820037

103P/06

Annual Report 1970

Income for 1970 before extraordinary charges was $185 million, or $5.58 per share, compared with $165.4 million, or $4.99 per share in 1969.

Extraordinary charges reduced 1970 net income to $150.9 million, or $4.55 per share. There were no extraordinary items in 1969.

KENNECOTT

KENNECOTT
KENNECOTT
KENNECOTT

Executive Offices:

161 East Forty-second Street
New York, N. Y. 10017

Fifty-sixth Annual Report

year ended December 31, 1970

Annual Meeting

The Annual Meeting of Stockholders of Kennecott Copper Corporation will be held Tuesday, May 4, 1971, at 10 A.M., Eastern Time, in the Biltmore Hotel, Madison Avenue and East Forty-third Street, New York, N. Y. A formal notice of the meeting and proxy statement, together with a form of proxy, will be mailed to stockholders on or about April 6, 1971, at which time proxies will be solicited by the Management.

Contents

1 Results at a Glance
2 President's Letter
9 Metal Mining Division
17 Peabody Coal Company
19 Chase Brass & Copper Co. Incorporated
20 Quebec Iron and Titanium Corporation
21 Exploration
22 Technology
22 Employee Relations
22 Organization Changes
24 Environmental Quality Control
26 Financial Review
34 Historical Table
36 Executives
37 Board of Directors

Acid plant at Kennecott Copper Corporation's Ray Mines Division (Arizona) with a rated capacity of 750 tons per day, aids in controlling and minimizing air pollution by processing sulfur dioxide into sulfuric acid.

Kennecott Copper Corporation

Results at a Glance	**1970**	**1969**
Sales and Other Income	**$1,175,059,000**	$1,092,498,000
Costs and Expenses (except Taxes)	**$ 850,203,000**	$ 809,865,000
Taxes of all Types	**$ 139,847,000**	$ 117,238,000
Dollars per Share	**$4.22**	$3.54
Income before Extraordinary Charges	**$ 185,009,000**	$ 165,395,000
Extraordinary Charges (after tax benefit of $8,750,000)	**34,150,000**	—
Net Income	**$ 150,859,000**	$ 165,395,000
Dollars per Share		
Before Extraordinary Charges	**$5.58**	$4.99
Extraordinary Charges	**1.03**	—
Net Income	**$4.55**	$4.99
Distribution to Stockholders	**$ 86,171,000**	$ 79,550,000
Dollars per Share	**$2.60**	$2.40
Depreciation—Depletion—and Amortization	**$ 73,294,000**	$ 72,705,000
Capital Expenditures	**$ 163,164,000**	$ 152,036,000
Net Worth—Book Value	**$1,172,842,000**	$1,108,155,000
Dollars per Share	**$35.37**	$33.42
Average Number of Employees	**30,500**	28,900
Number of Stockholders	**84,744**	84,934

Utah Copper Division's Bingham Canyon mine—the largest copper mine in the United States, the world's second largest molybdenum producer, and the second largest gold producer in the Western Hemisphere.

To the Stockholders:

In 1970, Kennecott, on the strength of high copper prices and coal sales, achieved record income before extraordinary charges, $185 million, or $5.58 per share. Extraordinary charges, however, reduced net income for the year to $150.9 million, or $4.55 per share, compared with $165.4 million, or $4.99 per share, in 1969. There were no extraordinary items in 1969.

The extraordinary charges, totaling $34.2 million, or $1.03 per share, resulted from a write-down of Kennecott's investment in British Columbia Molybdenum Limited, because of continuing unprofitable operations, and a loss incurred in the sale of four coal mines by Peabody Coal Company. This sale was made pursuant to a Federal Court divestiture judgment entered in 1967, prior to Kennecott's acquisition of Peabody.

Dividends of $2.60 per share were paid in 1970 compared with $2.40 in 1969.

Earnings of the Metal Mining Division in 1970, before the write-down of the British Columbia Molybdenum investment, established a record for the Division. Sales were lower than in 1969 because of a weakening in the world copper market in the second half of the year, leading to a build-up of inventory at year end. The Division's copper production achieved a record level.

Peabody Coal Company had record production and sales in both the United States and Australia, and its earnings for 1970, before the loss on the sale of the four mines, were significantly improved over 1969.

Earnings of Chase Brass & Copper Co. Incorporated, Kennecott's fabricating subsidiary, were significantly lower than in 1969 because of a downturn in the brass mill business during the second half of the year.

Quebec Iron and Titanium Corporation, two-thirds owned by Kennecott, achieved improved earnings in 1970, reflecting record production and sales and higher prices of both titanium slag and iron.

Chile

As to the Company's situation in Chile, Kennecott's Fourth Quarter 1970 Report to Stockholders included the following analysis:

□ "Dr. Salvador Allende took office as President of Chile on November 4, 1970 for a six-year term. On December 22, Dr. Allende submitted to the Congress a Constitutional Reform Bill which would amend the Chilean Constitution so as to expropriate the mineral resources and related facilities of the large copper mining companies, including El Teniente in which Kennecott owns a 49 per cent interest.

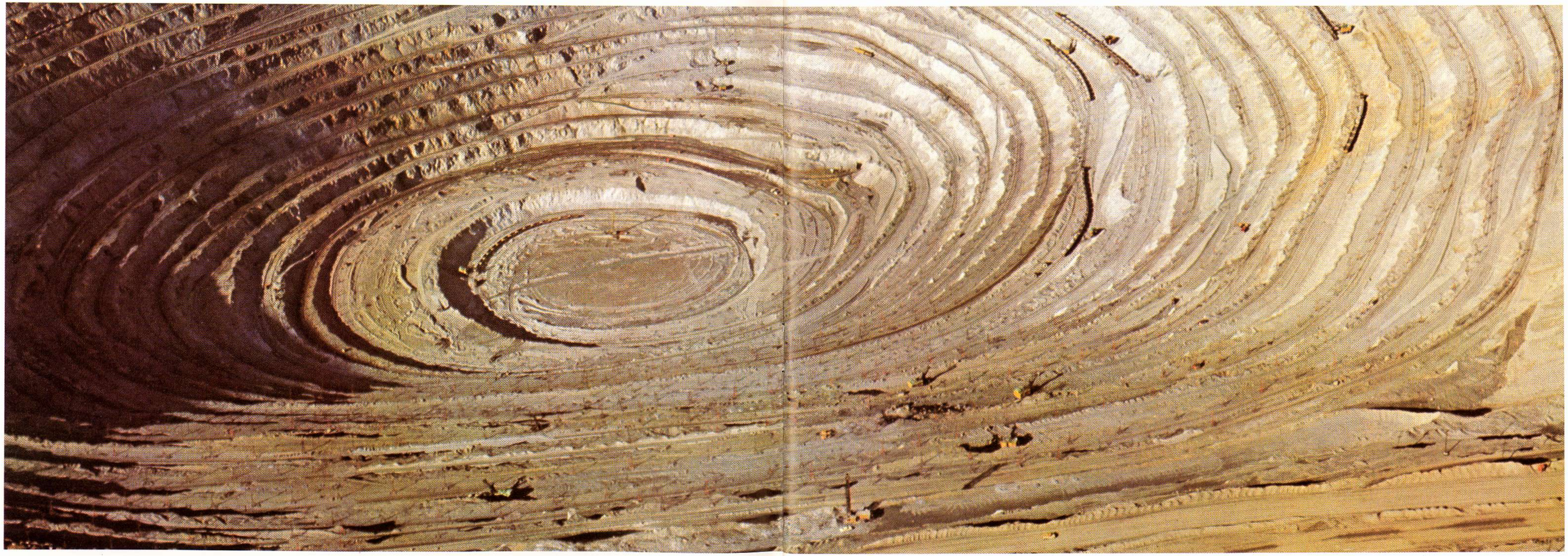
□ "The Bill declares that, on its enactment, the large copper companies are dissolved and all mineral resources become the property of Chile without compensation. Thereafter, under the terms of the Bill, the Government would determine the compensation which would be paid for the related facilities. This compensation would be based on original cost less depreciation and a number of other deductions including 'excessive profitability' since 1955. Payment would be made over 30 years at 3 per cent interest per annum.

□ "The Bill also provides that the Government will not take over those debts of the dissolved companies, the proceeds of which, in the judgment of the President of Chile, have not been invested usefully.

□ "Kennecott's investment in El Teniente consists of a 49 per cent equity interest, carried on Kennecott's balance sheet at its historical cost of $50.4 million, and $90.3 million in El Teniente notes. This total investment of $140.7 million represents 8.1 per cent of Kennecott's total assets of $1.737 billion as of December 31, 1970, and 12 per cent of Kennecott's stockholders' equity of $1.173 billion as of the same date.

□ "El Teniente has been a productive and profitable business. Its productive capacity will be increased from 180,000 tons of copper per year to 280,000* tons by the expansion program now scheduled for completion in March of 1971

* For comparison, Kennecott's United States productive capacity is about 520,000 tons.



This control panel operated by one employee controls the treatment of 10,000 tons of silicate ore per day at Ray Mines Division's silicate plant (Arizona).

and it has ore reserves sufficient to maintain substantial earnings for decades. In 1970, Kennecott received $20.3 million in dividends from El Teniente compared with $21.8 million in 1969 and $22.8 million in 1968. El Teniente dividends received in 1970 were 11 per cent of Kennecott's total 1970 income, before extraordinary charges.

□ "If the Bill is enacted, Kennecott would receive no compensation for its interest in El Teniente's mineral resources. The compensation to be paid for Kennecott's interest in the related facilities of El Teniente cannot be forecast since the Bill is complex and the amount would be determined by the Chilean Government.

□ "It is clear, however, the maximum amount which could be paid under the Bill for the related facilities would not reflect the real value of El Teniente. The expropriation, therefore, contravenes generally accepted principles of international law.

□ "The notes of El Teniente held by Kennecott are payable over a 15-year period in semi-annual installments at 5¾ per cent interest per annum, the first installment of which becomes due December 31, 1971. The proceeds of the notes were, with other funds, used to finance the $250-million expansion program. Of the $90.3 million in notes, $80 million are the subject of a guaranty agreement against expropriation with the Overseas Private Investment Corporation as successor to the Agency for International Development of the United States Government.

□ "Kennecott will continue to pursue such remedies as are available under applicable law to protect its investment."

Market Conditions

Free World copper supply exceeded demand late in 1970, for the first time since 1963, as the general economic downturn in the United States, Europe and Japan adversely affected copper sales.

This excess of supply over demand caused the anticipated drop in copper prices and a build-up of stocks at the London Metal Exchange (L. M. E.) and in the hands of producers.

The L. M. E. price, which is the basis for foreign sales settlements, including the sales of El Teniente copper, dropped during 1970 from a high of 81.5 cents per pound in the first quarter to 47 cents per pound at year end. It is currently about 46 cents per pound.

Reflecting strong market conditions throughout the world early in the year, Kennecott's price for domestically produced and sold copper cathodes was increased in January 1970 from 51 cents to 55 cents per pound and in April to 59 cents. As world market conditions softened, Kennecott's price was reduced in October to 55 cents and in December to 52 cents. As a result of a further reduction in January 1971, Kennecott's current price for copper cathodes is 49⅛ cents per pound.

The average price received for domestically mined copper (wirebar basis) increased to 57.9 cents per pound in 1970 from 49.1 cents in 1969. El Teniente's average price received fell to 59.7 cents per pound compared with 66.6 cents in the previous year.

World primary copper productive capacity is expected to increase significantly over the next several years.

