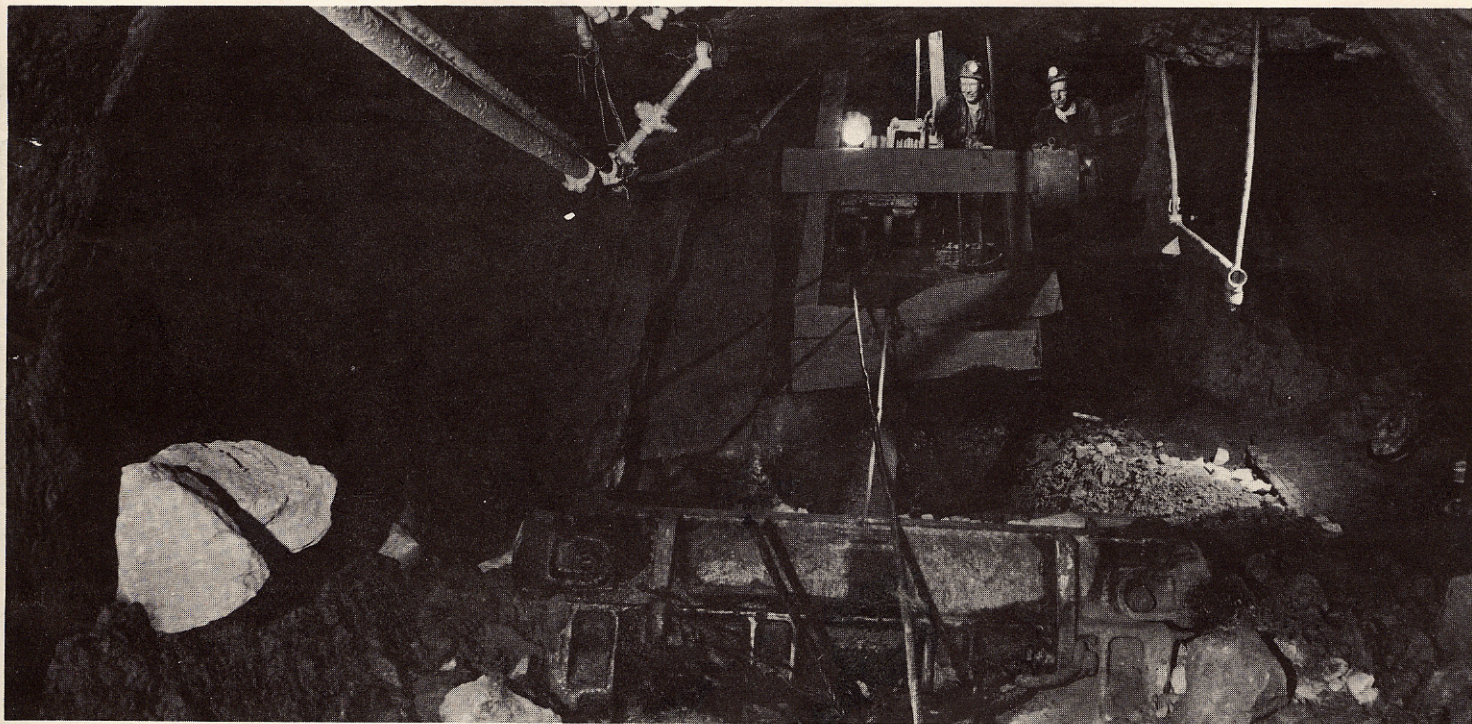


# The Sullivan Mine

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**Cominco's success, and its development into a leading Canadian company with extensive mining, metallurgical and chemical operations and other related enterprises in Canada and abroad has been due, very substantially, to the Sullivan mine at Kimberley, B.C. It is the foundation upon which the Company's greatness has been built. It is still extremely important and will continue to be for a great many years to come.**

## **Introduction**

The outcrop of the Sullivan ore body was discovered in 1892. Early operations between the time of discovery and 1909 suffered several setbacks, due chiefly to the complex nature of the ore. Cominco acquired the property in 1909 and by selective mining and sorting, the grade of the ore was improved sufficiently to be smelted with the facilities available in Trail. In 1919 the application of differential flotation made possible the more complete mining of the ore body and established the Sullivan mine as one of the largest lead-zinc mines in the world.

## **The 3900 Level Service Tunnel**

The tunnel reaches the fringe of the ore body at approximately 6,000 feet and the farthest working place is approximately 12,000 feet from the portal. Work is carried on 700 feet vertically above and 1400 feet vertically below the 3900 level. Men and supplies enter the mine through this tunnel.

## **The 3700 Level Haulage Tunnel**

Work on this tunnel was completed in 1949. The ore from the mine, after two-stage crushing, is taken directly to the concentrator through this haulageway. On return trips to the mine, the trains haul float reject from the concentrator which is used for filling stopes below the 3900 level. The tunnel is 11,730 feet long, and the surface track is approximately two miles in length.

## **Surface Mining**

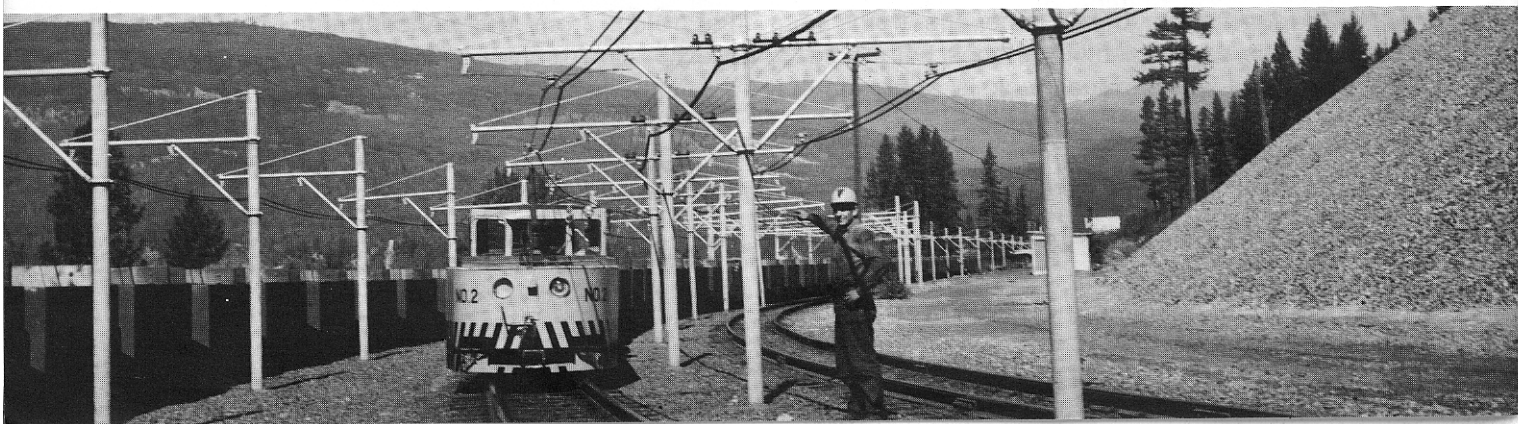
The open pit is located on the Sullivan Hill near the site of the original discovery

