

# **Summary of Business Activities and Corporate Objectives**

Cominco Ltd. is an integrated natural resource company with principal activities in mineral exploration, mining, smelting and refining. It is the world's largest mine producer of zinc and of lead, accounting for 9.4 and 10.2 per cent, respectively, of western world mine production.

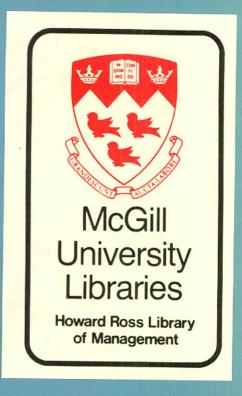
Cominco is western Canada's third largest chemical fertilizer producer, supplying about 20 per cent of the western Canadian market and 11 per cent of the market in the upper midwest of the United States. Principal chemical and fertilizer products are ammonia, urea, potash, ammonium nitrate, ammonium phosphate, ammonium sulphate, sulphuric acid, and sulphur dioxide.

Cominco also produces silver, gold, copper, tin, tungsten, cadmium, bismuth, indium, diamonds, coal, oil, natural gas, steel products, fabricated metals, high purity metals and components for the electronic and other high technology industries.

Cominco's primary objective remains long-term, steady growth. To accomplish this, it seeks to strengthen its position in zinc and in lead, and to expand its activities in other non-ferrous metals and in chemicals and fertilizers. Cominco is also endeavouring to broaden its markets and its products (such as germanium and gallium) and its geographic base.

In managing the growth of its business, Cominco continues to seek high standards of production efficiency, and to provide customer satisfaction and reward employee energy and initiative. Emphasis is placed on health, safety, and protection of the environment.

The Company and its subsidiaries have 12,600 employees.



# Cover:

Arvik II, the barge-mounted zinc and lead processing plant for Cominco's new Polaris Mine, is shown on the St. Lawrence River at the beginning of its dramatic 4,800 kilometer voyage to the mine site on Little Cornwallis Island in the Canadian High Arctic.

Polaris, the world's most northerly metal mine, confirms Cominco's leadership in the mineral development of the north.

The barge was placed in its permanent berth on shore on August 15, 1981, after a 20-day voyage (see route on map, page 7). Processing of zinc and lead ore started in November. Shipment of concentrates from Polaris to smelters will take place in the brief summer shipping season each year.



The barge arriving at LCI, 1440 kilometers from the North Pole

(All dollar amounts in millions except per share figures)

		1981	1980
Financial	Net earnings — per common share	\$ 70.3 \$ 3.35	\$ 171.1 \$ 9.54
	Dividends on common shares — per common share	\$ 75.2 \$ 4.10	\$ 75.2 \$ 4.40
	Return on common shareholders' equity Capital expenditures	9.3% \$ 333.7	26.2 % \$ 280.3
Production and sales	Production of concentrates in tons (tonnes)		
	zinc	567,600 (515,000)	593,900 (538,700)
	lead	325,700 (295,500)	303,700 (275,600)
	copper	70,400 (63,900)	79,000 (71,700)
	Sales of zinc and lead in tons (tonnes) (includes metal content of concentrates sold)	612,000 (555,300)	605,100 (548,800)
	Production of chemicals and fertilizers in tons (tonnes)	2,953,000 (2,678,000)	2,787,000 (2,528,000)
	Sales of chemicals and fertilizers in tons (tonnes)	2,715,000 (2,463,000)	2,832,000 (2,569,000)

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# Terms used

In this report, all dollar amounts are Canadian unless otherwise noted.
All tons are short tons, with metric tonnes adjacent in italics and in parentheses.
A tonne is 1,000 kilograms, or 2,204.6 pounds.

# **Annual Meeting**



The Annual General Meeting of Cominco Ltd. will be held on Thursday, April 22, 1982 at 11:00 a.m., in the Park Ballroom, Four Seasons Hotel, Vancouver, B.C.

Although 1981 was a difficult year for Cominco, there were a number of achievements. Highlights included record high production and sales of chemicals and fertilizers, record refined zinc production at Trail, and the completion of the Polaris Mine.

Consolidated net earnings declined from \$171.1 million in 1980 to \$70.3 million in 1981. Earnings per common share were \$3.35 in 1981 after reflecting a 10 per cent dilution through the issue of additional common shares during the year. Earnings per common share were \$9.54 in 1980. Dividends of \$83.7 million were paid to shareholders: \$2.00 a share on Series A Preferred Shares; \$2.29 a share on Series C Preferred Shares; and \$4.10 a share on Common Shares.

The recession in western countries affected Cominco's earnings performance in 1981. Record high interest rates and inflation were and continue to be costly, resulting in reduced demand for consumer and capital goods. Reduced consumption in the western world for Cominco's principal metal products led to lower prices. Lead, silver and gold prices were extremely low in 1981 compared to 1980 while, considering the state of the economy, zinc showed considerable strength. In contrast to the generally poor performance of metals, improved prices of chemicals and fertilizers contributed substantially to earnings. Fueled by inflation, costs for labour, supplies, raw materials and taxes increased significantly.

In 1981, the innovative Polaris Mine project symbolized our continued pioneering spirit and undiminished hopes for the future.



M. N. Anderson Chairman and Chief Executive Officer

At Trail and at Kimberley the important modernization program initiated in 1977 continued and expenditures reached \$275.3 million by the end of the year. The first commercial zinc pressure leach facility in the world and a new effluent treatment plant became operational in 1981. By year-end 44 of the 528 cells in the new zinc electrolytic and melting plant were operational, and completion is scheduled for the end of 1982. Construction is underway on projects to upgrade sulphur gas handling systems, to modernize the inplant electric power distribution system, and to introduce a process to remove fluorine and chlorine from zinc fume. A project to modernize the sulphide leaching plant was approved late in the year, and construction will commence

During the year Cominco increased its copper investment in British Columbia. Through share purchases, Bethlehem Copper Corporation and Valley Copper Mines Limited (N.P.L.) became whollyowned subsidiaries. Work is advancing on a program to assess the future development of the Lake Zone copper deposit in the Highland Valley owned by these companies. The current depressed price for copper is of concern when considering this project.

Exploration continued to be a rewarding investment. One of the highlights of the 1981 exploration program culminated with the announcement on February 5, 1982 of an agreement between Cominco American Incorporated and NANA Regional Corporation, Inc., an Alaskan native corporation, to proceed with the evaluation and potential development of a large, high-grade zinclead-silver deposit in northwestern Alaska estimated to contain 85 million tons of 17.1 per cent zinc, 5.0 per cent lead and 2.4 oz. of silver per ton.

During 1981, our 75th anniversary, considerable attention was focused on the growth and progress of Cominco since its inception in 1906. This event was celebrated in a variety of ways, including sponsorship of performances by the Vancouver Symphony Orchestra in Trail, Calgary and Yellowknife. This sponsorship resulted in a major national award to Cominco for community involvement in the arts.

Senior appointments during the year were Mr. A. V. Marcolin, President, Electronic Materials Division; Mr. J. E. Fletcher, Vice-President, B.C. Group; and Mr. H. M. Giegerich, Vice-President, Northern Group.

On behalf of the Directors and Officers, I wish to express appreciation in this report of our 75th anniversary year to all past and present employees for their contribution in helping to build Cominco.

M. N. Anderson Chairman and Chief Executive Officer March 17, 1982

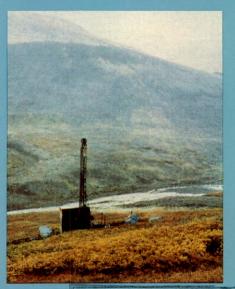
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At Trail, B.C., the zinc electrolytic and melting plant will be completed in 1982

Red Dog, a large zinc, lead, silver deposit, is 144 kilometers north of Kotzebue in northwestern Alaska





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Annual Danses

# Revenue and Earnings

Earnings were \$70.3 million in 1981 down from \$171.1 million in 1980 as shown in the Consolidated Statement of Earnings on page 21.

Revenue from the sale of products and services decreased slightly in 1981 to \$1,416.9 million from \$1,442.7 million in 1980. Lower prices accounted for \$16.0 million of the decrease and lower volumes accounted for \$10.0 million. Both sales prices and volumes of most mining and metal products were much lower than in 1980, but this sharp decline was partially offset by significant improvements in chemical and fertilizer revenues.

In addition to reduced sales revenues, earnings were also affected by higher costs of products and services sold. Labour, distribution, supplies and energy costs were up in all industry segments. Also affecting earnings was a \$26.5 million increase in long-term debt interest expense principally on borrowings incurred to finance the acquisition of Bethlehem Copper and Valley Copper shares. Borrowing costs associated with the financing of the Polaris Mine are being capitalized and are included as a part of the cost of the project until the first year's production is shipped to market.

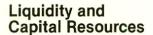
The commissioning of new plants during 1981 accounted for a \$9.7 million increase in depreciation expense to \$83.6 million for the year. While the effective rate of income and resource taxes remained substantially unchanged, tax expense was down significantly in line with reduced earnings.

Equity in net earnings of associated companies declined in 1981 from \$13.9 million to \$3.8 million. Contributions to earnings by these companies are explained in the section on "Associated Companies" on pages 14 - 15.

Earnings for 1981 included a \$4.8 million loss on the translation of accounts of foreign subsidiaries, reflecting a weakening of some currencies against the Canadian dollar, principally the Danish Krone.

During the year Cominco sold its 78 per cent share investment in Pacific Coast Terminals Co. Ltd. for \$12.5 million. The resulting \$5.6 million gain is reflected in the Consolidated Statement of Earnings as an extraordinary item.

Earnings have been restated to reflect a change in Cominco's method of valuing some inventories at Cominco American Incorporated to conform to the general practice of the Company. The change was adopted retroactively and increased 1981 income by \$2.0 million and 1980 income by \$1.8 million. A further \$2.8 million of earnings relating to the period prior to 1980 has been reflected in earnings reinvested in the business on the Consolidated Balance Sheet.



The Consolidated Statement of Changes in Financial Position on page 23 shows funds generated of \$572.6 million, \$60.4 million above 1980. Funds provided from Cominco's consolidated operations in 1981 were \$201.3 million, considerably below 1980 as a result of the much reduced level of earnings. New capital funds raised during the year included \$253.4 million through additional long-term debt and \$99.4 million through a rights issue to subscribe for common shares. Principal borrowings during 1981 were \$139.0 million to finance the acquisition of all Bethlehem Copper and Valley Copper shares not owned by Cominco and \$101.0 million to finance the Polaris

Funds applied during 1981 were \$604.3 million; up \$140.6 million from 1980. Capital expenditures were \$333.7 million comprising \$265.3 million for land, buildings and equipment and \$68.4 million for mineral properties and development. Expenditures for land, buildings and equipment included \$83.2 million for the Polaris Mine, \$79.6 million for Trail modernization and expansion and \$15.7 million to increase production capacity at the Saskatchewan potash mine. Expenditures for mineral properties and development included \$11.0 million for the acquisition of a soda ash property in California, \$9.5 million for development at the Polaris Mine and \$5.3 million for increased exploration expenditures in Alaska. Share purchases of Bethlehem Copper and Valley Copper during the vear amounted to \$133.5 million. Of this amount \$94.7 million has been allocated on the Consolidated Balance



W. G. Wilson President

Sheet to mineral properties and development. The investment in associated companies of \$12.8 million was principally the subscription to a rights issue for common shares of Aberfoyle Limited. Dividends to common shareholders of Cominco were \$75.2 million, to preferred shareholders of Cominco \$8.5 million and to minority shareholders of subsidiary companies \$14.4 million, for a total of \$98.1 million.

As a result of these changes in financial position, working capital decreased \$31.7 million during 1981 and stood at \$292.0 million at year-end. Metal and concentrate inventories were in balance with demand for those products. Potash inventories were somewhat above normal at year-end while other fertilizer product inventories were at normal levels. Stores inventories increased by \$23.2 million during the year reflecting chiefly the preparation for operations at the Polaris Mine. Bank loans and notes payable increased by \$58.3 million to \$140.0 million at year-end. Lines of credit available to the Company approximate \$250.0 million.

Payments required on long-term debt will be \$11.5 million during 1982. Repayments on long-term debt for 1983 are indicated in the Notes to Consolidated Financial Statements at \$83.7 million. Of this amount, \$36.1 million represents borrowings of West Kootenay Power and Light Company, Limited which continue to be rolled forward on a year-to-year basis until determination of pending applications before the British Columbia Utilities Commission, following which these borrowings will be refinanced on a longer term basis.

