT	 GOLD MINE	 CYANIDE MILL	 URANIUM OXIDE RECOVERY PLANT	 URANIUM OXIDE CONC. PLANT	 SULPHURIC ACID PLANT	
ALLIED-KENNECOTT TITANIUM CORP. NORTH CAROLINA (50% owned)		‡						
GARFIELD CHEMICAL AND MANUFACTURING CORP. UTAH (50% owned)								
MERRIESPRUIT (ORANGE FREE STATE) GOLD MINING CO. LTD. UNION OF SOUTH AFRICA (49% owned†)			#					
QUEBEC COLUMBIUM LTD. QUEBEC (46% owned)	§							
VIRGINIA ORANGE FREE STATE GOLD MINING CO. LTD. UNION OF SOUTH AFRICA (35% owned)								

†Electrolytic requirements are met by refineries in the U. S.

*Not owned by Kennecott but a substantial part of the output is for Kennecott account. (Same refinery serves both Nevada and Ray Divisions.)

**Plant under construction.

‡Plant under design.

§Mine presently under water and not producing.

¶Assuming full conversion privileges are exercised.

§Ore treatment method under development.

Company railroads are used principally for hauling ore from mine to mill. In addition, in Nevada and Chile they are common carriers.

Products of Chase Brass & Copper Co. Inc. are distributed through a system of 27 warehouses in cities throughout

the country. These warehouses also handle the products of Kennecott Wire and Cable Company.

In addition to the above indicated ownership in affiliates, Kennecott holds for investment 13.1% of the common stock of Kaiser Aluminum and Chemical Corporation, 7.3% of the common stock of the Molybdenum Corporation of America, and 25.0% of the common stock of Western Phosphates, Inc.

mineral deposits have largely been located, the search for new mines today must be undertaken by scientifically trained specialists capable of interpreting geophysical data that may serve as a guide to mineral deposits with no surface indication. Such techniques, and one method is depicted on the cover of this report, have become everyday tools of our exploration teams. However, it must be remembered that this is a relatively new science.

Although progress has been rapid in the last few years, the development of mines from the many initial discoveries by this method does not occur overnight. Each discovery must undergo careful testing before it can be regarded as an addition to reserves. At present we have four copper deposits and two deposits of other minerals in this stage of development. During 1958 such testing will be more extensive than in 1957.

Exploration of the large concession obtained last year in the Canadian Arctic and prospected jointly with the Hudson's Bay Company, revealed only one small, although relatively high-grade, copper ore body. With the exception of the claims covering this discovery, the concession was relinquished. As this deposit is remote from present transportation, further development of the Northwest Territories must occur before production would be feasible.

In Greece a small pilot plant was constructed at the asbestos property described in last year's Annual Report; samples of the product are currently being shipped to consumers of raw asbestos fiber for testing. Drilling proved the deposit to be the largest so far discovered in Europe.

Our exploration activities must be widespread and, consequently, two new exploration subsidiaries were established during the year—Kenranda Pesquisas Minerais, S.A., in Brazil, and Compania Minera Kenmex, S.A., in Mexico. Normal exploration activities were

continued in other parts of the world, as well as the U. S. and Canada.

RESEARCH

The primary objective of our Western Research Center is to improve the recovery of metals from Kennecott's ores. The development of new or improved processes for the extraction of metals not only lowers operating costs but also increases the reserves.

The testing of the L-P-F process to increase the amount of copper recovered per ton of ore at the Ray Mines Division was mentioned in last year's Annual Report. The successful completion of this work suggested three things; (1) that pyrite could be recovered from the mill tailings at the Utah Copper Division, (2) that the pyrite could be used in the production of sponge iron, and (3) that sponge iron could be used instead of de-tinned scrap in precipitating copper from the mine dumps solution. During 1957 pilot plant testing was directed toward determining the technical feasibility of the procedure. The entire problem of dump leaching is exceedingly important because of the low-cost copper that is produced in this way.

Among other research projects of importance in operations are the study of methods for developing sufficient water of good quality to assure an adequate mill supply at the Utah Copper Division, and for improving the purification of the electrolyte in the refinery in order to produce electrolytic copper of maximum purity. The latter of these projects is now undergoing plant scale tests.

In the previous Annual Report it was noted that the columbium ore of Quebec Columbian Limited is complex in character. During the past year considerable study has been given to the possibilities of the flotation process for concentrating columbium bearing minerals. A flotation reagent was discovered which is

selective to these minerals, and which has permitted the recovery of concentrates containing up to 10 per cent columbium oxide. Considerable work was done on the production of marketable products from this concentrate.

In 1957 there was continued the study of methods for improving the marketable products obtained from the columbium ore of this company's 52 per cent owned columbium property in Nigeria. A smelting procedure was developed by which the concentrate was converted to a carbide containing the equivalent of 80 per cent columbium oxide. By chlorinating the carbide there has been produced a high-purity columbium pentachloride, which is used in producing columbium metal.

Reference was made in the previous year's report to the investigation of the recovery of thorium and the production of a concentrate of zirconium and hafnium, which elements are contained in the Nigerian ore. These studies are being continued.

In 1956 arrangements were made with Horizons Titanium Corporation for the use of patent rights and technological "know-how" in the production of zirconium and hafnium by electrolysis of fused salt baths. Construction of a large scale pilot plant was completed on September 1, 1957. Since that date the unit has been in operation, producing zirconium metal.

At the research laboratory of Chase Brass and Copper Company a new copper alloy has been developed. The new alloy is a high strength material and is highly resistant to stress cracking, in contrast to many other high strength materials. The attractive properties result from a carefully controlled combination of working and heat treatments. One use for the new alloy is in the production of bolts and fasteners.

As the result of experience acquired in work with the newer metals, a marked improvement

in processing relatively large cupro-nickel tubes has been made. This development has involved the design and configuration of tools, and the development of improved lubricants. This accomplishment has resulted in a wider range of tubing available for sale.

ORANGE FREE STATE GOLD MINING COMPANIES

Virginia

Progress at Virginia Orange Free State Gold Mining Co. Ltd., in which company Kennecott has a 35 per cent equity interest, is reflected by the following figures.

	1957	1956	1955
GOLD:			
Ore Milled			
(Net Tons) .	1,187,000	1,016,000	734,000
Grade of Ore			
(Dwt per Ton) .	5.512	4.853	4.452
Gold Recovered			
(Ounces) . .	316,452	236,739	156,183
URANIUM:			
Slimes Treated			
(Net Tons) .	1,543,495	1,479,394	—
Grade of Slimes			
(Lbs. per Ton) .	0.591	0.522	—
Uranium Oxide			
Recovered			
(Pounds) . .	766,884	598,682	—
SULPHURIC ACID:			
Pyrite Burned			
(Net Tons) .	104,326	100,973	78,966
Sulphuric Acid			
Produced			
(Net Tons) .	115,209	109,914	86,429

The increase in the amount of gold and uranium oxide recovered in 1957 as compared with 1956 was relatively greater than the increase in the amount of ore milled and slimes treated because of the higher metals content of the ore.

The mill operated throughout the year on an uninterrupted schedule averaging approxi-

mately 100,000 tons of ore a month. This rate will be increased to 125,000 tons late in 1958 upon completion of a second hoisting shaft and an extension of the mill.

Development work on the reef was retarded by an excessive number of water-bearing fissures being encountered. These fissures required sealing off by cementation prior to driving through them. The underground water situation in many mines in the Orange Free State has presented serious problems.