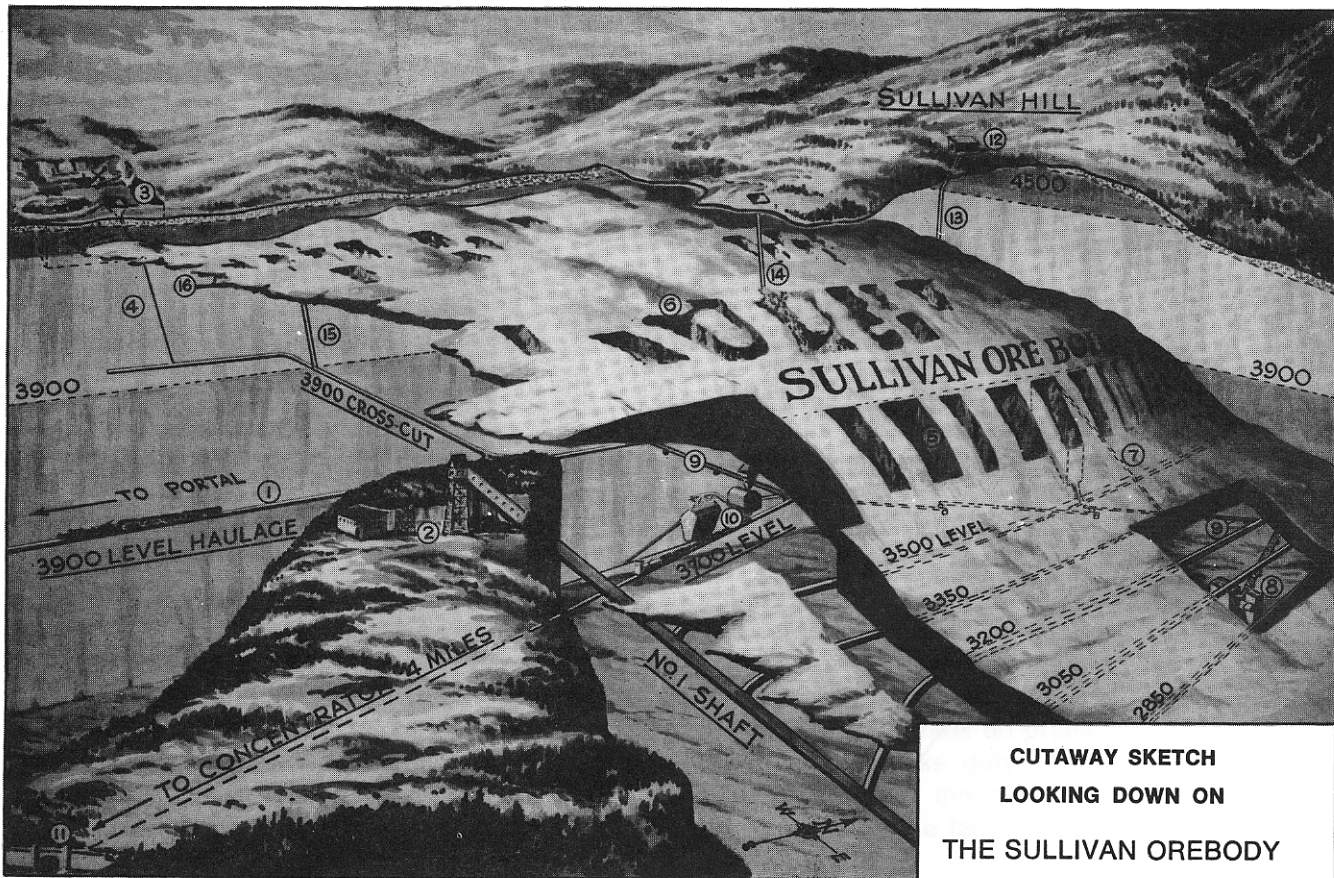
of the mine. Approximately 1,389,000 cubic yards of gravel and waste rock were removed to expose the ore in the original pit. Over 3 million tons of ore were mined from the open pit from 1951-1957. This operation was temporarily suspended in January 1965.

### **Underground Mining**

The vein varies in thickness through a wide range up to a maximum of about 300 feet and has an average dip of about 23 degrees. The average thickness from the 3900 level down to the 2700 level is about 70 feet. Holes are drilled by two types of machines, blast-hole diamond drills and percussion drills. Approximately 57% of the underground tonnage is mined by blast-hole diamond-drilling methods, 40% by long-hole percussion-drilling methods, and 3% by non-sectional percussion-drilling methods. Open-stoping methods have produced most of the ore to date, but pillar mining in 1966 accounted for 83% of the underground tonnage.

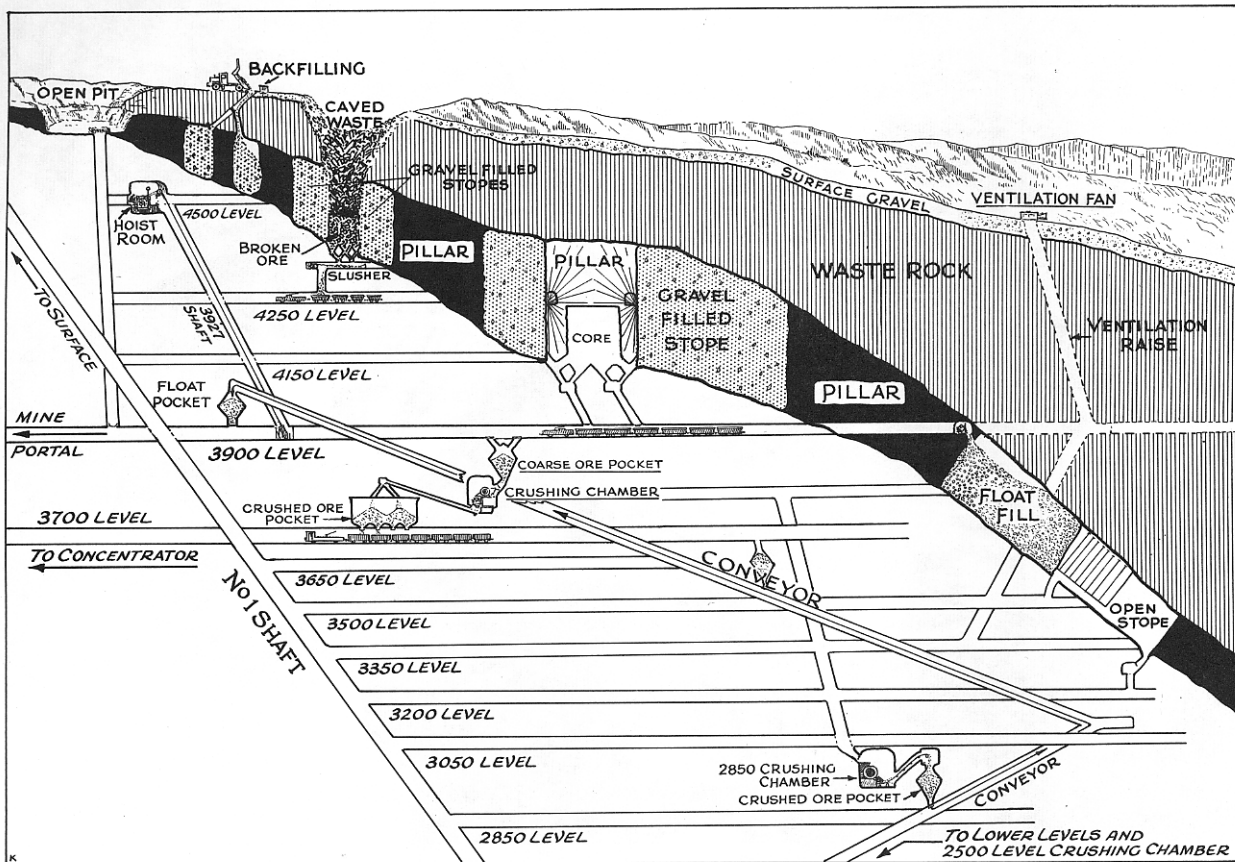
### **HAULING CRUSHED ORE TO THE CONCENTRATOR**





**CUTAWAY SKETCH  
LOOKING DOWN ON  
THE SULLIVAN OREBODY**

1. 3900 level portal. It was driven in 1915 and provided the main haulageway for men, material and ore until 1949. It is now used as a serviceray for men and materials only. 2. Number One Shaft headframe, serving the south end of the orebody. The shaft is over a half mile long. 3. The new open pit mining operation near the spot where Burchett found the outcrop in 1892. 4. Open pit ore is dumped underground and carried to the crushing plant at (9). 5. Example of one of the large stopes below the 3900 level. 6. Stope above the 3900 level. Stope will be filled with waste and central pillar mined out. 7. Dotted lines represent 3901 Shaft from which mining in the West Section started in 1940. 8. Underground crushing unit at the 2850 level. 9. Belt conveyor system, 2850 level to 3900 level (over three quarters of a mile long). 10. 3800 crushing chamber and ore bins. 11. (lower left) 3700 level tunnel two miles long with portal two more miles from concentrator. 12. Fan house. 13. Ventilation raise. 14. Backfill raise. 15. 3927 service raise. 16. 4250 level.