Operations

The operations of Cominco Ltd. and its subsidiaries are divided into three industry segments as follows:

- **1 Mining and integrated metals**, comprising principally the mining, processing, smelting and refining of zinc, lead, copper, silver and gold;
- **2 Chemicals and fertilizers**, comprising principally the production of sulphuric acid, potash, ammonia, urea, phosphates and nitrates;
- **3 Other operations**, comprising principally fabricated metal products and electric power distribution.

The revenues and operating profits of each segment are shown in Note 13 of the Notes to Consolidated Financial Statements. Operating profits are before providing for unallocated costs and expenses, including interest expense and income and resource taxes.

# Mining and Integrated Metals

Revenues and	d Operating P	rofit			
	Revenues	Op	Operating Profit (Lo		
	1981	1980 (milli	1981	1980	
Sullivan Mine	\$118	\$135	\$ 44	\$ 68	
Pine Point Mine	126 74	107 76	29 23	41 25	
Black Angel Mine Magmont Mine	31	46	13	28	
Con Mine	40	55	12	33	
Jersey Mine <sup>1</sup> Trail	32 349	12 452	(4) (24)	31	
Nonproducing mines and properties	_		(21)	(16)	
	\$770	\$883	\$ 72	\$210	
First Quarter			\$ 21	\$ 87	
Second Quarter			25	25	
Third Quarter			21	47	
Fourth Quarter			5	51	
			\$ 72	\$210	

Revenues from Jersey Mine in 1981 reflect the full year's operations compared with only two months in 1980, from the date of acquisition of control

The Sullivan Mine at Kimberley, B.C., and the Pine Point Mine, in the Northwest Territories of Canada, remain the chief sources of supply of zinc and lead concentrates to the metallurgical operations at Trail, B.C. Other mines operated by the Company and its subsidiaries are the Black Angel Mine, Greenland, (zinc, lead, silver); the Magmont Mine, Missouri, (lead, zinc, copper); the Con Mine, N.W.T., (gold); and the Jersey Mine, B.C., (copper). The Polaris Mine, N.W.T., (zinc, lead) was in the start-up phase by year-end.

At Trail, B.C. the Company operates an integrated smelter and refining complex producing various refined metal products, principally zinc, lead and silver.

Revenues from mining and integrated metals decreased from \$883 million in 1980 to \$770 million in 1981. After considering sales to other industry segments, lower prices accounted for \$72 million and lower sales volumes accounted for \$46 million. Lower costs of purchased concentrates for the Trail

metallurgical operations were offset by higher costs in all operations for labour, supplies, energy and taxes. Operating profit declined sharply during 1981, as a result of the reduced sales revenues and higher operating costs.

Demand for zinc, lead and copper was generally good in the first half of 1981, but began weakening in the second half. The main causes for the weak metal markets were the depressed conditions in the construction and automotive industries and high interest rates. Customers reduced new orders and consumed stocks to reduce inventories. As a result, consumption of zinc and of lead in the western world decreased approximately 2.3 per cent and 3 per cent respectively in 1981. Copper consumption also declined slightly in 1981.

During the year the U.S. producer price for zinc increased from the average level which had prevailed in 1979 (US\$.36) and 1980 (US\$.37), to an average of US\$.45 a pound. However, the producer price weakened from a high of US\$.49 in August to US\$.44 a pound by year-end.

The monthly average price quoted for lead on the London Metal Exchange, converted to U.S. dollars, increased from US\$.32 a pound at the beginning of 1981 to a high of US\$.37 a pound in August. The average price for the year was US\$.33, significantly below the 1980 average price of US\$.41. At yearend the price had declined to US\$.31 a pound.

The average price quoted for copper on the London Metal Exchange for the year was US\$.80 compared to US\$.99 in 1980.

The 1981 average gold price on the London market was US\$460 an ounce, down from US\$613 in 1980. The drop in silver prices was even more severe, from an average price of US\$21 an ounce in 1980 to US\$10.50 in 1981.

The zinc concentrate market was strong throughout the year, but lead concentrate sales weakened in the second half. Cominco sold 154,000 tons (139,700) of zinc concentrate, and 126,700 tons (114,900) of lead concentrate. At year-end inventories of both zinc and lead concentrates were low.

Copper concentrate sold in the year was 59,400 tons (53,900) containing 19,000 tons of copper.

Cominco sold 276,600 tons (250,900) of refined zinc in 1981, compared to 284,500 tons (258,100) in 1980. Refined lead sales totalled 151,600 tons (137,500) compared to 159,200 tons (144,400) last year. Inventories of refined zinc and lead were at near normal levels at year-end.

Sales of gold were 95,500 ounces (2,970 kilograms), down from 121,500 ounces (3,779 kilograms) in 1980. Cominco sold 7,635,000 ounces (237,449 kilograms) of silver, compared to 8,491,000 ounces (264,070 kilograms) in 1980. The sales volume was down because of a lower grade of silver in concentrate treated at the smelter, and diversion of silver for the manufacture of anodes for the new electrolytic and melting plant at Trail. B.C. Silver will be available for sale as the anodes from the old electrolytic plant are reclaimed. Year-end inventories of gold and silver were minimal.

Revenues from the other products of the Trail operations (phosphate and sulphate fertilizers, surplus electrical power, and minor metals) were \$81 million compared to \$97 million in 1980. These activities form an integral part of the Trail metallurgical operations and offset costs of the principal activities. Electric power, which is surplus to Cominco's industrial load, is offered for sale to West Kootenay Power and Light Company, Limited and to other Canadian utilities. If it is not required for their needs the surplus is then offered

for sale to U.S. consumers on an interruptible basis.

#### Sullivan Mine

Ore production in 1981 at the Sullivan Mine at Kimberley, B.C. was the highest achieved since 1964. As expected, the ore grades improved from 1980 levels and concentrate production was correspondingly higher. Dilution rates were higher than anticipated because of difficult ground conditions which affected the recovery of pillars. Conversion of the mine to mechanized mining progressed satisfactorily in 1981. Major improvements were made to the ventilation system.

		1981	1980
Ore milled	tons	2,436,000	2,351,000
	(tonnes)	(2,210,000)	(2, 132, 000)
Zinc			
Average grade		3.2%	2.7%
Concentrate	tons	131,200	105,200
	(tonnes)	(119,000)	(95,400)
Lead			
Average grade		4.4%	3.9%
Concentrate	tons	148,000	121,100
	(tonnes)	(134,300)	(109,900)

#### **Pine Point Mine**

At Pine Point, on the south shore of Great Slave Lake in the Northwest Territories, lead concentrate production was up but zinc concentrate production was down. The drop in zinc concentrate production is attributed to lower zinc feed grades. The tabular ore zones mined for the first time in 1981 have a much more erratic outline than the prismatic ore bodies mined in previous years, and this has caused increased dilution. Significantly higher strip ratios, longer hauling distances and increased energy and labour costs contributed to a sharp rise in the cost of production. A project to improve flotation circuits was completed in March 1981, resulting in improved recoveries of both zinc and lead, as well as savings in the use of energy and reagents. Seven new 85-ton haulage trucks were put into service at the end of the year, and a 17-cubic yard electric shovel is expected to be in operation by May of 1982.

		1981	1980
Ore milled	tons	3,636,000	3,626,000
	(tonnes)	(3,299,000)	(3,289,000,
Zinc			
Average grade		4.8%	5.5%
Concentrate	tons	274,400	314,600
	(tonnes)	(249,000)	(285,400)
Lead			
Average grade		2.0%	2.0%
Concentrate	tons	86,500	81,800
	(tonnes)	(78,400)	(74,200,

# **Black Angel Mine**

Production at the Black Angel Mine, located on Marmorilik Fiord in Greenland, was maintained again at a high level in 1981. Underground exploration was successful in outlining new ore near the Angel and Cover ore zones, and there were encouraging results from surface exploration at two other sites. Total reserves were decreased by production and by the tonnage of ore in certain pillars in the Cover Zone which is unlikely to be extractable. Over \$2.8 million was spent in exploration activities in 1981. The number of Greenlanders employed at Marmorilik continued to increase during the year, the result of a policy to hire Greenlanders whenever possible.

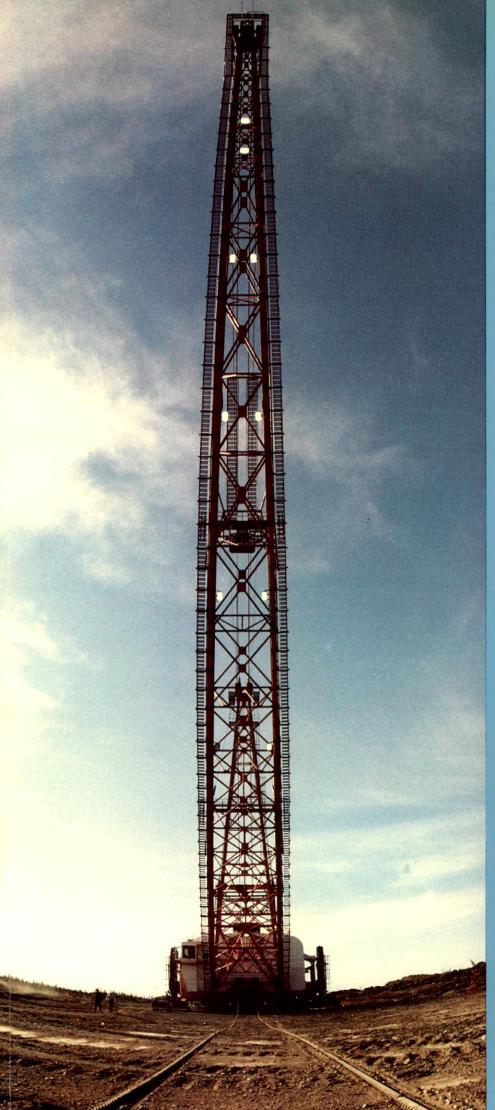
		1981	1980
Ore milled	tons	706,000	714,000
	(tonnes)	(640,000)	(648,000)
Zinc			
Average grade		13.5%	13.4%
Concentrate	tons	154,100	167,500
	(tonnes)	(139,800)	(151,900)
Lead			
Average grade		4.7%	5.3%
Concentrate	tons	42,000	46,300
	(tonnes)	(38,100)	(42,000)

## **Magmont Mine**

Magmont ore production was up slightly in 1981, although grades were down as the lower-grade Magmont East extension, discovered by diamond drilling in 1980, was brought into production. The development of the Magmont West orebody was 78 per cent complete at year-end and is expected to be in production late in 1982. These orebodies, although of lower grade than the original Magmont orebody, are expected to extend the operating life of the mine to about 1990.

		1981	1980
Ore milled <sup>1</sup>	tons	1,127,000	1,084,000
	(tonnes)	(1,022,000)	(984,000)
Lead			
Average grade		7.0%	8.0%
Concentrate	tons	49,200	54,500
	(tonnes)	(44,700)	(49,400)
Zinc			
Average grade		1.1%	1.0%
Concentrate	tons	7,900	6,600
	(tonnes)	(7,200)	(6,000)
Copper			
Average grade		0.3%	0.4%
Contained in	tons	1,000	1,400
concentrate	(tonnes)	(900)	(1,300)
	o versione received		

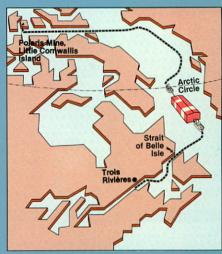
This mine is a joint venture of Cominco American Incorporated and Dresser Industries Incorporated. Ore milled reported is at 100 per cent; the tons of concentrate reported is Cominco's 50 per cent share of production



At Pine Point, N.W.T., the 30-cubic yard dragline removed 6.9 million tons (6.2 million tonnes) of waste and overburden from production areas in 1981

Arvik II route to Polaris Mine





At Polaris, N.W.T., the average rock temperature underground is  $-12\,^{\circ}\text{C}$ 





#### Con Mine

The Con Mine in Yellowknife, Northwest Territories, was shut down for eight weeks, six due to a strike. Lower grades also reduced production. The average grade decreased as the dilution in the mechanized stoping areas was higher than anticipated. The mining method for these areas was changed during the second half of the year to reduce the amount of dilution. The arsenic trioxide plant to recover arsenic and gold from arsenic wastes is described in the "Environment" section on page 16 of this Report.