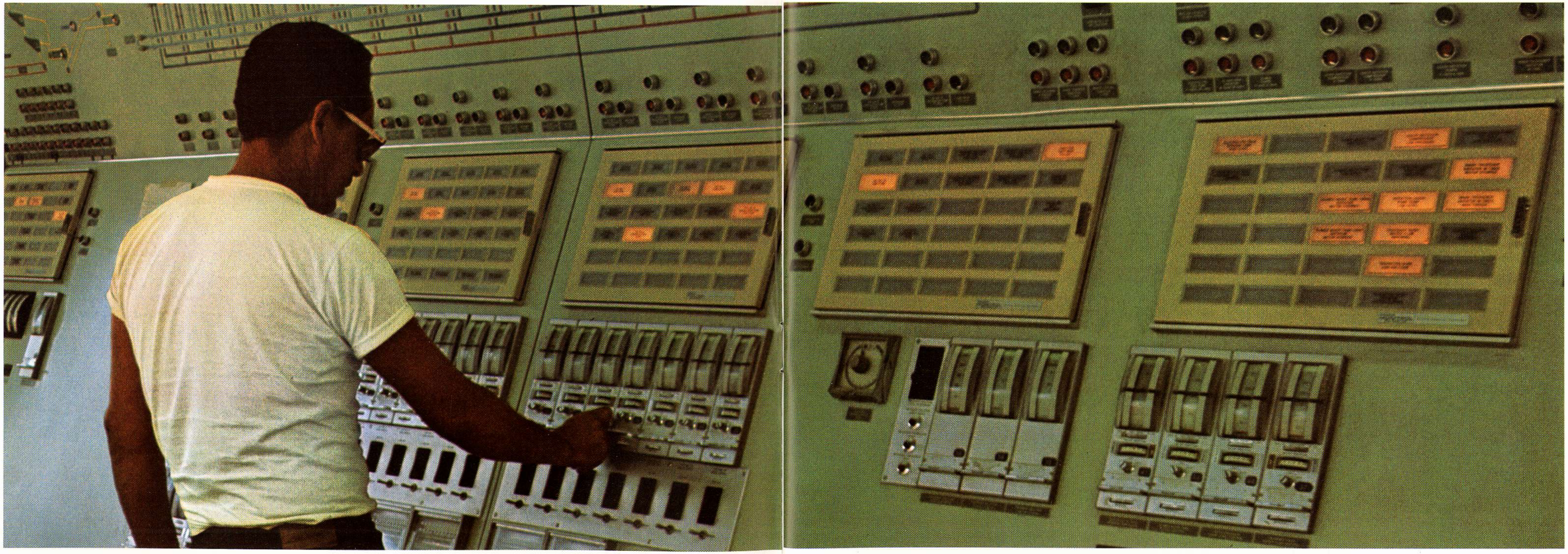
The high copper prices of recent years have accelerated exploration for and development of a number of copper ore bodies. Expansion of a number of existing mines has also been motivated by high copper prices. Nationalization, actual or threatened, of the properties of some producers has spurred them to seek and develop copper resources in other areas offering a greater degree of investment security.

Thus it appears productive capacity will exceed demand for the next several years even if the expected upturn in general economic conditions materializes and the 4¼ per cent per year average growth rate of copper consumption, experienced over the past 25 years, resumes. It is, of course, generally acknowledged that long strikes or other developments adversely affecting copper production in any of the principal producing areas would alter the supply-demand relationship.

Demand for coal continued to increase in 1970, reflecting growing electric utility requirements in the U. S. and coking coal requirements in Japan. Utility stockpiles in the U. S. increased somewhat during the year alleviating a threat of coal shortages. United States demand for electric power is increasing at an annual rate of 7 per cent compounded and coal demand is expected to increase at a substantial rate through the decade of the 1970's.

Markets for fabricated copper and brass products were adversely affected in 1970 by the industrial downturn and by strikes in some user industries. These problems, combined with increasing copper and brass fabricating capacity and surplus primary copper, resulted in serious price discounting. The expected upturn in the economy should help to produce greater utilization of brass mill capacity.

Demand increased during 1970 for titanium slag and iron and the market for these products is expected to remain good.



Costs

Constantly increasing production, construction and equipment costs present a serious problem for American industry.

Costs of new equipment on a nationwide basis were 7 per cent higher in 1970 than in 1969, and construction costs rose 13 per cent during the same period.

In addition to these general cost pressures, Kennecott is encountering increasing production costs in both copper and coal mining.

Metal Mining Division's costs of production reflect the processing of lower grade copper ore and higher stripping ratios.

Peabody's production costs are also rising. Costs of surface mining increase as thinner coal seams are mined under deeper ground cover. As coal available by surface mining diminishes, more coal must be mined by higher cost underground methods. The Federal Coal Mine Health and Safety law, the objectives of which Peabody fully supports, has given rise to higher equipment costs and additions of personnel.

Labor costs in the United States have escalated in recent years at an alarming rate. Average wages negotiated in American industry generally, including the construction industry, rose by 27.7 cents per hour in 1970 compared with an increase of 21.1 cents in 1969 and 8.5 cents only five years earlier. Average wages in the construction industry alone rose 90.5 cents per hour in 1970 compared with an increase of 70.2 cents in 1969 and 17.5 cents in 1965.

Against this backdrop, union contract negotiations are scheduled in 1971 in all of Kennecott's major U. S. businesses. Most union contracts in Metal Mining Division expire on June 30, 1971. Chase's principal union contracts expire on July 31 and September 30, and the coal industry's contract with the United Mine Workers of America expires on September 30.

Environmental Quality

Among the most significant additional costs facing Kennecott over the next several years are those involving environmental quality.

While the Company has substantial sulfur oxide and dust control equipment, none of Kennecott's four smelters can, without important additional investment, meet sulfur oxide regulations which have been issued or proposed in several states.

Kennecott is committed to minimizing sulfur and dust emissions and to meeting applicable regulations. Programs are under way to achieve these results.

Peabody Coal Company also faces substantial additional costs related to environmental quality. Of particular concern are increasingly stringent requirements as to reclamation of surface-mined land. Peabody's "Operation Green Earth" has been widely recognized as a sound modern land reclamation program, which meets or exceeds all state requirements. Proposals in some states, however, and possible Federal Government proposals, involve even more stringent reclamation requirements and inevitably higher costs.

In view of the nation's accelerating interest in the quality of the environment it seems apparent that government at all levels and industry, including Kennecott, will be faced with significantly increasing costs in this regard in the years ahead.

Litigation

In March 1970, the Hearing Examiner in the Federal Trade Commission proceeding contesting Kennecott's acquisition of the assets of Peabody, ruled in favor of Kennecott. Complaint counsel appealed the decision to the Commission itself. Oral argument was heard by the Commission in October 1970 and the Commission's decision is expected later in 1971. If the Examiner's decision is upheld by the Commission, it is expected that the complaint will be dismissed. If his decision is reversed, Kennecott has the right to appeal to a United States Court of Appeals, and ultimately the case may be heard by the Supreme Court of the United States.

In June 1970, Triangle Industries Inc., filed suit against several domestic copper producers and fabricators including Kennecott and its subsidiary, Chase Brass & Copper Co. Incorporated, alleging various violations of the Federal antitrust laws seeking treble damages and divestiture by the producers of their fabricating subsidiaries. Reading Industries, Inc., filed a similar suit in October. Answers categorically denying all the allegations have been filed by all defendants. Outside counsel advises that although these actions are in their preliminary stages and the potential liability, if any, of Kennecott and Chase cannot be presently determined, nothing has come to their attention in the course of their investigation that causes them to believe that a judgment will be entered against either Kennecott or Chase in either action.

Summary and Outlook

Kennecott achieved record income in 1970, before extraordinary charges.

Copper supply exceeded demand during the latter half of the year, however, and an excess of productive capacity is expected to affect Free World

At Utah Copper Division, full-plate copper cathodes are loaded into boxcars for transportation to a customer.

copper markets and prices for the next several years.

As the nation's electric power requirements increase, demand for coal will be greater and earnings from coal should increase. However, this improvement in coal cannot be expected to offset the impact of soft copper markets on Kennecott's total earnings.

Constantly increasing production, construction and equipment costs, and the additional investment in environmental quality will impose significant additional burdens on the Company. The cost consequences of the 1971 union contract negotiations cannot now be predicted.

These substantial problems, combined with the adverse developments in Chile, portend a difficult period for Kennecott.

Longer range, however, Kennecott's prospects are favorable. The Company's copper reserves are very substantial. Expansion of operating properties and development of smaller new properties are under study and can be implemented when the copper market and general economic picture make it propitious to do so.

The Company's coal reserves are also very substantial and continued profitable growth is expected in the Company's coal business.

By order of the Board of Directors,

Frank R. Milliken

Frank R. Milliken
President

February 3, 1971

Hopper trains from Peabody Coal Company's River Queen Mine in Kentucky discharge coal into storage bins and a traveling conveyor then loads the coal into river barges.

Metal Mining Division

Metals Review

Demand weakened in mid-1970, resulting in a more than adequate supply of metals and lower prices for most Metal Mining Division products.

Copper

Demand and Prices

The London and New York commodity markets for copper were strong at the beginning of 1970 but reached their peaks for the year in mid-April. These markets showed increasing weakness during the second half of the year, as the general economic downturn in the United States, Europe and Japan affected copper sales. Consumers reduced their stocks as a result of economic conditions and in anticipation of lower copper prices, leading to a build-up of stocks at the London Metal Exchange (L. M. E.) and in the hands of producers.

The L. M. E. price, basis for sales of El Teniente's copper and Kennecott's U. S. copper sold abroad (see chart below), was 76 cents per pound at the beginning of the year, rose to a high of 81.5 cents in the first quarter, and declined to the year-end level of 47 cents.

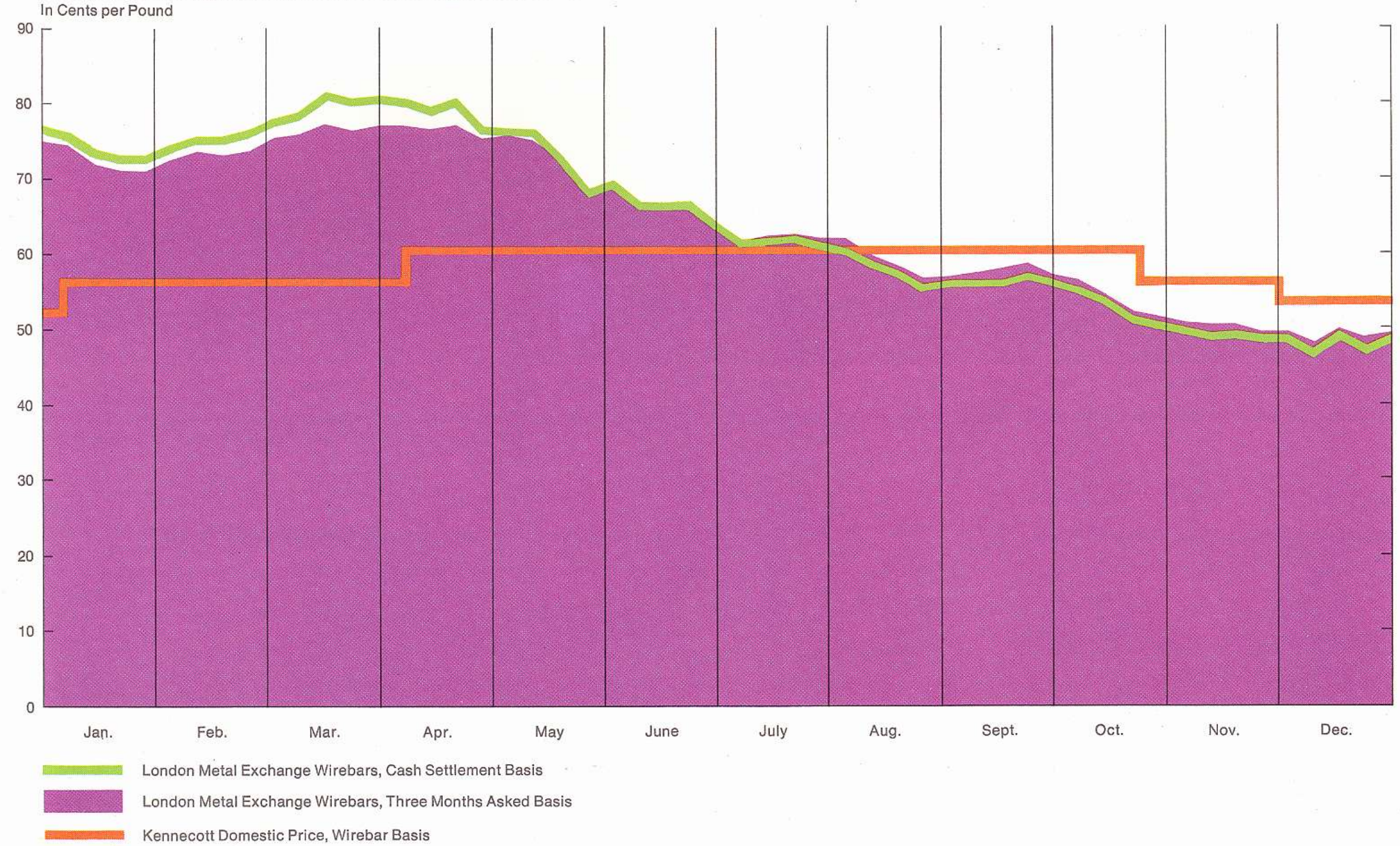
During 1970, Kennecott's price for domestically produced copper cathodes was raised in January from 51 cents per pound to 55 cents, and in April to 59 cents. In October, Kennecott's price was reduced to 55 cents, the first reduction since January 1961. It was reduced again on December 1 to 52 cents and to 49⅛ cents in January 1971.

Production and Sales

World production of primary copper, estimated from World Bureau of Metal Statistics data, totaled 6,770,000 tons in 1970 up 4.5 per cent from 6,480,000 tons in 1969. United States output of primary copper was up 11 per cent in 1970 to an estimated 1,720,000 tons compared with 1,550,000 tons in 1969, due largely to production from new mines in Arizona and New Mexico.