SULLIVAN MINE — SECTIONAL VIEW

## Compressors

Compressed air from the Mine is supplied by seven electrically driven compressors and one Pelton wheel totalling 4,702 H.P. with a combined capacity of 25,000 cubic feet per minute, compressing to 105 pounds per square inch.

## Underground Repair Shops

Minor repair work is done underground in shops located at various central points throughout the mine.

## GENERAL STATISTICS OF THE SULLIVAN MINE

	TONS OF ORE
Production 1966 .....	2,135,660
Since commencement to December 31, 1966 .....	96,060,390
Rate per working day, 1966 .....	8,408
Rate per calendar day, 1966 .....	5,851

Development	FEET	MILES
1966 .....	26,453	5.0
1910-1966 .....	1,273,545	241

Backfill Yardage	GRAVEL FILL	FLOAT FILL	DEV. WASTE	CAVE	CU. YDS. TOTAL
1966 .....	—	178,325	28,947	274,912	482,184
1934-1966 .....	7,762,788	3,858,160	701,753	9,436,993	21,759,694

Blast-Hole Drilling	FOOTAGE	TONS/FT. DRILLED	FOOTAGE SHIFT	EXPLOSIVES LBS./TON
Open Pit (Ore) 1964 .....	57,341	4.0	194	0.32
Underground 1966 .....	414,260	2.0	87	0.24

Tonnage Blasted (Ore) 1966—1,313,265 tons

Largest Blast to Date (1962)—1,078,000 tons, using 45 tons of explosives

Core-Hole Drilling—1966—5,229 feet

Men on Mine Payroll (as at December 31, 1966)—657

Total Miles of Track—Approximately 40.0 miles

### **Stope Filling**

An extensive stope-filling program was started in 1935, and by the end of 1961, 7½ million cubic yards of gravel had been placed in stopes above the 3900 level. At that time gravel filling above the 3900 level was discontinued in favour of caving along specified retreat fronts.

Since 1949 the stopes below the 3900 level have been filled with float reject from the Concentrator. A total of 3.9 million cubic yards of float fill had been placed by the end of 1966.

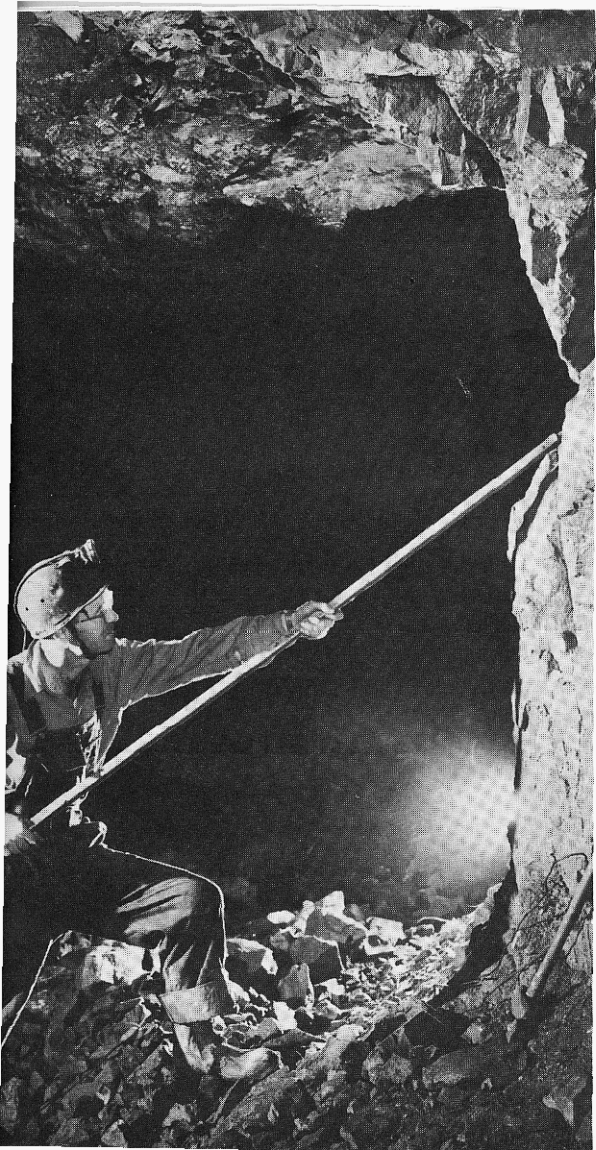
### **Underground Crushing Chambers**

All ore from the Mine is crushed to about an inch-and-a-half size before going to the Concentrator. Ore mined above the 3900 level passes through jaw and Symons crushers in the 3800 crushing chamber. Ore mined below the 3900 level passes through a jaw crusher in the 2850 level crushing chamber and then through a Symons crusher in the 3800 level crushing chamber. The 2500 crushing chamber was put into operation in June of 1962, to handle ore from below the 3050 level. This ore passes through a jaw crusher and then a Symons crusher in the 3800 level crushing chamber.

### **The 3902 Belt Conveyor**

This conveyor handles all the ore mined below the 3900 level. It is approximately 5,700 feet long and conveys the ore which has been crushed to a minus 3-inch size, from the 2500 level to the 3800 elevation, where a cross conveyor takes it to the 3800 crushing chamber.





The belts travel at 400 feet per minute and hoist 450 tons per hour. The conveyor is comprised of nine sections, six averaging 430 feet, two averaging 900 feet and one 1,500 feet in length. Each of the short sections is driven by a 100 H.P., 550 volt A.C., 450 R.P.M. squirrel-cage induction motor. Two of the longer sections are driven by a 200 H.P., 550 volt A.C., 900 R.P.M. squirrel-cage induction motor. The 1,500 foot conveyor has a 300 H.P., 550 volt, 1200 R.P.M. squirrel-cage induction motor.

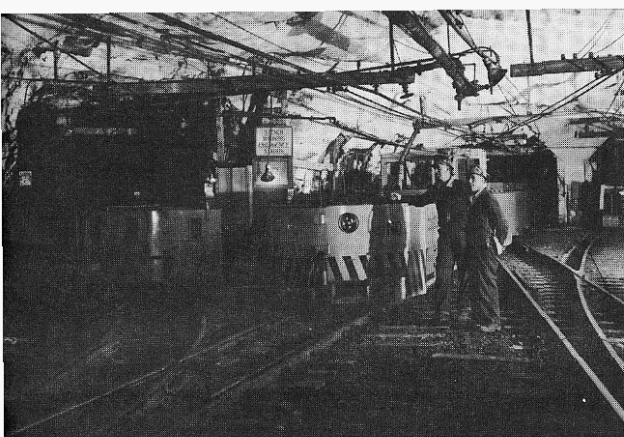
### **Hoisting and Service Shafts**

Men and materials are taken from the 3900 level to the upper levels via No. 27 Shaft near the south end and No. 32 Shaft near the north end of the ore body.

No. 27 Shaft is a one-compartment shaft with compound inclination. The inclination from 3900 to 4250 levels is 46 degrees and from 4250 to 4500 levels is 27 degrees. The hoistroom is located on the 4500 level.

No. 32 Shaft is a two-compartment shaft inclined at 51 degrees. The hoistroom is located on the 3900 level.