	1981	1980
tons	194,000	212,000
(tonnes)	(176,000)	(192,000)
oz-ton	0.41	0.48
ounces	74,800	96,900
(kg)	(2,326)	(3,015)
	oz-ton ounces	tons 194,000 (tonnes) (176,000) oz-ton 0.41 ounces 74,800

#### Jersey Mine

Because of the low price of copper, in December 1981 the waste to ore stripping ratio was cut back from 2.0:1 to 0.7:1. This resulted in the direct cost of the operation being reduced by approximately 15 per cent on a unit cost basis. However, at this low stripping ratio, the developed reserves in the Jersey Mine will be mined out by June 1983. Production of copper contained in concentrates was 9.6 per cent higher in 1981 than the previous year. Only 78 per cent of the copper produced was shipped during 1981, resulting in an inventory of 15,000 tons (13,700) at year-end. Due to the depressed price of molybdenum, the molybdenum circuit was shut down in December.

Ore milled	tons (tonnes)	1981 7,161,000 (6,496,000)	1980 6,924,000 (6,282,000)
Copper	da som said	1-1	1-1/
Average grade		0.39%	0.38%
Contained in	tons	22,900	20,900
concentrate	(tonnes)	(20,800)	(19,000)

# Polaris Mine

On-site surface construction continued through 1981. This included the fresh water supply system, tailings disposal system, dock and product load-out facilities, the concentrate storage building, the accommodation complex, all surface lines and distribution facilities, and the start-up of the mill. The barge housing the mill, concentrator and other processing facilities for the Polaris Mine reached the site on Little Cornwallis Island in the Northwest Territories in mid-August (see inside front cover). Underground development continued by contract until mid-October when this work was taken over by Cominco crews. The underground crushing and conveying systems were complete and ready for use by the end of October. Ore was first fed into the mill on November 4. Following adjustments to the mill and the tailings lines, sustained production began in February, 1982. The annual production of the mine, constructed at a cost of \$162.3 million, will be 206,000 tons (187,000) of zinc concentrate and 46,000 tons (42,000) of lead concentrate.

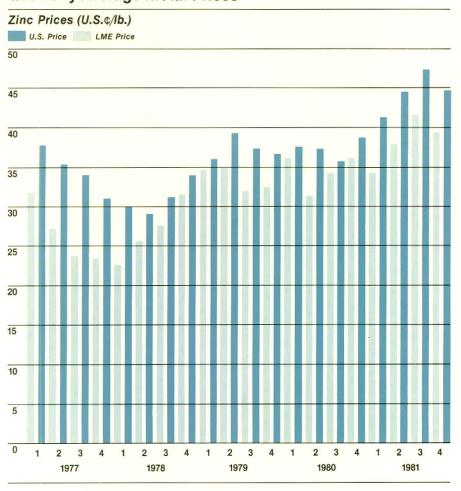
# **Ore Reserves**

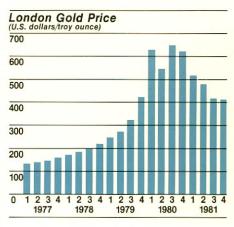
# PRODUCING MINES (Measured and Indicated)

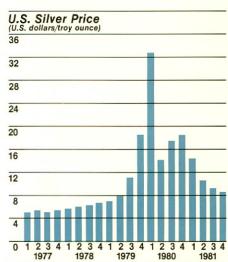
# POTENTIAL MINES (Measured, Indicated and Inferred)

		(ivieasu	red and ii	idicated)		(IVIE	easured, I	indicated	and inter	rea)
		19	81		1980		19	81		1980
	Ore Tons x1000	%Pb	%Zn	Ag oz/ton	Ore Tons x1000	Ore Tons x1000	%Pb	%Zn	Ag oz/ton	Ore Tons x1000
SULLIVAN	51,000	4.5	6.0	1.1	53,000	_	_	_	_	
PINE POINT	41,000	1.9	5.4	_	41,000	_	_	_	_	( <u></u> (2
MAGMONT	5,500	7.8	1.1	0.3	5,700	3,700	3.4	1.6	_	1,700
BLACK ANGEL	3,000	4.2	13.5	1.0	3,500	_	3 7	_	_	_
RUBIALES	14,300	1.2	7.0	0.4	14,200	_	_	_	_	_
QUE RIVER	2,700	7.7	13.3	6.0	_	2,900	2.9	5.7	1.5	6,900
JERSEY	9,600	0.4	1% Cu		53,000	37,000	0.4	2% Cu		_
CON-RYCON	2,100	0.4	9% ozAu	Т	2,200	_	_			_
ABERFOYLE	2,700	0.6	0% SnW(	O <sub>3</sub>	3,700	_	-			_
WARM SPRINGS	7,300	30.0	% P <sub>2</sub> O <sub>5</sub>		7,500	12,000	31.0	% P <sub>2</sub> O <sub>5</sub> eq	uiv.	12,000
VADE	99,000	26.3	% K20 ec	uiv.	102,000	_	_		1013-7140	
HONDEKLIP	400	0.7	carats/T	diamonds	-	_	_			_
FORDING	170,000	clea	n coal eq	uiv.	62,000	1,900,000	ther	mal coal		1,900,000
POLARIS	_	_	_	_	_	25,400	4.3	14.1	_	25,400
LA TROYA	_	_	_	_		5,500	1.2	10.7	0.5	5,500
LAKE ZONE	_	_	_	_	_	800,000	0.47	5% Cu		800,000
PINCHI	_	_	_	_	_	1,200	6.4	lbs. Hg/T		1,200
<b>OWENS LAKE</b>	_	_	_	_	_	33,000				-,
						(sodium				
						carbonate	eguival	ent)		

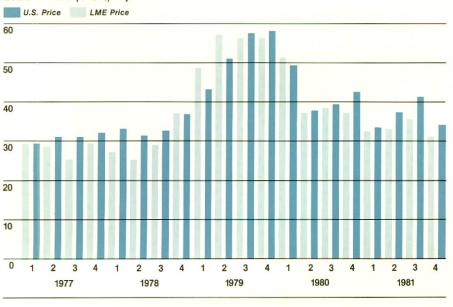
# **Quarterly Average Metal Prices**

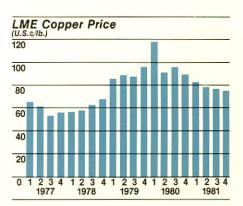












# **Trail Metallurgical Operations**

About two-thirds of Cominco's zinc concentrate production is refined at its Trail operations. Refined zinc production at Trail reached a record high of 260,900 tons (236,600) in 1981 as a result of upgraded plants and equipment which are part of the continuing modernization and expansion program. The previous record was 247,900 tons (224,800) in 1973. Refined lead production was 131,500 tons (119,300), a slight improvement over the 1980 level of 130,000 tons (117,900). Refined silver production was 7,721,000 tr. oz. (240,123 kilograms) compared with 8,199,000 tr. oz. (255,020 kilograms) in 1980

Gold production at Trail in 1981 was 20,600 ounces (641 kilograms), compared to 24,400 ounces (759 kilograms) in 1980. This drop was mainly a result of lower grades in custom concentrate purchases.

Two major feasibility studies are underway at Trail. One relates to a zinc residue leaching facility to improve the overall economics and flexibility of the Trail operations and result in the recovery and production of germanium and gallium. The other study is to evaluate the various options associated with the modernization of the lead smelting operation. Cominco is investigating a Russian process (Kivcet) to produce lead metal which incorporates a flash smelting/electric furnace instead of the conventional sinter plant/blast furnace combination.

#### Production of Refined Metals

		1981	1980
Zinc	tons	260,900	233,000
	(tonnes)	(236,600)	(211,400)
Lead	tons	131,500	130,000
	(tonnes)	(119,300)	(117,900)
Silver	OZ	7,721,000	8,199,000
	(kg)	(240, 123)	(255,020)
Gold	OZ	20,600	24,400
	(kg)	(641)	(759)

In 1981 3,181,000 tr. oz. (98,939 kilograms) came from Company-owned sources compared to 3,002,000 tr. oz (93,371) in 1980

# Chemicals and Fertilizers

Reve	enues and Operating	g Profit				
	Revenue	es	<b>Operating Profit</b>			ofit
	1981	1980	1	981	19	980
		(mill	ions)			
Kimberley	\$ 50	\$ 37	\$	5	\$	3
Calgary	31	28		9		7
Carseland	124	94		43		29
Vade	84	83		30*		40
Borger	83	68		1		5
Beatrice	23	19		1		_
Products for resale	72	64		8		10
	\$467	\$393	\$	97	\$	94
First Quarter			\$	23	\$	11
Second Quarter				37		36
Third Quarter				17		17
Fourth Quarter				20		30
			\$	97	\$	94

<sup>\*</sup> It should be noted that total tax rate in Saskatchewan is 69% compared to Cominco's average effective tax rate of 40%.

Cominco is a fully integrated plant food producer operating in eight locations in Canada and the United States - at Trail and Kimberley, B.C.; Carseland and Calgary, Alberta; Vade, Saskatchewan; Warm Springs, Montana; Beatrice, Nebraska; and Borger, Texas. As indicated previously, the revenues from Trail are included in the mining and integrated metals segment.

The outstanding performance of the chemicals and fertilizers segment produced an operating profit slightly above the 1980 level, with price increases outpacing cost increases by a small margin. Revenues increased to a record \$467 million in 1981 from \$393 million in 1980. After considering sales to other business segments, higher prices accounted for \$51 million, and sales volumes accounted for \$21 million. The most significant factor in cost increases for this segment was the rising cost of natural gas, the feedstock for the nitrogen-based chemical fertilizers.

For the fertilizer industry as a whole, nitrogen consumption was up about 3 per cent in the United States and almost 13 per cent in western Canada for 1981. Phosphate sales in western Canada in 1981 were up by 6 per cent from the previous year. In the United

States phosphate sales were slightly lower than in 1981; however, deterioration in the offshore market resulted in substantial curtailment of production by U.S. producers. Potash sales and prices were satisfactory until approximately mid-year when significant declines in both demand and prices commenced. At year-end, all markets were weak with producer inventories rising and prices low.

Sales of Cominco's chemical and fertilizer products were 2,715,000 tons (2,463,000) down from 2,832,000 tons (2,569,000) in 1980, principally due to lower sales of potash.

The combined production at Cominco operations was 2,953,000 tons (2,678,000) of chemicals and fertilizers, compared to 2,787,000 (2,528,000) in 1980. Fertilizer production (principally phosphates) was up 6 per cent over 1980 at Trail and up 12 per cent at Kimberley. The Kimberley plant uses sulphur produced at the zinc pressure leach plant at Trail with phosphate rock to produce ammonium phosphate fertilizer.

At the Carseland plant, production of both ammonia and urea reached record levels. In 1981, 457,300 tons (414,900) of ammonia and 506,100 tons (459,100) of urea were produced, compared to



At Lacombe, Alberta, fertilizer is blended at one of the 150 Elephant Brand bulk dealers located in western Canada

At Carseland, Alberta, production of ammonia and urea reached record levels in 1981





430,200 tons (390,300) of ammonia and 441,100 tons (400,200) of urea in 1980.

Production levels of ammonia and urea at Calgary were down because of maintenance shutdowns, reducing operating time to about 85 per cent of capacity. Productivity improvements are anticipated in 1982. The total fertilizer production at Calgary in 1981 was 218,100 tons (197,900) compared to 227,600 tons (206,500) in 1980. In 1981, 9,300 tons (8,400) of urea sulphur, a new Cominco-developed product, were produced. The market for this product is expected to expand on the prairies as sulphur depletion of the soil increases.

At Cominco American's plant in Borger, Texas, ammonia production was 358,000 tons (324,800) compared to 362,100 tons (328,500) the previous year. In its first full year of operation, the urea plant produced 54,100 tons (49,100) for use as fertilizer and an animal feed supplement. The new plant approached design capacity of 85,000 tons (77,100) at year-end after a number of start-up problems were remedied. The ammonium nitrate plant at Beatrice, Nebraska produced 169,900 tons (154,100), compared to 142,300 tons (129,100) in 1980.

At the Vade potash mine near Saskatoon, record production levels were reached for the second successive year. Improved ground conditions, increased productivity, and capital expenditures for a fourth mining machine and the expanded flotation section of the concentrator contributed to increased production of 1,087,000 tons (986,000) of potash, compared to 1,009,000 tons (915,000) in 1980. When the expansion program is complete in mid-1982, the production capacity will be 1,200,000 tons (1,088,000).