Refined copper consumption world-

London Metal Exchange and Kennecott Domestic Copper Prices in 1970
In Cents per Pound



Source: London Metal Exchange prices are reported daily by Reuter's Economic Services wide for 1970 (see chart below) is estimated at 7,930,000 tons, up 1.7 per cent from the 1969 level of 7,800,000 tons. United States refined copper consumption for the period is estimated at 2,070,000 tons, compared with 2,140,000 tons in 1969, or a drop of 3.3 per cent. These consumption statistics include both primary mine copper and copper refined from secondary materials. In 1970, U. S. net imports of copper fell sharply to an estimated 10,000 tons compared with 150,000 tons in 1969, due to increased domestic production and decreased consumption.

Molybdenum

Free World demand for molybdenum weakened in the latter part of 1970 due to a decline in production of molybdenum-bearing alloy and stainless steels. This coincided with increased production of molybdenum in the United States, Canada and Chile, to create plentiful supplies.

Approximately 35 per cent of Free World molybdenum production in the year 1970 was derived as a by-product of copper mining.

Lead

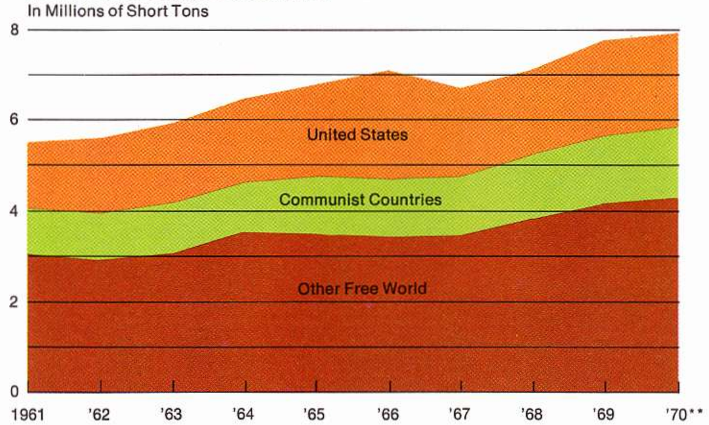
The short supply condition in 1968 and 1969 eased considerably in 1970 as a result of rising production and a nearly unchanged level of consumption. World refined production was estimated at 4.3 million tons and consumption at 4.2 million tons.

With all the new Missouri properties running at capacity for most of the year, U. S. mine production increased about 13 per cent to an estimated 575,000 tons. Net imports declined about 9 per cent to an estimated 340,000 tons. U. S. consumption of lead was down slightly as increased use in auto replacement batteries was offset by losses in other products (see chart, Page 11).

Under pressure from rising producer stocks, the New York lead price dropped from 16.50 cents to 13.50 cents per pound during 1970. The price was reduced 1 cent in July, ½ cent in August, ½ cent in September, and another 1 cent in December.

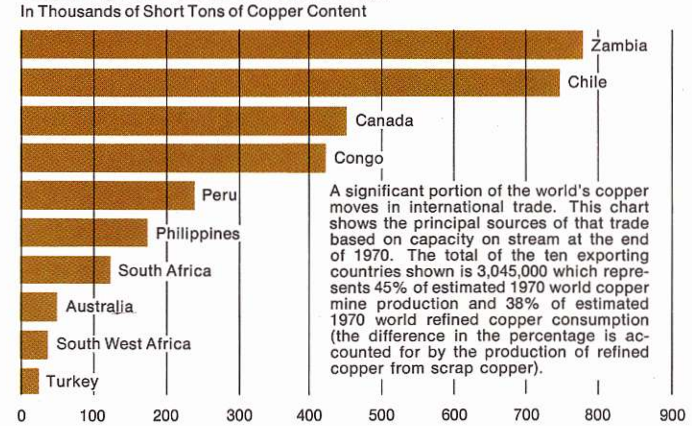
The future use of lead as an additive

World Refined Copper Consumption
In Millions of Short Tons



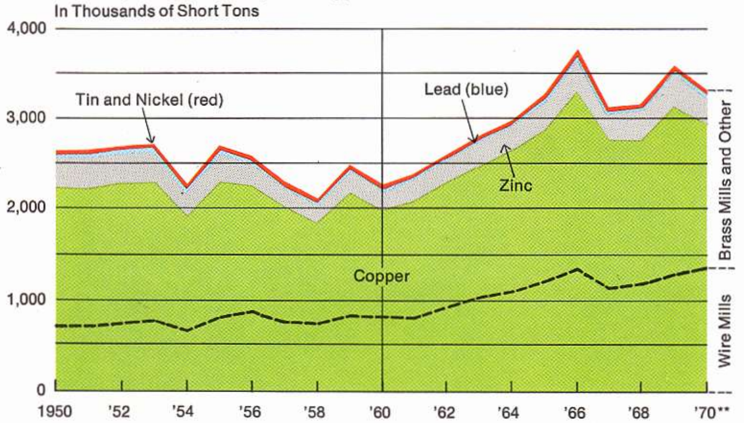
Source: World Bureau of Metal Statistics, Birmingham, England

Copper Exporters (Based on Country of Origin)
In Thousands of Short Tons of Copper Content



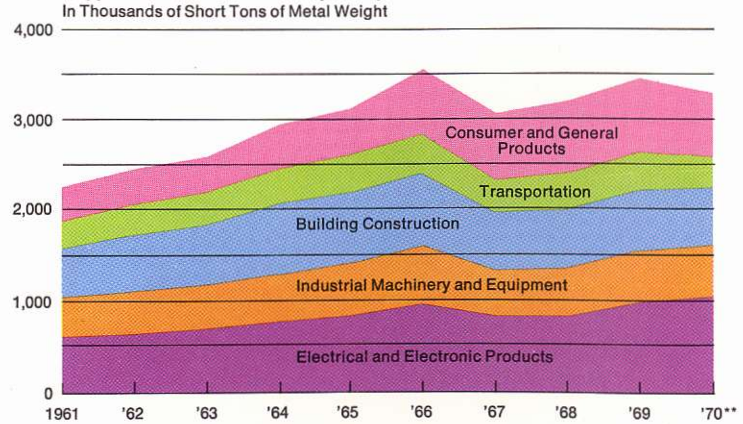
Source: World Bureau of Metal Statistics, Birmingham, England

Consumption of Metals by U.S. Copper Fabricators
In Thousands of Short Tons



Source: U.S. Bureau of Mines

Copper Products: U.S. Consumption by End Use Markets
In Thousands of Short Tons of Metal Weight



Source: Copper Development Association Inc.

**Estimated by Kennecott Sales Corporation

in automotive fuels is uncertain. In the United States during 1970, an estimated 280,000 tons of lead were used in automobile fuel additives.

Zinc

World slab zinc production and consumption in 1970 declined about 100,000 tons each to approximately 5.6 and 5.5 million tons, respectively. Lower production was mainly the result of curtailed U. S. smelter operations.

The automotive industry uses large quantities of zinc in alloy die castings and galvanized steel products (see chart below). Largely because of lower automobile production and the increased trend towards smaller U. S. autos, about 13 per cent less zinc was used in 1970.

The price of Prime Western Grade zinc, East St. Louis basis, declined from 15.50 cents to 15.00 cents per pound in August.

Silver

The silver market experienced little change from 1969. Free World industrial consumption in 1970 was 358 million ounces compared with 364 million ounces in 1969. Mine output was 247 million ounces against 246 million ounces in 1969.

The year 1970 marked the completion of silver's long period of transition to an industrial metal. When weekly sales of the U. S. Treasury ended as scheduled on November 10, 1970, only some 190 million ounces remained in U. S. Government stocks, compared with over 2 billion ounces in 1958. Of the remaining 190 million ounces, 47 million ounces have been earmarked for use in minting the Eisenhower silver dollar coin, and the balance is largely held in the strategic stockpile.

Prices fluctuated between $1.575 and $1.93 per troy ounce, compared with a $1.54-$2.025 range in 1969.

Gold

The free market gold price moved narrowly within the $35-$36.50 per ounce range for the first nine months of 1970. The last three months saw greater day-to-day price movements within a $36.30-$39.00 range. Early in 1970 the International Monetary Fund agreed to buy gold from South Africa at the monetary price of $35, under certain circumstances. South African sales in 1970 to the IMF were approximately $640 million, more than half of South Africa's yearly production.

Operations

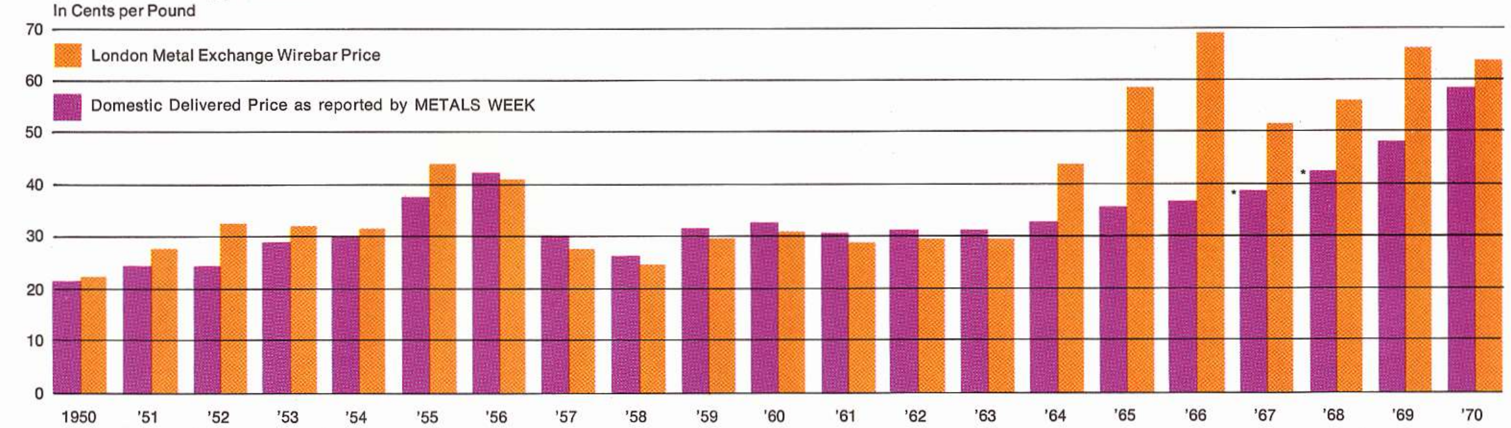
Copper Production, Sales and Prices

Earnings in 1970 from Kennecott's Metal Mining Division, before an extraordinary charge, achieved a record level.

An extraordinary charge of $22.5 million resulted from a write-down of the Company's investment in a Canadian subsidiary, British Columbia Molybdenum Limited, which has been operating unprofitably because of high production costs.

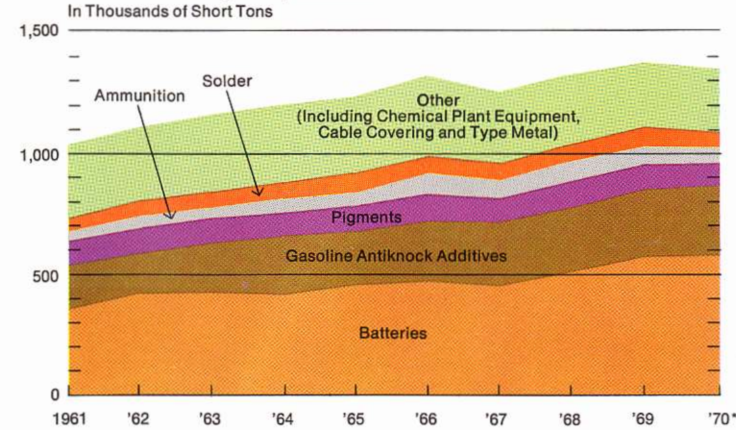
Kennecott's four copper mines in the United States set a new production record in 1970 of 518,900 tons compared with the previous high of 496,000 tons set in 1969 (see chart, Page 15).

Average Annual Copper Prices
In Cents per Pound



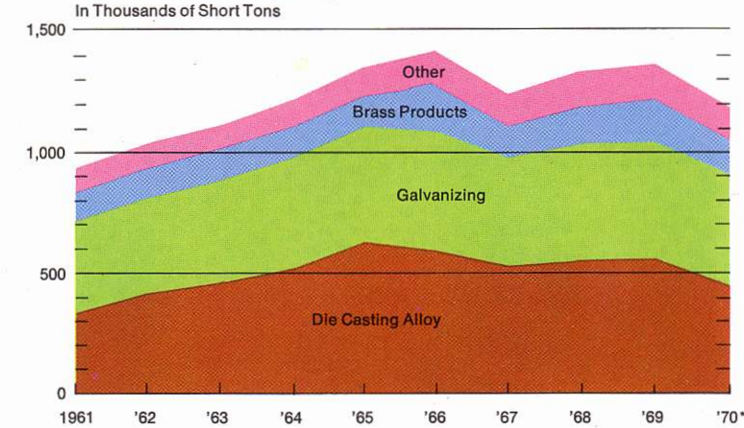
*Based on first eight months in 1967 and last nine months in 1968. Average was suspended from September, 1967 through March, 1968.
Sources: "Engineering/Mining Journal" and "Metals Week"

Lead: U.S. Consumption by Products
In Thousands of Short Tons



Source: U.S. Bureau of Mines

Slab Zinc: U.S. Consumption by Products
In Thousands of Short Tons



Source: U.S. Bureau of Mines

**Estimated by Kennecott Sales Corporation

However, sales fell from 500,100 tons in 1969 to 477,000 tons, resulting in a build-up of refined copper inventory at year end.