The barring down of loose rock is an important safety measure in the Sullivan Mine.



Tramming is an essential service in the Sullivan Mine. Men and equipment are transported to work areas by train. Ore is trammed to conveying or crushing machinery. Finally, crushed ore is moved by train to the Sullivan Concentrator.



Drilling a blast hole. A pattern of these holes will be blasted to break ore from a pillar.



Kimberley, B.C. with surface buildings of the Sullivan Mine at left background.



## DIRECTORY

### PRINCIPAL OFFICES

#### COMINCO LTD.

Head Office: 630 Dorchester Blvd. W., Montreal 101, P.Q.

Western Region: Trail, British Columbia.

Pacific Region: Cominco Building, 1199 West Pender St., Vancouver 1, B.C.

United States: Cominco American Incorporated, 818 W. Riverside Ave., Spokane, Washington, 99201.

Research Centres: Trail, B.C. and Sheridan Park, Ontario.

Exploration Offices: Montreal, P.Q., Toronto, Ont., Vancouver, B.C., Spokane, Wash., and Wayville, South Australia.

#### Sales Offices:

**CANADA:** Cominco: Montreal, P.Q., Sheridan Park, Ont., Winnipeg, Man., Regina, Sask., Calgary, Alta., Vancouver, B.C.

**U.S.A.:** Cominco American: Spokane, Wash., Portland, Ore., Fresno, Cal., Minneapolis, Minn., Lincoln, Neb., Indianapolis, Ind.

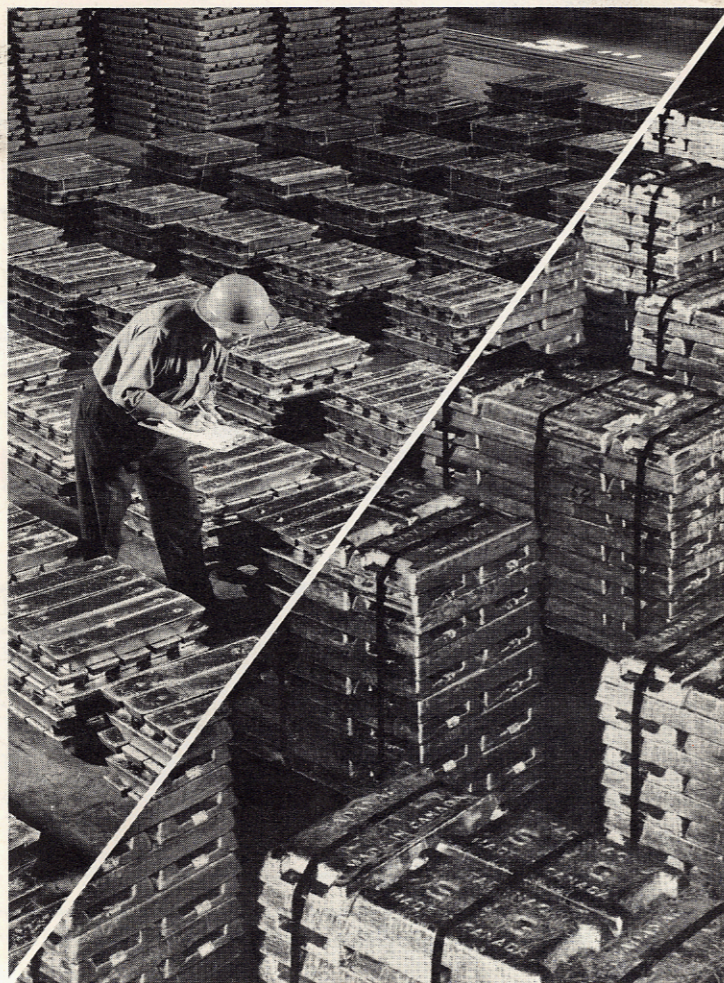
**EUROPE:** Cominco-Gardner Limited, London, England; Cominco-Gardner GmbH, Dusseldorf, West Germany.

## quick facts about Cominco 1969

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## the company

Cominco Ltd. is the world's largest producer of refined lead and zinc; it is a major North American producer of chemical fertilizers. The company is Canadian controlled with 95% of its shares held in Canada. Its head office is in Montreal, with its main mining, metallurgical and chemical operations situated in Trail and Kimberley in southeastern British Columbia. In addition to its widespread Canadian interests, Cominco has subsidiaries and affiliates in several other countries. The company's U.S. activities are conducted by Cominco American Incorporated, a wholly-owned subsidiary.

*Note: tonnage figures are in "short tons per year"; operations are 100% owned unless otherwise stated.*

## mines

**Benson Lake** — mine and concentrator near Benson Lake, Vancouver Island, B.C. — copper and iron — Ore extraction began in June 1968. Ore output in 1968: 27,000 tons. Concentrator processes ores from Coast Copper mine and Benson Lake mine.

**Bluebell** — Riondel, B.C. — lead-zinc — Ore output in 1968: 252,000 tons.

**Brock Operations** — near Garrison, Montana — phosphate rock — Cominco American Incorporated operates mine to supply Cominco's fertilizer operations. Output in 1968: 372,000 tons of rock and 199,000 tons of concentrate.

**Coast Copper Company Limited** — (83% interest) — Property near Benson Lake, Vancouver Island, B.C. — copper and iron. Ore output in 1968: 241,500 tons.

**Con** — Yellowknife, NWT — gold — Ore output in 1968, including adjacent Rycon Mine: 152,000 tons.

**Magmont Mine** — (50% interest) — Cominco American Incorporated manages this lead mine, near Salem, Missouri. With annual capacity of 50,000 tons of lead, mine began production in Fall of 1968. Ore output in 1968: 128,000 tons; treated in nearby custom smelter.

**Pinchi Lake** — near Fort St. James, B.C. — mercury — Production commenced Fall of 1968. Concentrator and reduction plants have capacity to treat 800 tons of ore per day.

**Pine Point Mines Limited** — (69% interest) — Large open-pit zinc-lead mine at Pine Point, Northwest Territories. An 8,000-ton concentrator processes ore from Pine Point and adjacent Sphinx Mine. Major part of concentrate production sold to Cominco; balance sold to other smelters in Canada, U.S.A., Europe, India and Japan. Ore output in 1968: 2,491,000 tons.

Cover illustration — Refined lead and zinc are major products of Cominco.

**Potash Division** — Vade, Saskatchewan. \$65 million project with initial capacity of 1.2 million tons began production in March 1969. The addition of potash makes Cominco self-sufficient for its sources of the main fertilizer ingredients: nitrogen, phosphorus and potash.

**Sullivan** — Kimberley, B.C. — major source of lead, zinc, iron and sulphur; also yields silver, cadmium, bismuth, antimony, indium and tin. Ore output in 1968: 2,156,000 tons.

## metals

Cominco's major metallurgical operations, centered at Trail, B.C., process lead and zinc concentrates from company and non-company mines to produce refined lead, zinc, silver, gold, cadmium, bismuth and indium; and antimonial lead. Also produces range of ultra-high purity metals.

## lead

### TRAIL, B.C.

Concentrates sintered for blast furnace feed. Furnace capacity 200,000 tons of bullion. Furnace slag fumed to recover lead and zinc values. Bullion refined electrolytically and associated metals recovered by furnacing and electrolytic refining. Capacities: lead 190,000 tons, silver 15,000,000 troy ozs., gold 350,000 troy ozs., bismuth 150 tons, antimonial lead 4,000 tons.

### NAOSHIMA ISLAND, JAPAN

Mitsubishi Cominco Smelting Company Limited — (45% interest) — Lead smelter managed by Mitsubishi Metal Mining Company Limited, Tokyo. Operating at rated capacity, produced 33,500 tons of refined lead in 1968 entirely from concentrates purchased from Pine Point Mines Limited.