Unaudited earnings figures for 1957, compared with the final figures for 1956 are as follows:

	1957	1956
Working Profit:		
From Gold . . . £	814,020	£ 487,371
From Uranium Oxide	2,058,025	1,334,051
From Sulphuric Acid	298,616	288,842
Total Working Profit	<u>£3,170,661</u>	<u>£2,110,264</u>
Less Interest Charges on Gold Loans . . . £	256,636	£ 267,166
Less Uranium and Sulphuric Acid Loan Repayment Installments	775,568	557,973
Total	<u>£1,032,204</u>	<u>£ 825,139</u>
Net Profit	<u>£2,138,457</u>	<u>£1,285,125</u>

Kennecott received interest payments in 1957 amounting to \$490,080 on its holdings of the company's debentures and loan stocks.

The profit for the year was appropriated for capital expenditures to increase capacity of mine and mill, to develop added ore reserves, and to increase pumping capacity to 15,000,000 gallons per day.

Merriespruit

Stockholders were advised by a special letter dated April 17, 1957 of plans to dewater the Merriespruit mine, which was flooded in November 1956.

The work of dewatering will be accom-

plished by driving a 15,000-foot haulageway from one of the lower levels of the adjacent Virginia mine to a point 500 feet below the bottom of the flooded Merriespruit mine. The mine will then be tapped from below by diamond drilling, the water drawn into the haulageway, and pumped to the surface through Virginia's pumping system. Compared to dewatering through the Merriespruit shaft, this procedure will be safer for personnel carrying out the work, will not endanger the Virginia mine in any way and will permit acquiring considerable development information as the haulageway is driven through the gold bearing reef.

By the end of the year the haulageway had been driven 800 feet; progress was retarded by water-bearing fissures. According to present plans, the dewatering operation will not be completed before 1960. The necessary funds are being made available through the sale of housing owned by the Merriespruit company.

Upon completion of dewatering, and with the additional development information acquired in the process, the situation with regard to further action will be considered.

TIN AND ASSOCIATED MINERALS LIMITED

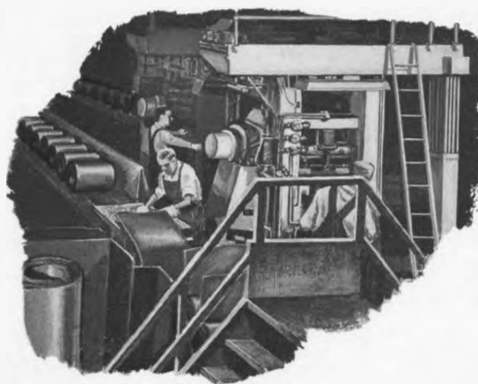
An interest in this company, which operates a columbium and tin property at Odegi in northern Nigeria, was acquired by Kennecott in September 1955. The products of the mine are columbite concentrate and tin concentrate. Columbite concentrate is used in making ferro-columbium, an additive of stainless steels and high temperature alloys.

This property continues to be operated at a loss.

In 1957 consumers showed increasing preference for columbium-stabilized stainless steels as compared with competitive materials. However, due to cutbacks in the production of jet

engines containing columbium-bearing metals, and a reduction in the sale of columbium-bearing stainless steels and super-alloys for other uses, the production of ferrocolumbium declined substantially. Columbium consumption in nuclear energy applications was disappointing in the light of earlier forecasts. These conditions and the previous cessation of government stockpiling resulted in a decline in both price and demand for columbite concentrate.

Improved sales of columbite concentrate are anticipated due (1) to increased use in previous applications because of the assured availability of the product, and (2) to the development of new uses in both the ferrous and non-ferrous fields, including use of columbium alloys for withstanding high temperatures, such as those encountered in jet engines, gas turbines, and guided missiles.



FABRICATING SUBSIDIARIES

Chase Brass & Copper Co. Inc.

In 1957 the volume of business of Chase Brass & Copper Company as measured by pounds of brass mill products shipped was 7 per cent below that of the previous year. Total dollar sales in 1957 were 21 per cent below those of 1956 because of decreased

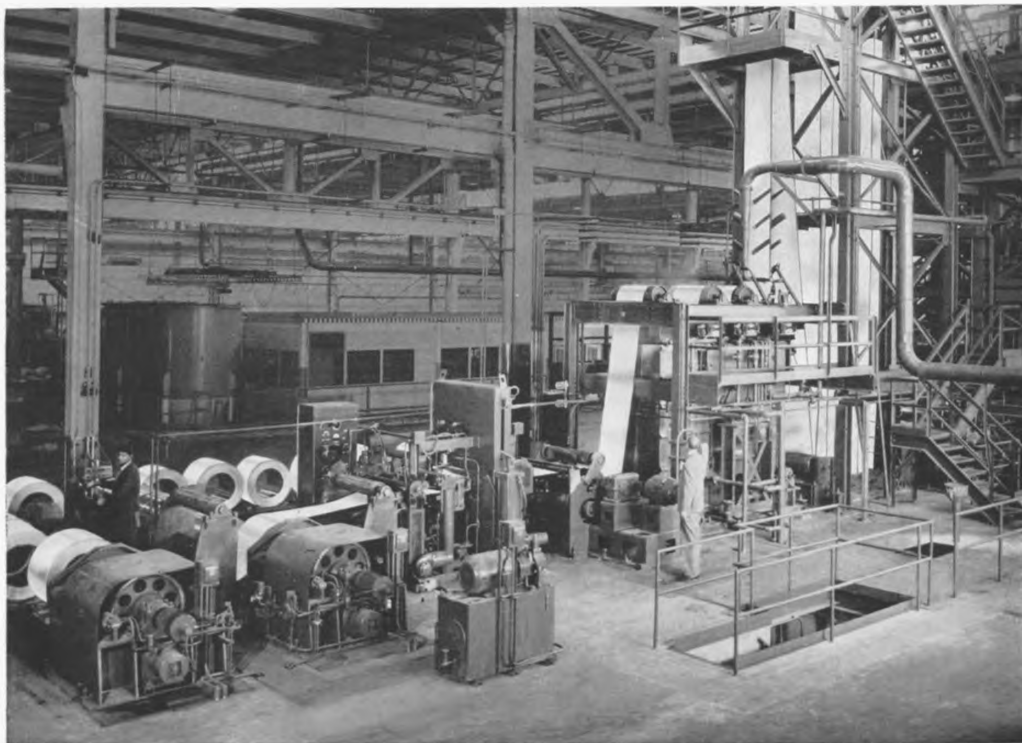
volume and lower prices. Major factors in the decrease in business were reduced buying of brass mill products by automobile companies, and the slow-down in residential construction.

Imports continued to be a factor in the sale of brass mill products. Following the trend of recent years, imports of brass mill products again increased in 1957, amounting to 6 per cent of total domestic production.

During the year the decision was made to close down permanently Chase's Waterbury Manufacturing Division. This division, which has lost money for several years, produced plumbing goods, wrought and cast fittings for water tube, and screw machine parts. The plant had high labor costs and, in addition, was old and inefficient. It was found that Chase could more profitably divest itself of the business, disposing of the equipment to prospective purchasers of brass mill products, than to modernize the plant and continue the division in operation. To date Chase has been successful in replacing the amount of mill products formerly used by the Manufacturing Division by an equivalent amount of business from other manufacturers.