El Teniente produced 194,500 tons compared with 202,600 tons in 1969. Lower output was the result of a 19-day smelter strike ending in April 1970, and operating difficulties at the smelter, during the fourth quarter, related to the tie-in of new facilities for the expansion program.

El Teniente's sales rose from 197,300 tons in 1969 to 202,600 tons in 1970.

The average price received in 1970 for domestically produced copper (electrolytic wirebar basis) was 57.9 cents per pound compared with 49.1 cents in 1969. The average price received for El Teniente's copper was 59.7 cents per pound in 1970 compared with 66.6 cents in 1969 (see chart, Page 11).

Operating Highlights

At Chino Mines Division (New Mexico), a magnetite pilot plant installation was completed late in 1970 to develop data for designing a production plant. Target specifications call for a minimum grade of 60 per cent iron and a maximum of 0.03 per cent copper. The magnetite to be produced might be sold to the steel industry or used by Kennecott for production of sponge iron for the Company's precipitate copper operations.

At the Ruth pit of the Nevada Mines Division, development work continued, with stripping slightly ahead of schedule. Mill quality ore was encountered during the fourth quarter and small amounts were shipped to the concentrator.

At Ray Mines Division (Arizona), testing began on a row of 300-cubic foot rougher flotation machines which operate at lower cost and more efficiently than existing cells. Testing will continue in 1971.

At the Utah Copper Division, a new pit bottom was established at the 5,390-foot level. A record throughput of 112,176 tons per day through the mine-mill operation was achieved.

At Kennecott Refining Corporation (Maryland), output was substantially higher as a result of operating at an equivalent of a 33-section tankhouse level. The additional material refined included copper from toll sources as well as Company operations.

At El Teniente, the expansion program is now scheduled for completion in March 1971. Surface installations are virtually completed. Underground installations, including concreting the new tunnel, are in the last stages of completion.

Molybdenum

Kennecott is the world's second largest molybdenum producer. Molybdenum is a by-product of copper production in the U. S. and is the primary product of British Columbia Molybdenum Limited.

Kennecott's production in 1970 was higher than the previous year as a result of increased copper production at Kennecott's U. S. mines and record output at British Columbia Molybdenum.

Production figures were as follows:

	1970 (Pounds)	1969 (Pounds)
United States ...	16,981,600	15,904,000
B. C. Molybdenum	6,141,300	5,568,000
El Teniente	3,823,100	3,563,000

Lead-Zinc

Kennecott's production was as follows:

	1970 (Tons)	1969 (Tons)
Lead	83,700	48,700
Zinc	21,700	15,300

At Ozark Lead Company (Missouri), 1970 output totaled 66,900 tons compared with 41,200 tons the previous year. A strike at American Smelting and Refining Company's Glover smelter, which buys Ozark's lead concentrates, caused sales to be suspended and concentrate stockpiled during the last four months of 1970. Ozark reduced mining operations to a five-day week during the fourth quarter. An underground rail haulage system was completed and placed in operation during 1970, reducing haulage distances for transloaders.

At Tintic Division (Utah), ore and metals production was approximately double the 1969 rates, in spite of continuing adverse mining conditions and a shortage of qualified miners.

A small quantity of development ore was produced from the Trixie Mine and from an area between the Burgin and Ball Park mineralized areas.

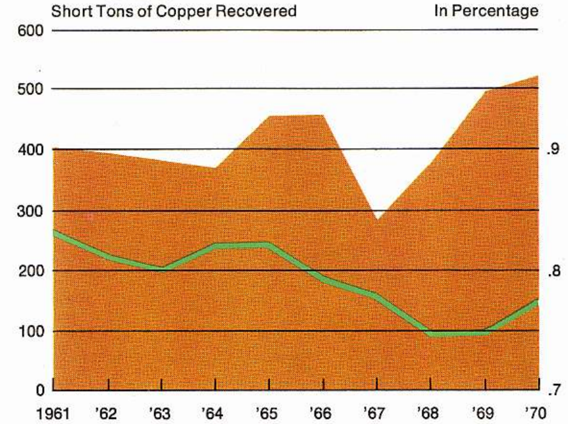
Additional pumping capacity was installed in the Burgin Mine, gradually lowering the ground water table.

The new silicate leaching plant at Ray Mines Division (Arizona). Silicate ore is placed in the vats where it is treated with a sulfuric acid solution leaching the copper from the ore during a 10-day cycle.

Production Statistics 1970-1969

Divisions	Total Copper Produced from All Sources (Net Tons) 1970	1969	Ore Mined, Milled and Treated (Net Tons) 1970	1969	Grade of Ore Mined (Per Cent Copper) 1970	1969
Chino Mines	80,053	95,816	8,276,276	7,884,070	.911	.900
Nevada Mines	41,697	40,679	7,698,883	7,954,892	.728	.710
Ray Mines	98,461	73,388	12,432,192	12,208,877	1.007	.837
Utah Copper	298,677	286,085	40,147,500	38,650,300	.680	.699
Total Domestic	518,888	495,968	68,554,851	66,698,139	.773	.749
Chilean	194,465	202,649	14,933,468	13,632,016	1.695	1.854

Kennecott: Domestic Copper Production and Ore Grade



Domestic Copper Production

Average Ore Grade (Right hand scale)

Production was reduced by strikes in 1961, 1964, 1967 and 1968

Ten-year Operating Review

METAL MINING DIVISION — U. S. AND CANADA 1970-1961

Year	Copper Ore Mined, Milled and Treated (000 Net Tons)	Material Removed to Dumps (000 Net Tons)	Copper Produced (Net Tons)	Grade of Ore Mined (Per Cent Copper)	Molybdenum Produced (000 Pounds)	Gold Produced (Ounces)	Silver Produced (Ounces)
1970	68,555	179,759	518,888	.773	23,123	404,141	4,338,730
1969	66,698	164,648	495,968	.749	21,471	442,339	3,863,239
1968	47,249	120,154	378,215	.747	17,023	290,594	3,229,258
1967	33,829	69,923	289,016	.778	9,853	214,689	2,769,292
1966	57,921	132,606	454,044	.792	15,577	387,727	4,763,348
1965	56,465	151,076	451,645	.822	16,347	405,015	3,280,431
1964	44,289	111,012	368,184	.821	11,315	261,086	2,077,592
1963	47,071	122,382	381,089	.804	11,525	306,613	2,502,353
1962	51,119	124,018	393,902	.810	13,310	360,581	2,994,731
1961	49,879	120,047	401,169	.831	13,259	362,369	2,773,140

EL TENIENTE — CHILE 1970-1961

Year	Copper Ore Mined & Milled (000 Net Tons)	Copper Produced (Net Tons)	Grade of Ore Mined (Per Cent Copper)	Molybdenum Produced (000 Pounds)	Gold Produced (Ounces)	Silver Produced (Ounces)
1970	14,933	194,465	1.695	3,823	189	158,191
1969	13,632	202,649	1.854	3,563	160	86,039
1968	12,701	174,136	1.767	2,958	248	151,350
1967	13,175	203,776	1.829	3,509	262	93,630
1966	9,879	160,375	1.748	2,355	366	83,160
1965	12,011	168,223	1.796	2,980	590	63,726
1964	11,511	184,727	1.882	2,574	1,064	117,256
1963	9,448	154,916	1.937	1,749	857	106,454
1962	11,538	181,306	1.957	1,933	1,266	158,070
1961	10,749	173,269	1.909	2,215	1,217	153,853

Peabody Coal Company

Coal Industry Review

Production in the United States bituminous coal industry in 1970 reached its highest level since 1948. Total 1970 production is estimated to be about 590 million tons, up 5 per cent from 560.5 million tons in 1969.

Coal deliveries were affected during the year by a dwindling rail car supply, contributing to concern over possible coal shortages in some areas during the winter. The coal industry, government, and the railroads are considering proposals to relieve the rail car shortage, either through increased fleet ownership by the individual railroads or a common ownership pool backed by government resources.

Demand strengthened during the year, reflecting increasing electric utility requirements. Coal's biggest customer, the electric utility industry, burned an estimated 326 million tons in 1970 and is expected to consume almost 350 million tons in 1971. As a result of the continued increase of electric power consumption, coal's market position is expected to remain strong for the foreseeable future.

The new Federal Coal Mine Health and Safety Act that became effective April 1, 1970, has increased mining costs and reduced the industry's productivity, at least for a transitional period, by requiring more rigid dust control and other stringent safety regulations.

Operations

Peabody Coal Company's 1970 earnings, before an extraordinary loss, were significantly improved over 1969.

An extraordinary loss of $11.7 million was incurred in the sale of four coal mines pursuant to a Federal Court divestiture judgment entered in 1967, prior to Kennecott's acquisition of Peabody. The four mines, having a total productive capacity of 6 million tons per year, were sold to American Smelting and Refining Company on November 23, 1970.

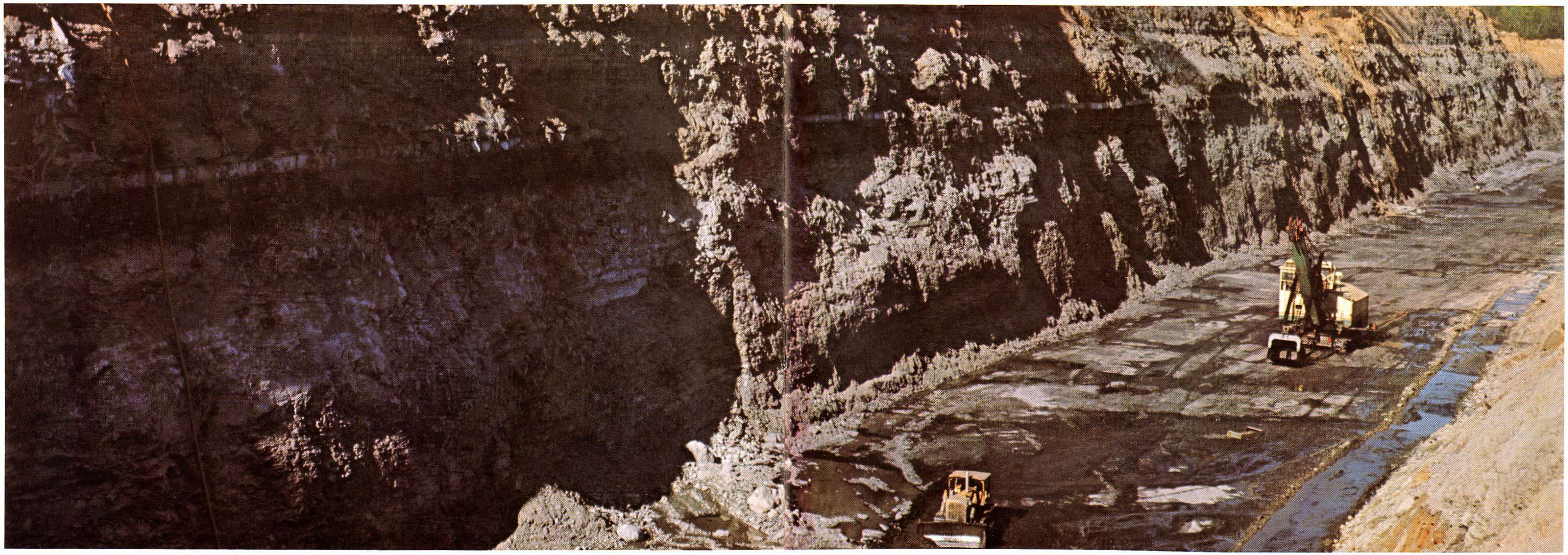
Peabody achieved record production and sales in 1970 in both the United States and Australia. Output from Peabody's own mines and managed mines in the United States totaled 66.3 million tons, compared with 58.3 million in 1969, an increase of 14 per cent. Brokerage sales were 8 million tons, bringing total domestic sales volume to 74.3 million tons. In addition, Thiess Peabody Mitsui Pty. Ltd., Peabody's Australian subsidiary, produced 3.7 million long tons.

In 1970, Peabody negotiated three new contracts totaling 100 million tons over contract periods running from 10 to 35 years.