## zinc

### TRAIL, B.C.

Concentrates roasted and oxide product purified by acid leaching and zinc recovered by electro-deposition. Cadmium recovered as by-product. Capacities: zinc 263,000 tons, cadmium 800 tons.

### ALWAYE, KERALA STATE, INDIA

Cominco Binani Zinc Limited — (40% interest) — In partnership with Metal Distributors Limited, Calcutta, Cominco has an interest in a 22,000 ton capacity zinc smelter. Production in 1968: 11,400 tons refined zinc.

### BRISTOL, ENGLAND

Mazak Limited — (50% interest) — In partnership with Imperial Smelting Corporation, Cominco has an interest in the largest producer of zinc die casting alloys for U.K. and other markets.

## ENFIELD, ENGLAND

Platt Metals Limited — (50% interest) — In partnership with Imperial Smelting Corporation, Cominco has an interest in this firm which makes and sells die casting alloys and other metals.

## iron & steel

**Kimberley, B.C.** — Iron concentrate from the Sullivan mine lead-zinc-iron ores provides raw material for pig iron production by electrothermic furnace (capacity 110,000 tons). Operations include plant for conversion of pig iron to steel ingots. 1968 production: pig iron 69,700 tons, steel ingots 25,600 tons.

**Vancouver, B.C.** — Western Canada Steel Limited — Plant produces steel (capacity 100,000 tons) and makes a range of industrial fasteners and light and medium structural steel products.

**Calgary, Alberta** — Western Rolling Mills — a 50,000 ton capacity reinforcing bar plant in which Western Canada Steel Limited has a lease and option.

**Honolulu, Hawaii** — Hawaiian Western Steel Limited — A 40,000 ton capacity reinforcing bar plant in which Western Canada Steel Limited has 50% interest.

## HIGH PURITY METAL FABRICATION

**Spokane, Washington** — Cominco American Incorporated — High purity metal fabrication plant makes basic elements for the electronic industries using ultra-high purity metal refined in Spokane, Wash., and Trail, B.C.

## BASE METAL FABRICATION

**The Canada Metal Company Limited** — (50% interest) — Company fabricates base metals and alloys and is leading lead fabricator in Canada. Plants in Toronto, Scarborough, Montreal, Winnipeg, Calgary and Vancouver.

**National Hardware Specialties Limited** — Company with subsidiaries, **Schultz Die Casting Company of Canada Limited** and **Luster Corporation of Canada Limited**, comprises major Canadian zinc die casting and finishing group. Plants in Dresden, Lindsay and Wallaceburg, Ontario.

## chemicals & fertilizers

Note: figures in brackets indicate capacities

**Trail, B.C.** — Contact sulphuric acid plants treat by-product sulphur gases from metallurgical operations (480,000 tons, 100% acid). Ammonia (150,000 tons) is produced from natural gas and from electrolytic processes. Fertilizer production (550,000 tons) comprises ammonium sulphate, ammonium nitrate and range of ammonium phosphates. Liquid fertilizers are also produced. Chlorine (12,000 tons) and caustic soda (13,800 tons) are produced from electrolysis of salt.

**Calgary, Alberta** — Ammonia (120,000 tons) produced from natural gas; part of the output is converted to ammonium nitrate (65,000 tons) and urea (90,000 tons); the balance is used in other Company fertilizer plants or sold as such.

**Kimberley, B.C.** — Ammonium phosphate fertilizer production (185,000 tons) utilizes by-product sulphur gases from iron operations, ammonia from Company's Calgary plant and phosphate rock from Cominco American Incorporated operations in the United States.

**Beatrice, Nebraska** — Cominco American Incorporated operates this ammonium nitrate plant (200,000 tons). Ammonia is supplied via pipeline from ammonia plant in Borger, Texas.

**Borger, Texas** — Hill Chemicals, Inc., in which Cominco American Incorporated has 50% interest, brought into production a 1000-ton per day ammonia plant in October 1968. Ammonia is delivered by 850-mile pipeline to markets in the midwest states and to Cominco American's Beatrice, Nebraska plant.

**Alwaye, Kerala State, India** — Cominco Binani Zinc Limited (40% interest) — Plant produces sulphuric acid from by-product sulphur from adjacent zinc smelter. 1968 production: 17,300 tons, 100% acid.

## SHIPPING INTERESTS

**Pacific Coast Terminals Co. Ltd.** — (74% interest) — Company owns and operates deep sea storage warehouse and dock facilities at New Westminster, B.C., and through a subsidiary, **Pacific Coast Bulk Terminals Limited**, operates bulk storage and loading facilities at Port Moody, B.C. In 1968 materials handled through both facilities totalled 2,919,000 tons.

## POWER

**West Kootenay Power and Light Company, Limited** — (all common shares and 24% of preferred shares) — Operates a power plant and public utility in southeastern B.C. Total sales in 1968: 671,397,000 k.w.h. Also operates parent company's five power plants under management contract, the output of which (860,000 h.p.) is used essentially in Cominco's Trail and Kimberley operations.

## SALES

**Montreal, Que.** — Main sales office for metals, chemicals, fertilizers and potash, (see directory for other Canadian sales offices).

**Spokane, Wash.** — Cominco American Incorporated handles sales of Cominco's fertilizers in the United States. Also sells high purity metal elements and preforms to the electronic industry. Company has 6 sales offices in U.S. (see directory).

**London, England** — Cominco-Gardner Limited — (52% interest) — Company markets metals in the United Kingdom, selling Cominco metals, and metals produced by others, in that market.

**Dusseldorf, W. Germany** — Cominco-Gardner GmbH — (50.03% interest) — Company engaged in marketing activities — promoting sales of Cominco metals, and metals produced by others, in continental Europe.

## products

### Metals

Lead, Zinc, Silver, Bismuth, Cadmium, Mercury, Indium, Gold, Antimonial Lead, Zinc Dust, Pig Iron, Steel

### Concentrates

Zinc, Lead, Copper, Iron, Tin

### Fabricated Metal Products

Zinc Die Castings, Zinc Extrusions, Cadmium and Zinc Plating Anodes,

TADANAC BRAND  COMINCO BRAND  ELEPHANT BRAND  are registered trade marks of the Company.

Zinc Anodes for Cathodic Protection, Steel Fasteners, Light and Medium Structural Steel Products

### High Purity Metals

(99.999% and 99.9999% pure)  
Aluminum, Antimony, Arsenic, Bismuth, Cadmium, Copper, Gold, Indium, Lead, Silver, Tin, Tellurium, Thallium, Zinc

### Electronic Materials

Fabricated Forms of High Purity

Metals, Compound Semiconductors, Thermo-electric Materials

### Chemical Fertilizers

Ammonium Sulphate, Ammonium Nitrate, Urea, Anhydrous and Aqua Ammonia, Nitrogen Solutions, Ammonium Phosphates, Ammonium Nitrate-Phosphates, Complete Fertilizers, Ammonium Phosphate Solutions, Phosphoric Acid, Nitrogen-

Sulphur Solutions, Zinc Fertilizer Compound

### Chemicals

Ammonia, Ammonium Nitrate, Urea, Chlorine, Caustic Soda, Feed Grade Urea, Sulphuric Acid, Sulphur Dioxide, Hydrofluosilic Acid

### Muriate of Potash

Granular, Coarse, Standard, Special Standard, White Soluble

## output of principal products

YEAR	LEAD short tons	ZINC short tons	SILVER troy ozs.	CADMIUM short tons	FERTILIZER short tons	IRON & STEEL short tons	ORES AND CONCENTRATES SOLD short tons
1894 to 1963 (incl.)	6,902,932	5,709,627	388,701,254	16,213	13,579,392	101,168	84,811
1964	151,372	199,011	7,347,590	945	739,080	83,992	41,296
1965	186,484	213,082	6,415,230	359	754,550	180,889	109,502
1966	184,871	221,871	6,609,110	787	965,435	188,099	268,057
1967	187,567	202,015	5,211,761	657	995,974	200,715	274,649
1968	199,258	209,994	6,936,485	701	920,504	220,379	238,964
1894 to date	7,812,484	6,755,600	421,221,430	19,662	17,954,935	975,242	1,017,279

## comparative highlights

	1968	1967	1966	1965	1964
Sales of all products	\$241,255,000	\$216,959,000	\$224,566,000	\$211,173,000	\$170,029,000
Net Earnings	32,268,000	38,484,000	49,183,000	53,037,000	39,556,000
Dividends declared	23,362,000	25,030,000	30,036,000	30,036,000	26,454,000
Income Tax	16,400,000	10,100,000	14,600,000	22,848,000	24,100,000
Capital Expenditures	56,390,000	58,813,000	66,006,000	64,410,000	38,048,000
Number of employees at year-end of Company and subsidiaries	9,439	9,896	10,145	9,965	9,714
Number of shareholders at year-end	41,742*	43,198	42,232	39,066	35,712

\* 94.0% of the shareholders were Canadian registrants and held 95.0% of the shares issued.