Efficiency of operations at the new Cleveland strip mill was increased by installation of a continuous strip annealing line, which combines three finishing operations, viz., pre-cleaning, bright annealing and pickling. The installation is unique in the brass industry, being the first in which strip is heated by means of high velocity convection, which increases speed of production and improves quality of anneal.

Chase has become established as a major source of fabricated zirconium alloy, used in the production of atomic reactors. The research department has filled orders from builders of reactors and has produced tubes in the 3-5 inch range. The market for zirconium



The new continuous strip annealer at Chase Brass & Copper Company. This machine, the first of its kind, performs three finishing operations at high speed and with superior quality of product.

alloy tubing is expected to increase substantially in the next several years.

The company's system of branch offices and warehouses was improved by the opening of two new warehouses better to serve the needs of customers—a 73,000 square foot building at Maspeth, N. Y., and a 66,000 square foot structure in San Francisco.

Kennecott Wire and Cable Company

The demand for electrical and communication wire and cable declined substantially in the second half of 1957. Because of falling copper prices customers tended to use up their inventories of wire and cable, and because of high money rates tended to postpone expansion projects.

In 1957 shipments by this company in pounds were 21 per cent less than in 1956. The dollar value of shipments was 35 per cent less.

Kennecott Wire and Cable Company used the period of slackened demand to improve the efficiencies of organization and equipment in readiness for the expected increase in demand for its products. Plant layout was improved and new equipment was installed which will increase capacity and reduce costs.

QUEBEC IRON AND TITANIUM CORPORATION

In June 1956 this company placed in operation its new plant for upgrading and pre-

treating the ore prior to charging into the electric furnaces. In 1957 the expected benefits of the new facilities were fully realized in increased productive capacity and substantially decreased maintenance costs. Other contributions to increased efficiency during 1957 were improved methods of furnace operation and tapping, handling titanium slag, and desulfurizing the iron.

The production figures in gross tons for the last four years are as follows:

<i>Year</i>	<i>Titanium Slag Produced</i>	<i>Iron Produced</i>	<i>Ore Treated</i>
1954 . . .	109,786	80,859	252,457
1955 . . .	145,343	103,531	323,680
1956 . . .	195,156	142,745	464,651
1957 . . .	231,179	167,437	560,049

In 1957 production reached design capacity for the first time since the inception of operations. The production increases of 18 per cent in 1957 over the previous year were due chiefly to the effect of pre-treated ore in increasing furnace efficiency.

The program begun early in 1957 of constructing three additional furnaces and auxiliary facilities was well under way by the end of the year. Furnace number 6 was placed in operation in December and furnaces 7 and 8 will be in operation by the end of 1958. The shipping and unloading dock at Sorel is being doubled in size to permit the accommodation of two ships at one time.

During 1957 the demand for slag and iron equalled productive capacity. Virtually all of the slag was purchased by producers of titanium pigment. The company's iron, known in the trade as Sorelmetal, was sold in Europe as a high grade remelt iron for specialty steels, and in the domestic market for foundry use, chiefly for ductile iron. Its acceptance as a high purity base for this purpose is encourag-

ing in view of the growing importance of the latter material. Ore has been sold for use as an aggregate in high density concrete for coating underwater oil and gas lines and for shielding nuclear reactors.

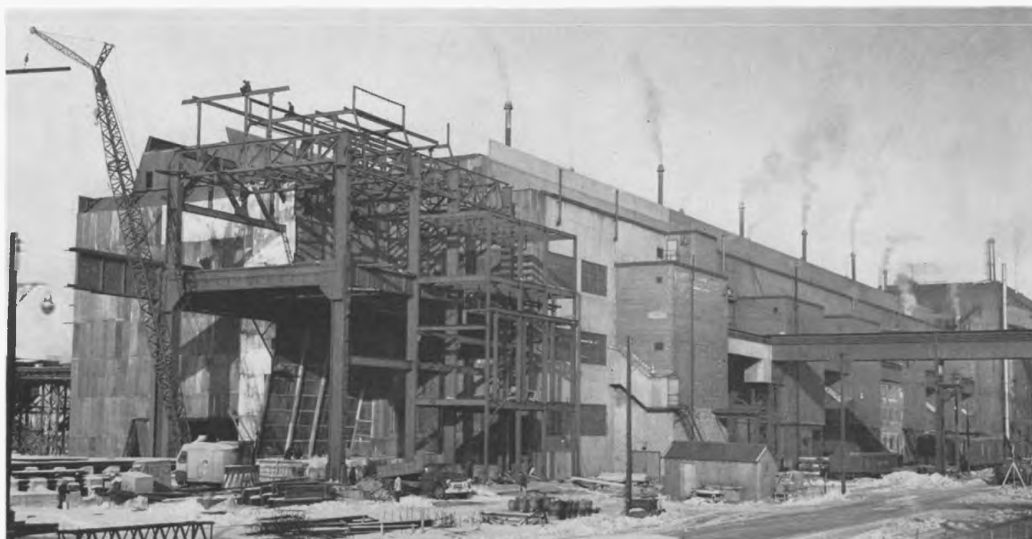
On October 1, 1957 the assets of Quebec Iron and Titanium Corporation, originally organized in the State of Delaware, were transferred to a new corporation of the same name organized under the laws of the Province of Quebec, Canada. This does not affect the company's operations or ownership and represents a change only in the company's legal status. However, the reorganization of Q.I.T. as a Quebec corporation will enable the company to conduct its business, primarily a Canadian mining operation, with increased efficiency. It is expected that it will improve and facilitate relations with Dominion and Provincial authorities, with other Canadian companies and with employees.

In December Quebec Iron and Titanium Corporation received the 1957 Chemical Engineering Biennial Achievement Award, as one of a group of chemical and metallurgical companies which have made substantial progress in the development, production and utilization of "Atomic Age" metals. Specifically, the award to Q.I.T. was made in recognition of the company's success in developing a commercial process for producing titanium slag.

For 1957 the company operated for the first time at a profit. Since Q.I.T. is not a wholly-owned subsidiary of Kennecott, the financial results are not reflected in the latter's consolidated statements.

ALLIED-KENNECOTT TITANIUM CORPORATION

In 1956 announcement was made of the formation by Kennecott Copper Corporation



The treatment plant of Quebec Iron and Titanium Corporation. The sixth furnace has just been completed and the seventh is under construction; the eighth will be erected at the left.

and Allied Chemical & Dye Corporation of an equally owned company Allied-Kennecott Titanium Corporation. The announced purpose of the company was to produce and sell titanium metal. In 1957 a 1500-acre plant site on the Cape Fear River near Wilmington, North Carolina was acquired.

Since the company was formed there has been a marked decline in demand for titanium metal. The principal use of titanium has been in the manufacture of military aircraft. About the middle of 1957 the Defense Department cut back the production of aircraft and changed the emphasis from aircraft to guided missiles, in which the use of titanium is yet to be determined. Also by mid-1957 the Government's obligations for buying titanium for the national stockpile were nearing completion. As a result, there will be considerable excess titanium capacity for the next year or two.

In order to stimulate demand it will be necessary to develop lower cost methods of production and fabrication. For this reason before constructing the plant, Allied-Kennecott is doing further development work on the process for producing titanium sponge, as well as on improved methods of melting and fabricating. At the same time the company is studying the market, with particular emphasis on commercial uses of the metal.

The company's confidence in titanium's ultimate place as an important new metal remains undiminished. Because of its high strength-weight ratio and corrosion resistant properties, new uses for the metal will continue to develop in the chemical processing, pulp and paper, marine, electronic, aviation and automotive industries. It is reasonable to expect that within the next ten years the use of titanium will increase several-fold over the record consumption of 1956.