The new Universal Strip Mine northwest of Terre Haute, Indiana, came into production in May 1970. Coal from this mine is moving by unit train to the Cayuga Generating Station of Public Service Company of Indiana. Annual production of 3 million tons is projected by 1972.

The Black Mesa No. 1 Mine, located on the Hopi and Navajo Indian Reservations in Arizona, began producing coal in mid-1970. Coal was initially delivered through a 275-mile pipeline in August

Box cut at Peabody's Homestead mine (Kentucky) exposing coal seam. This cut will be refilled, graded and planted.



to Southern California Edison Company's Mohave Generating Station in Nevada. Shipments commenced in November, and full production, at the rate of 5 million tons per year, is scheduled for 1971.

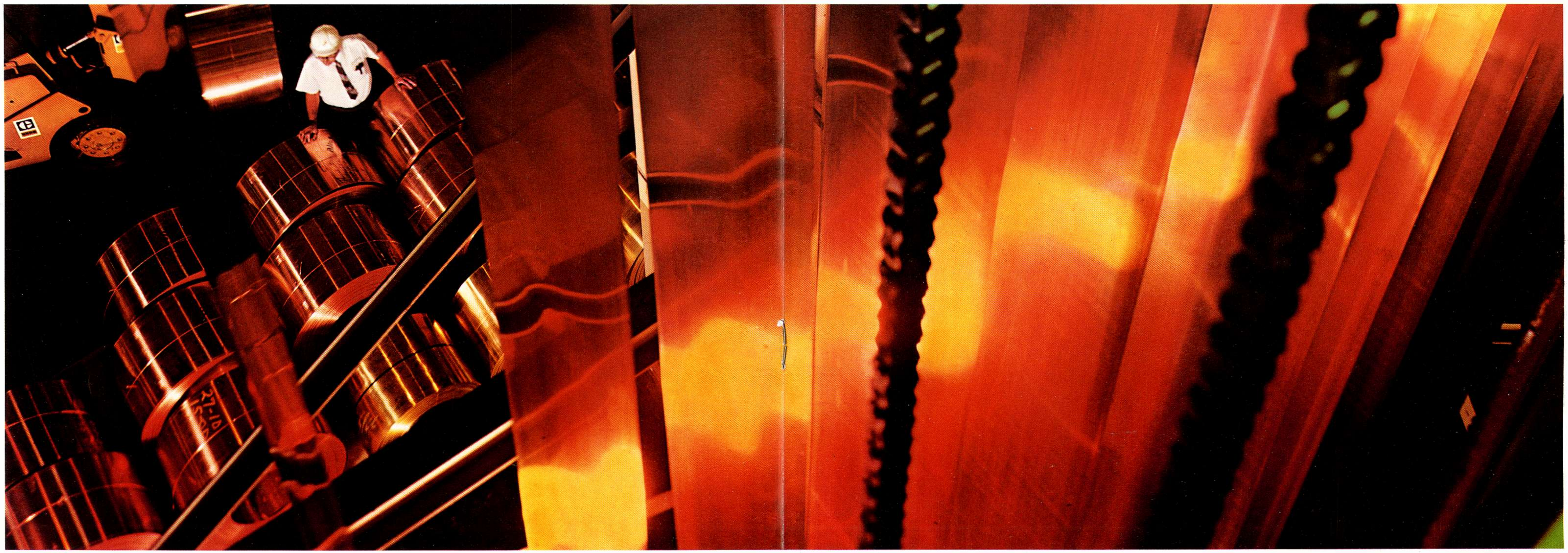
In August, Peabody started construction of a small metallurgical coal mine near Clarksville, Arkansas. The annual production of 120,000 tons is committed under long-term contract to the Colorado Fuel and Iron Company.

Peabody is constructing an underground mine at the River King strip mining complex near Freeburg, Illinois. By 1973, when it reaches full operation, the underground mine will produce approximately 3 million tons annually.

Two underground mines are now under construction on the Camp Breckinridge property of the Tennessee Valley Authority in western Kentucky. When completed in late 1973 they will produce a total of 7 million tons a year, all committed to T.V.A.

Construction of the Star Underground Mine near Madisonville, Kentucky was started in 1970. It will have a productive capacity of 2 million tons of coal per year.

During 1970 Peabody completed the erection of four new stripping machines to provide additional capacity: a 32-cubic yard shovel and a 38-cubic yard dragline at the Sinclair Mine in Kentucky, a 90-cubic yard dragline at the Universal Mine in Indiana, and a 14-cubic yard dragline at the Big Sky Mine in Montana. In addition, a 32-cubic yard shovel was moved to the Rogers County Mine in Oklahoma, and a 75-cubic yard shovel was transferred to the River King Mine in Illinois. Construction continued on the new 38-yard dragline at the Black Mesa Mine in Arizona and it will be in operation in 1971. Orders were placed during 1970 for three more large stripping machines to be delivered in 1971 and 1972 for increased production at the Black Mesa and Universal Mines in the United States and at the Moura Mine in Australia.



New 50"-wide strip annealer at Chase Brass & Copper Co.'s Cleveland sheet mill permits processing of greater quantities of metal in larger units at lower cost.

Chase Brass & Copper Co. Incorporated

Metal Manufacturing

Chase's earnings were significantly lower than in 1969 because of the sharp downturn in the U. S. brass mill business in the second half of 1970.

Markets for fabricated copper and brass products were adversely affected by general business conditions, strikes in some user industries, and by lower defense requirements. Serious price discounting resulted from increasing copper and brass fabricating capacity and surplus primary copper. Demand in the second half of 1970 was also influenced by customers' inventory reductions in anticipation of lower copper prices.

A new highly automated draw block at Chase's new copper tube mill in Cleveland went into production in late 1970. It will draw 1700-pound tubes from the new hollow billets cast by Kennecott Refining Corporation (Maryland).

Sales and earnings continued to increase in the Cleveland Refractory Metals Division as demand for rhenium in the petroleum reforming market exceeded supply. However, earnings from rhenium operations failed to reach potential levels due to the high prices paid for metal purchased in order to meet commitments.

Metals Service

The Chase Metals Service Division was also adversely affected by the general economic slowdown in 1970. Shipments of copper mill products and aluminum to the defense and aerospace industries declined. In 1971, Chase Metals Service will be operating from new distribution centers in Syracuse and Pittsburgh. Three additional sales offices will be opened in Newark, N. J., Dedham, Mass., and Cedar Rapids, Iowa.

Quebec Iron and Titanium Corporation

Earnings in 1970 of this Canadian subsidiary, two-thirds owned by Kennecott, were improved over 1969, reflecting record production and sales, and higher prices for titanium slag and iron.

Comparative tonnages of Q. I. T.'s products for the past five years:

	Ore Treated	Titanium Slag Produced	Iron Produced
1970	1,862,400	754,200	531,200
1969	1,628,700	669,000	496,100
1968	1,445,900	600,800	410,100
1967	1,287,700	537,900	366,700
1966	1,129,200	468,500	315,600

Demand for Q. I. T.'s titanium slag and iron exceeded productive capacity. Extension of computerized process control to all smelting furnaces was an important factor in the increased production. Further increases should result from a major technical program initiated in 1970, estimated to cost $3 to $4 million. The first step is the installation of 100,000 KVA power facilities on an existing smelting furnace, to be completed in 1971 and tested during 1972.

A new product, called "Sorelbar," made by continuous casting of ductile iron in rounds, squares and shapes, is new being test-marketed in Canada. It is expected to supplant sand castings in many applications.

Metal Powders

At Quebec Metal Powders Limited, an affiliate of Quebec Iron and Titanium Corporation, new brands of ATOMET powders for welding rods, lancing, scarfing, and flame-cutting applications were introduced during 1970.

Quebec Metal Powders operated at a loss in 1970, its first full year of operation. Demand for iron powders has been significantly lower than anticipated.

Exploration—Technology—Employee Relations—Organization Changes

Exploration

Kennecott's exploration activities in 1970 were concentrated in the United States, Canada, and Australasia and on the floor of the Pacific Ocean.

Expenditures for exploration were up significantly in 1970, due largely to an expanded drilling program at the Ok Tedi copper prospect in the Territory of Papua on the island of New Guinea. Exploration of other areas in Papua and New Guinea continued and drilling is planned in some of these areas in 1971.

A large land position has been established in Western Australia in Kennecott's search for nickel. Drilling in 1971 will be undertaken on specific tracts selected on the basis of 1970 geological and geophysical surveys.

An asbestos occurrence was discovered on New Zealand's South Island. The quality and content of fiber in outcrops indicate that drilling and testing are warranted.

Sorelmetal being poured in pig casting machine at Quebec Iron and Titanium Corporation.

The extensive deposits of manganese nodules (containing copper and nickel) on the floor of the Pacific Ocean were further studied. Fifty tons of samples were collected over wide areas for metallurgical studies. Engineering data on the seabed were obtained by photography, geophysical measurements, and coring. Experimental and engineering studies of ocean mining and metallurgical processing systems are in progress, along with technical and economic analyses to assess future commercial potential of the nodules.

Technology

Each major division and subsidiary of Kennecott conducts research and development to improve processes and develop new products.

In addition, two corporate technical centers also devote their efforts to longer-range or more diversified technical problems: the Ledgemont Laboratory in Lexington, Massachusetts, and the Exploration Services Laboratory in Salt Lake City, Utah.

Ledgemont Laboratory is the corporate research and development center. Started in 1962 as a basic research laboratory, it has been expanded to cover all the technical aspects of Kennecott's businesses. A major physical expansion of the laboratory, started in 1969 and virtually complete, provides facilities for pilot plant testing of new processes and products. The programs of the laboratory are coordinated with the operating divisions to augment their work in divisional laboratories and avoid duplication. Ledgemont Laboratory also conducts a broad scale experimental program.

The corporate Exploration Services Laboratory is applying geophysics, geochemistry, structural geology, and other specialized technologies to the problems of identifying and characterizing potential ore bodies.

In both copper and coal mining, increases in capital cost necessary to produce additional quantities of copper and coal are a significant problem. Part of this is due to new design constraints such as increasingly rigorous air and water pollution control requirements, and to the rapid increase of construction costs over the past decade. A major emphasis in all the Corporation's laboratories is on development of techniques which permit major capital and operating cost savings.

Kennecott has been conducting an in-depth study of rock mechanics and factors affecting slope stability in open-pit mines to create steep and stable slopes by adjusting the shape and angle of the excavation. Steep slopes are necessary to minimize stripping costs. As a result of a test program at the mined-out Kimbley Pit at Nevada Mines Division, the Division is recovering leach copper values well in excess of the cost of the test program.

Employee Relations

Following an intensive study, a major redesign of the salaried non-represented employee benefit program was announced early in 1970. A number of existing benefit plans were improved, and new plans were added to create an integrated over-all program of individual and family financial protection aimed at keeping Kennecott competitive in the attraction, retention, and motivation of outstanding personnel.

Among the principal changes were improvements in the Retirement Plan and the introduction of a Savings and Investment Plan under which participating employees become stockholders in the Corporation. Both proposals were ratified by Kennecott stockholders at the Annual Meeting in May.

Labor

Although Peabody was affected by the wildcat strikes that plagued the coal industry, other Kennecott operations were relatively free of labor problems and production losses due to union action.

Equal Employment Opportunity

Kennecott's Corporate Affirmative Action Program achieved more than a 10 per cent increase in the employment of minority groups during 1970.

Nearly one out of every seven employees of Kennecott and its subsidiaries in the U. S. is a member of a minority group as defined by the Federal Government.

Management Education and Development

High potential management candidates, drawn from nearly every Division of Kennecott, attended executive development programs at leading university centers throughout the country.

Organization Changes

George Russell, Director and Member of the Finance Committee, General Motors Corporation, was elected to the Kennecott Board of Directors in March 1970.

John Jeppson, President and Chief Executive Officer of the Norton Company, Worcester, Mass., was elected a member of the Kennecott Board of Directors in July.

Anthony T. Ellis, formerly a Vice President of the First National City Bank of New York, was elected Treasurer of Kennecott in June.

Pierce N. McCreary was elected General Counsel and Secretary in March, succeeding Malcolm Richard Wilkey who was named to the United States Court of Appeals, Washington, D. C. Mr. McCreary joined Kennecott in 1967.

Chemical encrusting agents being applied to control dust at Utah Copper Division's 5,100-acre tailings storage pond.

Environmental Quality Control

Public and governmental concern over the effects of mining and industrial operations on the environment continued to mount during 1970. Mining operations unavoidably result in some impact on the local environment, including air, water, and land. Tremendous quantities of rock, water, and ore must be moved. Communities, roads, reservoirs, mines, mills, and smelters must be established.

Kennecott has long followed a policy of minimizing the impact of its operations on the environment by the practice of the most modern methods.

Air quality is a major concern. Most copper is produced from sulfide ores, and present smelting processes emit into the atmosphere sulfur oxides and dust. Programs are under way to reduce these emissions and eliminate visible smoke plumes.