In addition to the new mining machine and mill modifications, the potash expansion program includes upgrading of drying and screening facilities, construction of a new compaction plant, installation of a service hoist, and other renovations to improve efficiency.

Phosphate rock is produced in Montana by Cominco American primarily for use at Kimberley. Production in 1981 was 202,000 tons (183,200) including 15,000 tons (13,600) of low-grade rock sold to an elemental phosphorus producer. Development of the eastern Warm Springs phosphate bed was started in 1981.

# Other Operations

	Revenues and Operating	g Profit				
	Revenue	es	Ope	erating	Pro	ofit
	1981	1980 (millio	198 ons)	81	19	980
Electronic Materials Western Canada Steel West Kootenay Power Miscellaneous	\$ 39 105 38 44	\$ 55 88 28 33	\$	3 9 10 8	\$	5 10 8 2
Wiscellarieous	\$226	\$204	\$ 3		\$	25
First Quarter Second Quarter Third Quarter Fourth Quarter			\$	7 4 6	\$	7 5 5 8
			\$ 3	30	\$	25

This segment of Cominco's business comprises the refining and fabrication of metal products by the Electronic Materials Division and by Western Canada Steel Limited and the distribution and sale of electric power by West Kootenay Power. Two additional companies are included for the first time in this segment, Cominco Engineering Services Ltd. and Lake Minerals Corporation.

Revenues increased from \$204 million in 1980 to \$226 million in 1981. After considering sales to other business segments, higher prices accounted for \$4 million and higher sales volumes accounted for \$16 million. Operating profit in this segment was \$5 million higher in 1981.

Cominco conducts its electronic materials business in plants at Trail and through a subsidiary, Cominco Electronic Materials Incorporated, in Spokane, Washington. High purity metals and compound semiconductors are produced in Canada and fabricated products are made from high purity metals and alloys in the United States.

The electronic industry felt the impact of the recession during 1981, and sales of Cominco's electronic materials declined. However, demand for specialized semiconductors continued to grow, and Cominco established a production facility at Trail for gallium arsenide crystals, a material which outperforms silicon in some applications. A contract for the sale of

cadmium mercury telluride was negotiated during the year, and an expansion of semi-conductor production facilities is planned for Trail. During the year a new 40,000 square foot warehouse, laboratory and office facility was completed in Spokane.

Sales of high purity metals were \$39 million compared to \$55 million in 1980, reflecting both lower sales volume and lower gold and silver prices. Operating profit of the division was \$3.0 million in 1981 compared to \$5.0 million in 1980.

Western Canada Steel Limited operates plants producing steel products from scrap metal in Vancouver and Calgary, and through a subsidiary company, Hawaiian Western Steel Limited, on the island of Oahu. The Calgary plant operated at near capacity producing 112,200 tons (101,800) in the year. Two shutdowns at the Honolulu plant, in January and in May due to market conditions, reduced that plant's production to 39,200 tons (35,600) in 1981. Capacity at the Vancouver plant was increased to 175,000 tons (158,800) at mid-year on completion of a continuous casting facility at a cost of \$7.0 million. Production at this plant for the year totalled 121,700 tons (110,400). Installation of a \$25 million highcapacity tandem rolling mill to produce reinforcing steel will be completed in early 1983.

Revenues increased from \$88 million in 1980 to \$105 million in 1981. Higher prices accounted for \$4 million and



The Que River silver, zinc, lead mine in Tasmania is expected to reach full production in 1982

Crystals grow in 36 hours at the Electronic Materials Divsion's new gallium arsenide production plant at Trail, B.C.





higher sales volumes accounted for \$13 million of this increase. Operating profit of Western Canada Steel Limited was \$9 million in 1981 compared to \$10 million in 1980.

West Kootenay Power and Light Company, Limited owns one hydroelectric plant and Cominco owns five hydro-electric plants on the Kootenay and Pend d'Oreille Rivers near Trail. Three of Cominco's plants are used by its subsidiary, West Kootenay Power, for its utility load. The Cominco industrial load at Trail and at Kimberley is provided for by the remaining two plants.

During 1981 a proposal was made to the British Columbia Utilities Commission to make West Kootenay Power independent of Cominco. Subject to obtaining regulatory approvals West Kootenay Power will acquire three of Cominco's power plants and related facilities, and will raise funds for its ongoing capital requirements by offering its shares to the public. Cominco has agreed to continue to provide West Kootenay Power with a first right to purchase power needed by West Kootenay Power which is surplus to the Cominco industrial requirement provided Cominco does not become a utility by so doing. To allow Cominco to sell this surplus power to West Kootenay Power without limit, Cominco has requested the Utilities Commission to exempt Cominco from utility regulation. The hearings were conducted during August, September and October 1981 but a decision has not yet been rendered by the Utilities Commission.

Revenues of West Kootenay Power increased from \$28.0 million in 1980 to \$38.0 million in 1981. Energy sales were 8.8 per cent above 1980. About half of this increase was attributable to the addition of a major industrial user. The British Columbia Utilities Commission approved an interim 18 per cent rate increase effective January 1, 1981 and a final 4 per cent rate increase, related to higher provincial water rentals, effective February 1, 1981. In mid-December 1981, the Utilities Commission approved a further interim increase of 13.5 per cent and increases related to 1982 increases in provincial water rentals, both effective January 1, 1982. Operating profit was \$10.0 million in 1981 compared to \$8.0 million in 1980.

Miscellaneous operations in 1981 included Cominco American's oil and gas activities, Cominco Engineering Services Ltd., Lake Minerals Corporation and European holding and trading companies.

A new subsidiary company, Cominco Engineering Services Ltd., was established in Vancouver in 1981. It provides engineering consulting services which are largely based on the technology and expertise available within the Cominco organization.

Lake Minerals Corporation, a California company engaged in the mining of crude trona ore from an evaporite deposit in Owens Lake, California, was acquired by Cominco American in September, 1981 for US\$8.2 million. Lake Minerals currently produces approximately 85,000 tons (77,100) of crude trona annually with the total production sold to an industrial customer. Trona is the raw material of soda ash, which is used for glassmaking and the manufacture of soaps and detergents. Programs are under way to increase sales of crude trona and to study the feasibility of expanding into the refined soda ash business by upgrading the crude trona ore.

# **Associated Companies**

Associated companies are those in which Cominco's interest is 50 per cent or less and over which it has significant influence.

Aberfoyle Limited of Australia, operating two tin mines and one silver, zinc, lead

mine, had revenues of \$56 million and contributed \$1.2 million to Cominco's earnings in 1981 including a profit of \$1.1 million from the sale by Aberfoyle of its interests in a subsidiary and an associate company. This compares with revenues of \$58 million and earnings contribution of \$4.1 million in 1980. Revenues were adversely affected by a substantial decline in the price of tin in the first half of 1981, and lower than expected production from the new Que River silver, zinc, lead mine in Tasmania.

The Que River mine produced its first revenue in 1981. The initial mine construction and development program was completed in early 1981. Ore production, which totalled 98,900 tons (89,700) in the start-up year, is expected to reach a full production level of 220,400 tons (200,000) a year in 1982. In the third quarter of 1981, deliveries resumed from the mine following the re-opening of a major customer's plant, which had been closed because of a strike.

Exminesa's (Exploracion Minera Internacional Espana S.A.) Rubiales Mine in Spain had revenues of \$57.0 million, the same as 1980, and contributed \$2.8 million to Cominco's earnings in 1981, compared to \$3.6 million in 1980. The results were affected adversely by the weakening of the Spanish peseta relative to the Canadian dollar during the year.

At the Rubiales Mine, zinc concentrate production was at a record high of 134,400 tons (121,900) compared to 130,500 tons (118,400) in 1980. Lead

Associated Companies	Percentage Ownership	Revenue	es	Share of Earning	
		1981	1980 (millions	<b>1981</b>	1980
Aberfoyle Limited	47	\$ 56	\$ 58	\$ 1.2	\$ 4.1
Exploracion Minera Internacional Espana S.A. (Exminesa)	47	57	57	2.8	3.6
Brazil Diamante (Eiendom Beperk	ns) 50	3	_	0.3	_
Fording Coal Limited	40	247	215	(1.1)	5.7
The Canada Metal Company Limited	50	89	102	0.3	0.2
Other		48	47	0.3	0.3
		\$500	\$479	\$ 3.8	\$13.9

concentrate production was down slightly at 18,200 tons (16,500) compared to 20,000 tons (18,100) in 1980. Operating problems with the mills required the overhaul of the ball mill and the rod mill gears. Both mills were operating satisfactorily at year-end.

Brazil Diamante (Eiendoms) Beperk, commenced a small-scale alluvial diamond mine at Hondeklip on the west coast of South Africa. Production in 1981 was 84,200 carats (417,000 diamonds). Cominco's share of net earnings was \$300,000 to September 30, 1981. The terms of employment of the 36 persons on the staff and workforce of Brazil Diamante conform to the Canadian government's guidelines for Canadian companies operating abroad.

Fording Coal Limited, with open pit operations near Elkford, B.C. produced 4,069,000 tons (3,691,000) of

metallurgical grade clean coal, compared to 3,832,000 tons (3,476,000) in 1980. Sales were 4,076,000 tons (3,698,000) compared to 3,843,000 tons (3,486,000) in 1980. Fording's expansion program to increase production capacity from 3,360,000 tons (3,048,000) to 5,600,000 tons (5,080,000) is progressing satisfactorily. The 1981 drilling program on Eagle Mountain outlined 100 million tons of clean coal which was added to the reserves. Revenues for the year were \$247 million compared to \$215 million in 1980. Earnings at Fording were affected adversely by the sales price in a major contract which was set two years ago. This contract is due for renegotiation in 1982. Operating costs increased mainly due to production difficulties which were resolved by year-end. Cominco's share of the loss for the year was \$1.1 million compared to earnings of \$5.7 million in 1980.

The Canada Metal Company Limited, which produces secondary lead, lead oxide, extrusions, castings, and other metal products, reported sales of \$89 million in 1981, compared to \$102 million in 1980. Soft demand, a continuation of low prices and increased operating costs affected earnings, of which Cominco's share was \$0.3 million compared to \$0.2 million in 1980.

# Other Companies

Tara Exploration and Development Company Limited (17.2%-owned) suffered a loss of US\$10.4 million in 1981 principally due to a strike which began in July and was not settled until after year-end.

Panarctic Oils Ltd.'s (7.4%-owned) costs continue to be capitalized as none of its properties is in production. Natural gas reserves in the Arctic Islands are established at 16 trillion cubic feet, insufficient to justify a pipeline. The 1981 exploration program resulted in an oil discovery which requires further delineation.

Investments in other companies are carried at cost in the accompanying financial statements less amounts written off. Income is recorded only to the extent of dividends received. No dividends were received during the year.

# Summary of Results of Operations of Associated Companies

	1981 (m)	illions)
Revenues Costs and expenses	\$500.4 491.8	\$479.4 425.5
Earnings before the following Income taxes Exchange losses on translation of foreign companies	8.6 1.6 (1.3)	53.9 (18.3) (2.2)
Total net earnings of associated companies	\$ 8.9	\$ 33.4
Cominco's share of net earnings	\$ 3.8	\$ 13.9
Dividends received by Cominco	\$ 3.8	\$ 5.6

## **Summary of Financial Position of Associated Companies**

	1981	1980
	(mi	llions)
Working capital	\$ 45.5	\$ 20.0
Fixed assets	316.3	278.6
Other assets	5.1	4.7
	366.9	303.3
Less: Income taxes not currently payable	55.8	58.8
Long-term debt	102.3	68.3
Other non-current liabilities	13.5	9.9
Net assets	\$195.3	\$166.3
Cominco's share of net assets	\$ 87.4	\$ 73.4

# **Exploration**

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The goals of Cominco's exploration program are to extend known reserves at existing mines, and to discover and develop new ore deposits.

Exploration expenditures in 1981 totalled \$61 million, up \$17 million from 1980. A major part of the increase was the result of an expanded program in Alaska. Investigation and evaluation of identified mineral properties accounted for \$41.4 million. This amount was capitalized as Investments in Mineral Properties and is being amortized against earnings. The remaining \$19.6 million was expended on general exploration and charged against 1981 earnings.

Additional ore reserves sufficient to replace mine production were identified at the Con, Pine Point, Magmont, and

Rubiales Mines. New areas of zinc-lead mineralization were discovered on the Black Angel property, but further work is required before it will be known if these represent new reserves.