Suspended over the edge of a mine bench, a television cameraman shoots operations at the famous Utah pit during a nation-wide telecast.

INDUSTRIAL AND PUBLIC RELATIONS

Labor Relations

The first year of the period covered by the three-year labor agreements between Kennecott and the unions at the domestic mining divisions was completed in mid-1957. Wage increases of 7 cents per hour became effective at that time. Similar increases are called for in 1958. Special efforts were made during the year to strengthen day-to-day working re-

lationships with all unions to effect safer and more efficient operations.

At our Chilean subsidiary, Braden Copper Company, a two-week strike began on April 1, 1957, the termination date of the labor contract. A new contract, which includes a wage increase within the limits prescribed by law, was negotiated. This increase, part of which had become effective during the life of the expired contract in accordance with the cost-of-living clause included therein, amounted to approximately 30 per cent (80 per cent of the cost-of-living increase during the period). The new contract, which also provides cost-of-living escalation, runs until June 30, 1958.

The three-year agreements at the Waterbury metal works plant of Chase Brass & Copper Company will remain in effect until September 15, 1958. At Chase's Cleveland plant labor contracts are in effect which will expire in August of this year. As noted elsewhere in this report, the Waterbury Manufacturing Division of Chase is in the process of liquidation. Satisfactory agreements were reached with the unions at this location providing for contract modifications to permit orderly shut-down procedures.

Kennecott Wire and Cable Company continued to operate under the terms of three-year contracts which were signed in 1956. These contracts will expire on July 1, 1959.

Contracts covering mine employees of the Quebec Iron and Titanium Corporation expired in April 1957 and, even though new agreements have not yet been reached, work has continued without interruption. Employees at the company's treatment plant are covered by a two-year contract which will be in effect until December 5, 1958.

Tuition Aid Plan

A Tuition Aid Plan was inaugurated in 1957 to encourage employees to take job-

related studies at approved colleges, universities, trade schools or business and professional schools. The primary objective of the plan is to improve corporate performance by giving technical personnel an opportunity to increase their knowledge and to keep up-to-date with latest developments, and by encouraging employees to prepare themselves for advancement within the organization.

Upon successful completion of approved courses, employees will be reimbursed to the extent of two-thirds the cost of registration, tuition fees, required books and laboratory fees.

Suggestion System

The Suggestion System and Patent Plan, which was instituted at our domestic mining divisions in the early part of the year, has been extended to our fabricating subsidiaries. The plan has met with enthusiastic response as evidenced by the more than 6,500 suggestions received from employees and the approximately 800 adopted and put in effect.

Training

Training programs continued to play an important part in the company's industrial relations activities. Courses designed to aid the employee in the development of job-related skills and to increase his knowledge of basic company and industry problems were presented at all domestic properties. These courses are specifically adapted to help the employee improve his job efficiency and effectiveness.

Communications

The communications programs instituted early in the year are now fully operative at all domestic mining properties. The programs permit two-way communication between management and employees at all levels. Other

communication tools including plant and supervisory publications are geared to supplement this effort.

Safety

Improvement in accident prevention was achieved at our domestic locations, with division records being established at two properties. The cooperation of employees and the unions in this important phase of our activities was noteworthy.

For the tenth consecutive year Braden Copper Company won the first-place award of the Inter-American Safety Council for mining companies.

Raising the National Safety Council's pennant, awarded for outstanding safety performance, at Chino Mines Division. Left to right: G. J. Ballmer, mine superintendent; W. H. Snell, mine safety engineer; Baltazar Sandoval, carpenter; J. K. Richardson, assistant general manager; Manuel T. Gutierrez, machinist; Joe McCormick, tinner; and W. H. Goodrich, general manager.



Training courses in safe operating procedures were continued for employees at all divisions and fabricating subsidiaries. Safety programs sponsored by the company extended beyond instruction in safety on-the-job, and included safe driving and safety-at-home education.

Employees

The average number of employees at Kennecott and its wholly-owned subsidiaries during 1957 was 26,752. This compares with 27,886 in 1956. Employees of partially owned subsidiaries or of companies performing contract services for any of the divisions or subsidiaries are not included in this figure.

Public Relations

Public relations activities at each of the divisions and subsidiaries continue to be geared to the basic objectives of presenting the company story—its activities, problems, personnel and accomplishments. Facts concerning the company were disseminated by the use of all available media. Special tours of our operating areas by technical organizations, civic groups, and the general public grew in number and interest during 1957.

The sale of company housing to employees at our western mining divisions is proceeding to completion. As a final step in the company's withdrawal from ownership of its western community properties, deeds for certain facilities and land have been given to churches, schools and other community associations. The management of these community organizations was assumed by appropriate groups in each town at the time the company made its residences available for purchase by employees.

Through its contributions program, the company continued its active support of civic, cultural and recreational associations, particularly in the communities where it operates.

Kennecott's national program of scholarships and fellowships was maintained, supplemented by regional programs in each of its areas of operation.

Advertising

Kennecott's national advertising has been continued with a "No Substitute Can Do What Copper Does" program appearing in leading consumer magazines, and a campaign devoted to adequate wiring appearing in homemakers' magazines. A major campaign on behalf of copper tube has been conducted by our fabricating subsidiary, Chase Brass & Copper Company, in addition to that company's regular program.

A well integrated program of product publicity carried on by Chase has stimulated editorial support for copper and copper products. Copper's many advantages both to industry and to consumers have been pointed out.

ORGANIZATION CHANGES

Effective June 26, 1957 Peter S. Barno was appointed Vice President (Public and Industrial Relations) of Chase Brass & Copper Company in place of Rodney Chase, who retired May 1st. Prior to becoming associated with the Chase company, Mr. Barno was Director of Industrial Relations of the Studebaker-Packard Corporation.

It is with deep regret that we record the death on July 15 of Rodney Chase, retired vice president in charge of public and industrial relations of Chase Brass & Copper Company. For 37 years Mr. Chase served his company with distinction. His death brought profound sorrow to his associates and friends, and was a great loss to the community.

FINANCIAL REVIEW



Income and Dividends

Operations for the year 1957 resulted in consolidated net income of \$79,251,667 or \$7.32 per share, compared with 1956 consolidated net income of \$143,154,210 or \$13.23 per share.

Reduction in the average price received for copper during 1957 as compared to 1956 was the major factor causing the decrease in net income.

Cash distributed to stockholders during 1957 amounted to \$6.00 per share—the same as was paid in each year since 1951 with the exception of 1955 and 1956 when greater earnings, resulting from unusually high copper prices, permitted larger distributions to stockholders.

Copper Sales and Prices

Early in 1957 Kennecott entered the European market with electrolytically refined copper in a major effort to avoid further inventory accumulation and to boost lagging sales. The success of this endeavor is clearly evident from the 12 per cent increase in copper deliveries, which rose from 495,219 tons in 1956 to 552,944 tons in 1957 despite a decrease in domestic business.