Utah Copper Division's new $8-million acid plant went on stream during the fourth quarter of 1970. This plant, the sixth in operation at Utah, can convert, under optimum conditions, 163 tons of sulfur into 500 tons of sulfuric acid daily.

Several pilot plants have been built to test processes for absorbing sulfur dioxide produced in the reverberatory furnaces and converters. At the Ray Mines Division, a fluid bed roaster, combined with sulfuric acid recovery systems, should capture most of the sulfur oxides and particulates generated there.

Water is a precious resource in arid regions where Kennecott's domestic copper mining operations are located. Providing adequate quantities of water of requisite quality requires extensive recycling to conserve limited supplies. The small volume of effluent is treated to meet all present or likely future standards. Other mining operations, including coal, in areas where water is plentiful, present a different problem. In these areas, programs have been initiated to assure compliance with the more rigorous standards now being developed by various states and the Federal Government.

Tailings, a finely-ground waste material resulting from the milling of copper ore, present a dust control problem. Tailings are stored in large ponds, but when sections of these ponds become dry the tailings may be blown by the wind. A number of dust control projects are under way, in close collaboration with the U. S. Bureau of Mines and various state agencies, including planting vegetation on the unused portions of the tailings ponds at Chino, Nevada and Utah. Chemical stabilizers to prevent dust from blowing are being tested at Nevada, Ray and Utah.

Under its "Operation Green Earth" program, Peabody restores to an attractive and useful state areas affected by surface mining activities. In 1970, approximately 2½ million trees and wildlife shrubs were planted on about 4,000 acres of reclaimed land, and some 8,000 acres were planted to grasses and legumes. During the past 15 years, Peabody has reclaimed more than 100,000 acres of mined land against 91,200 acres mined, planting approximately 38 million trees, and sowing about 1 million pounds of grass seed. This program has converted mined areas into grazing lands, new forests and wildlife refuges, lakes, recreational areas, and homesites.

Under Peabody Coal Company's "Operation Green Earth" program, this stripped area at the Homestead Mine, Beaver Dam, Kentucky, was seeded with grass to convert it into a useful grazing area.

Financial Review

Earnings and Dividends

Earnings before extraordinary charges in 1970 reached a new high, $185.0 million or $5.58 per share, compared with $165.4 million or $4.99 per share in 1969. Two extraordinary charges were made in 1970, lowering net income to $150.9 million or $4.55 per share. In 1969, there were no extraordinary items. Dividends of $2.60 per share were paid in 1970 as against $2.40 per share in 1969.

Extraordinary Charges

Kennecott's interest in British Columbia Molybdenum Limited was written down by $22.5 million. Because of continuing unprofitable operations it was considered prudent to revalue our interest in this Canadian subsidiary.

In November 1970, Peabody sold four coal mines pursuant to a Federal Court divestiture judgment entered in 1967, prior to Kennecott's acquisition of Peabody. The sale of these properties resulted in a net loss of $11.7 million after related tax benefits.

Revenues and Non-operating Income

Higher prices for copper and coal brought consolidated sales to $1,133 million in 1970 from $1,050 million in 1969, in spite of a drop in tons of copper sold.

Non-operating income was down $0.5 million to $42.0 million in 1970. The drop resulted from slightly smaller dividends from El Teniente, the major contributor to this category of income. Contrary to Kennecott, El Teniente received a lower average price per pound for its copper in 1970 than in 1969.

Taxes

Taxes continued to rise in 1970. Higher ordinary earnings brought higher provisions for income taxes. Taxes included in operating costs also rose. These tax facts are shown in the following table:

	1970	1969
United States and foreign taxes on income (after credit of $8,750,000 included in extraordinary charges in 1970)	$ 70,650,000	$ 65,600,000
Other taxes included in operating costs and other accounts	60,447,000	51,638,000
Total	$131,097,000	$117,238,000
Taxes per share	$3.95	$3.54

Total Assets

Total assets at the end of 1970 were $1,737 million, up $85 million from the end of 1969. Of the increase, $64.7 million was provided by retained earnings.

Cash and Short-term Securities

The combined change in cash and short-term securities during 1970 is explained in the Statement of Source and Disposition of Funds.

Accounts Receivable and Inventories

The slowing of copper sales in the fourth quarter led to a build-up of refined copper inventories. This together with an increase of in-process inventories because of smelter problems caused a significant increase in total inventories only partially offset by a reduction in accounts receivable.

Capital Expenditures and Fixed Assets

Capital expenditures in 1970, as in 1969, were a bit more than twice the amount charged for depreciation, depletion, and amortization. Fixed assets did not increase accordingly in 1970, however, due to the sale of coal properties and the write-down of the assets of British Columbia Molybdenum. The Consolidated Statements of Source and Disposition of Funds on Page 32 show the specific amounts spent and reserved for capital items in 1970 and 1969. The chart on Page 27 shows their history for 10 years.

Deferred Taxes

Kennecott increased deferred taxes by $15.4 million in 1970. The increase arises mainly as a result of deducting depreciation and certain coal mining costs for income tax return purposes in excess of like costs deducted in the financial statements.

Debt

Total debt at the end of 1970 was very little changed from the end of 1969: $310.8 million versus $311.6 million.

Due to the inability of British Columbia Molybdenum Limited to support its debt, the outstanding debentures amounting to $16.2 million have been called for redemption on February 1, 1971.

The details of loans and loan facilities are given in the Notes to Financial Statements.

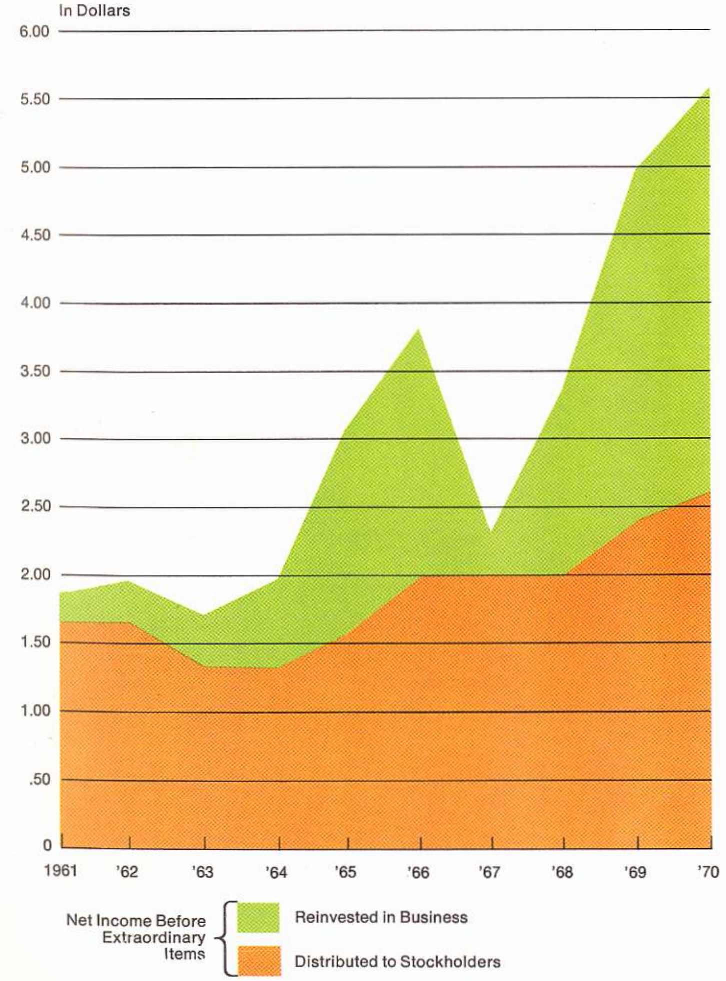
Minority Interests

Practically all of the dollars recorded as minority interests relate to 33⅓ per cent of Quebec Iron and Titanium Corporation and 42 per cent of Thiess Peabody Mitsui Coal Pty. Ltd. These interests rose $2.6 million in 1970.

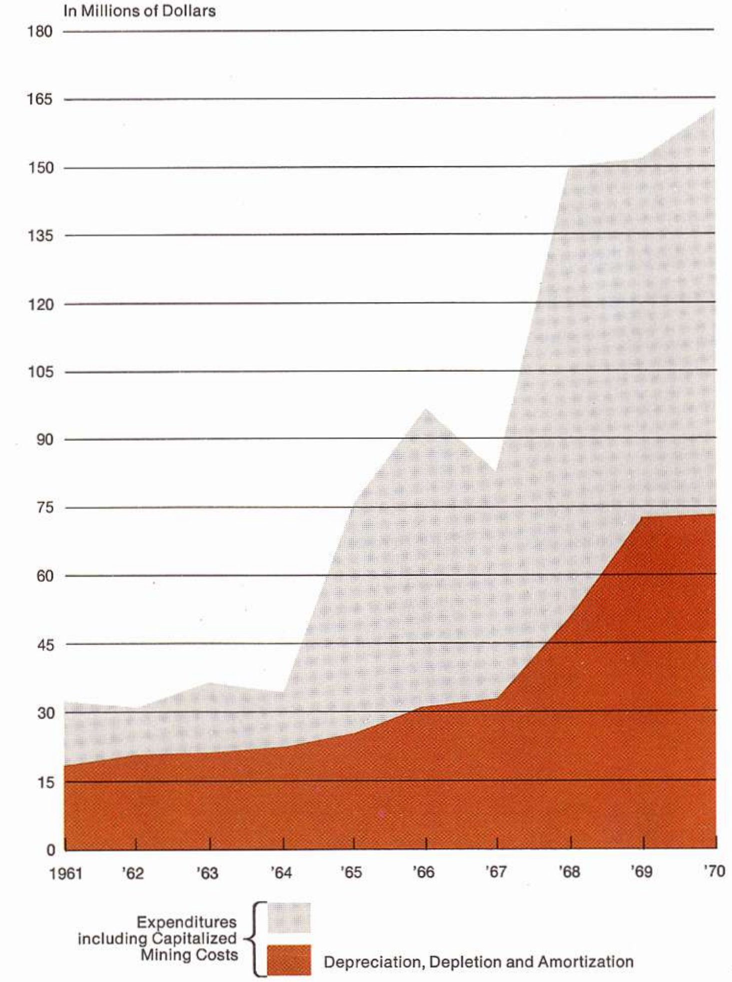
Book Value

Capital and Surplus rose to $1,172.8 million or $35.37 per share by December 31, 1970, up from $33.42 per share at the end of 1969.

Net Income and Amount Distributed to Stockholders Per Share of Stock
In Dollars



Expenditures for Land, Plant and Equipment Compared with Provision for Depreciation, Depletion and Amortization
In Millions of Dollars



Consolidated Balance Sheets

December 31, 1970 and 1969

Assets:	**1970**	**1969**
Current assets:		
Cash	**$ 78,132,299**	$ 62,090,063
U. S. Government and other short-term securities, at cost (approximates market)	**11,833,581**	7,996,276
Accounts receivable	**122,421,837**	134,634,898
Inventories (Note 4):		
Metals, metal products and coal	**134,247,741**	103,108,645
Ores and concentrates	**28,008,392**	18,914,972
Materials and supplies	**65,565,562**	54,457,169
	440,209,412	381,202,023
Investments (Page 33 and Note 3)	**195,892,336**	191,796,855
Deferred charges, prepayments, etc.	**34,958,999**	30,154,908
Mining land, plants, equipment and other properties, at cost, less accumulated depreciation, depletion and amortization (Notes 5 and 6)	**1,066,129,076**	1,049,011,968
	$1,737,189,823	$1,652,165,754
Liabilities:		
Current liabilities:		
Notes payable	**$ 64,500,000**	$ 71,771,940
Current portion of long-term debt (Note 7)	**68,442,546**	45,163,049
Accounts payable	**91,415,957**	76,837,466
Taxes accrued	**39,083,279**	55,100,602
	263,441,782	248,873,057
Long-term debt (Note 7)	**177,905,797**	194,677,772
Deferred U. S. and foreign taxes	**80,000,000**	64,600,000
Sundry reserves and deferred credits	**16,351,049**	11,834,827
Minority interests in consolidated subsidiaries	**26,649,112**	24,025,402
Capital:		
Capital stock, $5 par value; authorized 50,000,000, outstanding 33,159,153 shares	**165,795,765**	165,795,765
Capital surplus	**100,126,787**	100,126,787
Earned surplus	**906,919,531**	842,232,144
	$1,737,189,823	$1,652,165,754

See notes to financial statements.