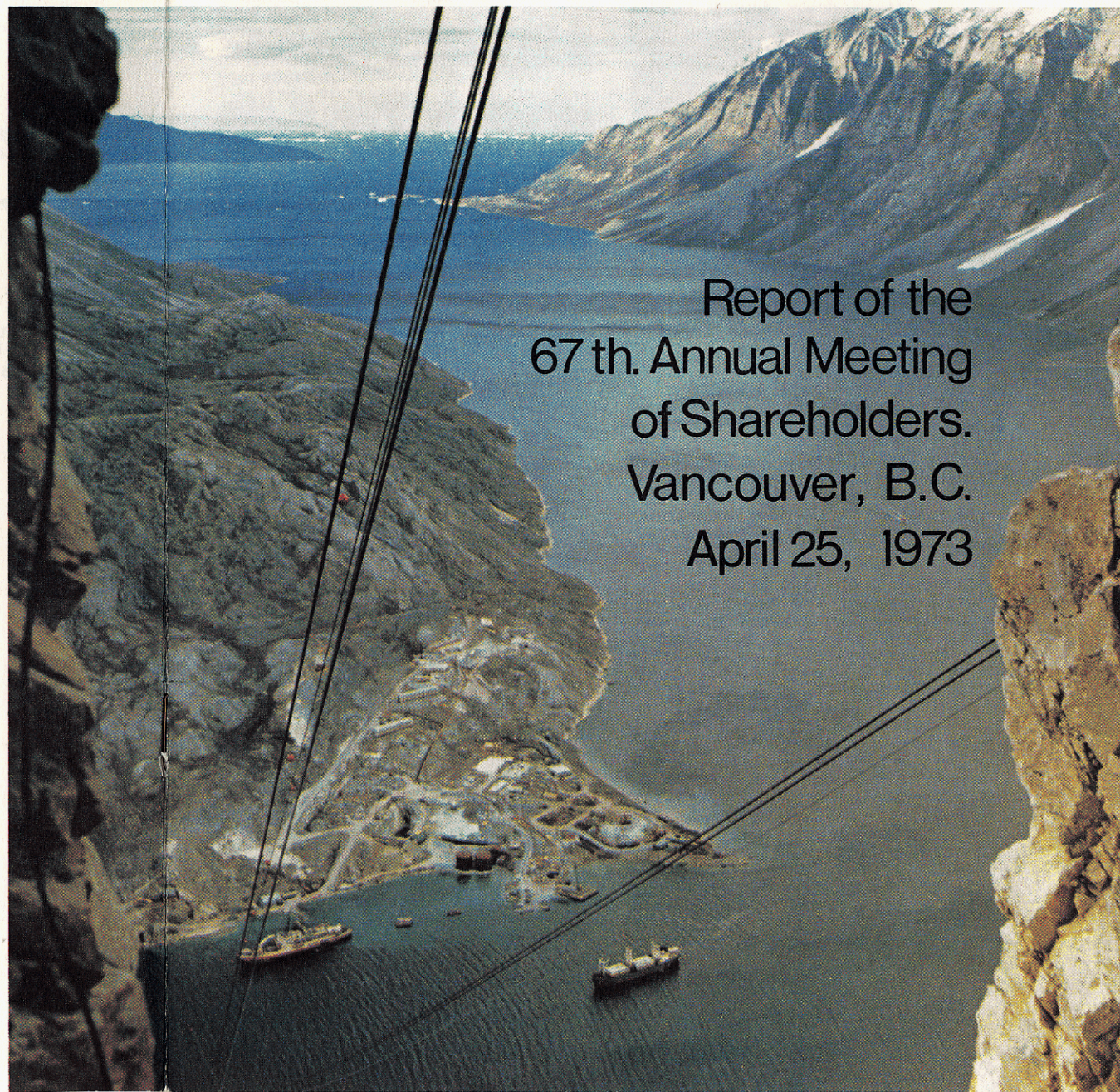
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*Picture taken in September, 1972 from the portal of the Black Angel Mine at Marmorilik, West Greenland. The cables from the mine haulway, 2,000 feet above the mill site and living quarters on the fjord below, terminate near the "C.D. Howe", the former Canadian ice breaker, which served as the original floating camp.*

Report of the  
67 th. Annual Meeting  
of Shareholders.  
Vancouver, B.C.  
April 25, 1973



## Cominco Ltd.

Following is a summary of the proceedings of the 67th Annual General Meeting of Shareholders held at the Vancouver Hotel, Vancouver, British Columbia, at 11:00 A.M. on April 25, 1973.

Mr. R. Hendricks, Chairman and Chief Executive Officer of the Company, presided and Mr. P. C. Stewart, the Secretary, acted as secretary of the meeting. The Chairman welcomed the shareholders and guests and introduced the Directors, thirteen of whom were present. After the formalities of properly constituting the meeting were completed, the Scrutineers reported that there were 62 shareholders present representing in person or by proxy 13,172,311 shares or 77% of voting rights.

As a summary of the minutes of the last Annual General Meeting was mailed to all shareholders, the reading of the formal minutes was dispensed with. Also, the reading of the Report of the Directors and the comparative consolidated financial statements for the year 1972 was dispensed with. The Directors' Report and the consolidated financial statements of the Company and its consolidated subsidiaries for the year ended December 31, 1972, as mailed to all shareholders was tabled in accordance with the Canada Corporations Act.

The President's address to the meeting on the affairs of the Company accompanies this summary.

The Chairman declared the meeting open for nominations for seven directors to serve a two-year term and the following shareholders were elected Directors of the Company:

W. J. Bennett  
H. C. Bentall  
H. T. Fargey  
R. A. MacKimmie, Q.C.  
D. R. McMaster, Q.C.  
H. M. Pickard  
I. D. Sinclair, Q.C.

Messrs. Thorne, Gunn & Co. were appointed auditors of the Company until the next Annual General Meeting at a remuneration to be fixed by the Directors.

The Chairman invited questions on the statements and reports submitted and regarding the affairs of the Company.

In answer to a shareholder's question, the Chairman replied that the Company was ready and willing to go ahead with the proposed copper smelter at Kimberley and was only awaiting resolution of certain matters by government.

The Chairman announced his retirement and thanked the shareholders and Directors for their support and confidence during his term of office.

Mr. I. D. Sinclair, on behalf of the shareholders and the Directors, moved a resolution expressing to Mr. Hendricks the appreciation of all for Mr. Hendricks' outstanding contribution to the growth and development of the Company and the mining and metal industry. The meeting of over 200 present gave Mr. Hendricks a standing ovation in tribute for his excellent leadership.