Throughout 1957, however, the price of copper continued its steady decline from the abnormally high levels of 1956. The history of the U. S. producers' prices since January 1,

1955 is shown in the following table:

<u>1955</u>	<u>Cents Per Pound</u>	<u>1957</u>	<u>Cents Per Pound</u>
Jan. 1 . . .	30	Feb. 1 . . .	34
Feb. 1 . . .	33	Feb. 19 . . .	32
Mar. 31 . . .	36	June 20 . . .	29¼
Aug. 24 . . .	40	Aug. 8 . . .	28½
Sept. 1 . . .	43	Sept. 4 . . .	27
<u>1956</u>		<u>1958</u>	
Feb. 21 . . .	46	Jan. 14 . . .	25
July 11 . . .	40		
Oct. 29 . . .	36		

In Europe, where Kennecott increased its share of business, the price of copper fell even faster and farther than it did in the United States. The combined result was a 31 per cent drop in the company's average price of copper from 41.6 cents in 1956 to 28.9 cents in 1957.

Cost Reduction Program

Due to the continued rise in labor rates and material prices and a further drop in the grade of ore processed, the average cost of copper sold during 1957 increased. In view of this and the continued fall in the price of copper, the company has intensified its efforts to check these rising costs. A cost reduction program has already achieved significant benefits and promises still more in the year ahead.

SUMMARY OF RESULTS

Per Share of Capital Stock Outstanding

	<u>1957</u>	<u>1956</u>
Sales and Other Income	\$44.37	\$53.42
Consolidated Net Income before Taxes	14.75	25.99
Provision for U. S. and Foreign Taxes on Income	7.43	12.76
Consolidated Net Income after Taxes	7.32	13.23*
Distributed to Stockholders	6.00	9.25
Capital Expenditures	2.53	1.96
Depreciation and Retirements	0.98	0.75
Book Value	68.15	66.83

Net Income Per Share — by Quarters

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
1957	\$2.57	\$1.99	\$1.45	\$1.31
*1956	4.08	4.16	2.48	2.51

*Before Surplus Adjustments.

Chilean Division

In Chile the government's anti-inflationary program has had some success in reducing that nation's rate of inflation. Nonetheless, by United States standards, peso prices continued to rise at a rapid rate. The corresponding rise in the peso costs of the Chilean division, however, once again was met by an increase in the exchange rate favorable to the dollar. In 1957 the company was able to purchase its peso requirements at an average of 616 pesos to the dollar as compared with 374 pesos to the dollar during the previous year.

In 1957 the Chilean division accounted for 34 per cent of the total copper deliveries and 24 per cent of the consolidated net income.

Taxes

At December 31, 1957, the U. S. Internal Revenue Service had not yet completed its examination for the year 1951. This review was completed early in the month of January

1958, and the company's provision for such taxes was found to be adequate. It is believed that examinations of subsequent years will not result in additional assessments in excess of amounts previously provided.

The provision for all taxes in 1957 and 1956 is summarized as follows:

	<u>1957</u>	<u>1956</u>
U. S. and foreign taxes on income	\$ 80,368,103	\$138,072,046
Other taxes included in operating costs or other accounts	22,813,171	22,899,942
	<u>\$103,181,274</u>	<u>\$160,971,988</u>
Taxes—Per Share	\$9.53	\$14.87

Government and Other Short-term Securities

During the year 1957 the company maintained its policy of investing cash not required immediately in the company's operations prin-

cipally in short-term U. S. Government securities. At the year's end our total investment in government and other short-term securities, shown on the balance sheet at cost, amounted to \$209,061,526 compared to approximate market value of \$210,197,000. Of the total cost, \$197,216,087 represents the investment in securities of the United States Government, the balance comprising principally investments in commercial paper, and securities of United States Government agencies and municipal governments.

Investments

A statement is presented which details the principal investments held by the company at the year's end in the amount of \$122,510,600. This represents an increase of \$3,329,066 during 1957. The major changes in our portfolio are summarized as follows:

A further advance of \$1,600,000 was made to Quebec Iron and Titanium Corporation.

An additional investment of \$303,556 was made in the securities of the Molybdenum Corporation of America by the exercise of rights to acquire common stock and warrants.

An initial investment of \$1,000,000 was made in the stock of Allied-Kennecott Titanium Corporation.

Garfield Chemical & Manufacturing Corporation repaid the remaining balance of \$500,000 advanced to that company for plant expansion.

Property, Plant and Equipment Expenditures

Total capital expenditures for replacement, modernization of equipment and continuing progress of the Kennecott integration program during 1957 were \$27,332,260 as compared to \$21,244,275 in 1956. Of the total, \$1,440,800 was spent by the fabricating divisions.

Depreciation and retirement of plant and equipment amounted to \$10,610,278, of which

SCHEDULE OF INVESTMENTS

(Excluding Securities Carried as Current Assets)

Quebec Iron and Titanium Corporation—stock and advances	\$ 43,000,000
Merriespruit (O.F.S.) Gold Mining Co. Ltd.—stock and debentures	25,251,243
Virginia O.F.S. Gold Mining Co. Ltd.—stock and debentures	21,159,116
Kaiser Aluminum & Chemical Corporation—stock	18,800,000
J. W. Galbreath & Co.—notes receivable	3,823,546
Molybdenum Corporation of America—stock and stock warrants	3,134,806
Western Phosphates, Inc.—stock and advances	1,655,000
Tin and Associated Minerals Limited—stock and advances	1,449,760
Quebec Columbium Limited—stock and advances	1,038,380
Allied-Kennecott Titanium Corporation—stock	1,000,000
Compania de Acero del Pacifico—stock	350,000
Garfield Chemical & Manufacturing Corporation—stock	240,000
Other miscellaneous investments	1,608,749
Balance—December 31, 1957	<u>\$122,510,600</u>

\$1,409,811 was for accelerated amortization of facilities covered by certificates of necessity.

Amounts authorized as yet unexpended total \$99,769,000. In addition to the construction of the new electrolytic refinery in Maryland, which accounts for \$30,000,000 of this total, there are several other major projects in progress at the various divisions and subsidiaries of the company. Of primary importance among such projects are additional power facilities at the Utah and Chino divisions, continuation of expansion and integration at the Ray Mines Division started in 1956, modernization of the Braden Copper Company plant, and acquisition of the properties of Consolidated Coppermines Corporation in Nevada.

Pension Trusts

The company and its consolidated subsidiaries contributed \$9,106,000 during the year to the several pension trust funds which were established to provide employee pensions. At December 31, 1957 the pension plans which are related to these trust funds covered 19,775 employees and 1,558 retired employees. During the year \$1,674,000 was withdrawn from the trusts to pay pension allowances.

Executive Incentive-Compensation Plan

The amount of 1957 earnings available under the Executive Incentive-Compensation Plan for distribution to key executive employees was \$361,547. A total of 31 such

employees were granted awards aggregating \$295,000. The unused balance of the earnings originally available for award, \$66,547, remains as corporate earnings and is no longer available for payment under the plan.

Stockholders

On November 29, 1957 the 10,821,653 shares of Kennecott stock outstanding were held by 90,264 stockholders, as compared with 89,596 on November 30, 1956. This number does not include many additional stockholders whose stock is registered in the names of brokers and nominees.

INTERESTING FACTS REGARDING KENNECOTT'S METALS

1. *Your 14 carat gold ring is about two-thirds gold and one-third copper.*
2. *Selenium is a much better conductor of electricity in the light than in the dark.*
3. *At 1800 degrees Fahrenheit, columbium metal will stand five times as great a stress as many steels.*
4. *The American five-cent piece contains three-times as much copper as nickel.*
5. *Thorium can be converted into uranium-233 to produce nuclear energy.*
6. *Zirconium is a vital element in the power plants of our atomic submarines.*
7. *In 1957 U. S. consumption of new copper was about 15 pounds per capita as compared with less than 2 pounds for the rest of the world.*



AUDITORS' CERTIFICATE

LOOMIS, SUFFERN & FERNALD

Certified Public Accountants

80 BROAD STREET

NEW YORK 4

February 19, 1958.