Exploration for new deposits was carried out on a world-wide basis. Projects in Canada accounted for 40 per cent of the total expenditure. Exploration activity in the United States was at a record level, amounting to 30 per cent of the total. The remaining 30 per cent was spent on projects in 15 other countries.

Diamond drill programs were carried out on nearly 50 properties, half of which were sufficiently encouraging to justify further work.

The search for new zinc and lead deposits, which represented a major part of the 1981 exploration program, produced encouraging results on projects in Alaska, the western United States, Canada, Mexico, and the United Kingdom, In Alaska, the Red Dog zinc, lead, silver deposit near Kotzebue announced on February 5, 1982 is estimated to contain 85 million tons of 17.1 per cent zinc, 5.0 per cent lead and 2.4 oz. of silver per ton. Cominco American Incorporated and NANA Regional Corporation Inc. (owned by approximately 4600 Inupiat shareholders) reached agreement for the evaluation and potential development of this deposit. Because of the remote location, capital costs and operating costs will be significant.

Additional mineralization of zinc, lead and silver was outlined on the Bathurst Norsemines Ltd. (N.P.L.) property in the Northwest Territories, and exploration continued on the Hay West joint venture project which is the western extension of the Pine Point zinc, lead mineral zone.

The search for other minerals to broaden Cominco's product range included projects for gold, silver, copper, molybdenum, tungsten, tin, coal, diamonds, phosphate and potash. Major drilling programs were carried out on two large, low-grade, copper, gold deposits in British Columbia, and on a copper, molybdenum deposit in Mexico. Drilling continued on the Drake Property, a low-grade silver, gold deposit in Australia.

Other continuing programs included assessment of diamond occurrences in Brazil and in the United States and of a

phosphate deposit in French Polynesia in which Cominco holds a 25 per cent interest.

# Research and Development

The Product Research Centre at Sheridan Park had 41 employees and a budget of \$2.5 million in 1981. Research and development work aimed at strengthening and expanding Cominco's metal markets continued during the year. Technical assistance and support for Cominco's customers was also provided.

Zinc foundry alloy applications, developed at the Product Research Centre, are gaining acceptance. In future, these alloys will offer new market opportunities for zinc.

Cominco-developed lead-acid electric storage battery manufacturing equipment is now in commercial production. It represents Cominco's growing commitment to the improvement of the lead-acid battery's design, method of manufacture and performance. The new technology uses lead strips in a clean, automated, high-speed method of producing battery plates at a low cost. Work is continuing to develop processing machinery and technology for the battery industry, the major user of lead.

Cominco's technical research centre at Trail had a staff of 48 and a budget of \$3 million. Work in 1981 centred on zinc pressure leaching technology, residue leaching, halogen leaching, technology for effluent treatment at Cominco operations, and a variety of projects associated with the modernization and expansion at Trail and at Kimberley.

# **Human Resources**

At the end of 1981, Cominco and its subsidiaries employed 12,600 people, more than 10,000 of them in Canada. Productivity, safety, and training were emphasized in a wide range of programs. Work interruption due to labour disputes was minimal.

Sixteen labour agreements were negotiated between employees and Cominco and its subsidiary companies in 1981. With the exception of a sixweek stoppage at the Con Mine, all agreements were signed without work

interruption. Most of the contracts are for two years, renewable in 1983. During 1982, agreements covering four operations will be negotiated.

Full-scale apprenticeship programs to develop skilled tradesmen continue at most Cominco operations. At the Black Angel Mine, the number of Greenlanders employed rose to 41 per cent in 1981 from 30 per cent in 1980. At Polaris, considerable emphasis was placed on the development of on-job training, and recruitment of Inuit and other northern workers. Inuit comprise about 25 per cent of the Polaris workforce, which totalled 200 at year-end.

In 1981, 52 Cominco employees received 40-year service awards. In keeping with a policy of recognizing and rewarding educational achievement, 47 children of employees received scholarships for post-secondary education.

# **Environment**

The \$9 million Effluent Treatment Plant at Trail began operating in mid-1981. It has effectively reduced the metals content of waste water from the metallurgical operations.

At the Con Mine in the Northwest Territories, the design of a plant to treat arsenic wastes was approved in 1981 and the plant will be completed in 1982. Arsenic wastes have not been produced at the Con Mine since 1970 when the roasting process of gold extraction was discontinued. The wastes are stored in basins formed of solid rock which are completely fenced and sealed behind concrete retaining walls on the property. The new treatment plant will recover arsenic trioxide which is saleable in crystal form as well as quantities of gold and silver.

At Trail, an improved Sulphur Gas Handling Project is scheduled for completion in 1983. This project will bring important benefits in environmental control, working conditions and production efficiency, and the Trail plants will be able to treat concentrates having a higher mercury content than can be accepted at present.





The emphasis on safety is evident in the machine shop

# Safety

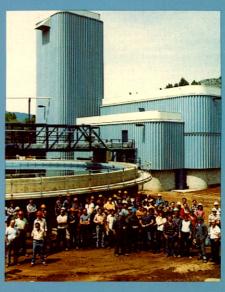
Ongoing safety programs at Cominco's world-wide operations continued to improve. At Cominco Ltd.'s Canadian operations the number of lost-time accidents was 13 per cent lower than in 1980. The program at Pine Point was particularly effective, resulting in a 25 per cent reduction in accidents. To enhance safety and increase safety consciousness, employees are encouraged to participate in first aid and mine rescue competitions. In 1981, the Sullivan Mine No. 3 Rescue Team won the prestigious Dominion Mine Rescue Trophy, awarded to the top mine rescue team in Canada.

Among other safety award winners was Cominco American's Beatrice, Nebraska plant. It completed four years without a lost time accident at the end of January, 1982.

At Mitsubishi-Cominco in Japan, the Naoshima plant won the Minister of Labour's prize in a national safety campaign for its achievements in improving the conditions of occupational safety and health. The plant reached ten years of operation without an accident on August 6, 1981.

The new effluent treatment plant processes 1.3 million imperial gallons (6 million litres) of water a day at Trail,





		19	181	19	80
		Sales	Production	Sales	Production
Refined Metal					
Zinc					
Trail	tons	245,500	260,900	240,700	233,000
Tolled — Pine Point	tons	_	_	6,400	6,400
— Black Angel	tons	31,100	30,400	37,400	36,900
		276,600	291,300	284,500	276,300
Lead		V92-353	0.000.000		
Trail	tons	127,000	131,500	121,600	130,000
Tolled — Magmont	tons	24,600	28,500	37,600	34,000
		151,600	160,000	159,200	164,000
Silver (1)	ounces	7,635,000	8,440,000	8,491,000	8,917,000
Gold					
Con/Rycon	ounces	74,900	74,800	97,100	96,900
Others	ounces	20,600	20,600	24,400	24,400
		95,500	95,400	121,500	121,300
Concentrates (2)					
Zinc					
Sullivan	tons	_	131,200	_	105,200
Magmont	tons	7,800	7,900	6,700	6,600
Pine Point	tons	35,600	274,400	40,600	314,600
Black Angel	tons	110,600	154,100	88,500	167,500
		154,000	567,600	135,800	593,900
Lead					
Sullivan	tons	_	148,000	_	121,100
Magmont	tons	12,000	49,200	6,500	54,500
Pine Point	tons	70,600	86,500	61,000	81,800
Black Angel	tons	44,100	42,000	46,100	46,300
		126,700	325,700	113,600	303,700
Copper (3)			20.022		
Bethlehem (4)	tons	17,900	22,900	25,000	20,900
Magmont	tons	1,100	1,000	1,600	1,400
		19,000	23,900	26,600	22,300
Chemicals and Fertilizers					
Canada	tons	1,358,000	1,391,000	1,352,000	1,336,000
United States	tons	440,000	475,000	450,000	442,000
		1,798,000	1,866,000	1,802,000	1,778,000
Potash	tons	917,000	1,087,000	1,030,000	1,009,000
		2,715,000	2,953,000	2,832,000	2,787,000
		_,,_	,,		• 100,000

<sup>(1)</sup> Includes silver sold in concentrates and intermediate products

<sup>(2)</sup> Sales tonnages exclude concentrates processed at Trail and concentrates tolled through other smelters

<sup>(3)</sup> Tonnages are for copper contained in concentrate

<sup>(4) 1980</sup> figures are included for comparative purposes only. The results of Bethlehem Copper Corporation were consolidated as of November 1, 1980

The accompanying consolidated financial statements of Cominco Ltd. and its subsidiaries have been prepared in accordance with generally accepted accounting principles considered to be appropriate in the circumstances. The statements and all of the information contained in the Annual Report are the responsibility of management and are approved by the Board of Directors of Cominco Ltd. Financial and operating information appearing throughout the Annual Report is consistent with that contained in the financial statements.

The consolidated financial statements of Cominco Ltd. and its subsidiaries are examined by Cominco's auditor, Thorne Riddell, and their report follows.

# **Consolidated Financial Statements**

# **Auditors' Report**

To the Shareholders of Cominco Ltd.

We have examined the consolidated balance sheet of Cominco Ltd. as at December 31, 1981 and the consolidated statements of earnings, earnings reinvested in the business and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at December 31, 1981 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year, after giving retroactive effect to the change in the method of valuing certain inventories as described in note 9.

Vancouver, Canada February 9, 1982

Chartered Accountants

The accounts of Cominco Ltd. (the Company) are prepared using generally accepted accounting principles in Canada and on a basis consistent with the previous year after giving retroactive effect to the change in the method of valuing certain inventories. To facilitate review of the consolidated statements contained in this report, the significant accounting policies followed by the Company and its subsidiaries are summarized below.

#### **Principles of Consolidation**

The accounts of the Company and its subsidiaries are consolidated in the financial statements. The differences between the cost of the investments and the underlying book values of the assets at the dates of acquisition have been allocated to fixed assets on consolidation and are being amortized accordingly. Inter-company items and transactions between consolidated companies are eliminated.

Investments in associated companies (those companies in which the Company owns 50% or less of the shares and over which it has significant influence) are accounted for by the equity method. Under this method the Company includes in its earnings its share of the earnings or losses of associated companies. In measuring the Company's share of earnings or losses, amortization of differences between the cost of the investments and underlying book values is taken into account.

# **Foreign Currency Translation**

The accounts of foreign subsidiaries are translated into Canadian dollars. Accounts included in the consolidated statement of earnings, except inventories, depreciation and depletion, are translated at the weighted average rates of exchange prevailing during the year. Inventories, depreciation and depletion are translated at the rates in effect when the related expenditures are made. Accounts included in the consolidated balance sheet are translated at rates of exchange in effect at the end of the year, except that: a) inventories, investments, fixed assets and accumulated depreciation and depletion are at rates at dates of acquisition; b) deferred income taxes

and retained earnings are at rates at date of origin; and c) debts not maturing within one year and share capital are at rates at dates of issue. The resulting translation adjustments are included in the determination of consolidated earnings.

#### **Inventories**

Finished goods, raw materials and partially processed materials are valued generally at the lower of cost (determined on the monthly average method) and net realizable value. Stores and operating supplies are valued at average cost less appropriate allowances for obsolescence.

# Land, Buildings and Equipment

Land, buildings and equipment are recorded at cost and include the cost of renewals and betterments. When assets are sold or abandoned, the recorded costs and related accumulated depreciation are removed from the accounts and any gains or losses are included in earnings. Repairs and maintenance are charged against earnings as incurred.

Depreciation is calculated on the straight-line method using rates based on the estimated service lives of the respective assets. In some integrated mining and manufacturing operations, assets are pooled and depreciated at composite rates. Depreciation is not provided on major additions until commencement of commercial production.

# Mineral Properties and Development

Expenditures on general mineral exploration are charged against earnings as incurred. Expenditures to investigate identified properties and to develop new mines are capitalized as mineral properties and development. Due to the uncertainty of the final outcome, expenditures on investigation together with the cost of certain investments in mineral companies are amortized against earnings by charges for depletion. Abandoned properties are charged against earnings in the year of abandonment. Depletion on operating

mines is provided on a units-ofproduction or on a time basis related to the mineral reserves position.

#### Taxes on Income

Income tax laws in Canada and in some other countries permit the deduction of depreciation and other items from income to determine taxable income at times which do not coincide with those used for financial reporting purposes. These differences in timing of deductions result in taxes being provided which are not currently payable.

Tax savings from investment tax credits are reflected in earnings as they are realized.

Withholding taxes, where applicable, on earnings of foreign operations are provided in the accounts to the extent of dividends anticipated in the future.

#### Research and Product Development

Research and product development costs are charged against earnings as incurred.