Consolidated Statements of Income and Earned Surplus

For the years ended December 31, 1970 and 1969

	1970	**1969**
Sales of metals, metal products and coal	**$1,133,061,369**	$1,049,989,063
Dividends, interest and miscellaneous	**41,997,303**	42,509,242
	1,175,058,672	1,092,498,305
Cost of goods sold	**734,237,811**	702,693,064
Depreciation, depletion and amortization (Notes 5 and 6)	**73,293,799**	72,705,013
Selling and general administrative expenses	**42,571,490**	40,056,079
Interest expense	**23,128,999**	23,901,787
Research, exploration and miscellaneous	**34,002,994**	20,341,249
Provision for U. S. and foreign taxes on income (including $17,000,000 deferred in 1970, and $13,600,000 in 1969) (Note 8)	**79,400,000**	65,600,000
	986,635,093	925,297,192
	188,423,579	167,201,113
Income applicable to minority interests	**3,414,991**	1,806,586
Income before extraordinary items	**185,008,588**	165,394,527
Extraordinary items (Note 10)	**34,150,000**	—
Net income	**150,858,588**	165,394,527
Earned surplus at beginning of year	**842,232,144**	756,387,580
	993,090,732	921,782,107
Distributions to stockholders, 1970, $2.60; 1969, $2.40 per share	**86,171,201**	79,549,963
Earned surplus at end of year	**$ 906,919,531**	$ 842,232,144
Per share:		
Income before extraordinary items	**$5.58**	$4.99
Extraordinary items	**1.03**	—
Net income	**$4.55**	$4.99

See notes to financial statements.

Notes to Financial Statements

1. Principles of Consolidation:

The consolidated financial statements include Kennecott Copper Corporation and all subsidiaries more than 50% owned.

Foreign currency amounts included in the consolidated balance sheets have been translated into U. S. dollar equivalents at appropriate rates of exchange: current assets and current liabilities at year-end exchange rates; property accounts, investments, long-term debt, etc., at the rates of exchange in effect at date of acquisition of issuance; depreciation and depletion reserves are based on U. S. dollar costs. Foreign currency amounts have been included in the consolidated statements of income at appropriate rates of exchange.

2. Foreign Operations:

Approximately 13% of net current assets and 18% of all assets shown in the 1970 consolidated balance sheet are outside the United States. Income before extraordinary items derived from foreign sources represents approximately 16% of 1970 consolidated income before extraordinary items. The Company's foreign assets are principally in Chile (see Note 3), Canada and Australia. There were no foreign currency restrictions.

3. Investment in Sociedad Minera El Teniente S. A.:

On December 22, 1970, a proposed Constitutional Reform Bill was submitted to the Chilean legislature providing for the nationalization of foreign-owned copper properties in Chile and the nullification of all prior agreements. Under the proposed Bill mineral resources become the property of Chile without compensation. Payment for expropriated related facilities, based upon original cost less depreciation and certain other adjustments, would be made over a thirty-year period with interest at 3% per annum. The effect on the Company's financiat statements is not presently ascertainable since the ultimate determination of the amount of indemnization is subject to the enactment of the Bill by the Chilean legislature and the determination of the amount by the Government of Chile. At December 31, 1970, the Company's investment consisting of stock and notes, carried at cost, totaled $140,707,683.

Under a contract of guarantee with the Overseas Private Investment Corporation, as successor to the Agency for Internationel Development, expropriation coverage is in effect covering the $80,000,000 principal amount of the 5¾% Series A notes plus interest for one year.

Interest on the El Teniente notes is recognized in the accounts and has been evidenced by receipt of additional notes. Dividends received on the stock of El Teniente in 1970 and 1969, net of Chilean dividend taxes, amounted to $20,273,000 and $21,780,000, respectively.

4. Inventories:

Metals, metal products, coal, and ores and concentrates are carried at the lower of cost or market, except gold and silver which are carried at approximate market. In general, cost is computed on a first-in, first-out method, but a last-in, first-out method is used for certain inventories of the fabricating subsidiary. Materials and supplies are carried at average cost or less.

5. Mining Land, Plants, Equipment and Other Properties, at Cost:

	1970	1969
Non-ferrous metals (excluding titanium)	$ 796,855,361	$ 771,978,276
Coal	537,224,237	479,425,830
Iron and titanium	98,106,936	95,379,284
Metal fabricating	97,418,007	95,810,403
Other	24,061,393	16,728,055
Total	1,553,665,934	1,459,321,848
Less, Accumulated depreciation (1970, $453,080,020; 1969, $388,536,903) depletion and amortization	487,536,858	410,309,880
	$1,066,129,076	$1,049,011,968
Charges to operations for the year:		
Depreciation	$ 60,065,815	$ 60,632,188
Depletion and amortization	13,227,984	12,072,825
	$ 73,293,799	$ 72,705,013

Depreciation and depletion are computed on the straight-line and unit of production sold methods, respectively.

6. Capitalized Mining Costs:

For financial statement purposes mining costs attributable to the production of eoal dedicated under a reserved production payment agreement are being capitalized. Such costs are being amortized using per ton rates designed to write off the total estimated mining costs to be capitalized over the Company's share of the estimated tonnage to be produced in a thirty-year period. Since these costs are deducted for income tax purposes, as incurred, provision has been made for deferred income taxes attributable thereto. Revenues of $52,184,848 in 1970 and $33,682,658 in 1969 have been excluded from income and applied against the reserved production payment, including principal and interest. The unpaid principal amount at December 31, 1970, was $248,489,476. Capitalized mining costs and amortization thereof amounted to $45,602,400 and $8,112,200, respectively, in 1970, compared to $28,457,500 and $7,479,900 in 1969.

7. Long-term Debt at December 31, 1970:

Notes payable without collateral:	
¼ of 1% above prime bank rate, payable $7,280,000 quarterly to March, 1974	$ 94,480,000
4¾%, payable $1,156,250 quarterly to November, 1973	13,875,000
5¾%, payable $1,152,000 semi-annually to July, 1978	17,327,985
¾ of 1% above prime bank rate, payable $4,000,000 annually	12,000,000
10%, payable February, 1971	6,000,000
Other notes with various interest rates and maturities	5,127,059
	148,810,044
Notes payable with collateral (a):	
6½%, payable $597,552 quarterly including interest to March, 1978	13,394,414
5%, payable in declining quarterly amounts to January, 1987	6,805,199
6¾%, payable in increasing quarterly amounts to September, 1972	2,014,880
4¾%, payable in various instalments to January, 1987	3,954,821
Other notes with various interest rates and maturities	5,218,664
	31,387,978
London Loan Facility, expires October 1974(b)	50,000,000
5¾%, debentures due April 1, 1976 (Note 10)	16,150,321
Total long-term debt	246,348,343
Less, Amounts due within one year	68,442,546
	$177,905,797

(a) Approximately $67,600,000 of assets, principally property and equipment of certain subsidiaries, are pledged as collateral at December 31, 1970.

(b) On October 28, 1969, Kennecott entered into a five-year credit agreement with a group of foreign banking institutions under which the Company may borrow up to a maximum of $125,000,000 at a rate of interest equal to 1¼% above the rate at which six months U. S. dollars are offered to prime banks in the London Interbank Market. Commitment fees are payable at the rate of ½% per annum on the unused portion of the commitment. During 1970, $50,000,000 was borrowed under the agreement. The notes mature six months from the date of issue and may be renewed at Kennecott's option. It is the Company's intention to renew the notes as they come due.

8. U. S. and Foreign Taxes on Income:

The investment credit is being accounted for as a reduction of U. S. taxes on income in the year in which the credit arises. In 1970 and 1969, U. S. taxes on income were reduced by approximately $1,700,000 and $7,600,000, respectively.

Deferred income taxes arise principally as a result of deducting depreciation and certain coal mining costs (Note 6) for income tax return purposes in excess of that included in the financial statements.

9. Pension Plans:

The Company and its subsidiaries have several pension plans covering substantially all their employees except for the hourly coal production employees covered under plans administered by labor unions. The total pension provision for 1970 and 1969 was $9,850,000 and $11,643,000, respectively, which includes amortization of past service cost over a twenty-five to thirty-year period. The actuarially computed value of unfunded vested benefits as of December 31, 1970 was $16,200,000. The Company's policy is to fund pension costs as accrued.

10. Extraordinary Items:

Because of continuing unprofitable operations, Kennecott's interest in British Columbia Molybdenum Limited, a majority-owned subsidiary, was reduced by $22,500,000 with no income tax effect. The 5¾% debentures issued by British Columbia Molybdenum Limited in 1966 and due April 1, 1976 will be redeemed. The principal amount of the debentures plus accrued interest and redemption premium will be paid to the holders of the debentures on February 1, 1971.

Four coal mines of Peabody Coal Company were sold during the year pursuant to a consent decree with the Department of Justice dated October 23, 1967, prior to Kennecott's acquisition of Peabody. The sale resulted in a loss of $11,650,000 after the related income tax benefit of $8,750,000, including $1,600,000 of deferred income taxes.

11. Legal Proceedings:

In August, 1968, the Federal Trade Commission issued a complaint against Kennecott alleging that the acquisition of the business and assets of Peabody Coal Company and subsidiaries violated Section 7 of the Clayton Act. The complaint seeks divestiture of the acquired assets if such violation is established. Kennecott has filed its answer to the complaint in which it denies that any violation of Section 7 occurred. In March, 1970, the Hearing Examiner in the proceeding ruled in favor of Kennecott and dismissed the complaint. Complaint counsel appealed the decision to the Commission itself. Hearings were conducted by the Commission in October, 1970 and the Commission's decision is expected later in the first quarter of 1971.

On December 29, 1969, four residents of Maricopa County, Arizona, filed suit against Kennecott and other mining companies operating copper smelters in Arizona. The action was brought on behalf of a purported class of persons, being all those living in Phoenix and elsewhere in Maricopa County, Arizona, who breathe air allegedly polluted by copper smelters. The complaint seeks an injunction, unspecified actual damages, and punitive damages of $1 billion from the copper companies. The trial court struck the class action allegations, resulting in the suit becoming one by the four named plaintiffs. In the opinion of management and outside counsel, the action may not be maintained as a class action, the claims asserted are without merit, and the action will ultimately be terminated in favor of the defendants.

In June, 1970, Triangle Industries Inc. filed suit against several domestic copper producers and fabricators, including Kennecott and its subsidiary Chase Brass & Copper Co. Incorporated, alleging various violations of the Federal antitrust laws seeking treble damages and divestiture by the producers of their fabricating subsidiaries. Reading Industries, Inc. filed a similar suit in October. Answers categorically denying all the allegations have been filed by all defendants. Outside ceunsel advises that although these actions are in their preliminary stages and the potential liability, if any, of Kennecott and Chase cannot be presently determined nothing has come to their attention in the course of their investigation that causes them to believe that a judgment will be entered against either Kennecott or Chase in either action.

Consolidated Statements of Source and Disposition of Funds

For the years ended December 31, 1970 and 1969

	1970	1969
Funds provided by:		
Operations:		
Net income	**$150,858,588**	$165,394,527
Extraordinary items included in net income	**34,150,000**	—
Depreciation, depletion and amortization	**73,293,799**	72,705,013
Deferred U. S. and foreign taxes on income	**17,000,000**	13,600,000
Increase in minority interests	**2,623,710**	983,014
	277,926,097	252,682,554
Proceeds from sale of divestiture mines	**24,380,708**	—
Long-term borrowings	**53,212,440**	7,204,060
Disposals of property, plant and equipment	**12,392,345**	5,112,815
Decrease (increase) in accounts receivable	**12,213,061**	(27,451,418)
Net decrease (increase) in other accounts	**650,474**	(1,219,654)
Total funds provided	**380,775,125**	236,328,357
Funds expended for:		
Distributions to stockholders	**86,171,201**	79,549,963
Expenditures for property, plant and equipment	**117,561,293**	123,578,352
Capitalized mining costs (Note 6)	**45,602,400**	28,457,500
Increase in inventories	**51,340,909**	11,876,029
Decrease (increase) in short-term debt	**7,271,940**	(33,589,334)
Repayment of long-term debt	**46,704,918**	45,458,539
Increase in deferred charges	**4,804,091**	1,790,237
Decrease (increase) in accounts payable and accrued taxes	**1,438,832**	(13,898,906)
Total funds expended	**360,895,584**	243,222,380
Net increase (decrease) in cash and short-term investments	**$ 19,879,541**	($ 6,894,023)

See notes to financial statements.

Auditors' Certificate

To the Directors and Stockholders of Kennecott Copper Corporation:

We have examined the consolidated balance sheet of KENNECOTT COPPER CORPORATION and SUBSIDIARIES as of December 31, 1970 and the related statements of income and earned surplus and of source and disposition of funds for the year then ended. Our examination was 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. We previously made a similar examination of the financial statements for the year 1969.

In our opinion, subject to the final determination of the indemnization related to the Company's investment in Chile referred to in Note 3 and the outcome of the litigation referred to in the last paragraph of Note 11, the aforementioned financial statements present fairly the consolidated financial position of Kennecott Copper Corporation and Subsidiaries at December 31, 1970 and 1969 and the results of their operations and the source and disposition of funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

LYBRAND, ROSS BROS. & MONTGOMERY

Two Broadway, New York.
January 28, 1971.