At the following meeting of the Board of Directors the senior officers for the ensuing year were named:

F. E. Burnet	— Chairman and Chief Executive Officer
G. H. D. Hobbs	— President
I. D. Sinclair, Q.C.	— Vice-President
H. T. Fargey	— Executive Vice-President, Administration and Marketing
J. H. Salter	— Executive Vice-President, Operations

The Executive Committee for the ensuing year consists of:

W. J. Bennett  
F. S. Burbidge  
F. E. Burnet  
H. T. Fargey  
G. H. D. Hobbs  
D. R. McMaster, Q.C.  
I. D. Sinclair, Q.C.

## Address to the Shareholders at the Annual General Meeting, Vancouver April 25, 1973 by F. E. Burnet, President

The 1972 Annual Report of the Directors of your Company, was mailed to all shareholders on March 27, 1973. Since the report covers the activities of the year in detail, I propose to comment only on certain matters which I wish to draw to your attention.

In 1972 the earnings of the Company started an upward trend. Consolidated earnings before extraordinary items were \$20.9 million, an increase of \$7.4 million from the previous year. Net revenue of the Company at \$325 million established an all-time record high.

The increase in revenue and earnings reflect the stronger demand for the Company's products and attendant price improvement. Metal markets firmed significantly and this trend has continued into 1973. Currently demand for fertilizers in both Western Canadian and international markets is buoyant and prices have risen from the low levels of the past few years. While improving prices of our products is encouraging, the impact on earnings is dampened by concurrent increases in wage rates and costs of supplies and transportation.

### Corporate Citizenship in Mining

Before dealing with operating matters I would like to discuss the role of the corporation in our society. Unfortunately this role is not fully understood by a large segment of the community. Certain groups are attempting to make political capital out of this misunderstanding. Corporations are portrayed as some form of monstrous consumer of values whose income results from exploitation and which accumulate excessive profits and somehow conceal them for their own aggrandizement. Furthermore, it is claimed that corporations' social contributions are minimal. Coupled with these erroneous portrayals is the concept that the corporation appropriates to itself resources which belong to the people. It is further argued that the people are entitled to a much larger share of the total revenue.

In an effort to correct some of these misconceptions we included in the Annual Report for 1972 three charts which show where the revenue of the Company comes

from and where it goes. These charts depict the corporation in its true role as a conduit through which benefits flow to society. I would encourage you to examine them in detail.

In broad terms, a mining company operates in an environment where risk and uncertainty play a decisive role in determining its total revenue. Several factors, unique to mining, contribute to this situation. First, prices received for its mineral products are established by fluctuating conditions in the world markets where they are sold. Second, its mining processes and facilities are governed by the location of the orebodies it has found and brought into production. Third, the economic rate at which ore can be extracted from its mine is controlled by the nature of the deposits.

These factors, coupled with competition from other suppliers and the impact of the cost of transportation to market, are critical to a company's ability to sell profitably in any particular market area. Total revenue received and the aggregate costs charged against it are the result of the overall impact of these various components and both are largely determined by these factors which are beyond the immediate control of the corporation.

In this sense, therefore, the residual revenue on which taxes are assessed is fixed. Out of this limited residual revenue must come taxes, the costs of replacement to remain in business, the funds required for expansion and dividends. If replacement is neglected, costs go up and existing jobs may be in jeopardy. If expansion is prevented, prospective jobs are curtailed. If dividends are reduced, the company becomes less attractive to investors. There is a limit to the capability of the mining industry to pay taxes and related levies. Assessments beyond this limit may well kill the industry. Furthermore, any proposed legislation which creates additional uncertainty about the industry's future adds immeasurably to the risk of doing business.

When new tax burdens are imposed or if wages are increased, without a corresponding increase in the values produced, inevitably other components have to be reduced. In an industry such as ours where prices are determined in the world's mar-

kets we cannot count on passing the increased wage and tax costs on to the consumer.

Industry recognizes its responsibility to bear its share of social contributions. All it asks is that the share be equitably apportioned and the true magnitude of the corporation's contribution be recognized.

### Ore Reserves

Another change in this year's Annual Report is the more detailed delineation of ore reserves. We believe it is important that shareholders recognize the magnitude of these reserves and their significance to the Company. You may be interested to know that during our 67-year history well over 100 million tons of ore have been extracted from the Sullivan Mine—truly one of the world's great zinc-lead deposits. Even so over 60 million tons remain in this mine. In addition considerably larger quantities have been discovered in other areas. Let me stress this point—our zinc and lead ore reserves outside the Sullivan Mine are now substantially greater than those remaining in the mine and the total known reserves of metal today are greater than ever before in the Company's history.

Turning now to our other minerals. Gold reserves at the Con Mine in the Northwest Territories have increased substantially. Significant additions have been made to our tin and tungsten reserves in Australia. Potash reserves are equivalent to 100 years of capacity production.

This enlarged reserves picture is the end result and justification of the expanded world-wide exploration program in which we have been involved over the past decade. Ladies and gentlemen, I am sure that you fully appreciate the great significance of these and our other resources and their location to the Company's future.

I would like to draw your attention to one other resource. The major reserves of the Valley Copper mine in central British Columbia await primarily the outcome of new and proposed legislation by the Provincial government. It appears that government does not fully realize the uncertainties produced by the new circumstances it has created through pending and as yet, unannounced mining regulations and taxation legislation. Projects of the magnitude of Valley Copper simply cannot be brought to fruition until these matters are resolved and we know that we will be operating under stable and equitable rules.

### Corporate Diversification

During 1972 I had the opportunity of visiting most of our domestic and overseas

interests. I was both impressed and encouraged.

Travelling across the high Arctic to our northern outposts one is brought face to face with the expanse and potential of this remote region. In Greenland the Black Angel mine, concentrator and community of Greenex are making excellent progress. Production will start by the end of the year. This high-grade zinc-lead deposit is strategically located at the head of Marmorilik Fjord. In planning for production in this northern location we have relied heavily on our long experience in operating mines in the north, such as Con and Pine Point. It is of great significance to the Company that Greenland falls within the sphere of influence of the European Common Market. Firm transportation contracts and sales arrangements have already been negotiated for the total output, all of which is destined for Europe.

Little Cornwallis Island, the site of the Polaris property of Arvik Mines Ltd., is some 600 miles inside the Arctic Circle and slightly north of the Magnetic Pole. Visiting this deposit one quickly appreciates the excitement of our geologists who made the original find. Since I was there development work has established underground stations from which diamond drilling is now providing essential additional information on the ore characteristics. Potential reserves in excess of 20 million tons of 20% zinc-lead ore have already been indicated and we have still not determined the limits of this and adjacent deposits. Our holdings in this area constitute a most important new dimension for the Company.

It appears that year-round mining operation in the high Arctic will be practical. It will however involve production and transportation difficulties not encountered by any other mine in the world. We are still studying the logistics which will apply in this area. Present indications are that provided adequate government ice-breaking services are available there will be a sufficiently long shipping season to enable supplies to be brought in and concentrates to be moved out at an acceptable cost.

While in the north I travelled to the staging base and many of the well locations of Panarctic Oils Ltd. Our holdings in this company are of considerable importance. The success achieved to date coupled with the potential of wells currently being drilled suggest that in the near future a viable natural gas resource of very large proportions may well be established which would markedly enhance the value of the Company's investment.

Nearly 1,000 miles south of these high Arctic areas are located the operations of

the Con and Pine Point mines on the shores of Great Slave Lake. At one time it was thought of as the remote north. This is no longer the case. Today one comes out of the north to Yellowknife. The amenities of city life are available to the over 6,000 inhabitants of this thriving metropolis. The contrast is striking between Yellowknife the capital of the Northwest Territories today and Yellowknife the hamlet sparked by Cominco's discovery of the Con Mine in 1935.

Recent extensions to the orebody at Con and the much higher price for gold have increased the importance of this mine to the Company and have ensured its continued operation. Plans are under study for a separate shaft to provide for the future extraction of this newly defined ore.

Until now production from Pine Point Mines has been from shallow reserves mineable by open pit methods. Exploration in recent years has located large tonnages of low and medium-grade ore too deep for surface mining. Underground testing is now underway to develop an economic extraction method for this ore, the processing of which will add an important dimension to the mine.