#### Interest

Generally, interest expense is charged against earnings. Interest on specific borrowings for major expenditures for fixed assets is capitalized during the construction period.

# Start-Up Costs

Start-up costs related to major projects are deferred until the facilities achieve commercial production volumes. These deferred costs are amortized against earnings on a straight-line basis over a reasonable period of time.

# **Earnings per Share**

Earnings per common share are calculated by dividing net earnings less preferred dividends paid and accrued, by the weighted average number of shares outstanding during the year.

Year Ended December 31, 1981

	1981	1980	
	(tho	sands)	
Revenue Sales of products and services Income from investments	\$1,416,904 19,921	\$1,442,698 13,425	
	1,436,825	1,456,123	
Costs and Expenses Cost of products and services Distribution	949,295 132,080	873,851 110,385	
Selling General and administrative	28,402 45,721	28,323 39,548	
General mineral exploration  Long-term debt interest and expense  Depreciation, depletion and amortization	19,582 51,409 83,570	13,166 24,866 73,836	
	1,310,059	1,163,975	
Earnings before the Following	126,766	292,148	
Taxes on income including resource taxes (Note 8) Current Not currently payable	11,921 38,910	69,434 49,857	
	50,831	119,291	
Minority interests in net earnings of subsidiary companies	75,935 10,164	172,857 14,097	
Equity in net earnings of associated companies Loss on translation of accounts of foreign subsidiaries	65,771 3,761 (4,822)	158,760 13,905 (1,554)	
Earnings before Extraordinary Item Extraordinary item (Note 10)	64,710 5,564	171,111	
Net Earnings	\$ 70,274	\$ 171,111	
Earnings per Common Share Earnings before extraordinary item	\$ 3.05	\$ 9.54	
Net earnings	\$ 3.35	\$ 9.54	

# **Consolidated Statement of Earnings Reinvested in the Business**

Year Ended December 31, 1981	4004	1000
	1981	1980
	(thou	sands)
Amount at Beginning of Year		
As previously reported	\$631,507	\$545,554
Adjustment of inventories (Note 9)	4,669	2,820
As restated	636,176	548,374
Net earnings	70,274	171,111
	706,450	719,485
Deduct		
Costs incurred on issue of Common shares	475	
Dividends paid		
Preferred — Series A \$2.00 per share	3,879	3,920
— Series C \$2.29 per share (1980 — \$2.11)	4,581	4,227
Common \$4.10 per share (1980 — \$4.40)	75,205	75,162
	84,140	83,309
Amount at End of Year	\$622,310	\$636,176

at December 31, 1981

	1981 (tho	1980 usands)
	(III)	asarids)
Current Assets		
Cash and short-term investments  Accounts receivable	\$ 48,887 243,624	\$ 79,25 242,49
nventories (Note 2)	243,024 334,181	287,46
Prepaid expenses	7.317	3,77
	634,009	612,97
nvestments (Note 3)		
Associated companies	95,458	81,45
Other companies	34,614	36,65
	130,072	118,10
Fixed Assets	4 202 004	4 470 00
Land, buildings and equipment Less accumulated depreciation	1,396,081 463,791	1,170,99 428,44
ess accumulated depreciation	932,290	742.55
Mineral properties and development	402,365	236,76
Less accumulated depletion	92,291	69,38
	310,074	167,37
	1,242,364	909,93
Other Assets (Note 4)	21,379	11,49
	\$2,027,824	\$1,652,50
		1000
	1981 (thou	1980 usands)
Current Liabilities		
Bank loans and notes payable	\$ 140,007	\$ 81,70
Accounts payable and accrued liabilities	171,220 19.268	163,63 36,50
ncome and resource taxes .ong-term debt due within one year	11,509	7,44
ong term desit due within one yeur	342,004	289,29
.ong-Term Debt (Note 5)	566,677	329,01
ncome Taxes Provided but not Currently Payable	219,155	172,86
Minority Interests	45,449	90,39
Shareholders' Equity		
Capital (Note 6)	232,229	134,76
Earnings reinvested in the business	622,310	636,17
	854,539	770,94
Commitments and Contingent Liabilities (Note 11)		
	\$2,027,824	\$1,652,50

Approved by the Board:

Madus Director W. Shilson Director

Year Ended December 31, 1981

	1981	1980
	(thou	sands)
Source of Funds		
Funds provided from operations	\$201,251	\$307,710
Disposal of land, buildings, equipment and investments	6,060	5,931
Sale of investment in Pacific Coast Terminals Co. Ltd. (Note 10)	12,526	
Additional long-term debt	253,368	117,813
Issue of common shares	99,434	1,088
Working capital added on consolidation of Bethlehem Copper		
Corporation on November 1, 1980		79,682
	\$572,639	\$512,224
Application of Funds	\$265.070	¢040 F00
Land, buildings and equipment	\$265,279 68.388	\$240,598 39.654
Mineral properties and development Purchase of shares of Bethlehem Copper Corporation and	00,300	39,034
Valley Copper Mines Limited (N.P.L.) (Note 7)	133,481	61,013
Investment in associated companies	12,770	814
Investment in other companies	2,293	1,225
Repayments on long-term debt	14,298	15,166
Preferred shares purchased for cancellation	1,618	1,456
Dividends — to common shareholders	75,205	75,162
— to preferred shareholders	8,460	8,147
— to minority shareholders of subsidiary companies	14,446	17,293
Working capital of Pacific Coast Terminals Co. Ltd.		
removed from the consolidation	1,422	
Other	6,662	3,203
	604,322	463,731
Increase (Decrease) in Working Capital	(31,683)	48,493
	\$572,639	\$512,224

Year Ended December 31, 1981

# 1. Accounting Policies

The significant accounting policies followed by the Company and its subsidiary companies are summarized under the caption "Summary of Significant Accounting Policies".

#### 2. Inventories

2. Inventories				
		1981		1980
			usano	is)
Finished goods	S	166,892		132,864
Raw materials and partially				
processed materials		82,860		93,327
Stores and operating supplies		84,429		61,273
Otores and operating supplies	-		00	
	\$	334,181	\$2	287,464
3. Investments				
		1981		1980
			usano	
Associated companies:		(11100	Joanic	10)
Shares at cost	e	66,758	•	52.381
Equity in undistributed earnings		28,700	Φ	29,070
Equity in undistributed earnings				
	\$	95,458	\$	81,451
Other companies	1		The T	BE THE
Other companies:				
Shares at cost		19,513	\$	18,391
Panarctic Oils Ltd. (7.4% owned)	•	19,010	Φ	10,351
Tara Exploration and Development				
Company Limited (17.2%		00 000		26 002
owned)		26,903		26,903
Other companies		5,894		6,610
Other		339		433
		52,649		52,337
Less accumulated depletion				
provided on mineral investments		18,035		15,684
THE RESERVE OF THE PARTY OF THE	\$	34,614	\$	36,653
		Cuiche	Ψ	
4. Other Assets				
		1981		1980
		(thou	usand	ds)
Debt financing costs, less				
amounts amortized	\$		\$	2,226
Loan to Bankeno Mines Limited		3,000		3,000
Deferred start-up costs		7,609		-
Other		7,609 8,653		6,265
SHARPS AS A SHARP TO SHARP THE	e	21,379	4	11,491
principal second in the second	÷	21,019	Φ	11,431

# 5. Long-Term Debt (excluding amount due within one year)

5. Long-term Debt (excluding amoun		
	1981 (tho	1980 usands)
Cominco Ltd.	(	acarrac,
10% Serial Notes due 1983 to 1996, U.S. \$46,667,000	\$ 45,943	\$ 49,224
81/2 % Sinking Fund debentures due 1991	52,666	54,183
10% % Sinking Fund debentures due 1995	49,032	52,394
Bank loan due 1983 with interest related to the Canadian prime		
Export-Import Bank of the United	9,000	13,000
States 8% loan due 1983 to 1985, U.S. \$3,812,000	3,797	5,315
Bank loan due 1983 to 1994 with interest related to prime bank rates (financing of Polaris		
Project)	152,000	51,000
Bank loan due 1983, convertible at option of the Company to become repayable over ten years with interest related to prime bank rates (financing of Bethlehem Copper Corporation and Valley Copper Mines Ltd.		
[N.P.L.] share purchases)  West Kootenay Power and Light Company, Limited	200,000	61,013
53/4 % First Mortgage bonds due 1985	5,514	5,954
Bank loan due 1983 bearing interest at 1/4 % above Canadian prime bank rate	36,128	32,200
Cominco American Incorporated 7% Notes due 1983 to 1985, U.S. \$2,710,000	2,927	4,364
81/2 % note payable to be repaid monthly on a declining balance basis. Final settlement date March, 2000. U.S. \$2,248,000	2,700	
Other debt	556	
Western Canada Steel Limited Bank loan with interest related to the Canadian prime bank rate		
repayable over ten years commencing not later than		
July 1, 1984	5,500	
Other Companies	914	367
	\$566,677	\$329,014

Payments required on long-term debt, assuming the conversion of the bank loan due 1983 into a ten-year term loan are: 1982-\$11,509,000; 1983-\$83,728,000; 1984-\$40,552,000; 1985-\$46,349,000; 1986-\$40,303,000.

If translated into Canadian dollars at year-end rates of exchange, long-term debt would increase by \$10,371,000 in 1981 and \$12,035,000 in 1980. This is not necessarily indicative of the amounts of the exchange premium, if any, which will be payable when the obligations are retired.

# 6. Capital

The Company is incorporated under the Canada Business Corporations Act, and is authorized to issue an unlimited number of Preferred and Common Shares.

1981 1980 (thousands)

\$232,229

\$134,766

a) Issued and fully paid:

Preferred 1,860,084 shares (1980 - 1,938,884) -\$2.00 Tax Deferred Exchangeable Shares \$ 46,502 Series A (Note 6[d]) \$ 48,473 2,000,000 - Floating Rate Preferred Shares Series C 50,000 50,000 96,502 98,473 Common -18,802,718 shares (1980 - 17,084,453)135,727 (Note 6[c]) 36,293

# b) Preferred Shares:

The Company has constituted the following Preferred Shares:

- 2,000,000 shares as ''\$2.00 Tax Deferred Exchangeable Preferred Shares Series A''
- 2,000,000 shares as "\$2.4375 Preferred Shares Series B"
- 2,000,000 shares as "Floating Rate Preferred Shares Series C"

Each Series A Preferred Share is entitled to a fixed cumulative cash dividend of \$2.00 per annum payable semi-annually. The Series A Preferred Shares are exchangeable into Series B Preferred Shares after June 1, 1988. Each Series C Preferred Share is entitled to a cumulative cash dividend which is related to the prime rate of interest charged by certain Canadian banks, adjusted quarterly and payable semi-annually. The holders of the Series C Preferred Shares may call for retraction on March 31, 1988.

c) Shares issued during the year for cash: 9,200 Common Shares (Note 6[e]) 1,709,065 Common Shares through a	\$ 308,000
rights issue	99,126,000

d) Shares purchased for cancellation: During 1981, the Company purchased for cancellation 78,800 Series A Preferred Shares with an issued value of \$1,970,000 for \$1,618,000 cash. e) The Company has 8,600 Common Shares remaining unissued under a stock option plan in favour of certain executives in the full-time employment of the Company or a subsidiary. Options are exercisable within five years of issue at 90% of the market price on the day when granted.

Outstanding options at December 31, 1981, are as follows:

		Out-	Exercised
Granted	Price	standing	in 1981
1976	34.99	Nil	3,700
1977	32.63	2,525	1,000
1978	24.41	1,500	Nil
1979	32.40	11,750	4,500
1980	52.31	21,750	Nil
1981	60.98	26,000	Nil
		63,525	9,200

# 7. Bethlehem Copper Corporation and Valley Copper Mines Limited (N.P.L.)

During the year the Company purchased 2,396,437 common shares of Bethlehem Copper Corporation for \$90,146,000 (\$37.50 a share) and 1,310,287 common shares of Valley Copper Mines Limited (N.P.L.) for \$43,335,000 (\$33.00 a share) bringing its holdings to 100% in each of the companies from 64.4% and 81.8%, respectively. The excess of the purchase price over the book value of the shares at date of acquisition has been allocated to Mineral Properties and Development.

## 8. Taxes on Income

Income taxes have been reduced by the following amounts:

- a) Investment tax credits of \$2,228,000 (1980: \$10,939,000);
- b) The cancellation in the United Kingdom of \$3,288,000 (1980: Nil) in deferred taxes provided in prior years on inventory appreciation.