Schedule of Investments at December 31, 1970

(Excluding Securities Carried as Current Assets)

	Market Value Dec. 31, 1970	
Investments (having market quotations), at cost:		
Kaiser Aluminum & Chemical Corporation 925,000 shares of common stock	**$32,375,000**	$ 9,250,000
Kennecott Copper Corporation 27,381 shares of common stock held for incentive awards	**1,078,127**	1,054,248
Mount Pleasant Mines Limited 260,000 shares of common stock	**87,436**	117,064
	$33,540,563	10,421,312
Investments (no market quotations) at cost:		
Sociedad Minera El Teniente S.A. — stock		50,363,988
Sociedad Minera El Teniente S.A. — notes:		90,343,695
Series A $80,000,000		
Series B 9,494,000		
Series C 849,695		
Government of Chile — obligatory loan		1,681,672
Government of Queensland, Australia — railway use security deposit		11,679,360
John W. Galbreath Development Corp. — notes		6,771,374
John W. Galbreath & Co. — notes		778,726
Gibraltar Coal Corporation — stock		3,032,142
Great Lakes Carbon Corporation (Canada) Ltd. — stock and advances		3,677,198
North Carolina Phosphate Corporation — stock		2,692,789
Quebec Columbium Limited — stock and advances		1,348,842
Stauffer Chemical Company — notes		530,000
Miscellaneous		2,339,968
		175,239,754
Investments, at equity in net assets:		
Coal mining joint ventures		6,309,648
Quebec Metal Powders Limited — stock		3,921,622
		10,231,270
		$195,892,336

Historical Table 1970-1951

Financial Information

Year	Total Revenue (000 Dollars)	Cost of Goods Sold Excl. Taxes (000 Dollars)	Depreciation, Depletion and Amortization (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)
1970	$1,175,059	$673,791	$73,294	$ 79,400	$60,447	$103,118	$185,009
1969	1,092,498	650,880	72,705	65,600	51,638	86,281	165,395
1968	768,778	446,040	50,912	38,100	35,559	86,947	111,220
1967	542,321	278,944	32,473	43,700	33,102	77,080	77,022
1966	788,804	414,312	31,157	138,900	35,722	41,964	126,749
1965	676,318	383,948	26,092	103,000	30,775	31,481	102,022
1964	552,080	317,275	22,517	74,400	27,977	43,813	66,098
1963	510,774	312,573	20,771	64,035	27,742	28,694	56,959
1962	513,803	311,526	20,570	63,951	25,476	26,625	65,655
1961	506,809	303,450	18,555	70,356	23,027	29,524	61,897
1960	503,341	273,655	17,177	85,633	21,294	28,220	77,362
1959	444,903	263,909	12,429	63,263	22,210	25,752	57,340
1958	404,998	250,961	10,351	55,286	21,073	7,206	60,121
1957	480,200	275,653	10,610	80,368	22,813	11,504	79,252
1956	578,067	250,435	8,120	138,072	22,900	15,386	143,154
1955	555,939	252,392	8,905	122,429	20,785	25,912	125,516
1954	429,131	261,429	8,734	54,323	16,976	9,763	77,906
1953	482,808	269,416	9,244	90,069	18,798	6,527	88,754
1952	476,740	287,957	8,509	73,580	14,716	5,827	86,151
1951	455,485	254,708	7,268	83,036	15,144	3,982	91,847

Net income is as reported annually: 1966 and later figures are without any extraordinary items; similarly, 1965 and prior figures are without any adjustments for surplus charges and credits.

Figures for 1966 and thereafter consolidate subsidiaries more than 50 per cent owned; 1965 and prior figures consolidate only wholly owned subsidiaries.

Per share amounts are based on number of shares outstanding at December 31 of each year adjusted for stock split in 1966.

Net Income Per Share	Distributed to Stockholders (000 Dollars)	Distributed to Stockholders Per Share	Total Assets (000 Dollars)	Capital and Surplus (000 Dollars)	Book Value Per Share	Capital Expenditures (000 Dollars)	Year
$5.58	$ 86,171	$2.60	$1,737,190	$1,172,842	$35.37	$163,164*	1970
4.99	79,550	2.40	1,652,166	1,108,155	33.42	152,036*	1969
3.35	66,292	2.00	1,541,280	1,022,310	30.83	150,033*	1968
2.32	66,298	2.00	1,127,690	977,382	29.48	83,273	1967
3.82	66,318	2.00	1,125,097	932,564	28.12	97,132	1966
3.08	52,502	1.58	948,509	834,905	25.18	76,756	1965
1.99	44,212	1.33	912,054	791,981	23.88	34,153	1964
1.72	44,212	1.33	847,082	770,095	23.22	37,202	1963
1.98	55,265	1.67	830,971	757,348	22.84	31,386	1962
1.87	55,265	1.67	814,418	748,478	22.57	32,892	1961
2.33	55,265	1.67	807,554	741,821	22.37	25,342	1960
1.73	66,318	2.00	802,839	755,931	22.80	85,254	1959
1.81	54,340	1.67	825,678	764,909	23.07	39,667	1958
2.44	64,930	2.00	807,452	737,521	22.72	27,332	1957
4.41	100,100	3.08	833,998	723,200	22.28	21,244	1956
3.87	63,868	2.58	793,221	679,542	20.93	16,066	1955
2.40	64,930	2.00	730,867	637,893	19.65	8,748	1954
2.73	64,930	2.00	747,630	620,593	19.12	16,170	1953
2.65	64,930	2.00	703,532	600,567	18.50	14,908	1952
2.81	64,930	2.00	687,473	578,084	17.81	13,126	1951

*Includes capitalized mining costs.

Executives

CORPORATE HEADQUARTERS

Frank R. Milliken, *President*
C. H. Burgess, *Vice President—Exploration*
J. R. Atkinson, *Manager, Technical Services*
M. A. Dubs, *Director, Ocean Resources*
Ralph C. Holmer, *Director, Exploration Services*
T. A. Netelbeek, *Managing Director, Kennecott Explorations (Australia) Pty. Ltd.*
A. E. Snyder, *Manager, Administrative Services*
Gilbert E. Dwyer, *Vice President—Administration*
Lester Ziffren, *Special Assistant to the Vice President*
Paul B. Jessup, *Director, Corporate Relations*
Lyle Robert Mercer, *Director, Washington Services*
James J. O'Kane, *Director, Employee Relations*
H. John Kannaley, *Director, Communication*
W. B. Jones, *Director, Public Relations*
Edwin E. Dowell, *Manager, Public Relations*
Gordon H. Fisher, *Vice President—Planning*
C. Stephen Ingersoll, *Director, Planning*
Pierce N. McCreary, *General Counsel and Secretary*
Hugo Monnig, Jr., *Associate General Counsel and Assistant Secretary*
Donald E. Schwinn, *Associate General Counsel*
Gordon B. Russell, *Vice President—Finance*
Anthony T. Ellis, *Treasurer*
F. A. Egner, *Assistant Treasurer and Assistant Secretary*
R. L. Ward, *Comptroller*
Marvin Lyding, *Assistant Comptroller*
David Swan, *Vice President—Technology*
Ewan W. Fletcher, *Director, Ledgemont Laboratory*
Herbert I. Fusfeld, *Director, Research*
Bryce I. MacDonald, *Director, Engineering*
John Sniado, *Director, Patents and Licensing*
Roger Sweet, *Director, Operations, Special Products Division*

METAL MINING DIVISION

C. D. Michaelson, *President*
John C. Kinnear, Jr., *Vice President—Operations*
J. Keverian, *General Manager, Kennecott Refining Corporation*
Harold A. Krueger, *General Manager, Ozark Lead Company*
J. P. O'Keefe, *General Manager, Utah Copper Division*
Charles T. Penney, *General Manager, British Columbia Molybdenum Limited*
H. M. Peterson, *Vice President, Nevada Northern Railway Company*
I. G. Pickering, *General Manager, Ray Mines Division*
D. O. Rausch, *General Manager, Tintic Division*
B. B. Smith, *General Manager, Chino Mines Division*
W. H. Winn, *General Manager, Nevada Mines Division*
R. W. Grosz, *Managing Director, Kennecott Pacific Pty. Limited*
R. M. Haldeman, *Executive Vice President, El Teniente Mining Company, Inc. (Chile)*
B. E. Grant, *Administrative Vice President, El Teniente Mining Company, Inc. (Chile)*
Herman H. Kremer, *President, Kennecott Sales Corporation*
John H. Boyd, *Vice President, Kennecott Sales Corporation*
Frank B. McKown, *Vice President, Kennecott Sales Corporation*
John Wehncke, *Vice President, Kennecott Sales Corporation*
W. R. Kimsey, *Comptroller*
S. D. Michaelson, *Chief Engineer*
Lowell B. Moon, *Director, Exploration*
Herman L. Bauer, Jr., *President, Bear Creek Mining Company*
C. J. Sullivan, *President, Kennco Explorations (Canada) Limited*
Robert G. Rhett, *Director, Purchasing*
Joseph W. Shuster, *Director, Industrial Relations*
Leon J. Souren, *Director, Traffic*
H. R. Spedden, *Director, Research*
Alfred Weiss, *Director, Scientific and Engineering Computer Center*

PEABODY COAL COMPANY

T. C. Mullins, *President and Chief Executive Officer*
E. R. Phelps, *Senior Vice President—Operations*
Richard E. Miller, *Senior Vice President—Sales*
E. S. Jones, *Vice President—Administration*
K. R. Dawson, *Vice President—Finance*
W. V. Hartman, *Vice President—Purchasing*
W. G. Stockton, *Vice President—Public Relations*
R. E. L. Hall, *Vice President—Corporate Relations*
M. O. Young, *Vice President, General Counsel and Secretary*
M. H. Mohl, *Controller*
L. B. Rahn, *Vice President and General Sales Manager*
R. L. Geissal, *Group Vice President—Western Division*
D. C. Hall, *Group Vice President—Eastern Division*
A. S. Macke, *Vice President—Overseas Operations*
D. D. Saxton, *Vice President—Overseas Development*
H. Vaughn Mansfield, *Vice President—Research*

CHASE BRASS & COPPER CO. INCORPORATED

Glenn P. Bakken, *President*
William F. Aylard, *Vice President—Technical*
Beecher N. Claflin, *Secretary and General Counsel*
David S. Soliday, Jr., *Vice President—Metals Service Division*
Chester W. Spencer, *Vice President—Special Metals*
Paul R. Totten, *Vice President and General Manager, Sheet Division*
John F. Van Landeghem, *Group Vice President*

QUEBEC IRON AND TITANIUM CORPORATION

(Two-thirds owned by Kennecott Copper Corporation)

William L. Walsh, *President*
James A. Kennelley, Jr., *Assistant to the President*
J. M. Herndon, *General Manager*
N. H. Cuke, *Manager of Sales*
R. A. Green, *Treasurer*
F. A. Kay, *Technical Director*
Harry Durney, *General Manager, Quebec Metal Powders Limited*

Board of Directors

Glenn P. Bakken, *President, Chase Brass & Copper Co. Incorporated*
Russell DeYoung, *Chairman of the Board, The Goodyear Tire & Rubber Co.*
J. Peter Grace, *President, W. R. Grace & Co.*
M. M. Hardin, *Investments*
Ellison L. Hazard, *Chairman of the Board, Chief Executive Officer and President, Continental Can Company, Inc.*
John Jeppson, *President and Chief Executive Officer, Norton Company, Worcester, Mass.*
Peter O. Lawson-Johnston, *Partner, Guggenheim Brothers*
Gavin K. MacBain, *Chairman of the Board and Chief Executive Officer, Bristol-Myers Company*
Arthur F. Mayne, *Financial Consultant*
C. D. Michaelson, *President, Metal Mining Division, Kennecott Copper Corporation*
Frank R. Milliken, *President, Kennecott Copper Corporation*
T. C. Mullins, *President, Peabody Coal Company*
Walter H. Page, *Vice Chairman of the Board, Morgan Guaranty Trust Company*
Clifton W. Phalen, *Chairman of the Executive Committee, Marine Midland Banks, Inc.*
George Russell, *Director and Member of Finance Committee, General Motors Corporation*
John M. Schiff, *General Partner, Kuhn, Loeb & Co.*
Roy W. Simmons, *President, Zions First National Bank, Salt Lake City, Utah*
Edward L. Steiniger, *Director of various corporations*
Wm. Thayer Tutt, *President, Broadmoor Hotel, Inc.*

Transfer Agents

Morgan Guaranty Trust Company of New York,
New York, N. Y. 10015

Boston Safe Deposit and Trust Company,
Boston, Mass. 02106

Registrars

Bankers Trust Company,
New York, N. Y. 10017

The First National Bank of Boston,
Boston, Mass. 02106

Printed in U.S.A.

KENNECOTT

Annual Report 1970