To the Directors and Stockholders of

Kennecott Copper Corporation:

We have examined the Consolidated Balance Sheet of Kennecott Copper Corporation and its consolidated subsidiaries as of December 31, 1957 and the related Statements of Income and Surplus for the year then ended. We had previously made a similar examination for the year 1956. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying Consolidated Balance Sheet and Statements of Income and Surplus, and the Notes thereto, present fairly the consolidated financial position of Kennecott Copper Corporation and its consolidated subsidiaries at December 31, 1957 and December 31, 1956 and the results of their operations for the years then ended, in conformity with generally accepted accounting principles applied for each year on a basis consistent with that of the preceding year.

LOOMIS, SUFFERN & FERNALD

Certified Public Accountants.



CONSOLIDATED STATEMENTS of INCOME and EARNED SURPLUS

FOR THE YEARS ENDED DECEMBER 31, 1957 and 1956

Consolidated Statement of Income

Sales and other income:

Sales of metals and metal products	\$467,958,212	\$567,004,258
Dividends, interest and miscellaneous	12,241,308	11,062,994
	<u>\$480,199,520</u>	<u>\$578,067,252</u>

Costs and expenses:

Cost of goods sold and other operating expenses	\$298,466,187	\$273,335,227
Depreciation and retirements	10,610,278	8,120,221
General administrative and corporate expenses not included in operating or other expenses	4,070,967	4,707,145
Shut-down expenses during strikes	245,625	2,347,031
Interest on tax settlements	22,109	1,230,383
Sundry charges for research, exploration and other deductions not included in operating or other expenses	7,164,584	7,100,989
	<u>\$320,579,750</u>	<u>\$296,840,996</u>

Net income before taxes separately
stated below

\$159,619,770 \$281,226,256

Provision for U. S. and foreign taxes on income

80,368,103 138,072,046

Net income (without deduction for
depletion of mines)

\$ 79,251,667 \$143,154,210

Consolidated Earned Surplus

Balance at beginning of year	\$478,883,929	\$435,226,106
Net income for year	79,251,667	143,154,210
Exploration expenses previously written off now capitalized	—	603,903
	<u>\$558,135,596</u>	<u>\$578,984,219</u>
Distributions to stockholders	64,929,918	100,100,290
Balance at end of year	<u>\$493,205,678</u>	<u>\$478,883,929</u>

See "Notes" on page 28.



CONSOLIDATED BALANCE SHEET

DECEMBER 31, 1957 AND DECEMBER 31, 1956

Assets

Current assets:

	1957	1956
Cash	\$ 22,845,931	\$ 26,095,971
U. S. government and other short-term securities	209,061,526	248,766,596
Accounts receivable, less reserves	28,165,462	36,102,302
Metals and metal products on hand and receivable	97,186,816	88,528,741
Ore and concentrates on hand and in transit—at cost	4,426,057	4,428,514
Materials and supplies	33,134,089	32,714,934
	<u>\$394,819,881</u>	<u>\$436,637,058</u>
Investments in partly-owned affiliated corporations and other investments—at or below cost	122,510,600	119,181,534
Deferred charges for stripping and mine development	6,209,435	10,363,040
Other deferred charges, prepayments, refund claims, etc.	4,447,766	4,665,913
Mining and other properties, plants and equipment	483,520,052	458,398,356
Reserves for depreciation	(204,055,638)	(195,248,304)
	<u>\$807,452,096</u>	<u>\$833,997,597</u>

Liabilities

Current liabilities:

Accounts payable	\$ 18,126,914	\$ 20,223,825
Treatment, refining and delivery charges accrued	6,535,645	6,114,612
Taxes accrued	40,827,533	81,928,908
	<u>\$ 65,490,092</u>	<u>\$108,267,345</u>
Sundry reserves and deferred credits	4,440,562	2,530,559
Capital—Kennecott Copper Corporation—10,821,653 shares of no par value outstanding (12,000,000 shares authorized):		
Stated capital	53,199,636	53,199,636
Consolidated capital surplus	191,116,128	191,116,128
Consolidated earned surplus (without deduction for depletion of now-operating mines)	493,205,678	478,883,929
	<u>\$807,452,096</u>	<u>\$833,997,597</u>

See "Notes" on page 28.



NOTES TO FINANCIAL STATEMENTS

BASIS OF CONSOLIDATION:

In consolidation, the accounts of Kennecott Copper Corporation and all of its wholly-owned subsidiaries have been included, after appropriate elimination or adjustment of intercompany accounts, in accordance with the accounts of the corporations consolidated except as to certain property accounts which have been adjusted to the basis of the Kennecott stock issued or cash paid to acquire the securities of the corporation which now own or heretofore owned such properties. The securities of corporations not wholly-owned are included as "Investments." This is the same basis which has been applied in the consolidated statements for prior years.

The accounting basis here used for mines and other properties and investments is not intended as a representation of actual present values or prospective future values thereof.

FOREIGN CURRENCY AMOUNTS:

Foreign currency amounts are included at their U. S. dollar equivalents based on appropriate exchange rates. In no case was there any excess of funds or receivables in foreign currency beyond current requirements.

INVENTORIES:

Inventories of metals and metal products at the beginning and end of the year are carried at cost or market value, whichever is lower. In general, cost is computed on a "first-in, first-out" method. However, certain inventories of the fabricating divisions are computed on a "last-in, first-out" method.

Materials and supplies are valued at cost except for certain items which, because of expected limited value for use, are carried at less than cost.

INVESTMENTS:

The investment of \$25,251,243 in securities of Merriespruit (Orange Free State) Gold Mining Co.

Ltd. is carried at cost in the balance sheet. No reduction or reserve has been recorded in connection with the flooding of the mine, since decision as to its future awaits the results of dewatering and exploration programs presently being pursued.

STRIPPING AND DEVELOPMENT:

Deferred charges for stripping and mine development represent expenditures heretofore made which are being charged off ratably against appropriate tonnages. Similar expenditures in recent years have been included currently in operating costs.

MINING AND OTHER PROPERTIES, PLANTS AND EQUIPMENT:

The amounts for mining properties and income and surplus from their operations are stated without deduction for depletion of now-operating mines (for which mines depletion for Federal income tax purposes is allowable on a percentage of income basis).

Facilities fully amortized under emergency certificates but unretired are carried at cost in plant and equipment accounts, offset by amortization included in depreciation reserves. The charge in income account for depreciation and retirements includes amortization of emergency facilities of \$1,409,811 for 1957 and \$1,637,732 for 1956.

CONTINGENT LIABILITIES:

The known contingent liabilities at December 31, 1957 were for commitments under leases and for purchases and sales, service and agency contracts and pension obligations, construction contracts, uninsured workmen's liability, taxes and claims, all of which arose in the ordinary course of business; and for the purchase or guarantee of securities of others. Certain matters in litigation have not reached a stage which enables a statement to be made as to what liability, if any, may exist. No substantial loss is anticipated as a result of contingent liabilities.



Left to right: (Standing) Tutt, Stone, Havemeyer, Drinker, Sawyer, Flint, Hardin, Thiele;
(Sitting) Dickey, Whitney, Jessup (Secretary), Cox, Sloan, Guggenheim, Whelpley, Page.