Accumulated investment tax credits amounting to \$32,200,000 are available to reduce income taxes otherwise payable during the years 1982 to 1986.

# 9. Change in Accounting Policy

To conform to the general practice of the Company, the basis of determining the cost of certain inventories in the United States was changed from the last-in, first-out method to the monthly average method. This change in accounting method was adopted with retroactive effect increasing net income in 1981 by \$1,959,000 (\$0.10 per share) and in 1980 by \$1,849,000 (\$0.10 per share). Previously reported inventories of finished goods, income taxes provided but not currently payable and retained earnings have been restated.

## 10. Extraordinary Item

The Company sold its interest in a subsidiary company, Pacific Coast Terminals Co. Ltd., effective December 31, 1981. The Company's gain amounting to \$5,564,000 after providing for income taxes of \$2,433,000 is included as an extraordinary item. The accounts of the subsidiary have been removed from the consolidation.

# 11. Commitments and Contingent Liabilities

a) The Company and its subsidiaries have pension plans covering substantially all employees. Pension costs for current service are charged to earnings in the year incurred. The liability for past service is being funded and charged to earnings over varying periods up to 15 years. The date of the most recent actuarial evaluation for most pension plans is December 31, 1980. At December 31, 1981, actuarial estimates of the unfunded liability for past service amount to \$59,000,000 of which \$50,000,000 remains to be charged to earnings, \$9,000,000 having been charged to earnings by provisions in prior years. The vested portion of the unfunded liability for past service is \$40,000,000.

Total pension expense including past service costs was \$22,711,000 for 1981 and \$21,073,000 for 1980.

- b) At December 31, 1981, guarantees amounted to \$32,000,000 of which \$21,500,000 was for bank loans of an associated company.
- c) At December 31, 1981, unexpended amounts remaining on approved major capital projects were \$199,000,000.

# 12. Related Party Transactions

Related parties consist of the Company's associated companies and Canadian Pacific Limited and its subsidiary and associated corporations.

Sales (all at fair market prices) to related parties amounted to \$38,000,000 (1980: \$51,600,000). The Company provides management services at cost to certain associated companies.

The Company has a revolving line of credit with Canadian Pacific Securities Limited in the amount of \$30 million which provides for loans of up to one year at interest rates related

to prime bank rates and commercial paper rates. The amount outstanding at December 31, 1981 was \$15 million (1980: Nil).

The Company makes extensive use of both major Canadian railroads, one of which is a division of Canadian Pacific Limited (CP Rail), for the transportation of its raw materials and finished products. Freight charges from CP Rail are at published tariff rates. In addition, in the regular conduct of its business, the Company makes use of other services, facilities and products of the Canadian Pacific organization. These transactions are at rates and terms similar to those for unrelated customers.

# 13. Segmented Information

1. The Company operates in three industry segments: Mining and Integrated Metals

Principally the mining, processing, smelting, and refining of lead, zinc, copper, silver and gold into concentrates and refined metal.

Fertilizers and Chemicals

Principally the production of potash, ammonia, urea, phosphates, nitrates and sulphuric acid.

Other Operations

Principally metal products and electric power distribution.

- Sales to other segments are accounted for at prices which approximate market.
- Investment income and certain corporate expenditures and assets relating to the overall direction and management of the Company's activities are not allocated to industry segments.
- 4. Canadian export sales amounted to \$552.7 million (1980: \$660.2 million).

(continued on page 27)

# **Segmented Information**

Year Ended December 31, 1981 (Millions)

Revenue	By Industry Segment		Mining and Integrated Metals				Fertilizers & Chemicals				Other Operations				Consolidated		
Sales to other segments			1981		1980		1981		1980	HEE	1981		1980		1981		1980
Earnings		\$	732	\$	850	\$	462	\$	390	\$	223	\$	203	\$1	,417	\$1	1,443
Earnings   Operating profit before   unallocated items below   S 72   S 210   S 97   S 94   S 30   S 25   S 199   S 329	Sales to other segments		38		33		5		3		3		1				
Operating profit before		\$	770	\$	883	\$	467	\$	393	\$	226	\$	204				
Corporate (net)	Operating profit before	\$	72	\$	210	\$	97	\$	94	\$	30	\$	25	\$	199	\$	329
Identifiable Assets   Segment assets	Interest on long-term debt Corporate (net)														(1)		(25)
Segment assets	loss on translation, equity in earnings of associates and													\$	76	\$	173
Construction in progress   578   257   23   2   14   10   615   269	Segment assets  — Operating	\$	593	\$	685	\$	381	\$	369	\$	185	\$	181	\$1	,159	\$1	,235
The composition of the companies   124   30   30   30   30   30   30   30   3		_										1.5			615		269
Trigon   Properties   Propert			,171	\$	942	\$	404	\$	371	\$	199	\$	191	1	,774	1	,504
Total Assets   \$2,028 \$1,652	Investment in associated and																
Depreciation, Depletion and Amortization				No.										\$2	,028	\$1	,652
By Geographic Region   Canada   United States   Countries   Consolidated		\$	52	\$	44	\$	22	\$	20	\$	10	\$	10	\$	84	\$	74
Canada   States   Countries   Consolidated	Capital Expenditures	\$	262	\$	237	\$	29	\$	18	\$	43	\$	25	\$	334	\$	280
Revenue	By Geographic Region		Ca	nada	a										Conso	lidate	ed e
Sales to external customers       \$ 973       \$1,019       \$ 366       \$ 341       \$ 78       \$ 83       \$1,417       \$1,443         Sales to other regions       120       103       8       20       —       —         \$1,093       \$1,122       \$ 374       \$ 361       \$ 78       \$ 83         Earnings         Operating profit before unallocated items       \$ 145       \$ 256       \$ 32       \$ 50       \$ 22       \$ 23       \$ 199       \$ 329         Identifiable Assets         Regional assets       — Operating       \$ 910       \$ 971       \$ 169       \$ 143       \$ 80       \$ 121       \$ 1,159       \$ 1,235         — Undeveloped properties and construction in progress       579       240       28       22       8       7       615       269         \$ 1,489       \$ 1,211       \$ 197       \$ 165       \$ 88       \$ 128       \$ 1,774       \$ 1,504         Depreciation, Depletion and Amortization       \$ 57       \$ 50       \$ 17       \$ 16       \$ 10       \$ 8       \$ 84       \$ 74	THE RESERVE OF THE PARTY OF THE		1981		1980		1981		1980		1981		1980		1981		1980
\$1,093 \$1,122 \$ 374 \$ 361 \$ 78 \$ 83  Earnings Operating profit before unallocated items \$ 145 \$ 256 \$ 32 \$ 50 \$ 22 \$ 23 \$ 199 \$ 329  Identifiable Assets Regional assets — Operating \$ 910 \$ 971 \$ 169 \$ 143 \$ 80 \$ 121 \$ 1,159 \$ 1,235 — Undeveloped properties and construction in progress 579 240 28 22 8 7 615 269  \$1,489 \$1,211 \$ 197 \$ 165 \$ 88 \$ 128 \$ 1,774 \$ 1,504  Depreciation, Depletion and Amortization \$ 57 \$ 50 \$ 17 \$ 16 \$ 10 \$ 8 \$ 84 \$ 74	Sales to external customers			\$		\$	366	\$		\$	78	\$	83	\$1	,417	\$1	,443
Earnings         Operating profit before unallocated items       \$ 145       \$ 256       \$ 32       \$ 50       \$ 22       \$ 23       \$ 199       \$ 329         Identifiable Assets         Regional assets       — Operating       \$ 910       \$ 971       \$ 169       \$ 143       \$ 80       \$ 121       \$ 1,159       \$ 1,235         — Undeveloped properties and construction in progress       579       240       28       22       8       7       615       269         \$ 1,489       \$ 1,211       \$ 197       \$ 165       \$ 88       \$ 128       \$ 1,774       \$ 1,504         Depreciation, Depletion and Amortization       \$ 57       \$ 50       \$ 17       \$ 16       \$ 10       \$ 8       \$ 84       \$ 74	Sales to other regions			•				_									
Operating profit before unallocated items         \$ 145         \$ 256         \$ 32         \$ 50         \$ 22         \$ 23         \$ 199         \$ 329           Identifiable Assets           Regional assets           — Operating         \$ 910         \$ 971         \$ 169         \$ 143         \$ 80         \$ 121         \$ 1,159         \$ 1,235           — Undeveloped properties and construction in progress         579         240         28         22         8         7         615         269           \$ 1,489         \$ 1,211         \$ 197         \$ 165         \$ 88         \$ 128         \$ 1,774         \$ 1,504           Depreciation, Depletion and Amortization         \$ 57         \$ 50         \$ 17         \$ 16         \$ 10         \$ 8         \$ 84         \$ 74		\$1,	,093	\$	1,122	\$	374	\$	361	\$	78	\$	83				
Identifiable Assets         Regional assets         — Operating       \$ 910       \$ 971       \$ 169       \$ 143       \$ 80       \$ 121       \$ 1,159       \$ 1,235         — Undeveloped properties and construction in progress       579       240       28       22       8       7       615       269         \$ 1,489       \$ 1,211       \$ 197       \$ 165       \$ 88       \$ 128       \$ 1,774       \$ 1,504         Depreciation, Depletion and Amortization       \$ 57       \$ 50       \$ 17       \$ 16       \$ 10       \$ 8       \$ 84       \$ 74	Operating profit before	\$	145	\$	256	\$	32	\$	50	\$	22	\$	23	\$	199	\$	329
Undeveloped properties and construction in progress       579       240       28       22       8       7       615       269         \$1,489       \$1,211       \$ 197       \$ 165       \$ 88       \$ 128       \$ 1,774       \$ 1,504         Depreciation, Depletion and Amortization         \$ 57       \$ 50       \$ 17       \$ 16       \$ 10       \$ 8       \$ 84       \$ 74	Regional assets	\$	910	\$	971		169	\$	143		80	\$	121			<b>\$1</b>	235
\$1,489 \$1,211 \$ 197 \$ 165 \$ 88 \$ 128 \$1,774 \$1,504  Depreciation, Depletion and Amortization \$ 57 \$ 50 \$ 17 \$ 16 \$ 10 \$ 8 \$ 84 \$ 74	<ul> <li>Undeveloped properties and</li> </ul>													Ψ'		ų,	
Depreciation, Depletion and Amortization         \$ 57 \$ 50 \$ 17 \$ 16 \$ 10 \$ 8 \$ 84 \$ 74	Construction in progress			\$1		s		\$	5500000	S		\$		\$1	A PARK TO SERVICE	\$1	The state of the s
		13															
												7751			Teven na		

(All dollar amounts in millions except per share figures)

	1981	1980	1979	1978	1977
Operations					
Sales of products and services	\$1,416.9	\$1,442.7	\$1,273.9	\$ 901.2	\$ 759.2
Net earnings	70.3	171.1	204.6	68.2	63.9
— per common share	3.35	9.54	11.57	3.64	3.52
Funds from operations	201.3	307.7	325.7	143.7	137.7
— per common share	10.52	17.54	18.69	8.08	7.87
Dividends on common shares	75.2	75.2	80.9	34.0	39.1
— per common share	4.10	4.40	4.75	2.00	2.30
Capital expenditures	333.7	280.3	150.1	87.4	80.8
Financial Position					
Assets:				190 and and	
Working capital	\$ 292.0	\$ 323.7	\$ 275.2	\$ 211.8	\$ 165.5
Fixed assets (net)	1,242.4	909.9	645.5	564.3	556.9
Investments and other assets	151.4	129.6	166.0	161.0	151.6
	\$1,685.8	\$1,363.2	\$1,086.7	\$ 937.1	\$ 874.0
Financed by:					
Long-term debt	\$ 566.7	\$ 329.0	\$ 226.0	\$ 234.9	\$ 249.5
Income taxes not currently payable	219.2	172.9	122.4	93.9	85.6
Minority interests	45.4	90.4	54.8	42.4	51.4
Shareholders' equity	854.5	770.9	683.5	565.9	487.5
	\$1,685.8	\$1,363.2	\$1,086.7	\$ 937.1	\$ 874.0
Return on assets	7.7%	16.4%	23.7%	9.5%	9.0%
Return on common shareholders' equity	9.3%	26.2%	37.7%	12.9%	12.4%
Number of employees at year-end	12.643	12,296	11,254	10,539	10,898
Total employment costs	\$ 416.1	\$ 341.8	\$ 278.5	\$ 239.7	\$ 223.4
Market price per common share (Toronto	Ţ				
Stock Exchange) — High	\$72	\$81	\$55-1/2	\$34-3/4	\$38-3/8
— Low	\$43-3/4	\$47-1/2	\$31-5/8	\$23	\$27-5/8

# **Head Office**

Suite 2300 200 Granville Street, Vancouver, British Columbia V6C 2R2

### Group Offices

Canada

Trail, British Columbia Calgary, Alberta

Yellowknife, Northwest Territories

Europe

London, England

U.S.A.