The townsite at Pine Point is developing well. The additional accommodation and better water supply referred to in the Annual Report will certainly improve living conditions in the community. This area is no longer isolated. Today, an hour's drive to Hay River and a 90-minute flight by scheduled airline bring you to Edmonton.

In Australia, a country which we believe has great future importance to the Company, we have access to new markets, new resources and new technical expertise. Meeting the personnel of various operations there I was impressed both by the potential of our involvement in that country and in the competence of the recent additions to the Cominco group. By this move the Company has achieved two areas of diversification. First, we have added two important metals—tin and tungsten—to our list of products. Second, and possibly even more significant, we have achieved further and invaluable geographical diversification on the Pacific Rim.

The major exploration system which has been going on in Australia for a number of years has now been combined with the activities of our recently acquired subsidiary companies. These united efforts have already strengthened the resource position of our operating mines, thus enhancing their future prospects. We are also working actively in areas known to be favourable to nickel and uranium deposits. Developments in Australia are an important phase

of the Company's growth and you will be hearing more about them in future years.

Last month I visited our exploration crews in Mexico. The work they are doing on a large porphyry copper area is encouraging.

In Europe the Company has maintained a strong sales organization for many years. We have, in anticipation of the changes which will occur as a result of the United Kingdom joining the European Common Market, recently established a new entity, Cominco Europe. Cominco Europe will not only act as our marketing arm within the Community but will form an important base for future developments there. We are looking at the viability of a smelter within the Common Market. While this has been considered on a number of occasions, the changed circumstances existing today warrant a complete feasibility study which is now underway.

I have already indicated the importance of Greenex in the Community. As stated in the Annual Report, good progress is also being made at the Rubiales property in northern Spain and it is now evident that this deposit will develop into a medium sized zinc-lead operation thus further strengthening our position in Europe.

In the United States the Magmont mine of Cominco American continues to provide a profitable source of metal for domestic sales there. Exploration programs elsewhere in the United States give some encouragement that additional zinc and lead reserves will be found. The Berger, Texas ammonia plant of Camex, Inc. (formerly Hill Chemicals) performed well. Ammonia transported by pipeline from this plant to its Nebraska nitrate plant enables Cominco American to compete effectively in the important midwest U.S. fertilizer market. With a view to providing a self-sufficient supply base for Camex, a modest natural gas exploration program has been undertaken in the southwestern states with encouraging results.

Rehabilitation of the Saskatchewan potash mine has been a time consuming process but after some 30 months it is complete. The mine and mill have now been returned to good operating condition.

As noted in the Annual Report, start-up of Fording Coal proved difficult due to equipment deficiencies and labour strife in the construction industry. The plant became operational on the 1st January, 1973 at 70% of design capacity. Start-up of this large project has been complicated by these deficiencies and while good progress has been made not all of them have yet been rectified. In particular, those

found in the dryer will not be corrected until May. In spite of these problems and the residual work which still remains to be done, operations for April have been at 90% of the design capacity.

Because of the production shortfall during the first quarter and escalation in operating costs which have occurred since the coal contract was signed, the first quarter will show a net loss of which Cominco's share amounts to \$1.6 million. Price renegotiations have been protracted and are still in progress but an interim price increase of \$2.50 per ton has been offered. Assuming a satisfactory outcome to these negotiations, Fording should reach a profit position by the year-end but there will be a cumulative loss in 1973.

At Trail and Kimberley our program of modernization of plants continues to show its value in improved operations. In these days of rapidly rising costs constant improvement in operational efficiency is imperative.

While I was not able to visit our two overseas smelters I do not want to overlook them. Both the zinc smelter of Cominco Binani Zinc in India and the lead smelter of Mitsubishi Cominco in Japan are performing satisfactorily and fulfilling their objective of providing profitable markets for our concentrates.

Thus far I have dealt with our mineral deposits and the metallurgical and chemical plants established upon them. What should not be forgotten is the Company's important involvement in the secondary manufacturing and service industries. Our metal fabrication plants had a good year in 1972. The manufacturing group includes steel production by Western Canada Steel at its plants in Vancouver, Calgary and Hawaii and non-ferrous metal manufacturing at the plants of National Hardware Specialties and The Canada Metal Company Limited. The service group includes the dock facilities in New Westminster and Port Moody of Pacific Coast Terminals and the public utilities services of The West Kootenay Power and Light Company. Not only do these make significant contributions to earnings but they also provide a base for diversification. This is particularly true of the metal manufacturing companies which have enabled Cominco to play an active role in the growing need for the recycling of scrap metals and, of

course, are significant in achieving the desirable objective of processing Canadian natural resources as far as possible in Canada.

### The Outlook

Let us now consider the prospects for 1973. World demand for zinc and lead continues strong and prices for both metals have risen since the beginning of the year. Gold price which is ranging between \$90-100 per ounce is more than double the price of a year ago. Silver, cadmium, bismuth, tin and mercury all show strength. Only tungsten continues to be depressed. World inventories of refined metals are low. Fertilizer markets are exhibiting new strength and prices have risen somewhat from the very low levels of recent years.

The Company's unaudited financial results for the first quarter of 1973 reflect this improving trend of recent months. Net earnings for the three months ended March 31 were \$8.1 million or 48 cents per share. This compares with \$5.6 million or 34 cents per share reported for the same period of 1972. All subsidiaries are consolidated in 1973 and restatement on this basis would have added about \$0.5 million to the net earnings for the first quarter of 1972.

It seems reasonable to expect that lead and zinc and other prices will remain at or near current levels through the remainder of this year. This, combined with the forecast strong demand, gives every indication that 1973 will be a more satisfactory year for the Company.

There are many things happening in Cominco today. The very important developments in the high Arctic in spite of the obvious difficulties involved will play a major role in the shape of the Company's future. The geographical diversification resulting from our world-wide activities has given us new flexibility and the capacity to adapt to market and political trends. The product diversifications which have taken place in recent years together with those planned for the future will have a stabilizing effect on earnings. Ladies and gentlemen, as a result of my visits to our operations in various parts of the world, I am reinforced in the view I expressed last year that the decade of the 1970's will prove to be a period of dynamic growth for Cominco.

Shown below are the estimated consolidated sales and earnings of the Company for the three months ended March 31, 1973, compared with those reported for the same period of 1972. All subsidiaries are consolidated in 1973 and restatement on this basis would have added about \$0.5 million to the net earnings for the first quarter of 1972. Improved results mainly reflect substantial recovery in market prices for most of the Company's products, the effect of which has not yet been fully realized; in addition the sales volume of most products has increased. Cominco's equity in the net loss of Fording Coal Limited, which became operational at the beginning of the year, was \$1.6 million dollars.

### Consolidated Statement of Earnings (Unaudited)

	Three months ended	
	March 31 1973	March 31 1972
Sales of products	\$90,900,000	\$74,600,000
Other revenue	6,400,000	2,000,000
	<u>\$97,300,000</u>	<u>\$76,600,000</u>
Earnings before the following items	\$28,100,000	\$17,100,000
<i>Add:</i>		
Income from investments	400,000	500,000
	<u>28,500,000</u>	<u>17,600,000</u>
<i>Deduct:</i>		
Depreciation, depletion and amortization of deferred charges	8,700,000	8,100,000
Income taxes	9,200,000	3,000,000
Minority interests in net earnings of subsidiaries	900,000	1,200,000
Equity in net loss of affiliate	1,600,000	—
Earnings before extraordinary items	<u>8,100,000</u>	<u>5,300,000</u>
Extraordinary items	—	300,000
<b>Net Earnings</b>	<u>\$ 8,100,000</u>	<u>\$ 5,600,000</u>
<b>Net Earnings per share</b>	\$0.48	\$0.34
<b>Net Earnings per share before extraordinary items</b>	\$0.48	\$0.32