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*MEDLEY G. B. WHELPLEY, *Director*, United States Rubber Company; *Trustee*, American Surety Company

*GEORGE WHITNEY, *Director*, J. P. Morgan & Co. Incorporated

**Member of Executive Committee.*

TRANSFER AGENTS

J. P. MORGAN & CO. INCORPORATED, New York, N. Y.

BOSTON SAFE DEPOSIT AND TRUST COMPANY, Boston, Mass.

REGISTRARS

BANKERS TRUST COMPANY, New York, N. Y.

FIRST NATIONAL BANK OF BOSTON, Boston, Mass.



HISTORICAL TABLE

OPERATING
INFORMATION

Year	Copper Ore Mined and Milled (000 Net Tons)	Material Removed to Dumps (000 Net Tons)	Copper Produced			Total Copper Sold (Net Tons)
			In the U. S. (Net Tons)	In Chile (Net Tons)	Total (Net Tons)	
1940	43,785	46,551	360,883	120,358	481,241	473,776
1941	52,025	51,181	409,825	145,179	555,004	583,290
1942	56,458	49,261	470,581	161,800	632,381	649,475
1943	59,515	48,902	472,913	164,276	637,189	640,810
1944	51,023	40,865	406,107	174,688	580,795	601,721
1945	42,421	41,858	329,239	164,899	494,138	485,226
1946	27,502	30,137	203,489	93,725	297,214	280,330
1947	48,154	48,468	369,256	138,472	507,728	509,829
1948	46,971	58,467	350,330	164,252	514,582	538,345
1949	39,816	56,158	296,649	139,592	436,241	407,999
1950	55,018	78,612	418,123	157,910	576,033	589,694
1951	56,168	87,318	430,187	171,247	601,434	605,473
1952	59,015	81,673	444,582	184,813	629,395	634,360
1953	56,147	79,746	429,052	140,347	569,399	524,322
1954	44,611	66,715	338,749	108,330	447,079	509,754
1955	51,589	74,641	370,487	156,228	526,715	533,820
1956	61,203	98,955	402,309	179,896	582,205	495,219
1957	58,292	100,859	387,291	172,707	559,998	552,944

FINANCIAL
INFORMATION

Year	Total Revenue (000 Dollars)	Operating Costs Excl. Taxes (000 Dollars)	Depreciation and Retirements (000 Dollars)	U. S. and Foreign Income Taxes (000 Dollars)	Taxes Other Than U. S. and Foreign Inc. (000 Dollars)	Other Costs (000 Dollars)	Net Income (000 Dollars)
1940	\$178,585	\$ 98,894	\$ 5,395	\$ 18,919	\$ 6,146	\$ 5,394	\$ 43,837
1941	239,708	135,855	7,449	34,268	7,757	5,127	49,252
1942	261,043	151,591	6,680	43,071	7,669	3,211	48,821
1943	266,589	158,039	8,774	41,312	8,051	5,447	44,966
1944	253,651	157,569	8,513	35,481	7,712	5,512	38,864
1945	211,217	143,567	14,685	13,512	6,507	2,692	30,254
1946	157,025	104,503	4,132	11,163	5,586	8,594	23,047
1947	318,820	159,804	4,958	49,723	8,719	3,734	91,882
1948	351,100	185,181	5,230	52,344	10,346	4,192	93,807
1949	249,438	157,798	5,234	24,247	10,591	3,458	48,110
1950	400,153	231,206	6,815	58,726	12,825	2,420	88,161
1951	455,485	254,708	7,268	83,036	15,144	3,982	91,347
1952	476,740	287,957	8,509	73,580	14,716	5,827	86,151
1953	482,808	269,416	9,244	90,069	18,798	6,527	88,754
1954	429,131	261,429	8,734	54,323	16,976	9,763	77,906
1955	555,939	252,392	8,905	122,429	20,785	25,912	125,516
1956	578,067	250,435	8,120	138,072	22,900	15,386	143,154
1957	480,200	275,653	10,610	80,368	22,813	11,504	79,252

NOTES:

Gold produced does not include production of mines of Orange Free State companies.

Total Revenue includes Sales and Other Income.

Depreciation and Retirements include amortization of emergency facilities.

SUBSIDIARIES

1940-1957

Molybdenite Produced (000 Pounds)	Gold Produced (Fine Ounces)	Silver Produced (Fine Ounces)	Average Number of Employees	Grade of Copper Ore Mined		Capital Expenditures (000 Dollars)	Year
				In the U. S. (Per Cent)	In Chile (Per Cent)		
18,105	260,341	2,227,420	28,872	1.062	2.135	6,543	1940
19,285	284,089	2,335,819	31,175	1.044	2.105	6,559	1941
23,818	333,158	2,650,206	28,797	1.042	2.179	8,164	1942
24,572	344,357	3,059,286	29,005	.996	2.079	9,768	1943
25,071	313,386	2,693,558	27,143	1.005	2.269	6,370	1944
21,437	258,556	2,183,964	24,526	.995	2.203	2,990	1945
12,335	155,749	1,305,283	23,483	.965	2.133	9,900	1946
25,777	391,497	3,128,766	25,887	.960	2.110	12,037	1947
22,253	338,228	2,823,068	26,210	.946	2.220	10,329	1948
19,895	296,818	2,384,043	24,807	.955	2.140	18,023	1949
29,407	450,174	3,586,763	26,152	.958	2.090	13,960	1950
30,837	430,515	3,441,549	26,594	.987	2.110	13,126	1951
34,480	430,139	3,679,035	26,898	.952	2.151	14,908	1952
35,224	487,335	3,911,928	28,024	.942	2.106	16,170	1953
28,200	387,039	2,852,744	25,474	.943	2.110	8,748	1954
31,960	414,444	3,445,762	27,158	.914	2.046	16,006	1955
32,538	403,381	3,213,559	27,886	.843	2.014	21,244	1956
28,756	377,367	3,295,170	26,752	.839	1.963	27,332	1957

Distributed to Stockholders (\$000 Dollars)	Net Income Per Share	Distributed to Stockholders Per Share	Total Assets (000 Dollars)	Cash and Government Securities (000 Dollars)	Current Assets (000 Dollars)	Current Liabilities (000 Dollars)	Capital and Surplus (000 Dollars)	Book Value Per Share	Year
\$ 29,760	\$ 4.05	\$2.75	\$394,647	\$ 86,809	\$149,182	\$ 33,490	\$353,682	32.68	1940
35,170	4.55	3.25	436,083	126,469	194,424	50,990	369,288	34.12	1941
32,465	4.51	3.00	469,550	155,932	220,973	61,631	385,644	35.64	1942
32,465	4.15	3.00	489,774	174,879	241,489	66,850	398,145	36.79	1943
27,054	3.59	2.50	490,270	194,398	248,243	53,432	409,955	37.88	1944
27,054	2.79	2.50	464,800	187,502	246,061	30,212	412,875	38.15	1945
27,054	2.13	2.50	459,670	173,786	240,328	30,370	408,868	37.78	1946
43,287	8.49	4.00	540,612	240,281	315,081	62,696	457,463	42.27	1947
54,108	8.67	5.00	575,420	254,318	335,767	56,993	497,683	45.99	1948
43,287	4.45	4.00	560,283	194,654	284,847	37,306	502,507	46.44	1949
59,519	8.15	5.50	631,487	224,831	325,507	76,885	551,667	50.98	1950
64,930	8.44	6.00	687,473	253,734	368,037	105,728	578,084	53.42	1951
64,930	7.96	6.00	703,532	253,991	368,175	99,310	600,567	55.50	1952
64,930	8.20	6.00	747,630	250,763	385,298	123,425	620,593	57.35	1953
64,930	7.20	6.00	730,867	248,785	358,379	88,631	637,893	58.95	1954
83,868	11.60	7.75	793,221	274,028	409,381	112,088	679,542	62.79	1955
100,100	13.23	9.25	833,998	274,863	436,637	108,267	723,200	66.83	1956
64,930	7.32	6.00	807,452	231,907	394,820	65,490	737,521	68.15	1957

Other Costs include provisions for Reserve for Contingencies as follows: 1940—\$4,000,000; 1941—\$4,000,000; 1942—\$2,000,000; 1943—\$4,000,000; 1944—\$4,000,000. In 1950 the \$17,633,060 balance of Reserve for Contingencies was returned to Earned Surplus.