Spokane, Washington

#### Research Centres

Trail, British Columbia Sheridan Park, Ontario

#### Sales Offices

Cominco Ltd.

Vancouver, British Columbia Toronto, Ontario Calgary, Alberta

Cominco American Incorporated Spokane, Washington Chicago, Illinois Fargo, North Dakota Minneapolis, Minnesota Lincoln, Nebraska Amarillo, Texas

Cominco (U.K.) Limited London and Manchester, England

# Operating Mines

Ardlethan

New South Wales, Australia

Black Angel Greenland

Cleveland

Tasmania, Australia

Northwest Territories, Canada

Fording Coal

British Columbia, Canada

Hondeklip South Africa

Jersey

British Columbia, Canada

Magmont

Missouri, U.S.A.

Pine Point

Northwest Territories, Canada

Polaris

Northwest Territories, Canada

Que River

Tasmania, Australia

Rubiales

Spain

Sullivan

British Columbia, Canada

Vade

Saskatchewan, Canada

Warm Springs

Montana, U.S.A.

#### Metal Production

Cominco Ltd.

British Columbia

Cominco Binani Zinc Limited

India

Hawaiian Western Steel Limited

Hawaii, U.S.A.

Mitsubishi Cominco Smelting Company Limited

Japan

Western Canada Steel Limited

British Columbia

Alberta

## Metal Fabrication

The Canada Metal Company Limited

Quebec

Ontario

Manitoba

Alberta

British Columbia

Cominco Electronic Materials Incorporated

Spokane, Washington

National Hardware Specialties Limited

Ontario

Western Canada Steel Limited

British Columbia

# Chemical and Fertilizer Production

Cominco Ltd.

British Columbia

Alberta

Cominco American Incorporated

Nebraska

Texas

Cominco Binani Zinc Limited

India

# Exploration Offices

Cominco Ltd.

Vancouver, Vernon, Cranbrook,

British Columbia

Toronto, Ontario

Whitehorse, Yukon

Cominco American Incorporated

Spokane, Washington

Anchorage, Alaska

St. Charles, Missouri Cominco Europe Limited

London, England

Cominco Espana S.A.

Madrid, Spain

Cominco France S.A.

Paris, France

Aberfoyle Limited Melbourne, Australia

Compania Minera Constelacion S.A.

de C.V.

Guadalajara, Mexico

Mineracao Cominco Ltda.

Rio de Janeiro, Brazil

Eland Exploration (Pty.) Ltd.

Johannesburg, S. Africa

Cominco Chile Ltda.

Santiago, Chile

	minco ership		Head Office		
Aberfoyle Limited	47%	N. A. Gilberthorpe Chairman and Chief Executive Officer	Melbourne, Australia		
Bethlehem Copper Corporation	100%	R. P. Taylor President and Chief Executive Officer	Vancouver, British Columbia		
The Canada Metal Company Limited	50%	P. N. Summers President and Chief Executive Officer	Toronto, Ontario		
Cominco American Incorporated	100%	L. D. Demand President and Chief Executive Officer	Spokane, Washington, U.S.A.		
Cominco Binani Zinc Limited	40%	G. Binani Chairman	Calcutta, India		
Cominco Europe Limited	100%	P. Hansen Chairman and Managing Director	London, England		
Cominco (U.K.) Limited	100%	D. M. Silver Chairman and Managing Director	London, England		
Exploracion Minera Internacional Espana S.A.	47%	F. F. Prugger Managing Director	Villafranca del Bierzo, Spain		
Fording Coal Limited	40%	J. H. Morrish President and Chief Executive Officer	Calgary, Alberta		
Mitsubishi Cominco Smelting Company, Limited	45%	T. Nagano President	Tokyo, Japan		
Pine Point Mines Limited	69%	R. P. Douglas President and Chief Executive Officer	Yellowknife, N.W.T.		
Valley Copper Mines Limited (N.P.L.)	100%	R. P. Taylor President	Vancouver, British Columbia		
Vestgron Mines Limited	63%	O. E. Owens President	Yellowknife, N.W.T.		
Greenex A/S	63%	E. Sprunk-Jansen Managing Director	Copenhagen, Denmark		
Western Canada Steel Limited	100%	M. C. D. Hobbs Chairman and Chief Executive Officer	Vancouver, British Columbia		
Hawaiian Western Steel Limited	51%	G. W. Hogue General Manager	Ewa, Hawaii		
West Kootenay Power common and Light Company, preferred Limited		J. A. Drennan President and Chief Executive Officer	Trail, British Columbia		

# Transfer Agents and Registrars

# The Royal Trust Company

555 Burrard Street Vancouver, B.C. V6B 3R7

333 - 7th Avenue S.W., Calgary, Alberta T2P 2Z1

\*330 St. Mary Avenue Winnipeg, Manitoba R3C 2Z5

23rd Floor, Royal Trust Tower Toronto Dominion Centre P.O. Box 7500 — Station A Toronto, Ontario M5W 1P9

630 Dorchester Blvd. W. Montreal, Quebec H3B 1S6

\*\*One King Street St. John, N.B. E2L 1G1

## Bank of Montreal Trust Company

\*\*2 Wall Street New York, N.Y. 10005

## Stock Exchanges

Vancouver, Montreal, Toronto (Canada)

- \*\*American (U.S.A.)
- \*Series A Preferred Shares Only
- \*\*Common Shares Only

#### **Share Valuation**

For Canadian capital gain tax purposes the valuation day value of Cominco Ltd. shares on December 22, 1971 as established by the Department of National Revenue was \$22.88.

# Stock Holdings

The number of registered holdings of voting stock on March 11, 1982 was

The distribution of the voting rights on that date was as follows:

94 15% Canada

4.99% **United States** 

.47%

United Kingdom

Other Countries

# Dividends

Cominco's practice is to declare dividends quarterly payable towards the end of each calendar quarter.

Dividends are paid in Canadian dollars to all common shareholders who reside in Canada and in U.S. dollars to all other common shareholders. Common shareholders resident in Canada may elect to receive dividends in U.S. dollars and common shareholders not resident in Canada may elect to receive dividends in Canadian dollars upon forwarding a written request to any office of the Company's principal Registrar and Transfer Agent, The Royal Trust Company, shown in this Report.

# Sources of Shareholder Information

The Annual Report is one of several sources of information available to Cominco shareholders. A description of other regularly published sources is given below.

- · Interim reports are normally mailed in May, August, and November, These reports contain financial results and other news about the Company.
- The Information Circular, Proxy and Annual Report are mailed to each registered shareholder in March. The Information Circular describes the matters to be considered at the Annual General Meeting.

To permit shareholders who do not hold Cominco stock in their own names to receive published information on a timely basis, the Company has established a special mailing list. Shareholders on the list will have reports mailed directly to them, rather than through a third party. To be placed on the direct mailing list, shareholders should write to the Public Relations and Advertising Department, Cominco Ltd., 200 Granville Street, Vancouver, B.C., Canada, V6C 2R2.

#### Directors

\*M. N. ANDERSON
Chairman and Chief Executive Officer
Cominco Ltd., Vancouver

\*W. J. BENNETT Consultant Iron Ore Company of Canada, Montreal

†H. C. BENTALL Chairman, the Bentall Group Vancouver

\*F. S. BURBIDGE
Chairman and Chief Executive Officer
Canadian Pacific Limited, Montreal

\*F. E. BURNET Corporate Director Spokane

R. W. CAMPBELL Vice-Chairman, Canadian Pacific Enterprises Limited, Calgary

\*H. T. FARGEY
Executive Vice-President at Toronto
Cominco Ltd., Toronto

R. HOUGEN President Hougen's Limited, Whitehorse

†R. A. MacKIMMIE, Q.C. Barrister and Solicitor

MacKimmie Matthews Calgary

P. A. NEPVEU Chairman of the Board

CIP Inc. Montreal

†S. E. NIXON

Corporate Director and Financial

Consultant

Montreal

\*I. D. SINCLAIR, Q.C.
Chairman and Chief Executive Officer
Canadian Pacific Enterprises Limited
Montreal

W. J. STENASON
President
Canadian Pacific Enterprises Limited
Montreal

\*W. G. WILSON
President
Cominco Ltd., Vancouver

\*Members of Executive Committee †Members of Audit Committee

#### Officers

M. N. ANDERSON Chairman and Chief Executive Officer

W. G. WILSON President

H. T. FARGEY Executive Vice-President at Toronto

R. P. DOUGLAS Senior Vice-President, Operations

I. D. SINCLAIR, Q.C. Vice-President

R. R. STONE

Vice-President, Finance

P. A. MANSON Vice-President Law and General Counsel

O. E.OWENS

Vice-President, Exploration

K. H. SPURR Vice-President, Metal Sales

L CIOVANIETTO

J. GIOVANETTO Vice-President, Human Resources

W. J. ROBERTSON Vice-President, Prairie Group

J. E. FLETCHER Vice-President, B.C. Group

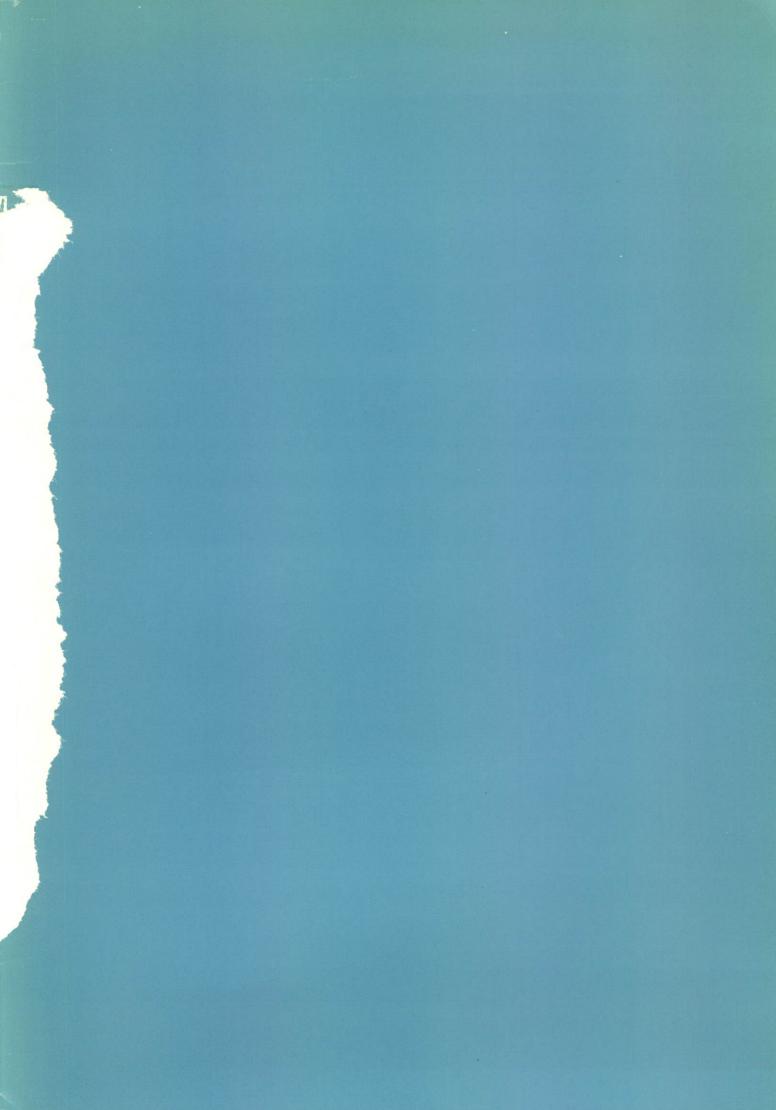
H. M. GIEGERICH Vice-President, Northern Group

A. V. MARCOLIN

President, Electronic Materials Division K. S. BENSON

Corporate Secretary
L. D. MARGERM
Treasurer
A. D. MILLER

Comptroller



Cominco Ltd.
Suite 2300, 200 Granville Street, Vancouver, British Columbia V6C 2R2