Net Income figures are as reported annually to stockholders, without adjustment for surplus charges and credits.



KENNECOTT COPPER CORPORATION

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C. D. MICHAELSON, *General Manager, Western Mining Divisions*

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Chino Mines Division*

A. P. MORRIS, *General Manager
Ray Mines Division*

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Nevada Mines Division*

L. F. PETT, *General Manager
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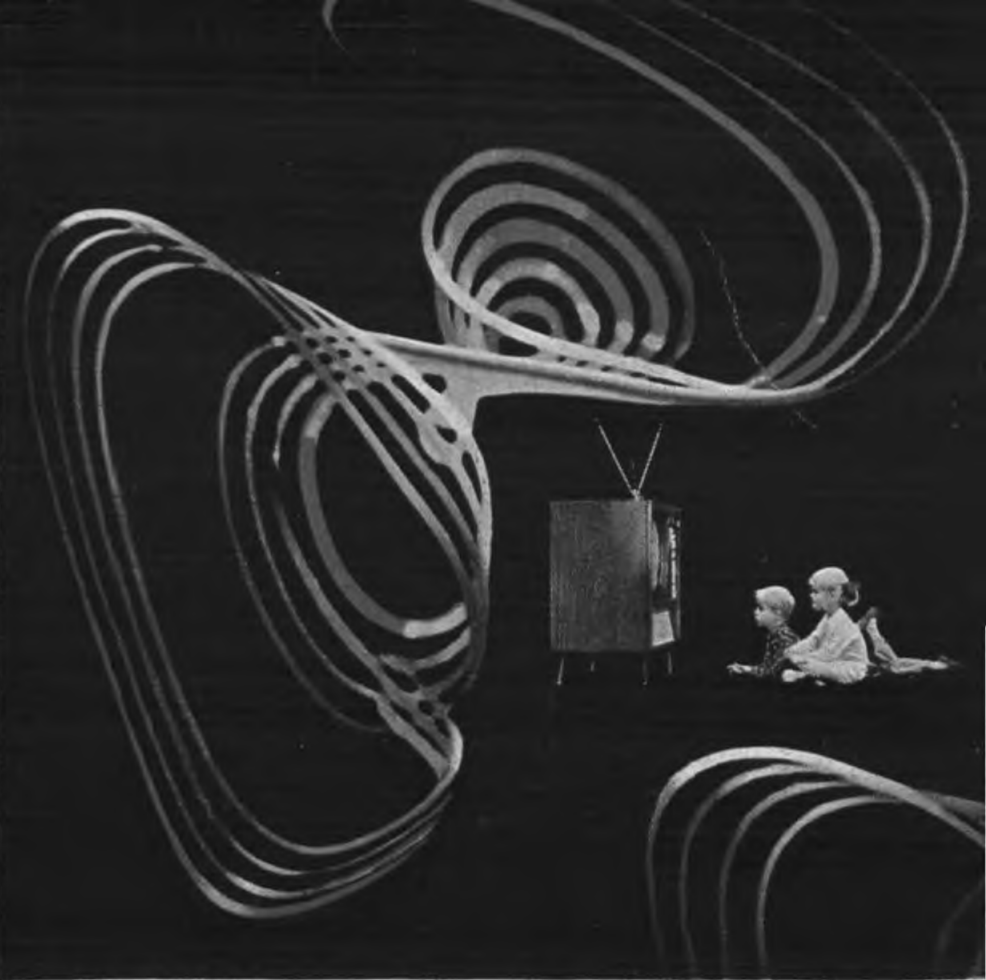


in agriculture...

no substitute can do what copper does!

Heavily used water supply and drainage lines for barns, outbuildings and homes need the combination of durability, resistance to corrosion and mechanical strength that copper gives. Copper's ability to conduct electricity far better than any other non-precious metal, makes it essential to farm wiring for light and power, electric generators and motors, tractor ignition systems, and copper lightning rod installations. In agriculture, as in so many other fields, copper always gives something extra no substitute can match!

KENNECOTT COPPER CORPORATION  CHASE BRASS & COPPER CO., KENNECOTT WIRE & CABLE CO.



Electronic warfare is an actual photograph.

in electronics...no substitute can do what copper does!

The miracle of electronics depends on copper as on no other metal. For copper best carries the electrical impulses that activate the complex parts of radio and TV sets, radar and sonar equipment, intricate "brain machines" and countless other electronic devices. Copper and its alloys, too, make possible more economical mass production of these modern marvels. No other commercial metal can be formed, machined and solder-connected so easily. In electronics, as in so many other fields, no substitute can do what copper does!

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Fabricating Subsidiaries: Chase Brass & Copper Co. • Kennecott Wire and Cable Co.



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Vital arteries for our atomic underseas fleet

NAUTILUS and SEAWOLF are now at sea. SKATE is being readied for commissioning. TRITON, SKIPJACK and more to come make up our fleet of atomic-powered submarines. Their builder, General Dynamics Corporation's Electric Boat Division, makes extensive use of Chase copper and copper alloy tubes aboard these ships. You'll find tons of Chase copper and copper alloys in each submarine—chosen for the same quality that can help you to better products at lower cost. For tube, wire, sheet and strip made from Kennecott copper, call Chase today—locally, or at Waterbury 20, Connecticut.

 **CHASE BRASS & COPPER CO.**
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CHASE COPPER AND COPPER ALLOY TUBES, wire, strip and sheet are vital heat exchanger systems, and to water, fuel oil heating and cooling, waste and vent lines aboard our new "fleet" of atomic-powered submarines. Other Chase Brass and Copper products perform a variety of copper tube functions on each craft as well.

KENNECOTT'S ADVERTISING

continued during 1957 to discuss the indispensability of copper (above). Field by field, the unusual properties and user advantages of copper are detailed, tied together by the slogan "No Substitute Can Do What Copper Does."

Another Kennecott campaign (not illustrated here) is the "Skimpy Wiring" program which points out the need for adequate wiring for modern electrical living. The whole electrical industry is solidly behind this Housepower idea. Kennecott advertising gave it the first real consumer impetus.

Kennecott's fabricating subsidiary, Chase Brass & Copper Co., in its "case histories" campaign (left) tells industry how Chase customers use the tried and true virtues of copper, brass and bronze to secure better products and longer product life.

Another Chase campaign (not illustrated here) tells consumers about the owner benefits of Chase copper water tube... "the Lifelines of the Home"... for plumbing and drainage, for heating and cooling.



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